GW-001

ANNUAL REPORT (2)

2011

Western Refining

LOGISTICS

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April 12, 2012

Dave Cobrain
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, NM 87505

Carl Chavez
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division
1220 South St. Francis Drive.
Santa Fe, NM 87505

UPS Tracking #: 1Z 881 839 01 5530 7878 (delivery to NMED)
UPS Tracking #: 1Z 881 839 01 5527 7884 (delivery to OCD)

RE: Corrective Measures Study and Corrective Measures Implementation
Investigation and Abatement Plan
2011 Groundwater Remediation and Monitoring Annual Report
Western Refining Southwest, Inc. – Bloomfield Refinery
EPA ID #NMD089416416
GW – 001

Dear Mr. Cobrain and Mr. Chavez,

Western Refining Southwest Inc. – Bloomfield Refinery submits the above referenced Annual Report pursuant to Section IV.A.2 of the July 2007 HWB Order, and in compliance with Section 22 of the facility's July 2010 Discharge Permit. This report summarizes the groundwater monitoring, remediation, and inspection activities conducted at the Bloomfield Refinery in 2011.

If you have any questions or would like to discuss any aspect of this report, please contact me at 505-632-4171 or Randy.Schmaltz@wnr.com.

Sincerely,

P.P. Kelly Roberson for,

James R. Schmaltz
Health, Safety, Environmental & Regulatory Director
Western Refining Southwest, Inc. – Bloomfield Refinery

Cc: Brandon Powell, NMOCD
Carl Chavez, NMOCD
Allen Hains, Western Refining - El Paso

2011 Groundwater Remediation and Monitoring Annual Report

January – December 2011

Bloomfield Refinery

Western Refining Southwest, Inc.

#50 Rd 4990

Bloomfield, New Mexico 87413

Submitted: April 2012

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

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EXECUTIVE SUMMARY

This Annual Report includes a summary of activities conducted at the Bloomfield Refinery in 2011 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 22 of Discharge Permit GW-001 (NMOCD, 2010) issued to the Bloomfield Refinery by the New Mexico Energy, Mineral, and Natural Resources Department Oil Conservation Division (NMOCD). This report includes a summary of sampling activities, total fluids recovery, below-grade testing, and remediation monitoring activities conducted in 2011.

Groundwater Measurements

Depth-to-groundwater and depth-to-product measurements were collected from the refinery 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 2011 and August 2011, respectively. 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 field measurements were collected 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 flows in the northwest general direction, with groundwater under the process areas flowing towards the north boundary barrier wall and Hammond Ditch Collection System.

Groundwater Monitoring

Groundwater monitoring activities conducted in 2011 included the collection of groundwater samples and field data from the following four areas of the Bloomfield Refinery.

- Refinery Complex – includes Refinery, Cross-Gradient, Downgradient, and RCRA Wells
- North Boundary Barrier – includes observation (OW) and collection (CW) 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 monitoring activities conducted in April 2011 followed the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2010. Monitoring activities conducted in August 2011 followed the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2011.

Groundwater concentrations above respective screening levels are primarily localized near the refinery process units. 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 Seep 1 through Seep 9 and along the San Juan River Bluff, which includes the East Fork area, were conducted in 2011. Visual inspection results and samples collected along the San Juan River as part of the groundwater monitoring program for the Bloomfield Refinery indicate that there has been no impact to the San Juan River.

Total Fluids Recovery Systems

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

- Groundwater Recovery System using recovery wells within the Refinery 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 Waste Water Treatment Plant for treatment prior to disposal through the on-site injection well. Water from the River Terrace is treated separately and is re-used as Plant Water for facility operations.

Below-Grade Testing and Tank Inspections

In compliance with the Refinery's Discharge Permit dated July 2010, underground process piping and sumps were inspected in 2011 to determine their integrity for service. All piping and sumps tested in 2011 passed inspections and were returned to normal service following completion of testing activities. In addition, petroleum storage tanks continue to be inspected at a frequency that is in compliance with API 650 and 653 guidelines.

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 Refinery (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: 2911

The Bloomfield Refinery 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 Bloomfield Refinery has an approximate refining capacity of 18,000 barrels per day. Various process units operated at the facility, including 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 Refinery is located on approximately 263 acres south of Bloomfield, New Mexico in San Juan County (Figure 1). The refinery complex is bisected by County Road 4990 (Sullivan Road), which runs east-west. The process units, tank farm, wastewater treatment system, raw water ponds, and fire training area are located north of the county road. The crude oil and product loading racks, LPG storage tanks and loading racks, maintenance buildings/90-day storage area, pipeline offices, transportation truck shop, and Class I injection well are located south of the country road (Figure 2).

The refinery 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).

Refinery offices are located on the western end of the facility, along with warehouse space, maintenance areas, and a storage yard containing used material (e.g., pipes, valves). Petroleum processing units, located in the northwest portion of the refinery, include the crude unit, fluidized cracking unit, catalytic polymerization unit, and hydrodesulfurization unit. The API Separator and the aeration lagoons are located in the north central section of the refinery.

In the central portion of the site, aboveground storage tanks (AST's) occupy a large percentage of the refinery property. Located on the south side of Sullivan Road are the terminal facilities used for loading product and off-loading crude, as well as gas storage and hazardous waste storage.

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.

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 has 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 Hydrodesulferization (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, #46 & #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 well 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 Naciemento 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 #1 and #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 2011, 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.

SECTION 2.0
SCOPE OF ACTIVITIES

This Annual Report includes a summary of activities conducted at the Bloomfield Refinery in 2011 pursuant to the reporting requirements outlined in Section IV.A.2. of the July 2007 Consent Order issued by the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB), and Section 22 of Discharge Permit GW-001 issued to the Bloomfield Refinery by the New Mexico Energy, Mineral, and Natural Resources Department Oil Conservation Division (NMOCD). This report includes a summary of sampling activities, total fluids recovery, below-grade testing, and remediation monitoring activities conducted in 2011.

2.1 Groundwater Monitoring Activities

Groundwater monitoring activities conducted in 2011 included the collection of groundwater samples and field data from the following four areas of the Bloomfield Refinery.

- Refinery Complex
- North Boundary Barrier
- San Juan River Bluff
- San Juan River Terrace

Groundwater monitoring activities conducted in April 2011 follow the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2010. Monitoring activities conducted in August 2011 follow the guidelines outlined in the approved Facility-Wide Groundwater Monitoring Plan dated June 2011. Any activities conducted contrary to the approved Monitoring Plans are noted in this report.

General groundwater sampling procedures followed during each sampling event are included in Appendix A. Detailed information regarding groundwater monitoring activities conducted in 2011 is included in Section 3.1.

2.1.1 Fluid Measurements

Depth-to-groundwater and depth-to-product measurements were collected from the refinery 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 2011 and August 2011, respectively. Additional fluid measurements were collected at the sump wells periodically throughout the year to monitor fluid levels along the north side of the facility. 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, 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. A summary of the field measurements collected and procedures followed is provided in Section 3.1.2 and Appendix A.

2.1.3 Refinery Complex Sampling

Groundwater samples were collected from wells located within the Refinery Complex during the Semi-Annual Sampling Event and Annual Sampling Event conducted in April 2011 and August 2011, respectively. Figure 10 and Figure 11 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 2011:

- Refinery Wells: MW-8, MW-30
- Cross-Gradient Wells: MW-1, MW-13, MW-33
- Downgradient Wells: MW-12, MW-35, MW-37, 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) – Benzene, Toluene, Ethlylbenzene, Xylenes (BTEX), and MTBE only by EPA Method 8260B
- Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO) by EPA Modified Method 8015B (MW-1, MW-12, MW-37, and MW-38 only)
- TPH – Diesel Range Organics (DRO) by EPA Modified Method 8015B (MW-1, MW-33, MW-12, MW-37, and MW-38 only)

Samples collected at MW-33 were inadvertently not analyzed for TPH-GRO in April 2011. Groundwater samples were not collected from MW-20 due to the presence of SPH. In addition, groundwater samples were not collected from MW-6 due to insufficient groundwater for sample collection.

Annual Sampling Event

Groundwater samples were collected from the following wells during the Annual Sampling Event conducted in August 2011:

- Refinery Wells: MW-4, MW-8, RW-15, RW-18, MW-29, MW-30, MW-31, MW-40, and MW-44
- Cross-Gradient Wells: MW-1, MW-13, MW-26, MW-27, MW-32, and MW-33
- Downgradient Wells: MW-11, MW-12, MW-34, MW-35, MW-37, and MW-38
- RCRA Investigation Wells: MW-50, MW-51, MW-52, MW-53, MW-55, MW-59, MW-60, MW-62, MW-63, MW-64, MW-65, MW-67, and MW-68

Groundwater samples were not collected from RW-1, RW-9, MW-20, MW-21, RW-23, RW-28, RW-42, RW-43, MW-54, MW-56, MW-57, MW-58, MW-61, and MW-66 due to the presence of SPH. In addition, groundwater samples were not collected from MW-69 due to insufficient groundwater for sample collection.

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
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270 (RCRA Investigation Wells, MW-11, MW-12, and MW-38 only)
- TPH-DRO by EPA Method 8015B
- TPH-GRO by EPA Method 8015B
- Total RCRA 8 Metals by EPA Method 6010B/7470)
- Total Dissolved Metals by EPA Method 6010B/7470
- Alkalinity by EPA Method 310.1
- Anions by EPA Method 300.0

Samples collected for total dissolved metals were inadvertently not analyzed for dissolved Mercury; however the same samples were analyzed for total mercury.

2.1.4 North Boundary Barrier Sampling

Groundwater samples were collected from observation wells and specified collection wells in April 2011 and August 2011, with the exception of wells that contained separate-phase hydrocarbon (SPH), wells that were dry, or wells that did not contain enough water to collect a sample. Figure 10 and Figure 11 shows the location of the North Boundary Barrier wells that were sampled in April 2011 and August 2011, 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 2011:

- Collection Wells: CW 0+60, CW 25+95
- Observation Wells: OW 16+60, OW 22+00, OW 23+10, OW 23+90, OW 25+70

Groundwater samples were not collected from OW 1+50, OW 3+85, and OW 11+15 due to the presence of SPH. In addition, groundwater samples were not collected from OW 0+60, OW

5+50, OW 6+70, OW 8+10, OW 14+10, and OW 19+50 due to insufficient groundwater for sample collection.

Groundwater samples collected in April 2011 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 (only at OW wells)
- TPH-DRO by EPA Modified Method 8015B

Annual Sampling Event

Groundwater samples were collected from the following wells during the Annual Sampling Event conducted in August 2011:

- Collection Wells: CW 0+60, CW 25+95
- Observation Wells: OW 11+15, OW 16+60, OW 22+00, OW 23+10, OW 23+90, OW 25+70

Groundwater samples were not collected from OW 1+50, and OW 3+85 due to the presence of SPH. In addition, groundwater samples were not collected from OW 0+60, OW 5+50, OW 6+70, OW 8+10, OW 14+10, and OW 19+50 due to insufficient groundwater for sample collection.

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 (only at OW wells)
- TPH-DRO by EPA Modified Method 8015B

2.1.5 San Juan River Bluff Sampling

San Juan River Bluff sampling includes the collection of surface water samples at the outfall location 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 Semi-Annual Sampling Event conducted in April 2011:

- Outfalls: Outfall 2, and Outfall 3
- Seeps: Seep 1, Seep 2, Seep 3, Seep 6, and Seep 9

Surface water samples were not collected from Seep 4, Seep 5, Seep 7, and Seep 8 due to insufficient surface water for sample collection.

Surface water samples collected in April 2011 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)
- Total Dissolved Metals by EPA Method 6010B/7470 (Outfall locations only)
- Alkalinity by EPA Method 310.1
- Anions by EPA Method 300.0

Samples collected for total dissolved metals were inadvertently not analyzed for dissolved Mercury; however the same samples were analyzed for total mercury.

Annual Sampling Event

Surface water samples were collected from the following locations during the Annual Sampling Event conducted in August 2011:

- Outfalls: Outfall 2, and Outfall 3
- Seeps: Seep 1

Surface water samples were not collected from Seep 2, Seep, 3, Seep 4, Seep 5, Seep 6, Seep 7, Seep 8, and Seep 9 due to insufficient surface water for sample collection.

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
- Total RCRA 8 Metals by EPA Method 6010B/7470 (Outfall locations only)
- Total Dissolved Metals by EPA Method 6010B/7470 (Outfall locations only)
- Alkalinity by EPA Method 310.1
- Anions by EPA Method 300.0

Samples collected for total dissolved metals were inadvertently not analyzed for dissolved Mercury; however the same samples were analyzed for total mercury.

2.1.6 San Juan River Terrace Sampling

San Juan River Bluff sampling includes the collection of surface water samples at the four locations along the San Juan River, and includes the collection of groundwater samples at 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 2011. Therefore sampling activities associated with the Bioventing System are not included in this report.

Figure 3 shows the approximate 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 2011:

- 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
- Total RCRA 8 Metals by EPA Method 6010B/7470
- Total Dissolved Metals by EPA Method 6010B/7470
- Alkalinity by EPA Method 310.1
- Anions by EPA Method 300.0

Samples collected for total dissolved metals were inadvertently not analyzed for dissolved Mercury; however the same samples were analyzed for total mercury.

2.1.7 Outfall and Seep Inspections

Bi-monthly visual inspections of Seeps 1 through 9 and along the San Juan River Bluff, which includes the East Fork area, were conducted in 2011. Figure 3 shows the location of the outfalls and seeps in relation to the Bloomfield Refinery property. 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 Refinery operates a total fluid pumping system used to bring SPH and hydrocarbon impacted groundwater to the surface for treatment and disposal. This is accomplished by actively pumping wells within the groundwater impacted area. Recovered fluids are pumped to the Refinery's API separator for product recovery. The remaining recovered fluid is pumped through the wastewater treatment system prior to disposal. The groundwater recovery system was operational throughout 2011. The wells that operated as active recovery wells in 2011 are RW-1, RW-2, RW-9, RW-14, RW-15, RW-16, RW-17, RW-18, RW-22, RW-23, RW-18, RW-42, and RW-43. Figure 2 shows the location of the recovery wells within the Bloomfield Refinery. An operational summary of the groundwater recovery system is included in Section 3.2.1.

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 refinery-side of the barrier wall. For every collection wells there was installed an observation well along the river-side of the barrier wall. Bloomfield Refinery personnel continued to monitor fluid levels on both sides of the barrier wall in 2011 by collecting depth-to-water and depth-to-product measurements. Figure 2 shows the location of the collection wells (CWs) and observation wells (OWs) along the north boundary barrier wall. A summary of the data collected along the north boundary barrier wall is provided in Section 3.2.2.

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 refinery-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 3.2.3.

2.2.4 River Terrace Remediation System

The River Terrace Bioventing System commenced operation in January 2006. Monitoring and remedial actions conducted in associated with this system are performed in compliance with the approved *Voluntary Measures Bioventing Monitoring Plan.* A summary of activities associated with the River Terrace Bioventing System are submitted separately to the agency 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, which is then pumped to the Refinery's Wastewater Treatment System 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 the Hammond Ditch, which is located just south of Tank 38. A summary of the operational data of the East Outfall Recovery System for 2011 is included in Section 3.2.4.

2.3 Below-Grade Testing and Tank Inspections

Pursuant to conditions of approval stated in Discharge Permit GW-001 (regulated by the NMOCD), below-grade sumps, sewer boxes, and underground piping was tested to ensure

there exist no indications of leaks. Testing of the sump and sewer boxes was conducted between June 2011 and August 2011.

In addition, approximately 4,660 feet of underground piping was hydrostatically tested at Bloomfield Refinery. The piping was located in the Process Unit area, River Terrace transfer piping, Tank Farm transfer piping, and Terminals. A summary of the testing procedures performed and the testing results is presented in Section 3.3.

2.4 Waste Disposal

Western Refining indefinitely suspended refining operations at the Bloomfield Refinery 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 Wastewater Treatment System (WWTS). Treated water is then disposed of through the on-site Class I injection well.

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 3.4.

SECTION 3.0
RESULTS SUMMARY

The following is a summary of the data collected, visual inspections conducted, and analytical results collected during monitoring and testing performed in 2011. Figure 8 and Figure 9 provide a summary of the BTEX concentrations detected during the April 2011 and August 2011 Sampling Events, respectively.

3.1 Groundwater Monitoring

A summary of the groundwater analytical results collected over the past few are included in Table 3 through Table 10. Screening levels used to evaluate the groundwater condition at the Bloomfield refinery 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 sample results are bolded and highlighted in yellow. A copy of the respective analytical reports and Laboratory Quality Assurance Plan is included in Appendix B and Appendix C, respectively.

3.1.1 Groundwater Measurements

Depth-to-groundwater and depth-to-product measurements were collected at all refinery monitoring wells, recovery wells, observation wells, and collection wells in April and August 2011. 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 Refinery Complex 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 2011, groundwater surface elevations were calculated. The groundwater elevation data was used to developed groundwater potentiometric surface maps which show the general direction of groundwater flow within the Refinery Complex area. Table 1 provides a summary of the fluid level measurements collected in 2011. Figure 4 and Figure 5 represent the groundwater contours developed from data collected in April 2011 and August 2011, respectively. The groundwater contours show that groundwater flows in the general northwest direction.

Field measurements collected in April and August 2011 were also used to determine product thickness in areas where separate-phase hydrocarbon (SPH) was detected. In April 2011, SPH was identified in 21 wells. The product thickness detected ranged between 0.01 feet and 1.58 feet, with the most product detected at recovery well MW-57. In August 2011, SPH was identified in 21 wells. The product thickness ranged between 0.01 feet and 1.48 feet, with the most product detected at MW-57. Figure 6 and Figure 7 show a summary of the product thickness detected in April 2011 and August 2011, respectively.

3.1.2 Groundwater Field Measurements

Prior to collecting groundwater samples, each well was purged 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 an Ultra meter 6P. Field equipment calibration procedures performed prior to each sampling event are summarized in Appendix A. Table 2 provides a summary of the groundwater field parameters collected during the April 2011 and August 2011 sampling events.

3.1.3 Refinery Complex Sampling

Refinery Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- 1, 2, 4-Trimethylbenzene was detected above the respective screening level of 15 ug/l at MW-4, MW-8, RW-15, RW-18, MW-30, and MW-31. The detected concentrations ranged between 30 ug/l and 3,900 ug/l, with the highest concentration detected at MW-30 in August 2011.
- 1,2-Dichloroethane was detected at RW-18 at 540 ug/l, which was above the respective screening level of 5 ug/l.
- 1,3,5-trimethylbenzene was detected above the respective screening level of 12 ug/l at MW-4, MW-8, RW-15, MW-30, and MW-31. The detected concentrations ranged between 13 ug/l and 830 ug/l, with the highest concentration detected at MW-30 in August 2011.
- 1-Methylnaphthalene was detected above the respective screening level of 2.3 ug/l at MW-8, RW-15, RW-18, and MW-40. The detected concentrations ranged between 25 ug/l and 720 ug/l, with the highest concentration detected at RW-18 in August 2011.
- 2-Methylnaphthalene was detected above the respective screening level of 150 ug/l at RW-15 and MW-31. The detected concentrations ranged between 170 ug/l and 270 ug/l, with the highest concentration detected at MW-31 in August 2011.
- Benzene was detected above the respective screening level of 5 ug/l at MW-4, RW-15, RW-18, MW-30, MW-31, and MW-40. The detected concentrations ranged between 23 ug/l and 6,300 ug/l, with the highest concentration detected at MW-30 in August 2011.
- Ethylbenzene was detected above the respective screening level of 700 ug/l at RW-15, MW-30, and MW-31. The detected concentrations ranged between 1,200 ug/l and 4,400 ug/l, with the highest concentration detected at MW-30 in August 2011.
- MTBE was detected above the respective screening level of 125 ug/l at RW-18. The detected concentration was 2,200 ug/l in August 2011.
- Naphthalene was detected above the respective screening level of 1.43 ug/l at MW-4, MW-8, RW-15, MW-30, MW-31, and MW-40. The detected concentrations ranged

between 20 ug/l and 960 ug/l, with the highest concentration detected at MW-30 in August 2011.

- Toluene was detected above the respective screening level of 750 ug/l at RW-15 and MW-30. The detected concentrations ranged between 790 ug/l and 5,600 ug/l, with the highest concentration detected at MW-30 in August 2011.
- Xylenes were detected above the respective screening level of 620 ug/l at RW-15, MW-30, and MW-31. The detected concentrations ranged between 4,200 ug/l and 15,000 ug/l, with the highest concentration detected at MW-30 in August 2011.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/l at RW-15, RW-18, MW-30, MW-31, and MW-40. The detected concentrations ranged between 290 mg/l and 540 mg/l, with the highest concentration detected at MW-31.
- Sulfate was detected above the respective screening level of 600 mg/l at MW-8, RW-18, and MW-44. The detected concentrations ranged between 1,000 mg/l and 3,300 mg/l, with the highest concentration detected at RW-18.

Total metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Arsenic was detected above the respective screening level of 0.01 mg/l at MW-4 and MW-8, with the highest concentration detected at MW-8 (0.18 mg/l).
- Barium was detected above the respective screening level of 1.0 mg/l at MW-4, RW-15, RW-18, and MW-40. The detected concentrations ranged between 1.8 mg/l and 4.2 mg/l, with the highest concentration detected at RW-18.
- Chromium was detected above the respective screening level of 0.05 mg/l at MW-8 and RW-18, with the highest concentration detected at MW-8 (0.98 mg/l).

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Barium was detected above the respective screening level of 1.0 mg/l at MW-4, RW-15, and MW-40. The detected concentrations ranged between 1.3 mg/l and 1.8 mg/l, with the highest concentration detected at MW-4 and MW-40.
- Chromium was detected above the respective screening level of 0.05 mg/l at MW-8, with the highest concentration detected at 0.09 mg/l.
- Iron was detected above the respective screening level of 1.0 mg/l at MW-4, MW-8, RW-15, RW-18, and MW-40. The detected concentrations ranged between 4.6 mg/l and 18 mg/l, with the highest concentration detected at RW-15.
- Manganese was detected above the respective screening level of 0.2 mg/l at MW-4, MW-8, RW-15, RW-18, MW-29, MW-30, MW-31, and MW-40. The detected concentrations ranged between 0.44 mg/l and 6.2 mg/l, with the highest concentration detected at RW-15.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were detected above the respective screening level of 0.2 mg/l at MW-4, MW-8, RW-15, RW-18, MW-30, MW-31 and MW-40. The detected concentrations ranged between 0.48 mg/l and 470 mg/l, with the highest concentration detected at RW-18.

Dissolved mercury was inadvertently not sampled for in 2011; however it was included in the total metals analysis and the results were compared to the respective total mercury screening level. A summary of the analytical results for samples collected at the refinery wells in 2011 is provided in Table 3.

Cross-Gradient Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- 1, 2,4-Trimethylbenzene was detected above the respective screening level of 15 ug/l at MW-26 , with a detected concentration of 830 ug/l.
- Benzene was detected above the respective screening level of 5 ug/l at MW-26, with a detected concentration of 26 ug/l.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/l at MW-26, MW-27, MW-32, and MW-33. The detected concentrations ranged between 300 mg/l and 690 mg/l, with the highest concentration detected at MW-32.
- Nitrate was detected above the respective screening level of 10 mg/l at MW-32, with a detected concentration of 48 mg/l.
- Sulfate was detected above the respective screening level of 600 mg/l at MW-13, MW-27, MW-32, and MW-33. The detected concentrations ranged between 1,100 mg/l and 2,100 mg/l, with the highest concentration detected at MW-33.

Total metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Barium was detected above the respective screening level of 1.0 mg/l at MW-26, with a detected concentration of 2.3 mg/l.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Barium was detected above the respective screening level of 1.0 mg/l at MW-26, with a detected concentration of 2.3 mg/l.
- Iron was detected above the respective screening level of 1.0 mg/l at MW-26, with a detected concentration of 6.0 mg/l.
- Manganese was detected above the respective screening level of 0.2 mg/l at MW-13, MW-26, and MW-27. The detected concentrations ranged between 1.4 mg/l and 3.0 mg/l, with the highest concentration detected at MW-27.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were detected above the respective screening level of 0.2 mg/l at MW-26, and MW-27, with the highest concentration detected at MW-26 (1.3 mg/l).

TPH-GRO was inadvertently not sampled for MW-33 in April 2011. However, the analysis was included in the August 2011 sampling results. Dissolved mercury was inadvertently not sampled for in 2011; however it was included in the total metals analysis and the results were compared to the respective total mercury screening level. A summary of the analytical results for samples collected at the Cross-Gradient Wells in 2011 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 2011, with the following exceptions:

- 1,2, 4-Trimethylbenzene was detected above the respective screening level of 15 ug/l at MW-34, and MW-35, with the highest concentration detected at MW-34 in August 2011 (65 ug/l).
- Benzene was detected above the respective screening level of 5 ug/l at MW-11, and MW-34, with the highest concentration detected at MW-11 (56 ug/l) in August 2011.
- Naphthalene was detected above the respective screening level of 1.43 ug/l at MW-34, with a concentration of 6.2 ug/l.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/l at MW-11 and MW-37, with the highest concentration detected at MW-11 (340 ug/l) in August 2011.

Total metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Lead was detected above the respective screening level of 0.015 mg/l at MW-11, with a detected concentration of 0.016 mg/l.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Iron was detected above the respective screening level of 1.0 mg/l at MW-11, MW-34, MW-35, MW-37, and MW-38. The detected concentrations ranged between 3.0 mg/l and 12 mg/l, with the highest concentration detected at MW-11.
- 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 ranged between 1.1 mg/l and 4.4 mg/l, with the highest concentration detected at MW-34.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were 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 ranged between 0.21 mg/l and 1.2 mg/l, with the highest concentration detected at MW-34.

Dissolved mercury was inadvertently not sampled for in 2011; however it was included in the total metals analysis and the results were compared to the respective total mercury screening

level. A summary of the analytical results for samples collected at the Downgradient Wells in 2011 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 2011, with the following exceptions:

- 1, 2, 4-Trimethylbenzene was detected above the respective screening level of 15 ug/l at MW-55, and MW-65, with the highest concentration detected at MW-65 (1,900 ug/l) in August 2011.
- 1, 2-Dichloroethane was detected at MW-59 and MW-65, with the highest concentration detected at MW-65 (260 ug/l).
- 1,3,5-trimethylbenzene was detected above the respective screening level of 12 ug/l at MW-55 and MW-65, with the highest concentration detected at MW-65 (280 ug/l).
- 1-Methylnaphthalene was detected above the respective screening level of 2.3 ug/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 37 ug/l and 160 ug/l, with the highest concentration detected at MW-65 in August 2011.
- 2-Methylnaphthanele was detected above the respective screening level of 150 ug/l at MW-55 and MW-65, with the highest concentration detected at MW-65 (300 ug/l).
- Benzene was detected above the respective screening level of 5 ug/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 38 ug/l and 7,800 ug/l, with the highest concentration detected at MW-55 in August 2011.
- Ethylbenzene was detected above the respective screening level of 700 ug/l at MW-55 and MW-65, with the highest concentration detected at MW-65 (2,100 ug/l) in August 2011.
- MTBE was detected above the respective screening level of 125 ug/l at MW-55, MW-59, and MW-65. The detected concentration ranged between 330 ug/l and 7,800 ug/l, with the highest concentration detected at MW-55.
- Naphthalene was detected above the respective screening level of 1.43 ug/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 69 ug/l and 620 ug/l, with the highest concentration detected at MW-65 in August 2011.
- Xylenes were detected above the respective screening level of 620 ug/l at MW-65, with a detected concentration of 4,400 ug/l.

Semi-volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- 1-Methylnaphthalene was detected above the respective screening level of 2.3 ug/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 13 ug/l and 91 ug/l, with the highest concentration detected at MW-65 in August 2011.
- Naphthalene was detected above the respective screening level of 1.43 ug/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 22 ug/l and 330 ug/l, with the highest concentration detected at MW-65 in August 2011.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/l at MW-52, MW-53, MW-55, and MW-64. The detected concentrations ranged between 420 mg/l and 920 mg/l, with the highest concentration detected at MW-53.
- Nitrate was detected above the respective screening level of 10 mg/l at MW-52, MW-53, MW-60, MW-63, and MW-64. The detected concentrations ranged between 11 mg/l and 67 mg/l, with the highest concentration detected at MW-63.
- Sulfate was detected above the respective screening level of 600 mg/l at MW-52, MW-53, and MW-60. The detected concentrations ranged between 1,000 mg/l and 1,200 mg/l, with the highest concentration detected at MW-52.

Total metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Barium was detected above the respective screening level of 1.0 mg/l at MW-55, with a detected concentration of 2.6 mg/l.
- Lead was detected above the respective screening level of 0.015 mg/l at MW-55, with a detected concentration of 0.023 mg/l.

Dissolved metals constituents detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Barium was detected above the respective screening level of 1.0 mg/l at MW-55, with a detected concentration of 2.6 mg/l.
- Iron was detected above the respective screening level of 1.0 mg/l at MW-55, MW-59, and MW-65. The detected concentrations ranged between 4.1 mg/l and 9.8 mg/l, with the highest concentration detected at MW-55.
- Manganese was detected above the respective screening level of 0.2 mg/l at MW-50, MW-51, MW-52, MW-53, MW-55, MW-59, MW-62, MW-63, and MW-65. The detected concentrations ranged between 0.5 mg/l and 5.6 mg/l, with the highest concentration detected at MW-55.
- Dissolved mercury was inadvertently not sampled for in 2011; however it was included in the total metals analysis and the results were compared to the respective total mercury screening level.
- Uranium was detected above the respective screening level of 0.03 mg/l at MW-63, with a detected concentration of 0.041 mg/l.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were detected above the respective screening level of 0.2 mg/l at MW-55, MW-59, MW-65, and MW-67. The detected concentrations ranged between 0.426 mg/l and 9.8 mg/l, with the highest concentration detected at MW-65.

A summary of the analytical results for samples collected at the RCRA Wells in 2011 is provided in Table 6.

3.1.4 North Boundary Barrier Sampling

Collection Wells

Volatile organic compounds detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Benzene was detected above the respective screening level of 0.005 mg/l at CW 0+60 and CW 25+95. The detected concentrations ranged between 0.019 mg/l and 6.7 mg/l, with the highest concentration detected at CW 25-95 in April 2011.
- Ethylbenzene was detected above the respective screening level of 0.7 mg/l at CW 25-95 in April 2011. The detected concentration was 0.8 mg/l.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were detected above the respective screening level of 0.2 mg/l at CW 0+60 and CW 25+95. The detected concentrations ranged between 0.31 mg/l and 2.8 mg/l, with the highest concentration detected at CW 0+60 in April 2011.

A summary of the analytical results for samples collected at the collection Wells in 2011 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 2011, with the following exceptions:

- Benzene was detected above the respective screening level of 0.005 mg/l at OW 16+60, and OW 25+70. The detected concentrations ranged between 0.079 mg/l and 4.4 mg/l, with the highest concentration detected at OW 25+70 I April 2011.
- MTBE was detected above the respective screening level of 0.125 mg/l at OW 11+15, OW 16+60, and OW 22+00. The detected concentrations ranged between 0.061 mg/l and 1.1 mg/l, with the highest concentration detected at OW 16+60 in April 2011.

Total petroleum hydrocarbons detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Diesel range organics were detected above the respective screening level of 0.2 mg/l at OW 11+15, OW 16+60, OW 22+00, OW 23+10, and OW 25+70. The detected concentrations ranged between 0.36 mg/l and 65 mg/l, with the highest concentration detected at OW 16+60 in April 2011.

A summary of the analytical results for samples collected at the observation wells in 2011 is provided in Table 7.

3.1.5 San Juan River Bluff Sampling

Outfalls

Samples were collected from Outfall 2 and Outfall 3 in April and August 2011. Detectable analytes for all Outfall samples were detected at concentrations below their respective screening levels. Dissolved mercury was inadvertently not included in the analysis for samples

collected in 2011; however mercury was included in the total metals analysis and was not detected above the laboratory detection limit. A summary of the analytical results for samples collected at Outfall No.2 and Outfall No. 3 in 2011 is provided in Table 8.

Seeps

Samples were collected from Seep 1, Seep 2, Seep 3, Seep 6 and Seep 9 in 2011. The remaining seeps were not sampled due to lack of water for sample collection.

General chemistry parameters detected above the laboratory detection limit were below their respective screening levels in samples collected in 2011, with the following exceptions:

- Chloride was detected above the respective screening level of 250 mg/l at Seep 1, Seep 2, Seep 3, Seep 6, and Seep 9. The detected concentrations ranged between 230 mg/l and 2,800 mg/l, with the highest concentration detected at Seep 6 in April 2011.
- Sulfate was detected above the respective screening level of 600 mg/l at Seep 1, Seep 2, Seep 6, and Seep 9. The detected concentrations ranged between 1,400 mg/l and 7,300 mg/l, with the highest concentration detected at Seep 2 in April 2011.

A summary of the analytical results for samples collected at the Seeps in 2011 is provided in Table 9.

3.1.6 San Juan River Terrace Sampling

Sample locations related to the bioventing system are reporting in a separate report, and therefore are not included in this submittal. However, samples were collected at four locations along the San Juan River in 2011. Samples were collected in April 2011 and August 2011 upstream of the refinery, north of MW-46, North of MW-45, and downstream of the refinery. Figure 3 shows the location of the San Juan River samples in relation to the Bloomfield Refinery. In August 2011, samples were inadvertently not analyzed for carbon dioxide, alkalinity, total dissolved solids, and conductivity; however the analyses were included in the April 2011 sampling event. In addition, dissolved mercury was inadvertently not analyzed in 2011. However, it was included in the total metals analysis and the respective results are included in this report. A summary of the analytical results for samples collected along the San Juan River is provided in Table 10.

3.1.7 Outfall and Seep Inspections

Bi-monthly visual inspections of Seeps 1 through 9 and along the San Juan River Bluff, including the East Fork area, were conducted in 2011. 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. Fluids that contain concentrations above drinking water standards at the seep locations are pumped out completely to ensure such water does not impact the river.

Visual inspection of the East Fork area indicates that the flow rate at this seep location has remained constant at approximately 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 Refinery.

3.2 Total Fluids Recovery Systems

3.2.1 Groundwater Recovery System

In 2011, 13 wells operated as total fluids recovery wells. The wells used for total fluids recovery were RW-1, RW-2, RW-9, RW-14, RW-15, RW-16, RW-16, RW-17, RW-18, RW-22, RW-23, RW-28, RW-42, and RW-43. The estimated total gallons pumped (SPH and groundwater) from the recover wells in 2011 was approximately 1,222,992 gallons. 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 pumps per well over time is calculated. The calculated total is based on 360 days of operation. This time period takes into account the five days the wells were off when groundwater measurements were collected prior to each monitoring event.

3.2.2 North Boundary Barrier Wall Collection System

Depth-to-groundwater measurements collected in April 2011 and August 2011 indicate that the barrier wall continues to provide a hydraulic barrier for groundwater below the facility. Based on the data collected in 2011, seven of the 14 observation well contain little to no fluid (i.e. measuring less than 0.5 ft of fluid in the well at any one time). In comparing the thickness of between the collection wells and corresponding observation wells, on average the groundwater surface was over four feet lower on the river-side of the North Boundary Barrier Wall compared to the corresponding groundwater elevation on the refinery-side of the wall.

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

3.2.3 Hammond Ditch Recovery System

The Hammond Ditch Recovery System serves as a hydraulic relief system for groundwater accumulating within the western portion of the Refinery. All recovered water through the Hammond Ditch French drain west of pipeline easement discharges to Tank 37, which is then transferred to the Refinery's API separator for product recovery. The location of Tank 37 is shown on Figure 3. Refinery Operators inspects that operation of Tank 37 daily and records the amount of water recovered by the tank using the flow meter located on the discharge end of the Tank 37 transfer pump. In 2011, the total volume of fluids recovered at Tank 37 was approximately 3,569,076 gallons.

3.2.4 East Outfall Recovery System

Total fluids from Outfall 1 is recovered via Tank 38 and transferred to the Refinery's WWTS for treatment prior to disposal through the on-site injection well. Figure 3 shows the location of Tank 38.

In 2011, the flow rate into Tank 38 varied depending on the operation of the Hammond Ditch. Cracking of the ditch's concrete lining over the last two years has resulted in a significant increase in recovered water volume through Tank 38. When the Hammond Ditch is not operational (between October 15th and April 15th of each year), the average recovery water flow rate through Tank 38 is approximately 15 gpm. When the Hammond Ditch is operational in 2011, the flow rate through Tank 38 increases to over 100 gpm. Tank 38 piping is equipped with a flow meter to measure the total gallons transferred to the WWTP. In 2011, the total fluid volume recovered at Tank 38 was approximately 19,052,082 gallons.

3.3 Below-Grade Testing and Inspections

Pursuant to conditions of approval stated in Discharge Permit GW-001 (regulated by the Oil Conservation Division), Bloomfield Refinery personnel conducted annual below-grade sump testing and underground process/wastewater line testing. Between June 2011 and August 2011, all water-draw sumps located in the Tank Farm and sewer boxes within the facility were cleaned out with a vacuum truck, visually inspected, and hydrostatically tested for a minimum of 90 minutes to insure integrity. Liquid levels that did not change over time were considered acceptable for service. Boxes that passed the hydrostatic testing were emptied using the vacuum truck and returned to normal service. All sumps tested in 2011 passed and were returned to normal service. Double-walled steel (DW Steel) sumps were also inspected through the leak detection port. No evidence of moisture was observed.

In addition, approximately 4,660 feet of underground piping was hydrostatically tested at Bloomfield Refinery in 2011. The piping was located in the Process Unit area, River Terrace transfer piping, Tank Farm transfer piping, and Terminals. Testing of underground process piping includes pressuring-up the piping to a set-point of approximately 150% of the normal operating pressure. The test piping remains pressured for a minimum of 30 minutes, at the end of which the piping pressure is compared to the original set pressure. Piping that did not lose pressure over the testing period was considered acceptable for service. No issues were identified during underground piping testing in 2011. Appendix D summarizes the underground piping testing and up-dated tank inspection schedule.

3.4 Waste Disposal

Western Refining indefinitely suspended refining operations at the Bloomfield Refinery 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 Wastewater Treatment System (WWTS). Treated water is then disposed of through the on-site Class I injection well.

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. A summary of such wastes, including a water balance sheet for 2011 is provided in Appendix E.

SECTION 4.0
CONCLUSIONS

The following is a summary of conclusions based on monitoring and inspection data collected in 2011.

4.1 Groundwater Monitoring

Western has in-place a Facility-Wide Groundwater Monitoring program that is up-dated annually as required under the 2077 Consent Order issued by NMED-HWB. Up-dates to this program include incorporation of additional wells installed as part of on-going completed RCRA Investigation activities. Such up-dates are proposed for agency approval in June of each year. Screening levels used to evaluate the groundwater condition at the Bloomfield refinery are reflective of the same conservative screening levels currently used for evaluation of on-going RCRA Investigation activities. Tables 3 through 10 include the most conservative screening level for each respective analyte. Sample results included in the analytical summary tables that exceed the respective sample results are bolded and highlighted in yellow. Figure 8 and Figure 9 shows a summary of the BTEX and MTBE concentrations detected site-wide during the April 2011 and August 2011 sampling events, respectively.

Depth-to-groundwater and depth-to-product measurements were collected at all refinery monitoring wells, recovery wells, observation wells, collection wells and sump wells in 2011. 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.

Based on the analytical results for groundwater monitoring collected in 2011, the following constituents were detected at concentrations in groundwater above the respective most conservative screening levels.

Volatile Organic Compounds:
- 1,2,4-trimethylbenzene
- 1,2-Dichlorethane
- 1,3,5-trimethylbenzene
- 1-Methylnaphthalene
- 2-Methylnaphthalene
- Benzene
- Ethylbenzene
- MTBE
- Naphthalene
- Toluene
- Xylenes

General Chemistry:
- Chloride
- Sulfate
- Nitrate

Total Metals:
- Arsenic
- Barium
- Chromium
- lead

Dissolved Metals:
- Barium
- Chromium
- Iron
- Manganese
- Uranium

Naturally occurring background concentrations in groundwater are currently being evaluated through the Background Investigation activities conducted as part of the July 2007 Consent Order issued by NMED-HWB.

4.2 Outfall and Seep Inspections

Bi-monthly visual inspections of Seeps 1 through 9, and along the San Juan River Bluff, which includes the East Fork Area, were conducted in 2011. No visual sheens or odors were identified during the inspection. Fluid in the Seeps is most often prevalent during the spring, corresponding with the times of higher precipitation. Fluids containing constituents higher than water quality standards are completely removed using portable pumps to ensure there are no impacts to the river.

4.3 Total Fluids Recovery Systems

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

- Groundwater Recovery System using recovery wells within the Refinery 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 Waste Water Treatment Plant for treatment prior to disposal through the on-site injection well. Water from the River Terrace is treated separately and is re-used as Plant Water for facility operations.

4.4 Below-Grade Testing and Tank Inspections

In compliance with the Refinery's Discharge Permit dated July 2010, underground process piping and sumps were inspected in 2011 to determine their integrity for service. All piping and sumps tested in 2011 passed inspections and were returned to normal service following completion of testing activities. In addition, petroleum storage tanks continue to be inspected at a frequency that is in compliance with API 650 and 653 guidelines.

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, 2010, New Mexico Oil Conservation Division, Discharge Permit Renewal (GW-001) Bloomfield Refinery, July 7, 2010.

Tables

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Fluid Level Measurements Summary

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-1	4/11/2011	5519.21	21.56	NPP	17.47	5501.74	NPP
	8/16/2011	5519.21	21.56	NPP	16.99	5502.22	NPP
MW-03	4/11/2011	5539.27	36.75	NPP	36.53	5502.74	NPP
	8/16/2011	5539.27	36.75	NPP	36.43	5502.84	NPP
MW-04	4/11/2011	5527.78	30.48	NPP	27.23	5500.55	NPP
	8/17/2011	5527.78	30.48	NPP	27.27	5500.51	NPP
MW-05	4/11/2011	5548.56	37.20	NPP	NWP	NWP	NPP
	8/17/2011	5548.56	37.20	NPP	NWP	NWP	NPP
MW-06	4/11/2011	5554.61	48.00	NPP	NWP	NWP	NPP
	8/17/2011	5554.61	48.00	NPP	NWP	NWP	NPP
MW-07	4/11/2011	5527.66	62.61	NPP	27.25	5500.41	NPP
	8/17/2011	5527.66	62.61	NPP	27.65	5500.01	NPP
MW-08	4/11/2011	5534.58	35.93	NPP	31.94	5502.64	NPP
	8/17/2011	5534.58	35.93	NPP	31.72	5502.86	NPP
MW-11	4/11/2011	5510.31	22.94	NPP	11.76	5498.55	NPP
	8/16/2011	5510.31	22.94	NPP	11.64	5498.67	NPP
MW-12	4/11/2011	5501.61	14.98	NPP	10.48	5491.13	NPP
	8/16/2011	5501.61	14.98	NPP	10.92	5490.69	NPP
MW-13	4/11/2011	5542.04	52.89	NPP	40.55	5501.49	NPP
	8/16/2011	5542.04	52.89	NPP	40.61	5501.43	NPP
MW-20	4/11/2011	5519.90	27.13	20.71	21.33	5499.07	0.62
	8/18/2011	5519.90	27.13	20.73	21.34	5499.05	0.61
MW-21	4/11/2011	5521.99	30.38	21.80	21.86	5500.18	0.06
	8/18/2011	5521.99	30.38	21.84	21.87	5500.14	0.03
MW-25	4/11/2011	5533.99	41.20	32.85	33.01	5501.11	0.16
	8/17/2011	5533.99	41.20	NPP	32.97	5501.02	NPP
MW-26	4/11/2011	5517.88	25.11	NPP	17.50	5500.38	NPP
	8/16/2011	5517.88	25.11	NPP	17.58	5500.30	NPP
MW-27	4/11/2011	5518.67	24.42	NPP	18.89	5499.78	NPP
	8/16/2011	5518.67	24.42	NPP	20.26	5498.41	NPP
MW-29	4/11/2011	5524.97	28.62	NPP	23.23	5501.74	NPP
	8/17/2011	5524.97	28.62	NPP	23.04	5501.93	NPP
MW-30	4/11/2011	5536.83	40.13	NPP	34.42	5502.41	NPP
	8/17/2011	5536.83	40.13	NPP	34.03	5502.80	NPP

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Fluid Level Measurements Summary

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-31	4/11/2011	5536.24	39.16	NPP	34.24	5502.00	NPP
	8/16/2011	5536.24	39.16	NPP	34.30	5501.94	NPP
MW-32	4/11/2011	5525.64	27.51	NPP	25.23	5500.41	NPP
	8/16/2011	5525.64	27.51	NPP	25.27	5500.37	NPP
MW-33	4/11/2011	5521.79	25.51	NPP	22.52	5499.27	NPP
	8/16/2011	5521.79	25.51	NPP	22.81	5498.98	NPP
MW-34	4/11/2011	5511.63	20.96	NPP	14.47	5497.16	NPP
	8/16/2011	5511.63	20.96	NPP	14.43	5497.20	NPP
MW-35	4/11/2011	5518.95	26.45	NPP	22.38	5496.57	NPP
	8/16/1934	5518.95	26.45	NPP	22.41	5496.54	NPP
MW-36	4/11/2011	5516.95	23.26	NPP	21.02	5495.93	NPP
	8/17/2011	5516.95	23.26	NPP	20.98	5495.97	NPP
MW-37	4/11/2011	5519.62	27.58	NPP	23.60	5496.02	NPP
	8/16/2011	5519.62	27.58	NPP	23.63	5495.99	NPP
MW-38	4/11/2011	5519.19	26.82	NPP	23.85	5495.34	NPP
	8/16/2011	5519.19	26.82	NPP	23.96	5495.23	NPP
MW-39	4/11/2011	5520.83	38.34	NPP	25.80	5495.03	NPP
	8/8/2011	5520.83	38.34	NPP	25.88	5494.95	NPP
MW-40	4/11/2011	5527.31	30.07	NPP	28.38	5498.93	NPP
	8/17/2011	5527.31	30.07	NPP	28.37	5498.94	NPP
MW-41	4/11/2011	5526.41	31.62	26.71	27.30	5499.58	0.59
	8/8/2011	5526.41	31.62	26.95	27.55	5499.34	0.60
MW-44	4/11/2011	5535.44	50.91	NPP	34.00	5501.44	NPP
	8/17/2011	5535.44	50.91	NPP	34.22	5501.22	NPP
MW-45	4/11/2011	5506.36	16.92	11.98	12.13	5494.35	0.15
	8/8/2011	5506.36	16.92	NPP	11.89	5494.47	NPP
MW-46	4/11/2011	5504.65	10.39	NPP	NWP	NWP	NPP
	8/8/2011	5504.65	10.39	NPP	NWP	NWP	NPP
MW-47	4/11/2011	5506.77	14.28	12.85	13.28	5493.83	0.43
	8/8/2011	5506.77	14.28	13.47	13.48	5493.30	0.01
P-03	4/11/2011	5510.77	22.73	NPP	11.25	5499.52	NPP
	8/8/2011	5510.77	22.73	NPP	11.26	5499.51	NPP

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Fluid Level Measurements Summary

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 - 50	4/11/2011	5518.79	20.00	NPP	17.10	5501.69	NPP
	8/22/2011	5518.79	20.00	NPP	16.69	5502.10	NPP
MW - 51	4/11/2011	5515.58	20.00	NPP	14.94	5500.64	NPP
	8/22/2011	5515.58	20.00	NPP	14.55	5501.03	NPP
MW - 52	4/11/2011	5538.63	41.00	NPP	36.47	5502.16	NPP
	8/22/2011	5538.63	41.00	NPP	36.31	5502.32	NPP
MW - 53	4/11/2011	5541.32	41.50	NPP	39.05	5502.27	NPP
	8/22/2011	5541.32	41.50	NPP	38.97	5502.35	NPP
MW - 54	4/11/2011	5530.08	38.00	32.9	33.31	5497.10	0.41
	8/22/2011	5530.08	38.00	32.84	33.23	5497.16	0.39
MW - 55	4/11/2011	5519.84	27.25	NPP	22.04	5497.80	NPP
	8/22/2011	5519.84	27.25	NPP	21.27	5498.57	NPP
MW - 56	4/11/2011	5519.31	23.75	19.5	20.45	5499.62	0.95
	8/22/2011	5519.31	23.75	19.74	20.83	5499.35	1.09
MW - 57	4/11/2011	5521.17	24.25	21.27	22.85	5499.58	1.58
	8/22/2011	5521.17	24.25	21.3	22.78	5499.57	1.48
MW - 58	4/11/2011	5520.29	27.00	21.03	21.09	5499.25	0.06
	8/22/2011	5520.29	27.00	20.9	21.99	5499.17	1.09
MW - 59	4/11/2011	5545.20	44.25	NPP	43.43	5501.77	NPP
	8/25/2011	5545.20	44.25	NPP	43.49	5501.71	NPP
MW - 60	4/11/2011	5543.71	45.50	NPP	42.58	5501.13	NPP
	8/25/2011	5543.71	45.50	NPP	42.67	5501.04	NPP
MW - 61	4/11/2011	5539.41	10.25	36.65	37.00	5502.69	0.35
	8/8/2011	5539.41	10.25	36.67	37.25	5502.62	0.58
MW - 62	4/11/2011	5561.32	58.25	NPP	55.38	5505.94	NPP
	8/23/2011	5561.32	58.25	NPP	56.26	5505.06	NPP
MW - 63	4/11/2011	5547.26	46.00	NPP	44.93	5502.33	NPP
	8/24/2011	5547.26	46.00	NPP	45.00	5502.26	NPP
MW - 64	4/11/2011	5552.29	52.25	NPP	50.16	5502.13	NPP
	8/24/2011	5552.29	52.25	NPP	50.22	5502.07	NPP
MW - 65	4/11/2011	5539.62	44.25	NPP	37.05	5502.57	NPP
	8/22/2011	5539.62	44.25	NPP	37.06	5502.56	NPP
MW - 66	4/11/2011	5544.62	43.25	41.83	41.92	5502.77	0.09
	8/8/2011	5544.62	43.25	41.87	41.92	5502.74	0.05

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Fluid Level Measurements Summary

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 - 67	4/11/2011	5523.31	25.14	NPP	21.44	5501.87	NPP
	8/22/2011	5523.31	25.14	NPP	21.01	5502.30	NPP
MW - 68	4/11/2011	5517.37	20.58	NPP	16.84	5500.53	NPP
	8/22/2011	5517.37	20.58	NPP	16.58	5500.79	NPP
MW-69	4/11/2011	5508.51	12.08	NPP	NWP	NWP	NPP
	8/22/2011	5508.51	12.08	NPP	11.91	5496.60	NPP
RW-01	4/11/2011	5529.34	40.80	32.6	32.97	5496.67	0.37
	8/8/2011	5529.34	40.80	31.00	31.62	5498.22	0.62
RW-02	4/11/2011	5526.94	35.86	NPP	28.10	5498.84	NPP
	8/8/2011	5526.94	35.86	NPP	26.59	5500.35	NPP
RW-03	4/11/2011	5520.35	34.57	NPP	22.43	5497.92	NPP
	8/8/2011	5520.35	34.57	21.95	21.97	5498.40	0.02
RW-09	4/11/2011	5523.21	34.04	NPP	28.35	5494.86	NPP
	8/8/2011	5523.21	34.04	24.00	24.01	5499.21	0.01
RW-14	4/11/2011	5537.50	41.94	36.77	36.97	5500.69	0.20
	8/8/2011	5537.50	41.94	35.02	36.14	5502.26	1.12
RW-15	4/11/2011	5536.83	43.43	NPP	37.23	5499.60	NPP
	8/8/2011	5536.83	43.43	NPP	34.95	5501.88	NPP
RW-16	4/11/2011	5535.45	41.48	NPP	38.59	5496.86	NPP
	8/8/2011	5535.45	41.48	34.01	34.32	5501.38	0.31
RW-17	4/11/2011	5533.84	41.89	NPP	32.97	5500.87	NPP
	8/8/2011	5533.84	41.89	NPP	33.06	5500.78	NPP
RW-18	4/11/2011	5529.38	37.58	NPP	35.41	5493.97	NPP
	8/8/2011	5529.38	37.58	NPP	35.43	5493.95	NPP
RW-19	4/11/2011	5530.51	36.64	NPP	30.67	5499.84	NPP
	8/8/2011	5530.51	36.64	NPP	30.29	5500.22	NPP
RW-22	4/11/2011	5524.44	35.60	27.87	29.44	5496.26	1.57
	8/8/2011	5524.44	35.60	NPP	26.01	5498.43	NPP
RW-23	4/11/2011	5521.38	35.53	NPP	30.50	5490.88	NPP
	8/8/2011	5521.38	35.53	23.34	23.35	5498.04	0.01
RW-28	4/11/2011	5527.93	36.99	29.3	29.55	5498.58	0.25
	8/8/2011	5527.93	36.99	29.4	29.65	5498.48	0.25
RW-42	4/11/2011	5527.48	32.02	27.05	27.70	5500.30	0.65
	8/8/2011	5527.48	32.02	27.15	28.05	5500.15	0.90
RW-43	4/11/2011	5520.02	24.03	20.61	20.68	5499.40	0.07
	8/8/2011	5520.02	24.03	21.65	21.70	5498.36	0.05

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Fluid Level Measurements Summary

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	4/11/2011	5506.62	12.26	NPP	12.25	5494.37	NPP
	8/15/2011	5506.62	12.26	NPP	12.03	5494.59	NPP
OW 1+50	4/11/2011	5508.03	14.36	14.10	14.32	5493.89	0.22
	8/15/2011	5508.03	14.36	14.28	14.36	5493.73	0.08
OW 3+85	4/11/2011	5507.31	15.06	13.68	13.69	5493.63	0.01
	8/15/2011	5507.31	15.06	13.77	13.78	5493.54	0.01
OW 5+50	4/11/2011	5507.59	13.67	NPP	13.66	5493.93	NPP
	8/15/2011	5507.59	13.67	NPP	13.63	5493.96	NPP
OW 6+70	4/11/2011	5504.78	14.67	NPP	NWP	NWP	NPP
	8/15/2011	5504.78	14.67	NPP	NWP	NWP	NPP
OW 8+10	4/11/2011	5506.53	15.99	NPP	NWP	NWP	NPP
	8/15/2011	5506.53	15.99	NPP	NWP	NWP	NPP
OW 11+15	4/11/2011	5506.70	16.59	12.67	12.68	5494.03	0.01
	8/15/2011	5506.70	16.59	NPP	12.55	5494.15	NPP
OW 14+10	4/11/2011	5508.14	12.96	NPP	NWP	NWP	NPP
	8/15/2011	5508.14	12.96	NPP	NWP	NWP	NPP
OW 16+60	4/11/2011	5508.43	15.21	NPP	12.92	5495.51	NPP
	8/15/2011	5508.43	15.21	NPP	13.14	5495.29	NPP
OW 19+50	4/11/2011	5508.03	13.00	NPP	12.66	5495.37	NPP
	8/15/2011	5508.03	13.00	NPP	NWP	NWP	NPP
OW 22+00	4/11/2011	5506.91	14.16	NPP	11.92	5494.99	NPP
	8/15/2011	5506.91	14.16	NPP	13.06	5493.85	NPP
OW 23+10	4/11/2011	5514.12	18.34	NPP	16.37	5497.75	NPP
	8/15/2011	5514.12	18.34	NPP	16.41	5497.71	NPP
OW 23+90	4/11/2011	5515.18	18.01	NPP	17.18	5498.00	NPP
	8/15/2011	5515.18	18.01	NPP	17.21	5497.97	NPP
OW 25+70	4/11/2011	5509.00	13.98	NPP	10.84	5498.16	NPP
	8/15/2011	5509.00	13.98	NPP	10.87	5498.13	NPP
CW 0+60	4/11/2011	5506.68	14.09	NPP	9.09	5497.59	NPP
	8/15/2011	5506.68	14.09	NPP	8.54	5498.14	NPP
CW 1+50	4/11/2011	5505.13	13.74	NPP	7.54	5497.59	NPP
	8/15/2011	5505.13	13.74	NPP	7.08	5498.05	NPP
CW 3+85	4/11/2011	5503.87	13.11	NPP	6.13	5497.74	NPP
	8/15/2011	5503.87	13.11	NPP	5.95	5497.92	NPP
CW 5+50	4/11/2011	5503.76	12.27	NPP	6.61	5497.15	NPP
	8/15/2011	5503.76	12.27	NPP	6.53	5497.23	NPP
CW 6+70	4/11/2011	5503.84	11.45	NPP	6.83	5497.01	NPP
	8/15/2011	5503.84	11.45	NPP	6.90	5496.94	NPP

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Fluid Level Measurements Summary

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 8+10	4/11/2011	5504.02	11.63	NPP	7.84	5496.18	NPP
	8/15/2011	5504.02	11.63	NPP	7.68	5496.34	NPP
CW 8+45	4/11/2011	5503.80	12.60	NPP	7.97	5495.83	NPP
	8/15/2011	5503.80	12.60	NPP	7.80	5496.00	NPP
CW 11+15	4/11/2011	5503.95	12.27	NPP	6.14	5497.81	NPP
	8/15/2011	5503.95	12.27	NPP	6.18	5497.77	NPP
CW 14+10	4/11/2011	5504.39	13.05	NPP	6.60	5497.79	NPP
	8/15/2011	5504.39	13.05	NPP	6.32	5498.07	NPP
CW 16+60	4/11/2011	5504.32	12.86	NPP	6.35	5497.97	NPP
	8/15/2011	5504.32	12.86	NPP	6.12	5498.20	NPP
CW 19+50	4/11/2011	5504.52	9.99	NPP	6.60	5497.92	NPP
	8/15/2011	5504.52	9.99	NPP	6.51	5498.01	NPP
CW 22+00	4/11/2011	5508.04	12.34	NPP	8.95	5499.09	NPP
	8/15/2011	5508.04	12.34	NPP	8.90	5499.14	NPP
CW 23+10	4/11/2011	5510.04	14.65	NPP	10.60	5499.44	NPP
	8/15/2011	5510.04	14.65	NPP	10.55	5499.49	NPP
CW 23+90	4/11/2011	5507.32	11.72	NPP	8.10	5499.22	NPP
	8/15/2011	5507.32	11.72	NPP	7.97	5499.35	NPP
CW 25+95	4/11/2011	5505.90	12.25	NPP	Active Recovery Well		NPP
	8/15/2011	5505.90	12.25	NPP	Active Recovery Well		NPP
SW1-0206	1/4/2011	5508.27	53.08	NPP	52.57	5455.70	NPP
	1/17/2011	5508.27	53.08	NPP	52.56	5455.71	NPP
	1/31/2011	5508.27	53.08	NPP	52.57	5455.70	NPP
	2/17/2011	5508.27	53.08	NPP	52.58	5455.69	NPP
	8/18/2011	5508.27	53.08	NPP	52.61	5455.66	NPP
	9/19/2011	5508.27	53.08	NPP	52.68	5455.59	NPP
	11/16/2011	5508.27	53.08	NPP	52.58	5455.69	NPP
SW2-0206	1/4/2011	5507.75	27.69	NPP	26.05	5481.70	NPP
	1/17/2011	5507.75	27.69	NPP	26.02	5481.73	NPP
	1/31/2011	5507.75	27.69	NPP	25.99	5481.76	NPP
	2/17/2011	5507.75	27.69	NPP	25.98	5481.77	NPP
	8/18/2011	5507.75	27.69	NPP	25.76	5481.99	NPP
	9/19/2011	5507.75	27.69	NPP	25.81	5481.94	NPP
	11/16/2011	5507.75	27.69	NPP	25.37	5482.38	NPP
	1/4/2011	5505.29	52.56	NPP	25.97	5479.32	NPP
	1/17/2011	5505.29	52.56	NPP	26.02	5479.27	NPP
	1/31/2011	5505.29	52.56	NPP	26.09	5479.20	NPP

Ta. 1

Fluid Level Measurements Summary

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)
SW3-0206	2/17/2011	5505.29	52.56	NPP	26.20	5479.09	NPP
	8/18/2011	5505.29	52.56	NPP	26.46	5478.83	NPP
	9/19/2011	5505.29	52.56	NPP	26.15	5479.14	NPP
	11/16/2011	5505.29	52.56	NPP	25.90	5479.39	NPP
SW4-0206	1/4/2011	5504.45	42.34	NPP	32.62	5471.83	NPP
	1/17/2011	5504.45	42.34	NPP	32.61	5471.84	NPP
	1/31/2011	5504.45	42.34	NPP	32.56	5471.89	NPP
	2/17/2011	5504.45	42.34	NPP	32.56	5471.89	NPP
	8/18/2011	5504.45	42.34	NPP	33.03	5471.42	NPP
	9/19/2011	5504.45	42.34	NPP	33.10	5471.35	NPP
	11/16/2011	5504.45	42.34	NPP	32.91	5471.54	NPP
SW5-0206	1/4/2011	5514.34	52.24	NPP	34.28	5480.06	NPP
	1/17/2011	5514.34	52.24	NPP	34.35	5479.99	NPP
	1/31/2011	5514.34	52.24	NPP	34.35	5479.99	NPP
	2/17/2011	5514.34	52.24	NPP	34.37	5479.97	NPP
	8/18/2011	5514.34	52.24	NPP	35.07	5479.27	NPP
	9/19/2011	5514.34	52.24	NPP	35.05	5479.29	NPP
	11/16/2011	5514.34	52.24	NPP	34.56	5479.78	NPP
SW6-0206	1/4/2011	5519.72	47.41	NPP	42.15	5477.57	NPP
	1/17/2011	5519.72	47.41	NPP	41.36	5478.36	NPP
	1/31/2011	5519.72	47.41	NPP	41.26	5478.46	NPP
	2/17/2011	5519.72	47.41	NPP	41.20	5478.52	NPP
	8/18/2011	5519.72	47.41	NPP	42.53	5477.19	NPP
	9/19/2011	5519.72	47.41	NPP	42.83	5476.89	NPP
	11/16/2011	5519.72	47.41	NPP	42.23	5477.49	NPP
SW7-0206	1/4/2011	5517.63	32.95	NPP	18.05	5499.58	NPP
	1/17/2011	5517.63	32.95	NPP	18.03	5499.60	NPP
	1/31/2011	5517.63	32.95	NPP	18.09	5499.54	NPP
	2/17/2011	5517.63	32.95	NPP	18.33	5499.30	NPP
	8/18/2011	5517.63	32.95	NPP	19.48	5498.15	NPP
	9/19/2011	5517.63	32.95	NPP	19.20	5498.43	NPP
	11/16/2011	5517.63	32.95	NPP	18.73	5498.90	NPP

Notes:

NPP = No Product Present
NWP = No Water Present
ft = feet
TOC = top-of-casing
amsl = above mean sea level
SPH = Separate-Phase Hydrocarbon

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
MW-1	Aug-11	533	762	6.80	68.6	10.8	240
	Apr-11	541	766	6.77	52.2	4.08	241
	Aug-10	588	841	7.04	63.6	1.83	282
MW-3	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-4	Aug-11	1712	2297	6.9	58.8	1.37	226.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1725	2323	6.94	64.7	1.49	266
MW-5	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-6	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW -7	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-8	Aug-11	1722	2306	6.90	58.8	1.37	226
	Apr-11	2289	2951	4.79	55.0	5.30	251
	Aug-10	1712	2258	6.60	58.9	2.14	276
MW-11	Aug-11	1986	2645	6.90	60.3	1.41	209
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1906	2545	7.03	66.4	1.98	254
MW-12	Aug-11	356	520	7.00	62.2	0.48	209
	Apr-11	1077	1476	6.94	51.1	2.58	245
	Aug-10	390	563	7.03	64.3	0.63	286
MW-13	Aug-11	2590	3312	6.80	61.9	1.87	252
	Apr-11	3163	3958	6.64	59.7	3.92	210
	Aug-10	2977	3816	6.97	62.9	1.13	255
MW-20	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-21	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-25	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-26	Aug-11	2077	2751	6.9	63.3	1.6	230.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2046	2698	6.83	64.4	1.3	300
MW-27	Aug-11	2908	3741	6.9	60.8	1.0	289.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2211	2890	6.95	61.7	1.4	262
MW-29	Aug-11	797	1116	7.0	60.1	2.4	226.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	772	1083	6.78	60.7	2.0	289

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
MW-30	Aug-11	2293	2986	6.9	62.2	1.1	151.0
	Apr-11	2419	3119	6.5	59.8	3.7	129.0
	Aug-10	2309	3014	6.82	62.5	1.2	206
MW-31	Aug-11	2598	3359	7.0	62.4	1.3	184.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2857	3681	6.96	63.8	0.4	211
MW-32	Aug-11	3930	4901	7.1	59.2	5.4	189.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	4148	51	6.99	61.3	6.4	274
MW-33	Aug-11	3468	4336	7.0	60.8	0.8	244.0
	Apr-11	3202	4017	6.9	57.4	2.2	212.0
	Aug-10	2973	3794	7.01	60.9	4.4	292
MW-34	Aug-11	1517	2073	7.0	59.1	0.6	176.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1286	1772	7.12	63.6	2.9	233
MW-35	Aug-11	1396	1921	7.1	60.4	1.1	154.0
	Apr-11	1313	1787	6.9	57.1	3.1	237.0
	Aug-10	1268	1742	7.05	62.3	1.4	246
MW-36	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-37	Aug-11	1785	2405	7.1	60.3	0.6	209.0
	Apr-11	1668	2236	7.1	58.3	2.4	234.0
	Aug-10	1686	2276	6.97	63.3	0.9	275
MW-38	Aug-11	954	1335	7.0	59.9	0.6	223.0
	Apr-11	1045	1447	7.1	58.4	1.5	226.0
	Aug-10	939	1317	6.99	64.7	0.6	276
MW-39	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-40	Aug-11	2129	2837	7.1	66.5	1.5	167.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2106	2790	7.00	68.8	1.0	281
MW-41	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-44	Aug-11	3682	4626	7.0	60.5	2.2	231.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	4306	5296	6.78	60.6	2.6	320
MW-45	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-46	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-47	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
MW-50	Aug-11	453	650	6.7	59.5	6.1	183.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	425	612	7.12	61.4	0.7	248
MW-51	Aug-11	351	509	6.9	61.1	4.8	181.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	459	664	7.12	63.1	0.5	273
MW-52	Aug-11	3255	4139	6.9	60.7	3.1	201.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2801	3602	7.07	62.2	0.6	291
MW-53	Aug-11	3658	4574	6.9	59.6	3.6	215.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	3394	4288	7.14	61.6	0.6	242
MW-54	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-55	Aug-11	2284	3001	7.0	60.6	1.7	198.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2440	3160	6.85	61.1	1.3	277
MW-56	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-57	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-58	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1928	2562	6.95	65.3	1.7	279
MW-59	Aug-11	1812	2423	6.8	62.0	2.1	221.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1523	2067	6.90	62.4	0.6	287
MW-60	Aug-11	2743	3551	7.0	62.6	1.8	200.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1939	2567	6.88	61.5	0.7	284
MW-61	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-62	Aug-11	5203	6247	7.0	60.5	50' cord -didn't reach	189.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	5330	6458	6.93	62.4	50' cord -didn't reach	297
MW-63	Aug-11	2651	3416	6.6	63.9	1.7	238.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	3809	4764	7.06	68.3	0.4	222
MW-64	Aug-11	4026	4989	6.7	61.5	4.2	235.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	4279	5302	7.06	65.5	4.6	251
MW-65	Aug-11	2189	2866	7.1	63.0	0.6	169.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2103	2787	7.05	65.8	0.4	245

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
MW-66	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
MW-67	Aug-11	712	1017	7.0	58.7	1.2	170.0
	Apr-11	ns	ns	ns	ns	ns	ns
MW-68	Aug-11	809	1150	7.00	60.9	0.9	218
	Apr-11	ns	ns	ns	ns	ns	ns
MW-69	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
Outfall No. 2	Aug-11	204	299	6.6	62.3	ns	212.0
	Apr-11	588	826	6.7	51.6	ns	218.0
	Aug-10	271	388	6.95	65.8	ns	271
Outfall No. 3	Aug-11	206	301	6.6	60.4	ns	238.0
	Apr-11	325	466	6.7	52.7	ns	197.0
	Aug-10	219	317	6.94	64.9	ns	274
RW-1	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-2	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-3	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-9	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2234	2925	6.91	62.0	1.4	241
RW-4	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-15	Aug-11	2410	3130	6.8	60.9	4.1	243.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2540	3295	7.05	61.9	0.6	278
RW-16	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-17	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-18	Aug-11	4098	5074	6.8	63.8	3.4	229.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	4451	5434	6.94	65.8	2.3	132
RW-19	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-22	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
RW-23	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1401	1911	7.00	64.2	2.2	241
RW-28	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-42	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
RW-43	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1993	2647	6.75	70.0	130.0	124
CW 0+60	Aug-11	708	1005	6.6	68.2	3.0	155.0
	Apr-11	783	1092	6.7	52.6	4.8	168.0
	Aug-10	757	1067	6.82	67.2	2.6	280
	Apr-10	842	1197	7.0	52.7	2.3	289.0
CW 25+95	Aug-11	902	1271	7.0	69.9	1.2	138.0
	Apr-11	1127	1559	7.1	60.0	2.6	63.0
	Aug-10	960	1343	6.96	66.5	1.1	141
	Apr-10	675	965	7.0	52.2	1.3	255.0
OW 0+60	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	1056	1469	6.75	67.2	2.1	77
	Apr-10	1122	1573	6.9	54.9	---	---
OW 1+50	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
	Apr-10	2023	2720	6.9	56.2	NR[2]	NR[2]
OW 3+85	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2486	3224	6.71	66.2	2.2	78
	Apr-10	2371	3137	6.9	54.7	NR[2]	NR[2]
OW 5+50	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	2773	3577	6.76	69.1	1.9	114
	Apr-10	ns	ns	ns	ns	ns	ns
OW 6+70	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
	Apr-10	ns	ns	ns	ns	ns	ns
OW 8+10	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
	Apr-10	ns	ns	ns	ns	ns	ns
OW 11+15	Aug-11	1346	1857	6.8	66.7	2.3	202.0
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
	Apr-10	1394	1932	6.9	55.8	---	---

Table 2
Groundwater Field Parameter Summary

Location ID	Date	Total Disolved Solids (mg/l)	Electrical Conductivity (mmhos/cm)	pH	Temperature (°F)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
OW 14+10	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	ns	ns	ns	ns	ns	ns
	Apr-10	ns	ns	ns	ns	ns	ns
OW 16+60	Aug-11	2011	2746	6.9	70.1	1.4	184.0
	Apr-11	1943	2567	6.8	58.3	5.5	200.0
	Aug-10	1982	2631	6.79	68.5	2.9	199
	Apr-10	1921	2601	6.9	58.3	---	---
OW 19+50	Aug-11	ns	ns	ns	ns	ns	ns
	Apr-11	ns	ns	ns	ns	ns	ns
	Aug-10	3568	4496	6.87	68.9	1.7	292
	Apr-10	3129	4005	6.9	54.7	---	---
OW 22+00	Aug-11	2888	3739	7.0	69.4	2.5	149.0
	Apr-11	2468	3178	6.9	54.3	2.8	250.0
	Aug-10	2953	3804	6.85	68.6	1.5	286
	Apr-10	2326	3075	6.8	52.4	---	---
OW 23+10	Aug-11	1072	1503	7.0	69.1	1.3	128.0
	Aug-11	939	1304	7.0	57.6	1.9	192.0
	Aug-10	982	1379	6.90	69.5	1.1	272
	Apr-10	1070	1505	6.9	55.7	---	---
OW 23+90	Aug-11	869	1228	7.0	69.0	1.8	151.0
	Aug-11	855	1193	7.0	58.4	2.7	203.0
	Aug-10	822	1159	6.97	67.8	2.1	238
	Apr-10	845	1203	6.9	56.1	---	---
OW 25+70	Aug-11	544	781	7.0	69.3	1.1	171.0
	Apr-11	830	1160	7.0	56.1	1.5	190.0
	Aug-10	850	1199	6.94	70.4	1.0	273
	Apr-10	773	1100	6.9	51.8	---	---

Notes:

ns = no sample collected

mg/l = milligrams per liter

mmhos/cm = micro siemens per centimeter

mV = millivolts

Table 3
Refinery Wells Analytical Summary

			RW-1				MW-4				MW-8					RW-9				RW-15				RW-18			
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08
Volatile Organic Compounds (ug/L)																											
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,1,1-Trichloroethane	6.00E+01	(3)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	---	---	< 10	< 10	< 20	< 20	< 40	< 20	< 2.0	---	< 2.0	< 2.0	< 2.0	---	< 100	< 40	---	< 40	< 200	< 100	< 40	< 40	< 40	---	---
1,1,2-Trichloroethane	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,1-Dichloroethane	2.50E+01	(3)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,1-Dichloroethene	5.00E+00	(3)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,1-Dichloropropene	-	-	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,2,3-Trichlorobenzene	-	-	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,2,3-Trichloropropane	9.60E-02	(5)	---	---	< 10	< 10	< 20	< 20	< 40	< 20	< 2.0	---	< 2.0	< 2.0	< 2.0	---	< 100	< 40	---	< 40	< 200	< 100	< 40	< 40	< 40	---	---
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,2,4-Trimethylbenzene	1.50E+01	(1)	---	---	**550**	**520**	**130**	**310**	**450**	**690**	**30**	---	**56**	**95**	<1.0	---	**390**	**710**	---	**1700**	**2200**	**1600**	**2900**	**400**	**240**	---	---
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	---	---	< 10	< 10	< 20	< 20	< 40	< 20	< 2.0	---	< 2.0	< 2.0	< 2.0	---	< 100	< 40	---	< 40	< 200	< 100	< 40	< 40	< 40	---	---
1,2-Dibromoethane (EDB)	5.00E-02	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,2-Dichloroethane (EDC)	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	**540**	<20	---	---
1,2-Dichloropropane	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,3,5-Trimethylbenzene	1.20E+01	(1)	---	---	**51**	**80**	**38**	**32**	**120**	**230**	**13**	---	**18**	**62**	<1.0	---	**56**	**110**	---	**510**	**670**	**430**	**680**	< 20	**25**	---	---
1,3-Dichlorobenzene	-	-	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,3-Dichloropropane	7.30E+02	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
1-Methylnaphthalene	2.30E+00	(1)	---	---	**130**	**130**	< 40	< 40	<80	**61**	**25**	---	**16**	**13**	<4.0	---	< 200	<80	---	**110**	< 400	< 200	**92**	**720**	**320**	---	---
2,2-Dichloropropane	-	-	---	---	< 10	< 10	< 20	< 20	< 40	< 20	< 2.0	---	< 2.0	< 2.0	< 2.0	---	< 100	< 40	---	< 40	< 200	< 100	< 40	< 40	< 40	---	---
2-Butanone	7.06E+03	(5)	---	---	< 50	< 50	< 100	< 100	< 200	< 100	< 10	---	< 10	< 10	< 10	---	< 500	< 200	---	< 200	< 1000	< 500	< 200	< 200	< 200	---	---
2-Chlorotoluene	7.30E+02	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
2-Hexanone	-	-	---	---	< 50	< 50	< 100	< 100	< 200	< 100	< 10	---	< 10	< 10	< 10	---	< 500	< 200	---	< 200	< 1000	< 500	< 200	< 200	< 200	---	---
2-Methylnaphthalene	1.50E+02	(1)	---	---	**190**	**190**	49	49	<80	88	37	---	27	22	<4.0	---	<200	<80	---	**170**	<100	<200	150	< 80	< 80	---	---
4-Chlorotoluene	2.60E+03	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
4-Isopropyltoluene	-	-	---	---	17	11	< 10	< 10	< 20	14	< 1.0	---	1.3	4.7	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
4-Methyl-2-pentanone	-	-	---	---	< 50	< 50	< 100	< 100	< 200	< 100	< 10	---	< 10	< 10	< 10	---	< 500	< 200	---	< 200	< 1000	< 500	< 200	< 200	< 200	---	---
Acetone	2.18E+04	(5)	---	---	< 50	< 50	< 100	< 100	< 200	< 100	< 10	---	19	< 10	< 10	---	< 500	< 200	---	< 200	< 1000	< 500	< 200	< 200	< 200	---	---
Benzene	5.00E+00	(2)	---	---	**140**	**200**	**160**	**570**	**220**	**530**	1.4	---	<1.0	**24**	<1.0	---	**3900**	**9500**	---	**2800**	**4300**	**3000**	**6000**	**42**	**230**	---	---
Bromobenzene	2.00E+01	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Bromodichloromethane	1.17E+00	(5)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Bromoform	8.50E+00	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Bromomethane	8.66E+00	(5)	---	---	< 15	< 15	< 30	< 30	< 60	< 30	< 3.0	---	< 3.0	< 3.0	< 3.0	---	< 150	< 60	---	< 60	< 300	< 150	< 60	< 60	< 60	---	---
Carbon disulfide	1.04E+03	(5)	---	---	< 50	< 50	< 100	< 100	< 200	< 100	< 10	---	< 10	< 10	< 10	---	< 500	< 200	---	< 200	< 1000	< 500	< 200	< 200	< 200	---	---
Carbon Tetrachloride	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Chlorobenzene	1.00E+02	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Chloroethane	-	-	---	---	< 10	< 10	< 20	< 20	< 40	< 20	< 2.0	---	< 2.0	< 2.0	< 2.0	---	< 100	< 40	---	< 40	< 200	< 100	< 40	< 40	< 40	---	---
Chloroform	1.00E+02	(3)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Chloromethane	1.78E+01	(5)	---	---	< 15	< 15	< 30	< 30	< 60	< 30	< 3.0	---	< 3.0	< 3.0	< 3.0	---	< 150	< 60	---	< 60	< 300	< 150	< 60	< 60	< 60	---	---
cis-1,2-DCE	7.00E+01	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
cis-1,3-Dichloropropene	-	-	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Dibromochloromethane	1.47E+00	(5)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Dibromomethane	3.70E+02	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Dichlorodifluoromethane	3.95E+02	(5)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Ethylbenzene	7.00E+02	(2)	---	---	140	210	69	45	56	110	9.9	---	15	47	<1.0	---	370	**890**	---	**2500**	**3600**	**2500**	**4100**	90	48	---	---
Hexachlorobutadiene	8.60E-01	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Isopropylbenzene	6.79E+02	(5)	---	---	110	110	42	57	60	56	2.4	---	3.5	12	<1.0	---	<20	67	---	80	<100	64	150	29	<20	---	---
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	---	---	36	21	< 10	< 10	<20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	**3400**	---	71	<100	< 50	30	**2200**	**1600**	---	---
Methylene Chloride	5.00E+00	(2)	---	---	< 15	< 15	< 30	< 30	< 60	< 30	< 3.0	---	< 3.0	< 3.0	< 3.0	---	< 150	< 60	---	< 60	< 300	< 150	< 60	< 60	< 60	---	---
Naphthalene	1.43E+00	(5)	---	---	**230**	**260**	**100**	**120**	**100**	**170**	**20**	---	**18**	**19**	<2.0	---	<100	**110**	---	**470**	**590**	**380**	**620**	< 40	70	---	---
n-Butylbenzene	-	-	---	---	16	16	< 10	< 10	34	36	2.3	---	<1.0	<1.0	<1.0	---	< 50	<20	---	25	<100	< 50	73	36	<20	---	---
n-Propylbenzene	-	-	---	---	120	140	37	59	59	60	3.7	---	6.8	13	<1.0	---	<50	88	---	270	370	230	390	52	22	---	---
sec-Butylbenzene	-	-	---	---	28	23	< 10	10	< 20	12	< 1.0	---	1.4	3.2	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	17	< 20	< 20	---	---
Styrene	1.00E+02	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
tert-Butylbenzene	-	-	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Tetrachloroethene (PCE)	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Toluene	7.50E+02	(3)	---	---	< 5.0	< 5.0	< 10	< 10	<20	< 10	11	---	<1.0	210	<1.0	---	<50	<20	---	**790**	<100	**2000**	**1000**	< 20	< 20	---	---
trans-1,2-DCE	1.00E+02	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
trans-1,3-Dichloropropene	4.30E-01	(1)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Trichloroethene (TCE)	5.00E+00	(2)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Trichlorofluoromethane	1.29E+03	(5)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Vinyl chloride	1.00E+00	(3)	---	---	< 5.0	< 5.0	< 10	< 10	< 20	< 10	< 1.0	---	< 1.0	< 1.0	< 1.0	---	< 50	< 20	---	< 20	< 100	< 50	< 20	< 20	< 20	---	---
Xylenes, Total	6.20E+02	(3)	---	---	14	67	140	140	**650**	**1600**	76	---	37	480	<1.5	---	550	**2200**	---	**9700**	**16000**	**11000**	**21000**	< 30	93	---	---

Table 3
Refinery Wells Analytical Summary

			RW-1				MW-4				MW-8					RW-9				RW-15				RW-18			
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08
Semi Volatile Organic Compounds (ug/l):																											
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
1,3-Dichlorobenzene	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
1-Methylnaphthalene	2.30E+00	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2,4,5-Trichlorophenol	3.65E+03	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2,4,6-Trichlorophenol	3.65E+01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2,4-Dichlorophenol	1.10E+02	(5)	---	---	< 20	< 20	---	---	< 20	< 20	---	---	---	< 20	< 20	---	---	<100	---	---	---	< 20	< 20	---	---	---	---
2,4-Dimethylphenol	7.30E+02	(5)	---	---	< 10	< 10	---	---	20	22	---	---	---	< 10	< 10	---	---	< 50	---	---	---	13	13	---	---	---	---
2,4-Dinitrophenol	7.30E+01	(5)	---	---	< 20	< 20	---	---	< 20	< 20	---	---	---	< 20	< 20	---	---	<100	---	---	---	< 20	< 20	---	---	---	---
2,4-Dinitrotoluene	2.17E+00	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2,6-Dinitrotoluene	3.70E+01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2-Chloronaphthalene	2.90E+03	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2-Chlorophenol	1.83E+02	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2-Methylnaphthalene	1.50E+02	(1)	---	---	**410**	**540**	---	---	34	82	---	---	---	12	< 10	---	---	<50	---	---	---	88	79	---	---	---	---
2-Methylphenol	1.80E+03	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	12	< 10	---	---	---	---
2-Nitroaniline	1.10E+02	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
2-Nitrophenol	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
3,3´-Dichlorobenzidine	1.50E-01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
3+4-Methylphenol	1.80E+02	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	11	< 10	---	---	---	---
3-Nitroaniline	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
4,6-Dinitro-2-methylphenol	-	-	---	---	< 20	< 20	---	---	< 20	< 20	---	---	---	< 20	< 20	---	---	<100	---	---	---	< 20	< 20	---	---	---	---
4-Bromophenyl phenyl ether	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
4-Chloro-3-methylphenol	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
4-Chloroaniline	3.40E-01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
4-Chlorophenyl phenyl ether	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
4-Nitroaniline	3.40E+00	(1)	---	---	< 20	< 20	---	---	< 20	< 20	---	---	---	< 20	< 20	---	---	< 50	---	---	---	< 20	< 20	---	---	---	---
4-Nitrophenol	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Acenaphthene	2.19E+03	(5)	---	---	<10	11	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Acenaphthylene	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Aniline	1.20E+01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Anthracene	1.10E+04	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Azobenzene	1.20E-01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benz(a)anthracene	9.21E-01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benzo(a)pyrene	2.00E-01	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benzo(b)fluoranthene	9.21E-01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benzo(g,h,i)perylene	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benzo(k)fluoranthene	9.21E+00	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Benzoic acid	1.50E+05	(1)	---	---	< 20	< 20	---	---	< 20	< 20	---	---	---	< 20	< 20	---	---	<100	---	---	---	< 20	< 20	---	---	---	---
Benzyl alcohol	1.80E+04	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Bis(2-chloroethoxy)methane	1.10E+02	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Bis(2-chloroethyl)ether	1.19E-01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	---	---	**31**	< 10	---	---	<10	**22**	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Butyl benzyl phthalate	3.50E+01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Carbazole	-	-	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Chrysene	9.21E+01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Dibenz(a,h)anthracene	9.21E-02	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Dibenzofuran	-	-	---	---	<10	14	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Diethyl phthalate	2.92E+04	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Dimethyl phthalate	3.65E+05	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Di-n-butyl phthalate	3.65E+03	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Di-n-octyl phthalate	-	-	---	---	< 10	< 10	---	---	<10	12	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Fluoranthene	1.46E+03	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Fluorene	1.46E+03	(5)	---	---	34	58	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	<50	---	---	---	< 10	< 10	---	---	---	---
Hexachlorobenzene	1.00E+00	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Hexachlorobutadiene	8.60E-01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Hexachlorocyclopentadiene	5.00E+01	(2)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Hexachloroethane	3.65E+01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Isophorone	7.07E+02	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Naphthalene	1.43E+00	(5)	---	---	**150**	**290**	---	---	**48**	**96**	---	---	---	**11**	< 10	---	---	**74**	---	---	---	**310**	**280**	---	---	---	---
Nitrobenzene	1.49E+01	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
N-Nitrosodimethylamine	1.32E-02	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
N-Nitrosodi-n-propylamine	9.60E-03	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
N-Nitrosodiphenylamine	1.37E+02	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Pentachlorophenol	1.00E+00	(2)	---	---	< 40	< 40	---	---	< 40	< 40	---	---	---	< 40	< 40	---	---	<200	---	---	---	< 40	< 40	---	---	---	---
Phenanthrene	1.10E+03	(5)	---	---	56	77	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	<50	---	---	---	< 10	< 10	---	---	---	---
Phenol	5.00E+00	(3)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	**12**	**18**	---	---	---	---
Pyrene	1.10E+03	(5)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---
Pyridine	3.70E+01	(1)	---	---	< 10	< 10	---	---	< 10	< 10	---	---	---	< 10	< 10	---	---	< 50	---	---	---	< 10	< 10	---	---	---	---

Table 3
Refinery Wells Analytical Summary

			RW-1				MW-4				MW-8					RW-9				RW-15				RW-18			
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08
General Chemistry (mg/l):																											
Fluoride	1.6	(3)	---	---	<2.0	0.31	0.21	0.25	0.29	0.23	0.72	---	1.4	0.33	0.69	---	<1.0	<1.0	---	<0.5	0.25	<0.10	0.29	<2.0	<2.0	---	---
Chloride	250	(3)	---	---	**330**	250	150	180	180	190	190	---	96	20	180	---	230	160	---	**380**	**470**	**460**	**420**	**310**	**380**	---	---
Nitrite	1	(2)	---	---	<2.0	<0.50	2.3*	<0.50	<2.0	<0.10	8.6*	---	<2.0	<0.10	0.12	---	<1.0	<1.0	---	<0.50	<2.0	<0.10	<2.0	<2.0	<2.0	---	---
Bromide	-	-	---	---	3.50	2.30	2.0	2.60	2.70	3.50	1.10	---	0.64	0.23	1.60	---	4.90	4.50	---	7.70	7.80	1.60	7.80	3.20	4.30	---	---
Nitrate	10	(3)	---	---	<2.0	<0.10	<0.50	<0.50	<0.10	<0.10	--	---	0.21	0.50	**24.00**	---	<1.0	<1.0	---	<0.50	0.33	<0.10	<0.10	<2.0	<2.0	---	---
Phosphorus	-	-	---	---	<10.0	<0.50	<0.50	<2.5	<0.05	<0.50	<0.50	---	<0.50	<0.50	<0.50	---	<5.0	<5.0	---	<2.5	<0.50	<0.50	<0.50	<10	<10	---	---
Sulfate	600	(6)	---	---	<10.0	<0.50	3.0	3.20	6.50	4.40	**1000**	---	**1300**	410	**790**	---	6.30	280.00	---	2.90	<0.50	1.30	0.76	**3300**	**1700**	---	---
Carbon Dioxide	-	-	---	---	1100	1100	990	1000	1100	1000	62	---	<5.0	100	220	---	1300	920	---	1100	1200	980	1200	480	950	---	---
Alkalinity	-	-	---	---	1100	1100	1100	1000	1100	1000	<20	---	<5.0	110	230	---	1300	1000	---	1200	1200	1100	1200	520	950	---	---
Bicarbonate	-	-	---	---	1100	1100	1100	1000	1100	1000	<20	---	<5.0	110	230	---	1300	1000	---	1200	1200	1100	1200	520	950	---	---
Total Metals (mg/l):																											
Arsenic	0.01	(2)	---	---	<0.02	<0.02	**0.021**	**0.046**	<0.02	<0.02	**0.18**	---	<0.02	<0.02	<0.02	---	<0.02	<0.02	---	<0.02	<0.02	<0.02	<0.02	0.1	<0.02	---	---
Barium	1	(3)	---	---	**2.1**	**1.7**	**1.9**	**2.7**	**2**	**1.3**	0.13	---	0.1	0.034	<0.020	---	**3.3**	0.23	---	**1.8**	**1.6**	**1.7**	**1.2**	**4.2**	**1.3**	---	---
Cadmium	0.005	(2)	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.009**	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	**0.013**	0.0025	---	---
Chromium	0.05	(3)	---	---	<0.006	<0.006	0.066	**0.14**	0.0084	<0.006	**0.98**	---	**3.7**	0.021	0.0071	---	0.007	<0.006	---	<0.006	<0.006	<0.006	<0.006	**0.17**	**0.075**	---	---
Lead	0.015	(2)	---	---	<0.005	<0.005	0.0057	**0.016**	0.0081	<0.005	0.0086	---	<0.005	<0.005	<0.005	---	0.012	<0.005	---	<0.005	<0.005	<0.005	<0.005	0.055	<0.025	---	---
Selenium	0.05	(2)	---	---	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05	<0.05	---	<0.05	<0.25	---	<0.05	<0.05	<0.05	<0.05	<0.10	<0.25	---	---
Silver	0.05	(3)	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	---	---
Mercury	0.002	(3)	---	---	<0.0002	<0.0002	<0.0002	<0.0008	<0.002	<0.0002	0.074	---	0.0003	<0.0002	<0.0002	---	<0.0008	<0.0002	---	<0.0002	<0.0002	<0.0002	<0.001	0.0059	0.0025	---	---
Dissolved Metals (mg/l):																											
Arsenic	0.1	(3)	---	---	<0.02	<0.02	0.0061	<0.02	<0.02	<0.02	0.0032	---	<0.02	<0.02	<0.02	---	<0.02	<0.02	---	0.011	<0.02	<0.02	<0.02	0.0034	<0.02	---	---
Barium	1	(3)	---	---	**1.9**	**1.7**	**1.8**	**1.9**	**1.7**	**1.3**	0.014	---	0.025	0.025	<0.02	---	**3.2**	0.25	---	**1.3**	**1.5**	**1.5**	**1.2**	0.035	0.048	---	---
Cadmium	0.01	(3)	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---
Calcium	-	-	---	---	110	---	130	150	130	---	190	---	200	150	---	---	160	140	---	79	160	150	130	420	110	---	---
Chromium	0.05	(3)	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	**0.09**	---	**3.2**	<0.006	0.007	---	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---
Copper	1	(3)	---	---	<0.006	<0.006	<0.006	<0.006	0.017	<0.006	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---
Iron	1	(3)	---	---	**3.9**	**3.7**	**12**	**12**	**12**	**9.6**	**4.6**	---	**34**	0.042	0.082	---	**1.5**	**2.3**	---	**18**	**14**	**7.2**	**5.3**	**11**	**3**	---	---
Lead	0.05	(3)	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	0.007	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---
Magnesium	-	-	---	---	40	---	53	57	52	---	36	---	30	12	---	---	54	39	---	48	54	51	44	120	98	---	---
Manganese	0.2	(3)	---	---	**2.5**	**2.5**	**2.6**	**3.3**	**3.2**	**3.1**	**2.4**	---	**9.9**	**0.61**	0.027	---	**2.1**	**2.2**	---	**1.2**	**2.3**	**4**	**2.8**	**6.2**	**0.56**	---	---
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	---	---	4.1	---	3.9	3.6	5.3	---	3.1	---	3.1	1.9	---	---	4.6	2.9	---	6.5	4.6	3.6	3.7	6.9	7	---	---
Selenium	0.05	(3)	---	---	<0.05	<0.25	0.0063	<0.05	<0.05	<0.25	0.021	---	<0.05	<0.05	<0.25	---	<0.05	<0.05	---	0.024	<0.05	<0.05	<0.25	0.013	<0.05	---	---
Silver	0.05	(3)	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---
Sodium	-	-	---	---	570	---	340	310	380	---	290	---	260	50	---	---	520	450	---	600	590	580	550	1000	1000	---	---
Uranium	0.03	(3)	---	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0016	---	0.005	0.001	0.01	---	<0.001	<0.001	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	---	---
Zinc	10	(3)	---	---	<0.05	0.052	0.25	<0.05	<0.05	<0.05	0.22	---	0.17	<0.05	0.096	---	<0.05	<0.05	---	0.052	<0.05	<0.05	0.054	0.063	<0.05	---	---
Organics (mg/l):																											
Benzene	0.005	(2)	---	---	**0.14**	**0.2**	**0.16**	**0.57**	**0.57**	**0.53**	0.0014	<.001	<0.001	<0.001	<0.001	---	**3.9**	**9.5**	---	**2.8**	**4.3**	**3**	**6**	**0.042**	**0.23**	---	---
Toluene	0.75	(3)	---	---	<0.005	<0.005	<0.01	<0.010	<0.01	<0.010	0.011	<.001	<0.001	0.21	<0.001	---	<0.05	<0.05	---	**0.79**	<1.00	**2.0**	**1.0**	<0.02	<0.02	---	---
Ethylbenzene	0.7	(2)	---	---	0.14	0.21	0.069	0.045	0.056	0.11	0.0099	0.0019	0.015	0.047	0.0077	---	0.37	**0.89**	---	**2.5**	**3.6**	**2.5**	**4.1**	0.09	0.048	---	---
Xylene	0.62	(3)	---	---	0.014	0.067	0.14	0.14	**0.65**	**1.6**	0.076	0.002	0.037	0.48	<0.001	---	0.55	**2.2**	---	**9.7**	**16**	**11**	**21**	<0.002	0.093	---	---
MTBE	0.125	(5)	---	---	0.036	0.021	<0.001	<0.010	<0.003	<0.010	<0.001	<.001	<0.001	<0.001	<0.001	---	<.005	**3.4**	---	0.071	<0.10	<0.10	<0.10	**2.2**	**1.6**	---	---
Total Petroleum Hydrocarbons (mg/l):																											
Diesel Range Organics	0.2	(4)	---	---	**65**	**47**	**1.1**	**1.1**	**9**	**17**	**0.48**	---	**0.34**	**<1.0**	**0.55**	---	**8.8**	**14**	---	**1.8**	**5.7**	**9.4**	**48**	**470**	**910**	---	---
Gasoline Range Organics	-	-	---	---	3.9	<5.0	6.0	8.6	6.4	<5.0	0.35	---	0.34	3.3	0.14	---	21	47	---	47	69	90	70	18	11	---	---
Motor Oil Range Organics	-	-	---	---	5.4	6.7	<2.5	<2.5	<5.0	10	<2.5	---	<2.5	<5.0	<2.5	---	<2.5	<5.0	---	N2.5	<2.5	<5.0	<50	<2.5	<250	---	---

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Wate

(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels

(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels

-- No screening level or analytical result available

* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time

--- = Analyte inadvertently not included in sample analysis

ug/l= micrograms per liter

mg/l= milligrams per liter

(ug/l):		
zene	7.00E+01	(2)
zene	6.00E+02	(2)
zene	-	-
zene	7.50E+01	(2)
lene	2.30E+00	(1)
enol	3.65E+03	(5)
enol	3.65E+01	(5)
enol	1.10E+02	(5)
enol	7.30E+02	(5)
enol	7.30E+01	(5)
zene	2.17E+00	(5)
zene	3.70E+01	(1)
lene	2.90E+03	(1)
enol	1.83E+02	(5)
ilene	1.50E+02	(1)
enol	1.80E+03	(1)
iline	1.10E+02	(1)
enol	-	-
idine	1.50E-01	(1)
enol	1.80E+02	(1)
iline	-	-
enol	-	-
ether	-	-
enol	-	-
iline	3.40E-01	(1)
ether	-	-
iline	3.40E+00	(1)
enol	-	-
hene	2.19E+03	(5)
ylene	-	-
iline	1.20E+01	(1)
cene	1.10E+04	(5)
zene	1.20E-01	(1)
cene	9.21E-01	(5)
rrene	2.00E-01	(2)
hene	9.21E-01	(5)
ylene	-	-
hene	9.21E+00	(5)
acid	1.50E+05	(1)
cohol	1.80E+04	(1)
hane	1.10E+02	(1)
ether	1.19E-01	(5)
ether	9.60E+00	(5)
alate	6.00E+00	(2)
alate	3.50E+01	(1)
azole	-	-
rsene	9.21E+01	(5)
acene	9.21E-02	(5)
furan	-	-
alate	2.92E+04	(5)
alate	3.65E+05	(5)
alate	3.65E+03	(5)
alate	-	-
thene	1.46E+03	(5)
orene	1.46E+03	(5)
nzene	1.00E+00	(2)
diene	8.60E-01	(1)
diene	5.00E+01	(2)
thane	3.65E+01	(5)
yrene	2.90E-02	(1)
orene	7.07E+02	(5)
alene	1.43E+00	(5)
nzene	1.49E+01	(5)
mine	1.32E-02	(5)
mine	9.60E-03	(1)
mine	1.37E+02	(5)
henol	1.00E+00	(2)
nrene	1.10E+03	(5)
henol	5.00E+00	(3)
yrene	1.10E+03	(5)
ridine	3.70E+01	(1)

Table 3
Refinery Wells Analytical Summary

		MW-20				MW-21				RW-23				RW-28				MW-29				MW-30				
		Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08
Volatile Organic Compounds (ug/L)																										
1,1,1,2-Tetrachloroethane	5.24E+00 (5)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,1,1-Trichloroethane	6.00E+01 (3)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,1,2,2-Tetrachloroethane	1.00E+01 (3)	---	---	---	---	---	---	---	---	---	< 100	< 100	< 200	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 200	---	< 200	< 200	< 200
1,1,2-Trichloroethane	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,1-Dichloroethane	2.50E+01 (3)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,1-Dichloroethene	5.00E+00 (3)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,1-Dichloropropene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2,3-Trichlorobenzene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2,3-Trichloropropane	9.60E-02 (5)	---	---	---	---	---	---	---	---	---	< 100	< 100	< 200	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 200	---	< 200	< 200	< 200
1,2,4-Trichlorobenzene	7.00E+01 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2,4-Trimethylbenzene	1.50E+01 (1)	---	---	---	---	---	---	---	---	---	**2400**	**1900**	**3600**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**3900**	---	**4100**	**5900**	**4500**
1,2-Dibromo-3-chloropropane	2.00E-01 (2)	---	---	---	---	---	---	---	---	---	< 100	< 100	< 200	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 200	---	< 200	< 200	< 200
1,2-Dibromoethane (EDB)	5.00E-02 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2-Dichlorobenzene	6.00E+02 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2-Dichloroethane (EDC)	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,2-Dichloropropane	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,3,5-Trimethylbenzene	1.20E+01 (1)	---	---	---	---	---	---	---	---	---	**520**	**270**	**790**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**830**	---	**900**	**1500**	**950**
1,3-Dichlorobenzene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,3-Dichloropropane	7.30E+02 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1,4-Dichlorobenzene	7.50E+01 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
1-Methylnaphthalene	2.30E+00 (1)	---	---	---	---	---	---	---	---	---	**460**	**290**	< 400	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0	< 400	---	< 400	< 400	< 400
2,2-Dichloropropane	- -	---	---	---	---	---	---	---	---	---	< 100	< 100	< 200	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 200	---	< 200	< 200	< 200
2-Butanone	7.06E+03 (5)	---	---	---	---	---	---	---	---	---	< 500	< 500	< 1000	---	---	---	---	< 10	< 10	< 10	< 10	< 1000	---	< 1000	< 1000	< 1000
2-Chlorotoluene	7.30E+02 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
2-Hexanone	- -	---	---	---	---	---	---	---	---	---	< 500	< 500	< 1000	---	---	---	---	< 10	< 10	< 10	< 10	< 1000	---	< 1000	< 1000	< 1000
2-Methylnaphthalene	1.50E+02 (1)	---	---	---	---	---	---	---	---	---	**460**	**350**	**500**	---	---	---	---	< 4.0	< 4.0	< 4.0	< 4.0	< 400	---	< 400	**450**	< 400
4-Chlorotoluene	2.60E+03 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
4-Isopropyltoluene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
4-Methyl-2-pentanone	- -	---	---	---	---	---	---	---	---	---	< 500	< 500	< 1000	---	---	---	---	< 10	< 10	< 10	< 10	< 1000	---	< 1000	< 1000	< 1000
Acetone	2.18E+04 (5)	---	---	---	---	---	---	---	---	---	< 500	< 500	< 1000	---	---	---	---	< 10	14	< 10	< 10	< 1000	---	< 1000	1600	< 1000
Benzene	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	**4500**	**6200**	**9800**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**6300**	---	**5800**	**9500**	**6700**
Bromobenzene	2.00E+01 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Bromodichloromethane	1.17E+00 (5)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Bromoform	8.50E+00 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Bromomethane	8.66E+00 (5)	---	---	---	---	---	---	---	---	---	< 150	< 150	< 300	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 300	---	< 100	< 300	< 300
Carbon disulfide	1.04E+03 (5)	---	---	---	---	---	---	---	---	---	< 500	< 500	< 1000	---	---	---	---	< 10	< 10	< 10	< 10	< 1000	---	< 1000	< 1000	< 1000
Carbon Tetrachloride	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Chlorobenzene	1.00E+02 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Chloroethane	- -	---	---	---	---	---	---	---	---	---	< 100	< 100	< 200	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	< 200	---	< 200	< 200	< 200
Chloroform	1.00E+02 (3)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Chloromethane	1.78E+01 (5)	---	---	---	---	---	---	---	---	---	< 150	< 150	< 300	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 300	---	< 100	< 300	< 300
cis-1,2-DCE	7.00E+01 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
cis-1,3-Dichloropropene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Dibromochloromethane	1.47E+00 (5)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Dibromomethane	3.70E+02 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Dichlorodifluoromethane	3.95E+02 (5)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Ethylbenzene	7.00E+02 (2)	---	---	---	---	---	---	---	---	---	**1100**	**1500**	**1600**	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**4400**	---	**4100**	**6300**	**4500**
Hexachlorobutadiene	8.60E-01 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Isopropylbenzene	6.79E+02 (5)	---	---	---	---	---	---	---	---	---	86	75	110	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	120	220	< 100
Methyl tert-butyl ether (MTBE)	1.25E+02 (5)	---	---	---	---	---	---	---	---	---	**1300**	**1200**	**1500**	---	---	---	---	1.2	<1.0	<1.0	1.0	< 100	---	< 100	< 100	< 100
Methylene Chloride	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 150	< 150	< 300	---	---	---	---	< 3.0	< 3.0	< 3.0	< 3.0	< 300	---	< 300	< 300	< 300
Naphthalene	1.43E+00 (5)	---	---	---	---	---	---	---	---	---	**790**	**570**	**870**	---	---	---	---	< 2.0	< 2.0	< 2.0	< 2.0	**960**	---	**970**	**1400**	**950**
n-Butylbenzene	- -	---	---	---	---	---	---	---	---	---	96	81	130	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
n-Propylbenzene	- -	---	---	---	---	---	---	---	---	---	210	140	210	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	610	---	600	890	610
sec-Butylbenzene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Styrene	1.00E+02 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
tert-Butylbenzene	- -	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Tetrachloroethene (PCE)	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Toluene	7.50E+02 (3)	---	---	---	---	---	---	---	---	---	<50	<50	<100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	**5600**	---	**3600**	**8000**	**6700**
trans-1,2-DCE	1.00E+02 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
trans-1,3-Dichloropropene	4.30E-01 (1)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Trichloroethene (TCE)	5.00E+00 (2)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Trichlorofluoromethane	1.29E+03 (5)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Vinyl chloride	1.00E+00 (3)	---	---	---	---	---	---	---	---	---	< 50	< 50	< 100	---	---	---	---	< 1.0	< 1.0	< 1.0	< 1.0	< 100	---	< 100	< 100	< 100
Xylenes, Total	6.20E+02 (3)	---	---	---	---	---	---	---	---	---	**2700**	**2200**	**9700**	---	---	---	---	< 1.5	< 1.5	< 1.5	< 1.5	**15000**	---	**14000**	**24000**	**18000**

Table 3
Refinery Wells Analytical Summary

			MW-20				MW-21				RW-23				RW-28				MW-29				MW-30				
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08
General Chemistry (mg/l):																											
Fluoride	1.6	(3)	---	---	---	---	---	---	---	---	---	<1.0	<1.0	0.4	---	---	---	---	<0.5	0.33	0.4	0.36	<2.0	---	0.12	<1.0	0.15
Chloride	250	(3)	---	---	---	---	---	---	---	---	---	87	100	76	---	---	---	---	79	69	52	57	**290**	---	**290**	230	210
Nitrite	1	(2)	---	---	---	---	---	---	---	---	---	<1.0	<1.0	<0.10	---	---	---	---	2.5*	<0.10	<0.10	<0.10	9.5*	---	<2.0	---	*<0.10
Bromide	-	-	---	---	---	---	---	---	---	---	---	1.10	5.10	<1.0	---	---	---	---	<0.5	0.43	0.45	0.40	0.25	---	4.90	4.60	5.60
Nitrate	10	(3)	---	---	---	---	---	---	---	---	---	<1.0	<1.0	<0.10	---	---	---	---	---	1.90	0.93	0.99	9.50	---	<0.10	<2.0	*<0.10
Phosphorus	-	-	---	---	---	---	---	---	---	---	---	<5.0	<5.0	<0.50	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	---	<0.50	<5.0	<0.50
Sulfate	600	(6)	---	---	---	---	---	---	---	---	---	<5.0	11.00	3.20	---	---	---	---	210	210	160	160	9	---	47	24	12
Carbon Dioxide	-	-	---	---	---	---	---	---	---	---	---	900	860	850	---	---	---	---	230	240	190	200	1300	---	1300	1100	1500
Alkalinity	-	-	---	---	---	---	---	---	---	---	---	900	890	780	---	---	---	---	260	240	210	210	1400	---	1300	1200	1400
Bicarbonate	-	-	---	---	---	---	---	---	---	---	---	900	890	780	---	---	---	---	260	240	210	210	1400	---	1300	1200	1400
Total Metals (mg/l):																											
Arsenic	0.01	(2)	---	---	---	---	---	---	---	---	---	<0.02	<0.02	<0.02	---	---	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02
Barium	1	(3)	---	---	---	---	---	---	---	---	---	**2.5**	**1.7**	**1.4**	---	---	---	---	0.034	0.054	0.028	0.072	0.84	---	0.77	0.91	0.72
Cadmium	0.005	(2)	---	---	---	---	---	---	---	---	---	<0.002	<0.002	<0.002	---	---	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002
Chromium	0.05	(3)	---	---	---	---	---	---	---	---	---	<0.006	<0.006	<0.006	---	---	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006
Lead	0.015	(2)	---	---	---	---	---	---	---	---	---	**0.067**	0.0096	0.013	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Selenium	0.05	(2)	---	---	---	---	---	---	---	---	---	<0.05	<0.25	<0.25	---	---	---	---	<0.05	<0.05	<0.05	<0.25	<0.05	---	<0.05	<0.05	<0.25
Silver	0.05	(3)	---	---	---	---	---	---	---	---	---	<0.005	<0.005	<0.005	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Mercury	0.002	(3)	---	---	---	---	---	---	---	---	---	<0.0002	<0.0002	<0.0002	---	---	---	---	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	<0.0002	<0.0002	<0.0002
Dissolved Metals (mg/l):																											
Arsenic	0.1	(3)	---	---	---	---	---	---	---	---	---	<0.02	<0.02	<0.02	---	---	---	---	0.0015	<0.02	<0.02	<0.02	0.0036	---	<0.02	<0.02	<0.02
Barium	1	(3)	---	---	---	---	---	---	---	---	---	**2.4**	**1.3**	**1.4**	---	---	---	---	0.026	0.027	<0.02	<0.02	0.83	---	0.74	0.7	0.72
Cadmium	0.01	(3)	---	---	---	---	---	---	---	---	---	<0.002	<0.002	<0.002	---	---	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002
Calcium	-	-	---	---	---	---	---	---	---	---	---	140	120	110	---	---	---	---	82	90	53	---	150	---	150	190	---
Chromium	0.05	(3)	---	---	---	---	---	---	---	---	---	<0.006	<0.006	<0.006	---	---	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006
Copper	1	(3)	---	---	---	---	---	---	---	---	---	<0.006	<0.006	<0.006	---	---	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006
Iron	1	(3)	---	---	---	---	---	---	---	---	---	**11**	**1.1**	**2.9**	---	---	---	---	<0.02	<0.02	<0.02	<0.02	0.14	---	0.1	0.4	0.37
Lead	0.05	(3)	---	---	---	---	---	---	---	---	---	0.006	0.0086	0.013	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Magnesium	-	-	---	---	---	---	---	---	---	---	---	58	52	47	---	---	---	---	20	23	14	---	36	---	35	42	---
Manganese	0.2	(3)	---	---	---	---	---	---	---	---	---	**6.1**	**4.6**	**4.6**	---	---	---	---	**1.4**	**1.6**	**0.87**	**0.97**	**1.5**	---	**1.4**	**1.7**	**1.7**
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	---	---	---	---	---	---	---	---	---	8.2	6.8	6.3	---	---	---	---	2.7	2.5	2.2	NS[3]	3.6	---	3.3	4	NS[3]
Selenium	0.05	(3)	---	---	---	---	---	---	---	---	---	<0.05	<0.05	<0.25	---	---	---	---	0.0026	<0.05	<0.05	<0.25	0.015	---	<0.05	<0.05	<0.25
Silver	0.05	(3)	---	---	---	---	---	---	---	---	---	<0.005	<0.005	<0.005	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Sodium	-	-	---	---	---	---	---	---	---	---	---	220	200	170	---	---	---	---	130	120	110	---	580	---	570	600	---
Uranium	0.03	(3)	---	---	---	---	---	---	---	---	---	<0.001	<0.001	<0.001	---	---	---	---	0.0026	0.002	0.0017	0.002	<0.001	---	<0.001	<0.001	<0.001
Zinc	10	(3)	---	---	---	---	---	---	---	---	---	<0.05	0.058	<0.05	---	---	---	---	0.15	<0.05	<0.05	0.059	0.026	---	<0.05	<0.05	<0.05
Organics (mg/l):																											
Benzene	0.005	(2)	---	---	---	---	---	---	---	---	---	**4.5**	**6.2**	**9.8**	---	---	---	---	<0.001	<0.001	<0.001	<0.001	**6.3**	**6.7**	**5.8**	**9.5**	**6.7**
Toluene	0.75	(3)	---	---	---	---	---	---	---	---	---	<0.05	<0.05	<0.001	---	---	---	---	<0.001	<0.001	<0.001	<0.001	**5.6**	**5**	**3.6**	**8**	**6.7**
Ethylbenzene	0.7	(2)	---	---	---	---	---	---	---	---	---	**1.1**	**1.5**	**1.6**	---	---	---	---	<0.001	<0.001	<0.001	<0.001	**4.4**	**3.7**	**4.1**	**6.3**	**4.5**
Xylene	0.62	(3)	---	---	---	---	---	---	---	---	---	**2.7**	**2.2**	**9.7**	---	---	---	---	<0.0015	<0.0015	<0.0015	<0.0015	**15**	**14**	**14**	**24**	**18**
MTBE	0.125	(5)	---	---	---	---	---	---	---	---	---	**1.3**	**1.2**	**1.5**	---	---	---	---	0.0012	<0.001	<0.001	<0.001	<0.10	<0.1	<0.10	<0.032	<0.10
Total Petroleum Hydrocarbons (mg/l):																											
Diesel Range Organics	0.2	(4)	---	---	---	---	---	---	---	---	---	**240**	**36**	**48**	---	---	---	---	<0.20	<0.20	<0.20	<0.20	**4.5**	---	**7.0**	**24**	**6.2**
Gasoline Range Organics	-	-	---	---	---	---	---	---	---	---	---	25	36	70	---	---	---	---	<0.05	<0.05	<0.05	<0.05	90	---	63	84	65
Motor Oil Range Organics	-	-	---	---	---	---	---	---	---	---	---	<50	<5.0	<2.5	---	---	---	---	<2.5	<2.5	<2.5	<2.5	<2.5	---	<2.5	<5.0	<2.5

Notes:
(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
--- #NAME?
ug/l= micrograms per liter
mg/l= milligrams per liter

Table 3
Refinery Wells Analytical Summary

			MW-31				MW-40				RW-42				RW-43				MW-44			
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08
General Chemistry (mg/l):																						
Fluoride	1.6	(3)	0.13	0.16	0.21	0.15	<0.50	0.24	0.28	0.33	---	---	---	---	---	<1.0	---	---	0.25	0.13	0.19	0.62
Chloride	250	(3)	**540**	**660**	**720**	**740**	**320**	**320**	**310**	**310**	---	---	---	---	---	**280**	---	---	59	65	69	72
Nitrite	1	(2)	<1.0*	<2.0	<2.0	<1.0	16*	*15	<2.0	<2.0	---	---	---	---	---	<1.0	---	---	<1.0*	<0.10	*<1.0	<0.10
Bromide	-	-	3.00	12.00	15.00	17.00	4.40	4.10	4.00	4.40	---	---	---	---	---	3.70	---	---	0.20	0.23	0.27	0.28
Nitrate	10	(3)	---	0.95	0.14	<0.10	16*	*15	<0.10	<2.0	---	---	---	---	---	<1.0	---	---	---	0.19	*<1.0	<0.10
Phosphorus	-	-	<0.50	<0.50	<0.50	<0.50	<2.5	<0.0025	<0.50	<0.50	---	---	---	---	---	6.00	---	---	<10	<10	<0.50	<0.50
Sulfate	600	(6)	9	4.8	22.0	6.4	<2.5	<0.50	<0.50	<0.50	---	---	---	---	---	15.00	---	---	**3200**	**3200**	**2900**	**3000**
Carbon Dioxide	-	-	1000	1100	1000	1100	1100	1100	1100	1200	---	---	---	---	---	1000	---	---	340	340	330	360
Alkalinity	-	-	1100	1100	1100	1100	1200	1100	1100	1200	---	---	---	---	---	1000	---	---	360	340	350	350
Bicarbonate	-	-	1100	1100	1100	1100	1200	1100	1100	1200	---	---	---	---	---	1000	---	---	360	340	350	350
Total Metals (mg/l):																						
Arsenic	0.01	(2)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	---	---	---	---	---	<0.02	---	---	<0.02	<0.02	<0.02	<0.02
Barium	1	(3)	0.8	0.79	0.81	**1.1**	**2**	**2.3**	**2.8**	**1.8**	---	---	---	---	---	**7.5**	---	---	<0.02	<0.02	<0.02	<0.02
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	---	---	---	<0.002	---	---	<0.002	<0.002	<0.002	<0.002
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	0.012	<0.006	<0.006	---	---	---	---	---	**0.14**	---	---	<0.006	<0.006	<0.006	<0.006
Lead	0.015	(2)	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.0075	<0.005	---	---	---	---	---	**0.03**	---	---	<0.005	<0.005	<0.005	<0.005
Selenium	0.05	(2)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.25	<0.25	---	---	---	---	---	<0.05	---	---	<0.05	<0.05	<0.05	<0.25
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	<0.005	---	---	<0.005	<0.005	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	---	---	---	---	0.0009	---	---	<0.0002	<0.0002	<0.0002	<0.0002
Dissolved Metals (mg/l):																						
Arsenic	0.1	(3)	0.0063	<0.02	<0.02	<0.02	0.0055	<0.02	<0.02	<0.02	---	---	---	---	---	<0.02	---	---	<0.002	<0.02	<0.02	<0.02
Barium	1	(3)	0.76	0.72	0.81	**1.1**	**1.8**	**1.7**	**1.7**	**1.8**	---	---	---	---	---	**2.6**	---	---	0.014	<0.02	0.7	<0.02
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	---	---	---	<0.002	---	---	<0.002	<0.002	<0.002	<0.002
Calcium	-	-	110	140	150	---	95	100	86	91	---	---	---	---	---	120	---	---	480	470	190	470
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	---	---	---	<0.006	---	---	<0.006	<0.006	<0.006	<0.006
Copper	1	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	---	---	---	<0.006	---	---	<0.006	<0.006	<0.006	<0.006
Iron	1	(3)	0.14	0.1	0.12	0.21	**5**	**4.6**	**6.2**	**5.5**	---	---	---	---	---	0.85	---	---	<0.02	<0.02	0.4	0.083
Lead	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	<0.005	---	---	<0.005	<0.005	<0.005	<0.005
Magnesium	-	-	53	67	63	NS[3]	44	47	41	42	---	---	---	---	---	61	---	---	68	68	42	64
Manganese	0.2	(3)	**0.44**	**0.47**	**0.51**	**0.71**	**2.3**	**2.2**	**2.3**	**2.5**	---	---	---	---	---	**2.8**	---	---	0.0029	0.025	**1.7**	**1.7**
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	4.2	4.4	4.7	NS[3]	3.8	3.8	3.8	3.5	---	---	---	---	---	40	---	---	8.2	8.1	4	8
Selenium	0.05	(3)	0.029	<0.05	<0.05	<0.05	0.014	<0.05	<0.05	<0.25	---	---	---	---	---	<0.05	---	---	<0.002	<0.05	<0.05	<0.25
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---	<0.005	---	---	<0.005	<0.005	<0.005	<0.005
Sodium	-	-	610	630	690	---	540	500	540	520	---	---	---	---	---	410	---	---	920	940	600	900
Uranium	0.03	(3)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	---	---	---	---	---	<0.001	---	---	<0.002	<0.001	<0.001	0.001
Zinc	10	(3)	0.029	<0.05	<0.05	<0.05	0.14	<0.05	0.057	0.063	---	---	---	---	---	<0.05	---	---	0.086	<0.05	<0.05	<0.05
Organics (mg/l):																						
Benzene	0.005	(2)	**2.9**	**3.8**	**3.3**	3.3	**0.023**	**0.04**	**0.019**	**0.034**	---	---	---	---	---	**8.9**	---	---	<0.001	<.001	<0.001	<0.001
Toluene	0.75	(3)	0.46	<0.10	<0.10	0.024	<0.005	<.005	<0.005	<.001	---	---	---	---	---	0.62	---	---	<0.001	<.001	<0.001	<.001
Ethylbenzene	0.7	(2)	**1.2**	**1.6**	**0.83**	0.83	0.0053	<.005	<0.005	0.0056	---	---	---	---	---	0.81	---	---	<0.001	<.001	<0.001	<.001
Xylene	0.62	(3)	**4.2**	**3.8**	**1.6**	1.6	<0.0075	<.0075	<0.0075	0.0018	---	---	---	---	---	5.1	---	---	<0.0015	<.0015	<0.0015	<.0015
MTBE	0.125	(5)	<0.10	<0.10	<0.10	<.02	<0.005	11	0.011	0.016	---	---	---	---	---	**3.6**	---	---	0.0013	1.1	0.0011	<.0018
Total Petroleum Hydrocarbons (mg/l):																						
Diesel Range Organics	0.2	(4)	**1.1**	**1.8**	**5.1**	**5.1**	**9.7**	**26**	**17**	**41**	---	---	---	---	---	**89**	---	---	<0.20	**0.22**	<1.0	<1.0
Gasoline Range Organics	-	-	25	30	19	19	8	5.8	5.4	5.1	---	---	---	---	---	48	---	---	<0.05	<0.05	<0.05	<.05
Motor Oil Range Organics	-	-	<2.5	<2.5	<0.50	<5.0	<2.5	3.4	<5.0	<5.0	---	---	---	---	---	<25	---	---	<2.5	<2.5	<5.0	<5.0

Notes:
(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet hold time
--- #NAME?
ug/l= micrograms per liter
mg/l= milligrams per liter

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Volatile Organic Compounds (ug/L)																							
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	< 1.0	---	<2.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<2.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<2.0	<1.0
1,1,1-Trichloroethane	6.00E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<1.0	<2.0
1,1,2-Trichloroethane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethane	2.50E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethene	5.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,3-Trichloropropane	9.60E-02	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,4-Trimethylbenzene	1.50E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	**830**	**830**	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	< 2.0	---	<2.0	<1.0	< 2.0	---	<2.0	<1.0	< 20	< 20	< 10	< 2.0	<2.0	<1.0	< 2.0	<2.0	<1.0	< 2.0	---	<2.0	<1.0
1,2-Dibromoethane (EDB)	5.00E-02	(2)	< 1.0	---	<1.0	<2.0	< 1.0	---	<2.0	<2.0	< 10	< 10	< 5.0	< 1.0	<1.0	<2.0	< 1.0	<1.0	<2.0	< 1.0	---	<1.0	<2.0
1,2-Dichlorobenzene	6.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloroethane (EDC)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloropropane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3,5-Trimethylbenzene	1.20E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3-Dichloropropane	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,4-Dichlorobenzene	7.50E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1-Methylnaphthalene	2.30E+00	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	8.1	< 40	< 40	<20	< 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	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
2-Butanone	7.06E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
2-Chlorotoluene	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
2-Hexanone	-	-	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<1.0	<10.0	< 10	<10.0	<10.0	< 10	---	<1.0	<10.0
! 2-Methylnaphthalene	1.50E+02	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	<4.0	< 40	< 40	<20	< 4.0	<4.0	<4.0	< 4.0	<4.0	<4.0	< 4.0	---	<4.0	<4.0
4-Chlorotoluene	2.60E+03	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	<5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
4-Methyl-2-pentanone	-	-	< 10	---	<10.0	<1.0	< 10	---	<10.0	<1.0	< 100	< 100	< 50	< 10	<10.0	<1.0	< 10	<10.0	<1.0	< 10	---	<10.0	<1.0
Acetone	2.18E+04	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Benzene	5.00E+00	(2)	< 1.0	---	**18**	<1.0	< 1.0	---	<1.0	<1.0	**26**	**26**	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromobenzene	2.00E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromodichloromethane	1.17E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromoform	8.50E+00	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromomethane	8.66E+00	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
Carbon disulfide	1.04E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Carbon Tetrachloride	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chlorobenzene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloroethane	-	-	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
Chloroform	1.00E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloromethane	1.78E+01	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
cis-1,2-DCE	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
cis-1,3-Dichloropropene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromochloromethane	1.47E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromomethane	3.70E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dichlorodifluoromethane	3.95E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Ethylbenzene	7.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	46	46	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Hexachlorobutadiene	8.60E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Isopropylbenzene	6.79E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	93	93	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	< 1.0	---	<1.0	<1.0	1.0	---	1.2	1.7	< 10	< 10	9.5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methylene Chloride	5.00E+00	(2)	< 3.0	---	<3.0	<3.0	< 3.0	---	<3.0	<3.0	< 30	< 30	< 15	< 3.0	<3.0	<3.0	< 3.0	<3.0	<3.0	< 3.0	---	<3.0	<3.0
Naphthalene	1.43E+00	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	110	110	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
n-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
n-Propylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	110	110	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
sec-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	15	14	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Styrene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Tetrachloroethene (PCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Toluene	7.50E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,2-DCE	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,3-Dichloropropene	4.30E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichloroethene (TCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichlorofluoromethane	1.29E+03	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Vinyl chloride	1.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Xylenes, Total	6.20E+02	(3)	< 1.5	---	<1.5	<1.5	< 1.5	---	<1.5	<1.5	< 15	< 15	< 7.5	< 1.5	<1.5	<1.5	< 1.5	<1.5	<1.5	< 1.5	---	<1.5	<1.5

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Semi Volatile Organic Compounds (ug/l):																							
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,3-Dichlorobenzene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1-Methylnaphthalene	2.30E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,5-Trichlorophenol	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,6-Trichlorophenol	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dichlorophenol	1.10E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dimethylphenol	7.30E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dinitrophenol	7.30E+01	(5)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
2,4-Dinitrotoluene	2.17E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,6-Dinitrotoluene	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chloronaphthalene	2.90E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chlorophenol	1.83E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylnaphthalene	1.50E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylphenol	1.80E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitroaniline	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3,3´-Dichlorobenzidine	1.50E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3+4-Methylphenol	1.80E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3-Nitroaniline	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4,6-Dinitro-2-methylphenol	-	-	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
4-Bromophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloro-3-methylphenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloroaniline	3.40E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chlorophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitroaniline	3.40E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthene	2.19E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Aniline	1.20E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Anthracene	1.10E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Azobenzene	1.20E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benz(a)anthracene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(a)pyrene	2.00E-01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(b)fluoranthene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(g,h,i)perylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(k)fluoranthene	9.21E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzoic acid	1.50E+05	(1)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
Benzyl alcohol	1.80E+04	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethyl)ether	1.19E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Butyl benzyl phthalate	3.50E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Carbazole	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Chrysene	9.21E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenz(a,h)anthracene	9.21E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenzofuran	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Diethyl phthalate	2.92E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dimethyl phthalate	3.65E+05	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-butyl phthalate	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-octyl phthalate	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluoranthene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluorene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobenzene	1.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobutadiene	8.60E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorocyclopentadiene	5.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachloroethane	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Isophorone	7.07E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Naphthalene	1.43E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Nitrobenzene	1.49E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodimethylamine	1.32E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodiphenylamine	1.37E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pentachlorophenol	1.00E+00	(2)	---	---	---	<40	---	---	---	<40	---	---	<40	---	---	<40	---	---	<40	---	---	---	<40
Phenanthrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Phenol	5.00E+00	(3)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyridine	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
General Chemistry (mg/l):																							
Fluoride	1.6	(3)	0.54	---	0.56	0.53	0.15	---	0.11	0.16	<0.50	0.34	0.32	0.4	0.39	0.38	0.22	0.2	0.21	0.3	---	0.36	0.32
Chloride	250	(3)	11	---	15	16	230	---	230	200	**300**	**320**	**400**	**380**	**240**	180	**690**	**900**	**840**	**530**	---	**400**	**600**
Nitrite	1	(2)	<0.10	---	<0.10	<0.10	<2.0	---	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0
Bromide	-	-	0.10	---	0.12	0.30	2.70	---	2.80	2.60	4.30	4.40	5.20	3.10	1.80	1.30	4.60	4.80	7.90	2.40	---	1.90	5.40
Nitrate	10	(3)	0.99	---	1.40	0.69	5.80	---	5.40	5.80	<0.50	1.90	<0.10	<0.1	<0.1	<0.10	**48**	**34**	**37**	0.29	---	**28**	**23**
Phosphorus	-	-	<0.50	---	<0.50	<0.50	<0.50	---	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50
Sulfate	600	(6)	110	---	150	70	**1100**	---	**1100**	**1000**	<2.5	0.99	<0.50	**1500**	**1000**	**960**	**1600**	**1700**	**1500**	**2100**	---	**1300**	**1000**
Carbon Dioxide	-	-	270	---	280	250	880	---	900	840	1100	1100	1100	380	290	280	170	160	150	200	---	130	120
Alkalinity	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Bicarbonate	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Total Metals (mg/l):																							
Arsenic	0.01	(2)	<0.02	---	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0002	<0.02	<0.02	<0.02	---	<0.02	<0.02
Barium	1	(3)	0.038	---	0.099	0.18	0.027	---	0.027	0.023	**2.3**	**2.3**	**2.4**	0.088	0.084	0.03	0.031	0.06	0.033	0.023	---	<0.02	<0.02
Cadmium	0.005	(2)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Lead	0.015	(2)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	0.005	<0.005	<0.005	0.008	<0.005	<0.005	0.007	<0.005	<0.005	0.0074	<0.005	---	<0.005	<0.005
Selenium	0.05	(2)	<0.05	---	<0.05	<0.05	<0.05	---	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	---	<0.0002	<0.0002	<0.001	---	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	<0.0002	<0.0002
Dissolved Metals (mg/l):																							
Arsenic	0.1	(3)	<0.001	---	<0.02	<0.02	0.0028	---	<0.02	<0.02	0.009	<0.02	<0.02	0.0025	<0.02	<0.02	0.0044	<0.02	<0.02	0.0025	---	<0.02	<0.02
Barium	1	(3)	0.026	---	0.025	<0.02	0.024	---	0.024	0.022	**2.3**	**2.1**	**2.2**	0.046	0.03	0.03	0.019	0.022	0.022	0.02	---	<0.02	<0.02
Cadmium	0.01	(3)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Calcium	-	-	77	---	77	63	300	---	270	240	130	120	120	380	260	230	350	360	330	410	---	260	230
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Copper	1	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Iron	1	(3)	0.023	---	0.039	0.041	<0.02	---	<0.02	<0.02	**6**	**6**	**7.2**	0.13	0.2	0.4	<0.02	<0.02	<0.02	<0.02	---	<0.02	<0.02
Lead	0.05	(3)	<0.005	---	<0.005	<0.005	0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Magnesium	-	-	19	---	20	16	88	---	94	76	45	41	41	54	39	33	50	57	52	55	---	39	33
Manganese	0.2	(3)	0.039	---	0.027	0.031	**1.4**	---	**1.4**	**1.3**	**2.7**	**2.8**	**2.9**	**3**	**2.6**	**2.1**	<0.002	<0.002	<0.002	0.083	---	<0.002	<0.002
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	2.4	---	2.3	2.6	4.4	---	4.3	4	3.9	3.7	3.7	2.6	2.7	2.7	4.4	4.4	4.8	1.9	---	4.5	5.5
Selenium	0.05	(3)	0.0014	---	<0.05	<0.05	0.012	---	<0.05	<0.05	0.014	<0.05	<0.05	0.0095	<0.05	<0.05	0.031	<0.05	<0.05	0.024	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Sodium	-	-	78	---	77	85	600	---	600	540	500	470	460	530	390	350	790	910	780	780	---	600	550
Uranium	0.03	(3)	0.0029	---	0.0022	0.002	0.01	---	0.0078	0.008	<0.001	<0.001	<0.001	0.0015	0.0021	0.0014	0.013	0.0083	0.01	0.017	---	0.0064	0.006
Zinc	10	(3)	0.057	---	<0.05	<0.05	0.068	---	<0.05	<0.05	0.072	<0.05	<0.05	0.053	<0.05	<0.05	0.099	<0.05	<0.05	0.052	---	<0.05	<0.05
Organics (mg/l):																							
Benzene	0.005	(2)	<0.001	<0.001	<0.001	**0.018**	<0.001	<0.001	<0.001	<0.001	**0.026**	**0.026**	**0.1**	<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	<0.01	<0.01	<0.01	<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	0.046	0.046	0.086	<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	<.002	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015	<0.015	<0.015	<0.015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015
MTBE	0.125	(5)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.93**	<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	0.2	(4)	<0.20	<0.20	<0.20	<0.20	<0.20	---	<0.20	**0.34**	**1.3**	<0.2	**2.4**	**0.45**	<0.20	**0.47**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Gasoline Range Organics	-	-	<0.05	<0.05	<0.05	0.067	<0.05	---	<0.05	<0.05	4.0	<0.05	4.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
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	<2.5	<2.5	<2.5	<2.5

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertantly not included in analysis.

ug/l= micrograms per liter
mg/l= milligrams per liter

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Volatile Organic Compounds (ug/L)																							
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	< 1.0	---	<2.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<2.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<2.0	<1.0
1,1,1-Trichloroethane	6.00E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<1.0	<2.0
1,1,2-Trichloroethane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethane	2.50E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethene	5.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,3-Trichloropropane	9.60E-02	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,4-Trimethylbenzene	1.50E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	**830**	**830**	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	< 2.0	---	<2.0	<1.0	< 2.0	---	<2.0	<1.0	< 20	< 20	< 10	< 2.0	<2.0	<1.0	< 2.0	<2.0	<1.0	< 2.0	---	<2.0	<1.0
1,2-Dibromoethane (EDB)	5.00E-02	(2)	< 1.0	---	<1.0	<2.0	< 1.0	---	<2.0	<2.0	< 10	< 10	< 5.0	< 1.0	<1.0	<2.0	< 1.0	<1.0	<2.0	< 1.0	---	<1.0	<2.0
1,2-Dichlorobenzene	6.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloroethane (EDC)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloropropane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3,5-Trimethylbenzene	1.20E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3-Dichloropropane	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,4-Dichlorobenzene	7.50E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1-Methylnaphthalene	2.30E+00	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	8.1	< 40	< 40	<20	< 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	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
2-Butanone	7.06E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
2-Chlorotoluene	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
2-Hexanone	-	-	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<1.0	<10.0	< 10	<10.0	<10.0	< 10	---	<1.0	<10.0
! 2-Methylnaphthalene	1.50E+02	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	<4.0	< 40	< 40	<20	< 4.0	<4.0	<4.0	< 4.0	<4.0	<4.0	< 4.0	---	<4.0	<4.0
4-Chlorotoluene	2.60E+03	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	<5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
4-Methyl-2-pentanone	-	-	< 10	---	<10.0	<1.0	< 10	---	<10.0	<1.0	< 100	< 100	< 50	< 10	<10.0	<1.0	< 10	<10.0	<1.0	< 10	---	<10.0	<1.0
Acetone	2.18E+04	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Benzene	5.00E+00	(2)	< 1.0	---	**18**	<1.0	< 1.0	---	<1.0	<1.0	**26**	**26**	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromobenzene	2.00E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromodichloromethane	1.17E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromoform	8.50E+00	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromomethane	8.66E+00	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
Carbon disulfide	1.04E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Carbon Tetrachloride	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chlorobenzene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloroethane	-	-	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
Chloroform	1.00E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloromethane	1.78E+01	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
cis-1,2-DCE	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
cis-1,3-Dichloropropene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromochloromethane	1.47E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromomethane	3.70E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dichlorodifluoromethane	3.95E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Ethylbenzene	7.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	46	46	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Hexachlorobutadiene	8.60E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Isopropylbenzene	6.79E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	93	93	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	< 1.0	---	<1.0	<1.0	1.0	---	1.2	1.7	< 10	< 10	9.5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methylene Chloride	5.00E+00	(2)	< 3.0	---	<3.0	<3.0	< 3.0	---	<3.0	<3.0	< 30	< 30	< 15	< 3.0	<3.0	<3.0	< 3.0	<3.0	<3.0	< 3.0	---	<3.0	<3.0
Naphthalene	1.43E+00	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	110	110	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
n-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
n-Propylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	110	110	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
sec-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	15	14	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Styrene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Tetrachloroethene (PCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Toluene	7.50E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,2-DCE	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,3-Dichloropropene	4.30E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichloroethene (TCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichlorofluoromethane	1.29E+03	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Vinyl chloride	1.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Xylenes, Total	6.20E+02	(3)	< 1.5	---	<1.5	<1.5	< 1.5	---	<1.5	<1.5	< 15	< 15	< 7.5	< 1.5	<1.5	<1.5	< 1.5	<1.5	<1.5	< 1.5	---	<1.5	<1.5

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Semi Volatile Organic Compounds (ug/l):																							
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,3-Dichlorobenzene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1-Methylnaphthalene	2.30E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,5-Trichlorophenol	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,6-Trichlorophenol	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dichlorophenol	1.10E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dimethylphenol	7.30E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dinitrophenol	7.30E+01	(5)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
2,4-Dinitrotoluene	2.17E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,6-Dinitrotoluene	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chloronaphthalene	2.90E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chlorophenol	1.83E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylnaphthalene	1.50E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylphenol	1.80E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitroaniline	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3,3´-Dichlorobenzidine	1.50E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3+4-Methylphenol	1.80E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3-Nitroaniline	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4,6-Dinitro-2-methylphenol	-	-	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
4-Bromophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloro-3-methylphenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloroaniline	3.40E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chlorophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitroaniline	3.40E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthene	2.19E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Aniline	1.20E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Anthracene	1.10E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Azobenzene	1.20E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benz(a)anthracene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(a)pyrene	2.00E-01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(b)fluoranthene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(g,h,i)perylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(k)fluoranthene	9.21E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzoic acid	1.50E+05	(1)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
Benzyl alcohol	1.80E+04	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethyl)ether	1.19E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Butyl benzyl phthalate	3.50E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Carbazole	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Chrysene	9.21E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenz(a,h)anthracene	9.21E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenzofuran	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Diethyl phthalate	2.92E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dimethyl phthalate	3.65E+05	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-butyl phthalate	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-octyl phthalate	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluoranthene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluorene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobenzene	1.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobutadiene	8.60E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorocyclopentadiene	5.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachloroethane	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Isophorone	7.07E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Naphthalene	1.43E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Nitrobenzene	1.49E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodimethylamine	1.32E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodiphenylamine	1.37E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pentachlorophenol	1.00E+00	(2)	---	---	---	<40	---	---	---	<40	---	---	<40	---	---	<40	---	---	<40	---	---	---	<40
Phenanthrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Phenol	5.00E+00	(3)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyridine	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
General Chemistry (mg/l):																							
Fluoride	1.6	(3)	0.54	---	0.56	0.53	0.15	---	0.11	0.16	<0.50	0.34	0.32	0.4	0.39	0.38	0.22	0.2	0.21	0.3	---	0.36	0.32
Chloride	250	(3)	11	---	15	16	230	---	230	200	**300**	**320**	**400**	**380**	**240**	180	**690**	**900**	**840**	**530**	---	**400**	**600**
Nitrite	1	(2)	<0.10	---	<0.10	<0.10	<2.0	---	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0
Bromide	-	-	0.10	---	0.12	0.30	2.70	---	2.80	2.60	4.30	4.40	5.20	3.10	1.80	1.30	4.60	4.80	7.90	2.40	---	1.90	5.40
Nitrate	10	(3)	0.99	---	1.40	0.69	5.80	---	5.40	5.80	<0.50	1.90	<0.10	<0.1	<0.1	<0.10	**48**	**34**	**37**	0.29	---	**28**	**23**
Phosphorus	-	-	<0.50	---	<0.50	<0.50	<0.50	---	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50
Sulfate	600	(6)	110	---	150	70	**1100**	---	**1100**	**1000**	<2.5	0.99	<0.50	**1500**	**1000**	**960**	**1600**	**1700**	**1500**	**2100**	---	**1300**	**1000**
Carbon Dioxide	-	-	270	---	280	250	880	---	900	840	1100	1100	1100	380	290	280	170	160	150	200	---	130	120
Alkalinity	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Bicarbonate	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Total Metals (mg/l):																							
Arsenic	0.01	(2)	<0.02	---	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0002	<0.02	<0.02	<0.02	---	<0.02	<0.02
Barium	1	(3)	0.038	---	0.099	0.18	0.027	---	0.027	0.023	**2.3**	**2.3**	**2.4**	0.088	0.084	0.03	0.031	0.06	0.033	0.023	---	<0.02	<0.02
Cadmium	0.005	(2)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Lead	0.015	(2)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	0.005	<0.005	<0.005	0.008	<0.005	<0.005	0.007	<0.005	<0.005	0.0074	<0.005	---	<0.005	<0.005
Selenium	0.05	(2)	<0.05	---	<0.05	<0.05	<0.05	---	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	---	<0.0002	<0.0002	<0.001	---	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	<0.0002	<0.0002
Dissolved Metals (mg/l):																							
Arsenic	0.1	(3)	<0.001	---	<0.02	<0.02	0.0028	---	<0.02	<0.02	0.009	<0.02	<0.02	0.0025	<0.02	<0.02	0.0044	<0.02	<0.02	0.0025	---	<0.02	<0.02
Barium	1	(3)	0.026	---	0.025	<0.02	0.024	---	0.024	0.022	**2.3**	**2.1**	**2.2**	0.046	0.03	0.03	0.019	0.022	0.022	0.02	---	<0.02	<0.02
Cadmium	0.01	(3)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Calcium	-	-	77	---	77	63	300	---	270	240	130	120	120	380	260	230	350	360	330	410	---	260	230
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Copper	1	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Iron	1	(3)	0.023	---	0.039	0.041	<0.02	---	<0.02	<0.02	**6**	**6**	**7.2**	0.13	0.2	0.4	<0.02	<0.02	<0.02	<0.02	---	<0.02	<0.02
Lead	0.05	(3)	<0.005	---	<0.005	<0.005	0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Magnesium	-	-	19	---	20	16	88	---	94	76	45	41	41	54	39	33	50	57	52	55	---	39	33
Manganese	0.2	(3)	0.039	---	0.027	0.031	**1.4**	---	**1.4**	**1.3**	**2.7**	**2.8**	**2.9**	**3**	**2.6**	**2.1**	<0.002	<0.002	<0.002	0.083	---	<0.002	<0.002
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	2.4	---	2.3	2.6	4.4	---	4.3	4	3.9	3.7	3.7	2.6	2.7	2.7	4.4	4.4	4.8	1.9	---	4.5	5.5
Selenium	0.05	(3)	0.0014	---	<0.05	<0.05	0.012	---	<0.05	<0.05	0.014	<0.05	<0.05	0.0095	<0.05	<0.05	0.031	<0.05	<0.05	0.024	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Sodium	-	-	78	---	77	85	600	---	600	540	500	470	460	530	390	350	790	910	780	780	---	600	550
Uranium	0.03	(3)	0.0029	---	0.0022	0.002	0.01	---	0.0078	0.008	<0.001	<0.001	<0.001	0.0015	0.0021	0.0014	0.013	0.0083	0.01	0.017	---	0.0064	0.006
Zinc	10	(3)	0.057	---	<0.05	<0.05	0.068	---	<0.05	<0.05	0.072	<0.05	<0.05	0.053	<0.05	<0.05	0.099	<0.05	<0.05	0.052	---	<0.05	<0.05
Organics (mg/l):																							
Benzene	0.005	(2)	<0.001	<0.001	<0.001	**0.018**	<0.001	<0.001	<0.001	<0.001	**0.026**	**0.026**	**0.1**	<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	<0.01	<0.01	<0.01	<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	0.046	0.046	0.086	<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	<.002	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015	<0.015	<0.015	<0.015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015
MTBE	0.125	(5)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.93**	<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	0.2	(4)	<0.20	<0.20	<0.20	<0.20	<0.20	---	<0.20	**0.34**	**1.3**	<0.2	**2.4**	**0.45**	<0.20	**0.47**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Gasoline Range Organics	-	-	<0.05	<0.05	<0.05	0.067	<0.05	---	<0.05	<0.05	4.0	<0.05	4.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
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	<2.5	<2.5	<2.5	<2.5

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertantly not included in analysis.

ug/l= micrograms per liter
mg/l= milligrams per liter

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Volatile Organic Compounds (ug/L)																							
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	< 1.0	---	<2.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<2.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<2.0	<1.0
1,1,1-Trichloroethane	6.00E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<1.0	<2.0
1,1,2-Trichloroethane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethane	2.50E+01	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,1-Dichloroethene	5.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,3-Trichloropropane	9.60E-02	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2,4-Trimethylbenzene	1.50E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	**830**	**830**	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	< 2.0	---	<2.0	<1.0	< 2.0	---	<2.0	<1.0	< 20	< 20	< 10	< 2.0	<2.0	<1.0	< 2.0	<2.0	<1.0	< 2.0	---	<2.0	<1.0
1,2-Dibromoethane (EDB)	5.00E-02	(2)	< 1.0	---	<1.0	<2.0	< 1.0	---	<2.0	<2.0	< 10	< 10	< 5.0	< 1.0	<1.0	<2.0	< 1.0	<1.0	<2.0	< 1.0	---	<1.0	<2.0
1,2-Dichlorobenzene	6.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloroethane (EDC)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,2-Dichloropropane	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3,5-Trimethylbenzene	1.20E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,3-Dichloropropane	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1,4-Dichlorobenzene	7.50E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
1-Methylnaphthalene	2.30E+00	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	8.1	< 40	< 40	<20	< 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	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
2-Butanone	7.06E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
2-Chlorotoluene	7.30E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
2-Hexanone	-	-	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<1.0	<10.0	< 10	<10.0	<10.0	< 10	---	<1.0	<10.0
! 2-Methylnaphthalene	1.50E+02	(1)	< 4.0	---	<4.0	<4.0	< 4.0	---	<4.0	<4.0	< 40	< 40	<20	< 4.0	<4.0	<4.0	< 4.0	<4.0	<4.0	< 4.0	---	<4.0	<4.0
4-Chlorotoluene	2.60E+03	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	<5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
4-Methyl-2-pentanone	-	-	< 10	---	<10.0	<1.0	< 10	---	<10.0	<1.0	< 100	< 100	< 50	< 10	<10.0	<1.0	< 10	<10.0	<1.0	< 10	---	<10.0	<1.0
Acetone	2.18E+04	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Benzene	5.00E+00	(2)	< 1.0	---	**18**	<1.0	< 1.0	---	<1.0	<1.0	**26**	**26**	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromobenzene	2.00E+01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromodichloromethane	1.17E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromoform	8.50E+00	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Bromomethane	8.66E+00	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
Carbon disulfide	1.04E+03	(5)	< 10	---	<10.0	<10.0	< 10	---	<10.0	<10.0	< 100	< 100	< 50	< 10	<10.0	<10.0	< 10	<10.0	<10.0	< 10	---	<10.0	<10.0
Carbon Tetrachloride	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chlorobenzene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloroethane	-	-	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	< 20	< 20	< 10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
Chloroform	1.00E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Chloromethane	1.78E+01	(5)	< 3.0	---	<1.0	<1.0	< 3.0	---	<1.0	<1.0	< 30	< 30	< 15	< 3.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 3.0	---	<1.0	<1.0
cis-1,2-DCE	7.00E+01	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
cis-1,3-Dichloropropene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromochloromethane	1.47E+00	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dibromomethane	3.70E+02	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Dichlorodifluoromethane	3.95E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Ethylbenzene	7.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	46	46	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Hexachlorobutadiene	8.60E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Isopropylbenzene	6.79E+02	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	93	93	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	< 1.0	---	<1.0	<1.0	1.0	---	1.2	1.7	< 10	< 10	9.5	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Methylene Chloride	5.00E+00	(2)	< 3.0	---	<3.0	<3.0	< 3.0	---	<3.0	<3.0	< 30	< 30	< 15	< 3.0	<3.0	<3.0	< 3.0	<3.0	<3.0	< 3.0	---	<3.0	<3.0
Naphthalene	1.43E+00	(5)	< 2.0	---	<2.0	<2.0	< 2.0	---	<2.0	<2.0	110	110	<10	< 2.0	<2.0	<2.0	< 2.0	<2.0	<2.0	< 2.0	---	<2.0	<2.0
n-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
n-Propylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	110	110	<5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
sec-Butylbenzene	-	-	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	15	14	<10	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Styrene	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 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	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Tetrachloroethene (PCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Toluene	7.50E+02	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,2-DCE	1.00E+02	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
trans-1,3-Dichloropropene	4.30E-01	(1)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichloroethene (TCE)	5.00E+00	(2)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Trichlorofluoromethane	1.29E+03	(5)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Vinyl chloride	1.00E+00	(3)	< 1.0	---	<1.0	<1.0	< 1.0	---	<1.0	<1.0	< 10	< 10	< 5.0	< 1.0	<1.0	<1.0	< 1.0	<1.0	<1.0	< 1.0	---	<1.0	<1.0
Xylenes, Total	6.20E+02	(3)	< 1.5	---	<1.5	<1.5	< 1.5	---	<1.5	<1.5	< 15	< 15	< 7.5	< 1.5	<1.5	<1.5	< 1.5	<1.5	<1.5	< 1.5	---	<1.5	<1.5

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
Semi Volatile Organic Compounds (ug/l):																							
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,3-Dichlorobenzene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
1-Methylnaphthalene	2.30E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,5-Trichlorophenol	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4,6-Trichlorophenol	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dichlorophenol	1.10E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dimethylphenol	7.30E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,4-Dinitrophenol	7.30E+01	(5)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
2,4-Dinitrotoluene	2.17E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2,6-Dinitrotoluene	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chloronaphthalene	2.90E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Chlorophenol	1.83E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylnaphthalene	1.50E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Methylphenol	1.80E+03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitroaniline	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
2-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3,3´-Dichlorobenzidine	1.50E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3+4-Methylphenol	1.80E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
3-Nitroaniline	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4,6-Dinitro-2-methylphenol	-	-	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
4-Bromophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloro-3-methylphenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chloroaniline	3.40E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Chlorophenyl phenyl ether	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitroaniline	3.40E+00	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
4-Nitrophenol	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthene	2.19E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Acenaphthylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Aniline	1.20E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Anthracene	1.10E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Azobenzene	1.20E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benz(a)anthracene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(a)pyrene	2.00E-01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(b)fluoranthene	9.21E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(g,h,i)perylene	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzo(k)fluoranthene	9.21E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Benzoic acid	1.50E+05	(1)	---	---	---	<20	---	---	---	<20	---	---	<20	---	---	<20	---	---	<20	---	---	---	<20
Benzyl alcohol	1.80E+04	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroethyl)ether	1.19E-01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Butyl benzyl phthalate	3.50E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Carbazole	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Chrysene	9.21E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenz(a,h)anthracene	9.21E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dibenzofuran	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Diethyl phthalate	2.92E+04	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Dimethyl phthalate	3.65E+05	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-butyl phthalate	3.65E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Di-n-octyl phthalate	-	-	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluoranthene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Fluorene	1.46E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobenzene	1.00E+00	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorobutadiene	8.60E-01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachlorocyclopentadiene	5.00E+01	(2)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Hexachloroethane	3.65E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Isophorone	7.07E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Naphthalene	1.43E+00	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Nitrobenzene	1.49E+01	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodimethylamine	1.32E-02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
N-Nitrosodiphenylamine	1.37E+02	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pentachlorophenol	1.00E+00	(2)	---	---	---	<40	---	---	---	<40	---	---	<40	---	---	<40	---	---	<40	---	---	---	<40
Phenanthrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Phenol	5.00E+00	(3)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyrene	1.10E+03	(5)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10
Pyridine	3.70E+01	(1)	---	---	---	<10	---	---	---	<10	---	---	<10	---	---	<10	---	---	<10	---	---	---	<10

Table 4
Cross-Gradient Wells Analytical Summary

			MW-1				MW-13				MW-26			MW-27			MW-32			MW-33			
			Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Aug-10	Aug-09	Aug-11	Apr-11	Aug-10	Aug-09
General Chemistry (mg/l):																							
Fluoride	1.6	(3)	0.54	---	0.56	0.53	0.15	---	0.11	0.16	<0.50	0.34	0.32	0.4	0.39	0.38	0.22	0.2	0.21	0.3	---	0.36	0.32
Chloride	250	(3)	11	---	15	16	230	---	230	200	**300**	**320**	**400**	**380**	**240**	180	**690**	**900**	**840**	**530**	---	**400**	**600**
Nitrite	1	(2)	<0.10	---	<0.10	<0.10	<2.0	---	<2.0	<2.0	<0.50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	---	<2.0	<2.0
Bromide	-	-	0.10	---	0.12	0.30	2.70	---	2.80	2.60	4.30	4.40	5.20	3.10	1.80	1.30	4.60	4.80	7.90	2.40	---	1.90	5.40
Nitrate	10	(3)	0.99	---	1.40	0.69	5.80	---	5.40	5.80	<0.50	1.90	<0.10	<0.1	<0.1	<0.10	**48**	**34**	**37**	0.29	---	**28**	**23**
Phosphorus	-	-	<0.50	---	<0.50	<0.50	<0.50	---	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50
Sulfate	600	(6)	110	---	150	70	**1100**	---	**1100**	**1000**	<2.5	0.99	<0.50	**1500**	**1000**	**960**	**1600**	**1700**	**1500**	**2100**	---	**1300**	**1000**
Carbon Dioxide	-	-	270	---	280	250	880	---	900	840	1100	1100	1100	380	290	280	170	160	150	200	---	130	120
Alkalinity	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Bicarbonate	-	-	290	---	280	270	940	---	900	890	1200	1100	1100	410	290	290	180	160	170	210	---	130	130
Total Metals (mg/l):																							
Arsenic	0.01	(2)	<0.02	---	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.0002	<0.02	<0.02	<0.02	---	<0.02	<0.02
Barium	1	(3)	0.038	---	0.099	0.18	0.027	---	0.027	0.023	**2.3**	**2.3**	**2.4**	0.088	0.084	0.03	0.031	0.06	0.033	0.023	---	<0.02	<0.02
Cadmium	0.005	(2)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Lead	0.015	(2)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	0.005	<0.005	<0.005	0.008	<0.005	<0.005	0.007	<0.005	<0.005	0.0074	<0.005	---	<0.005	<0.005
Selenium	0.05	(2)	<0.05	---	<0.05	<0.05	<0.05	---	<0.05	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	---	<0.0002	<0.0002	<0.001	---	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	<0.0002	<0.0002
Dissolved Metals (mg/l):																							
Arsenic	0.1	(3)	<0.001	---	<0.02	<0.02	0.0028	---	<0.02	<0.02	0.009	<0.02	<0.02	0.0025	<0.02	<0.02	0.0044	<0.02	<0.02	0.0025	---	<0.02	<0.02
Barium	1	(3)	0.026	---	0.025	<0.02	0.024	---	0.024	0.022	**2.3**	**2.1**	**2.2**	0.046	0.03	0.03	0.019	0.022	0.022	0.02	---	<0.02	<0.02
Cadmium	0.01	(3)	<0.002	---	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002
Calcium	-	-	77	---	77	63	300	---	270	240	130	120	120	380	260	230	350	360	330	410	---	260	230
Chromium	0.05	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Copper	1	(3)	<0.006	---	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006
Iron	1	(3)	0.023	---	0.039	0.041	<0.02	---	<0.02	<0.02	**6**	**6**	**7.2**	0.13	0.2	0.4	<0.02	<0.02	<0.02	<0.02	---	<0.02	<0.02
Lead	0.05	(3)	<0.005	---	<0.005	<0.005	0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Magnesium	-	-	19	---	20	16	88	---	94	76	45	41	41	54	39	33	50	57	52	55	---	39	33
Manganese	0.2	(3)	0.039	---	0.027	0.031	**1.4**	---	**1.4**	**1.3**	**2.7**	**2.8**	**2.9**	**3**	**2.6**	**2.1**	<0.002	<0.002	<0.002	0.083	---	<0.002	<0.002
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	2.4	---	2.3	2.6	4.4	---	4.3	4	3.9	3.7	3.7	2.6	2.7	2.7	4.4	4.4	4.8	1.9	---	4.5	5.5
Selenium	0.05	(3)	0.0014	---	<0.05	<0.05	0.012	---	<0.05	<0.05	0.014	<0.05	<0.05	0.0095	<0.05	<0.05	0.031	<0.05	<0.05	0.024	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	---	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005
Sodium	-	-	78	---	77	85	600	---	600	540	500	470	460	530	390	350	790	910	780	780	---	600	550
Uranium	0.03	(3)	0.0029	---	0.0022	0.002	0.01	---	0.0078	0.008	<0.001	<0.001	<0.001	0.0015	0.0021	0.0014	0.013	0.0083	0.01	0.017	---	0.0064	0.006
Zinc	10	(3)	0.057	---	<0.05	<0.05	0.068	---	<0.05	<0.05	0.072	<0.05	<0.05	0.053	<0.05	<0.05	0.099	<0.05	<0.05	0.052	---	<0.05	<0.05
Organics (mg/l):																							
Benzene	0.005	(2)	<0.001	<0.001	<0.001	**0.018**	<0.001	<0.001	<0.001	<0.001	**0.026**	**0.026**	**0.1**	<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	<0.01	<0.01	<0.01	<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	0.046	0.046	0.086	<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	<.002	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015	<0.015	<0.015	<0.015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.002	<0.002	<0.0015
MTBE	0.125	(5)	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.93**	<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	0.2	(4)	<0.20	<0.20	<0.20	<0.20	<0.20	---	<0.20	**0.34**	**1.3**	<0.2	**2.4**	**0.45**	<0.20	**0.47**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Gasoline Range Organics	-	-	<0.05	<0.05	<0.05	0.067	<0.05	---	<0.05	<0.05	4.0	<0.05	4.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	<0.05	<0.05
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	<2.5	<2.5	<2.5	<2.5

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertantly not included in analysis.

ug/l= micrograms per liter
mg/l= milligrams per liter

Table 5
Downgradient Wells Analytical Summary

			MW-11				MW-12					MW-34				MW-35					MW-37					MW-38				
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08
Volatile Organic Compounds (ug/L)																														
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,1,1-Trichloroethane	6.00E+01	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	<10	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 20	---	< 2.0	< 2.0	<4.0	< 20	---	< 20	< 2.0	< 2.0	< 2.0	---	<10	< 2.0	< 2.0
1,1,2-Trichloroethane	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,1-Dichloroethane	2.50E+01	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,1-Dichloroethene	5.00E+00	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,1-Dichloropropene	-	-	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	-	-	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2,3-Trichloropropane	9.60E-02	(5)	<10	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<1.0	<1.0	< 20	---	< 2.0	< 2.0	<4.0	< 20	---	< 20	< 2.0	< 2.0	< 2.0	---	<10	< 2.0	< 2.0
1,2,4-Trichlorobenzene	7.00E+01	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	1.50E+01	(1)	0.43	**630**	**670**	**860**	<1.0	---	<1.0	<1.0	<1.0	**65**	**44**	**180**	**210**	**37**	---	**180**	**54**	**100**	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	<10	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 20	---	< 2.0	< 2.0	<4.0	< 20	---	< 20	< 2.0	< 2.0	< 2.0	---	<10	< 2.0	< 2.0
1,2-Dibromoethane (EDB)	5.00E-02	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2-Dichlorobenzene	6.00E+02	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2-Dichloroethane (EDC)	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,2-Dichloropropane	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	1.20E+01	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-	-	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,3-Dichloropropane	7.30E+02	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1,4-Dichlorobenzene	7.50E+01	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
1-Methylnaphthalene	2.30E+00	(1)	<20	**17**	**20**	**18**	< 4.0	---	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	**4.6**	**4.7**	< 40	---	< 4.0	< 4.0	<8.0	< 40	---	< 40	< 4.0	< 4.0	< 4.0	---	<20	< 4.0	< 4.0
2,2-Dichloropropane	-	-	<10	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 20	---	< 2.0	< 2.0	<4.0	< 20	---	< 20	< 2.0	< 2.0	< 2.0	---	<10	< 2.0	< 2.0
2-Butanone	7.06E+03	(5)	<50	< 10	< 10	< 10	< 10	---	< 10	< 10	< 10	< 10	< 10	<10.0	<10.0	< 100	---	< 10	< 10	<20.0	< 100	---	< 100	< 10	< 10	< 10	---	<50	< 10	< 10
2-Chlorotoluene	7.30E+02	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
2-Hexanone	-	-	<50	< 10	< 10	< 10	< 10	---	< 10	< 10	< 10	< 10	< 10	<1.0	<1.0	< 100	---	< 10	< 10	<20.0	< 100	---	< 100	< 10	< 10	< 10	---	<50	< 10	< 10
2-Methylnaphthalene	1.50E+02	(1)	0.028	36	37	28	< 4.0	---	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	<4.0	<4.0	< 40	---	< 4.0	< 4.0	<8.0	< 40	---	< 40	< 4.0	< 4.0	< 4.0	---	<20	< 4.0	< 4.0
4-Chlorotoluene	2.60E+03	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
4-Isopropyltoluene	-	-	0.0054	8.3	5.9	5.2	<1.0	---	<1.0	<1.0	<1.0	2.9	1.7	4.5	5.2	< 10	---	3.8	1.7	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
4-Methyl-2-pentanone	-	-	<50	< 10	< 10	< 10	< 10	---	< 10	< 10	< 10	< 10	< 10	<10.0	<10.0	< 100	---	< 10	< 10	<20.0	< 100	---	< 100	< 10	< 10	< 10	---	<50	< 10	< 10
Acetone	2.18E+04	(5)	<50	< 1.0	< 10	< 10	< 10	---	< 10	< 10	< 10	< 10	< 10	<10.0	<10.0	< 100	---	< 10	< 10	<20.0	< 100	---	< 100	< 10	< 10	< 10	---	<50	< 10	< 10
Benzene	5.00E+00	(2)	**56**	1.4	**99**	3.8	<1.0	---	<1.0	<1.0	<1.0	**20**	< 1.0	**32**	3.3	< 10	---	<1.0	<1.0	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
Bromobenzene	2.00E+01	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Bromodichloromethane	1.17E+00	(5)	0.0054	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Bromoform	8.50E+00	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Bromomethane	8.66E+00	(5)	<5.0	< 1.0	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	<1.0	<1.0	< 30	---	< 3.0	< 3.0	<2.0	< 30	---	< 30	< 3.0	< 3.0	< 3.0	---	<5.0	< 3.0	< 3.0
Carbon disulfide	1.04E+03	(5)	<50	< 10	< 10	< 10	< 10	---	< 10	< 10	< 10	< 10	< 10	<10.0	<10.0	< 100	---	< 10	< 10	<20.0	< 100	---	< 100	< 10	< 10	< 10	---	<50	< 10	< 10
Carbon Tetrachloride	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Chlorobenzene	1.00E+02	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Chloroethane	-	-	<10	< 2.0	< 2.0	< 2.0	< 2.0	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	<2.0	<2.0	< 20	---	< 2.0	< 2.0	<4.0	< 20	---	< 20	< 2.0	< 2.0	< 2.0	---	<10	< 2.0	< 2.0
Chloroform	1.00E+02	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Chloromethane	1.78E+01	(5)	<5.0	< 1.0	< 3.0	< 3.0	<1.0	---	<1.0	< 3.0	< 3.0	< 3.0	< 2.0	<1.0	<1.0	< 30	---	< 3.0	< 3.0	<2.0	< 30	---	< 30	< 3.0	< 3.0	< 3.0	---	<5.0	< 3.0	< 3.0
cis-1,2-DCE	7.00E+01	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
cis-1,3-Dichloropropene	-	-	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Dibromochloromethane	1.47E+00	(5)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Dibromomethane	3.70E+02	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Dichlorodifluoromethane	3.95E+02	(5)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Ethylbenzene	7.00E+02	(2)	<5.0	3.8	4.0	2.2	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Hexachlorobutadiene	8.60E-01	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Isopropylbenzene	6.79E+02	(5)	0.074	71	77	61	<1.0	---	<1.0	<1.0	<1.0	20	19	23	25	< 10	---	12	6.8	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	0.012	11	14	19	<1.0	---	<1.0	<1.0	<1.0	3.1	2.1	4.1	2.6	< 10	---	1.6	2.5	<2.0	< 10	---	< 10	<1.0	<1.0	1.6	---	<5.0	<1.0	2.2
Methylene Chloride	5.00E+00	(2)	<15	< 3.0	< 3.0	< 3.0	< 3.0	---	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	<3.0	<3.0	< 30	---	< 3.0	< 3.0	<6.0	< 30	---	< 30	< 3.0	< 3.0	< 3.0	---	<15	< 3.0	< 3.0
Naphthalene	1.43E+00	(5)	0.097	**110**	**100**	**97**	<2.0	---	<2.0	<2.0	<2.0	**6.2**	**5**	**9.8**	**9.4**	< 20	---	**4.8**	**3**	<4.0	< 20	---	< 20	<2.0	<2.0	<2.0	---	<50	<2.0	<2.0
n-Butylbenzene	-	-	<5.0	3.3	25	3.1	<1.0	---	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	< 10	---	1.4	1.2	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
n-Propylbenzene	-	-	0.075	73	76	60	<1.0	---	<1.0	<1.0	<1.0	15	11	17	20	< 10	---	7.4	4.3	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
sec-Butylbenzene	-	-	0.012	13	13	12	<1.0	---	<1.0	<1.0	<1.0	7.2	6.5	8.5	9.7	< 10	---	4.3	3.1	2.6	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
Styrene	1.00E+02	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
tert-Butylbenzene	-	-	<5.0	2.9	2.6	2.7	<1.0	---	<1.0	<1.0	<1.0	2.3	2.1	2.4	2.4	< 10	---	2.5	2.1	<2.0	< 10	---	< 10	<1.0	<1.0	<1.0	---	<5.0	<1.0	<1.0
Tetrachloroethene (PCE)	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Toluene	7.50E+02	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
trans-1,2-DCE	1.00E+02	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	4.30E-01	(1)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Trichloroethene (TCE)	5.00E+00	(2)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Trichlorofluoromethane	1.29E+03	(5)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Vinyl chloride	1.00E+00	(3)	<5.0	< 1.0	< 1.0	< 1.0	< 1.0	---	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	< 10	---	< 1.0	< 1.0	<2.0	< 10	---	< 10	< 1.0	< 1.0	< 1.0	---	<5.0	< 1.0	< 1.0
Xylenes, Total	6.20E+02	(3)	<7.5	< 2.0	< 2.0	< 1.5	< 1.5	---	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	<1.5	1.7	< 15	---	< 1.5	< 1.5	<3.0	< 15	---	< 15	< 1.5	< 1.5	< 1.5	---	<7.5	< 1.5	< 1.5

Table 5
Downgradient Wells Analytical Summary

			MW-11				MW-12					MW-34				MW-35					MW-37					MW-38				
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08
Semi Volatile Organic Compounds (ug/l):																														
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
1,2-Dichlorobenzene	6.00E+02	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
1,3-Dichlorobenzene	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
1,4-Dichlorobenzene	7.50E+01	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
1-Methylnaphthalene	2.30E+00	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2,4,5-Trichlorophenol	3.65E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2,4,6-Trichlorophenol	3.65E+01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2,4-Dichlorophenol	1.10E+02	(5)	< 20	---	< 20	< 20	< 20	---	---	< 20	< 20	---	---	<20	<20	---	---	---	<20	<20	---	---	---	<20	< 20	<20	---	---	<20	< 20
2,4-Dimethylphenol	7.30E+02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2,4-Dinitrophenol	7.30E+01	(5)	< 20	---	< 20	< 20	< 20	---	---	< 20	< 20	---	---	<10	<10	---	---	---	<20	<20	---	---	---	<20	< 20	<20	---	---	<20	< 20
2,4-Dinitrotoluene	2.17E+00	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2,6-Dinitrotoluene	3.70E+01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Chloronaphthalene	2.90E+03	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Chlorophenol	1.83E+02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Methylnaphthalene	1.50E+02	(1)	< 10	---	19	10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Methylphenol	1.80E+03	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Nitroaniline	1.10E+02	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
2-Nitrophenol	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
3,3´-Dichlorobenzidine	1.50E-01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
3+4-Methylphenol	1.80E+02	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
3-Nitroaniline	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
4,6-Dinitro-2-methylphenol	-	-	< 20	---	< 20	< 20	< 20	---	---	< 20	< 20	---	---	<20	<20	---	---	---	<20	<20	---	---	---	<20	< 20	<20	---	---	<20	< 20
4-Bromophenyl phenyl ether	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
4-Chloro-3-methylphenol	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
4-Chloroaniline	3.40E-01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
4-Chlorophenyl phenyl ether	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
4-Nitroaniline	3.40E+00	(1)	< 20	---	< 20	< 20	< 20	---	---	< 20	< 20	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 20	<10	---	---	<10	< 20
4-Nitrophenol	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Acenaphthene	2.19E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Acenaphthylene	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Aniline	1.20E+01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Anthracene	1.10E+04	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Azobenzene	1.20E-01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Benz(a)anthracene	9.21E-01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Benzo(a)pyrene	2.00E-01	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Benzo(b)fluoranthene	9.21E-01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Benzo(g,h,i)perylene	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Benzo(k)fluoranthene	9.21E+00	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<20	<20	---	---	---	<20	< 10	<20	---	---	<20	< 10
Benzoic acid	1.50E+05	(1)	< 20	---	< 20	< 20	< 20	---	---	< 20	< 20	---	---	<20	<20	---	---	---	<10	<10	---	---	---	<10	< 20	<10	---	---	<10	< 20
Benzyl alcohol	1.80E+04	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Bis(2-chloroethyl)ether	1.19E-01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Butyl benzyl phthalate	3.50E+01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Carbazole	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Chrysene	9.21E+01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Dibenz(a,h)anthracene	9.21E-02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Dibenzofuran	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Diethyl phthalate	2.92E+04	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Dimethyl phthalate	3.65E+05	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Di-n-butyl phthalate	3.65E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Di-n-octyl phthalate	-	-	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Fluoranthene	1.46E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Fluorene	1.46E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Hexachlorobenzene	1.00E+00	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Hexachlorobutadiene	8.60E-01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Hexachlorocyclopentadiene	5.00E+01	(2)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Hexachloroethane	3.65E+01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Isophorone	7.07E+02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Naphthalene	1.43E+00	(5)	< 10	---	**32**	**51**	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Nitrobenzene	1.49E+01	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
N-Nitrosodimethylamine	1.32E-02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
N-Nitrosodiphenylamine	1.37E+02	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Pentachlorophenol	1.00E+00	(2)	< 40	---	< 40	< 40	< 40	---	---	< 40	< 40	---	---	<40	<40	---	---	---	<40	<40	---	---	---	<40	< 40	<40	---	---	<40	< 40
Phenanthrene	1.10E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Phenol	5.00E+00	(3)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Pyrene	1.10E+03	(5)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10
Pyridine	3.70E+01	(1)	< 10	---	< 10	< 10	< 10	---	---	< 10	< 10	---	---	<10	<10	---	---	---	<10	<10	---	---	---	<10	< 10	<10	---	---	<10	< 10

Table 5
Downgradient Wells Analytical Summary

			MW-11				MW-12					MW-34				MW-35					MW-37					MW-38				
			Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08	Aug-11	Apr-11	Aug-10	Aug-09	Aug-08
General Chemistry (mg/l):																														
Fluoride	1.6	(3)	0.59	<0.50	0.38	0.57	0.49	---	0.55	0.44	0.5	0.84	0.65	0.61	0.83	0.61	---	0.54	0.64	0.76	0.71	---	0.73	0.77	0.79	0.72	---	0.77	0.84	0.78
Chloride	250	(3)	**340**	**300**	**330**	110	4	---	6	15	8	240	200	180	110	180	---	170	98	110	**310**	---	**320**	**280**	230	86	---	79	64	60
Nitrite	1	(2)	<0.50	<0.50	<0.20	<1.0	<0.10	---	<0.10	<0.10	<0.10	<0.50	<2.0	<2.0	<0.10	<0.50	---	1	*<1.0	<0.1	<2.0	---	<2.0	*<1.0	<0.10	<0.10	---	<0.10	*<1.0	<0.10
Bromide	-	-	4.30	3.90	4.00	1.40	<0.10	---	<0.10	0.25	<0.10	2.80	2.10	2.20	1.30	2.10	---	1.90	1.10	1.30	3.50	---	3.40	2.50	2.90	0.73	---	0.91	0.70	0.67
Nitrite	10	(3)	<0.5	<0.5	<0.10	<0.10	<0.10	---	0.22	<0.10	<0.10	<0.50	1.20	<0.10	<0.10	<0.50	---	<0.50	*<1.0	<0.10	7.30	---	0.40	*<1.0	<0.10	<0.10	---	0.12	*<1.0	<0.10
Phosphorus	-	-	<2.5	<2.5	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<2.5	<0.50	<0.50	<0.50	<2.5	---	<2.5	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50	<0.50	---	<0.50	<0.50	<0.50
Sulfate	600	(6)	5.10	5.30	4	1.10	63	---	69	600	130	22	320	18	9.90	3.50	---	3.1	10.0	3.6	29.0	---	16	37	34	49	---	33	68	150
Carbon Dioxide	-	-	960	970	1100	1100	190	---	210	300	270	840	760	850	740	760	---	760	670	830	770	---	800	740	760	530	---	590	530	570
Alkalinity	-	-	1000	970	980	1100	220	---	210	320	280	910	760	880	750	820	---	760	710	870	860	---	800	810	820	590	---	590	580	600
Bicarbonate	-	-	1000	970	980	1100	220	---	210	320	280	910	760	880	750	820	---	760	710	870	860	---	800	810	820	590	---	590	580	600
Total Metals (mg/l):																														
Arsenic	0.01	(2)	<0.02	**0.033**	<0.02	<0.02	<0.02	---	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	---	**0.075**	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02	<0.02	---	<0.02	<0.02	<0.02
Barium	1	(3)	0.98	**1.1**	0.92	0.7	0.064	---	0.21	0.17	0.06	0.76	0.38	0.71	0.57	0.92	---	0.99	0.54	0.65	0.44	---	0.9	0.7	0.43	0.27	---	0.42	0.18	0.17
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002
Chromium	0.05	(3)	<0.006	<0.006	0.009	0.009	0.38	---	2.1	0.69	0.011	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	0.0073	---	<0.006	<0.006	<0.006	0.0089	---	<0.006	<0.006	<0.006
Lead	0.015	(2)	**0.016**	**0.016**	0.011	0.0074	**0.018**	---	**0.044**	**0.081**	<0.005	<0.005	<0.005	0.0073	<0.005	0.008	---	0.0062	0.011	<0.005	<0.005	---	<0.005	0.0065	<0.005	0.0054	---	<0.005	0.009	<0.005
Selenium	0.05	(2)	<0.05	<0.05	<0.050	<0.25	<0.05	---	<0.05	<0.050	<0.050	<0.05	<0.05	<0.050	<0.25	<0.05	---	<0.05	<0.05	<0.25	<0.05	---	<0.05	<0.25	<0.25	<0.05	---	<0.05	<0.25	<0.050
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	---	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	<0.0002	<0.0002	<0.0002	<0.0002	---	0.0006	<0.0002	<0.0002	<0.0002	---	0.0004	<0.0002	<0.0002
Dissolved Metals (mg/l):																														
Arsenic	0.1	(3)	0.0061	<0.02	<0.02	<0.02	<0.001	---	<0.02	<0.02	<0.02	0.0041	<0.02	<0.02	<0.02	0.0063	---	<0.10	<0.2	<0.02	0.0042	---	<0.02	<0.02	<0.02	0.0023	---	<0.02	<0.10	<0.02
Barium	1	(3)	0.85	1.1	0.87	0.7	0.033	---	0.043	0.066	0.06	0.71	0.52	0.65	0.57	0.84	---	0.75	0.39	0.65	0.34	---	0.45	0.43	0.43	0.23	---	0.25	0.11	0.17
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002	<0.002	---	<0.002	<0.002	<0.002
Calcium	-	-	140	130	120	---	50	---	50	100	---	120	78	99	---	110	---	95	73	---	110	---	99	82	---	90	---	88	91	---
Chromium	0.05	(3)	<0.006	<0.006	<0.006	0.009	0.0064	---	<0.006	0.013	0.011	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006
Copper	1	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006	<0.006	---	<0.006	<0.006	<0.006
Iron	1	(3)	**12**	**14**	**12**	**12**	0.095	---	0.061	0.26	0.021	**4**	**3.1**	**3.6**	**4.1**	**4.1**	---	**3.9**	**3.1**	**2.6**	**2.6**	---	**1.9**	**1.1**	0.95	**3**	---	**2.1**	**2.5**	**2.2**
Lead	0.05	(3)	<0.005	0.0054	0.007	0.007	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Magnesium	-	-	31	28	27	---	8.9	---	8.9	21	---	23	15	19	---	19	---	17	13	---	21	---	20	18	---	15	---	14	16	---
Manganese	0.2	(3)	**2.2**	**2.1**	**2.3**	**1.9**	0.031	---	0.15	**0.34**	0.065	**4.4**	**3.2**	**3.6**	**3.1**	**2.5**	---	**2.7**	**1.6**	**1.4**	**1.1**	---	**1.3**	**1.4**	**1.2**	**2.3**	---	**2.3**	**1.6**	**2.6**
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	2.0	1.9	1.6	---	<1.0	---	<1.0	<1.0	---	1.5	1.2	1.3	---	2.8	---	2.6	2.3	---	3.6	---	3.3	2.9	---	2.6	---	2.4	3.3	---
Selenium	0.05	(3)	0.014	<0.05	<0.05	<0.25	0.0019	---	<0.05	<0.05	<0.25	0.0088	<0.05	<0.05	<0.25	0.0069	---	<0.05	<0.05	<0.25	0.011	---	<0.05	<0.05	<0.25	0.0036	---	<0.05	<0.05	<0.25
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005	---	<0.005	<0.005	<0.005
Sodium	-	-	460	450	420	---	62	---	66	260	---	390	320	350	---	340	---	330	270	---	440	---	410	370	---	210	---	210	210	---
Uranium	0.03	(3)	<0.001	<0.001	<0.001	<0.001	0.0016	---	0.0012	0.008	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	---	<0.001	<0.001	<0.001	0.0018	---	<0.001	<0.001	<0.001	0.0026	---	0.0015	0.003	0.002
Zinc	10	(3)	0.072	<0.05	<0.05	<0.05	0.082	---	<0.05	<0.05	0.095	0.045	<0.05	<0.05	<0.05	0.03	---	<0.05	<0.05	<0.05	0.087	---	<0.05	<0.05	0.15	0.068	---	<0.05	<0.05	<0.05
Organics (mg/l):																														
Benzene	0.005	(2)	**0.056**	0.00144	**0.099**	0.0038	<0.001	<0.001	<0.001	<0.001	<0.001	**0.02**	<.001	**0.032**	0.0033	<0.001	<0.001	<0.001	<0.001	<.002	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
Toluene	0.75	(3)	<0.005	<.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	<0.01	<0.001	<0.01	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
Ethylbenzene	0.7	(2)	<0.005	0.0038	0.004	0.0022	<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	<0.002	<0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001
Xylene	0.62	(3)	<0.0075	<0.002	<0.002	<.0015	<0.0015	<0.002	<0.0015	<0.0015	<0.0015	<0.0015	<.0015	<0.0015	0.0017	<0.0015	<0.002	<0.0015	<0.0015	<0.003	<0.015	<0.002	<0.015	<0.015	<0.0015	<0.0015	<0.002	<0.0075	<0.0015	<0.0015
MTBE	0.125	(5)	0.012	0.011	0.014	0.019	<0.001	<0.001	<0.001	<0.001	<0.001	0.0031	0.0021	0.0041	0.0026	<0.001	0.0024	0.0016	0.0025	<.002	<0.01	<0.001	<0.01	<0.01	<0.01	<0.0016	0.0014	<.0052	<.001	<.0022
Total Petroleum Hydrocarbons (mg/l):																														
Diesel Range Organics	0.2	(4)	**0.83**	**2.0**	**12**	**9.6**	<0.20	<0.20	<0.20	<1.0	**0.3**	**1.2**	**1.0**	**9.5**	**3.9**	**0.89**	---	**0.52**	**2.9**	**0.74**	**0.35**	<0.20	**2.1**	**0.33**	**0.47**	**0.21**	<0.20	<1.0	**0.33**	**0.42**
Gasoline Range Organics	-	-	1.7	2.2	1.9	3.4	<0.05	<0.050	<0.05	<0.005	<0.05	0.87	0.7	0.74	1.4	0.97	---	0.58	0.84	0.53	<0.05	<0.05	<0.05	0.79	0.075	<0.05	0.079	<0.05	0.075	<0.05
Motor Oil Range Organics	-	-	<2.5	<2.5	<5.0	<5.0	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<5.0	<5.0	<2.5	---	<2.5	<5.0	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<25	<5.0	<2.5	<2.5

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertently not included in analysis.

ug/l= micrograms per liter
mg/l= milligrams per liter

Table 6
RCRA Wells Analytical Summary

			MW-50		MW-51		MW-52		MW-53		MW-54		MW-55		MW-56		MW-57		MW-58		MW-59		MW-60		MW-61		MW-62	
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10
Volatile Organic Compounds (ug/L)																												
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,1,1-Trichloroethane	6.00E+01	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 40	< 40	---	---	---	---	---	< 40	< 2.0	< 10	< 2.0	< 2.0	---	---	< 2.0	< 2.0
1,1,2-Trichloroethane	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,1-Dichloroethane	2.50E+01	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,1-Dichloroethene	5.00E+00	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 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	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 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	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2,3-Trichloropropane	9.60E-02	(5)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 40	< 40	---	---	---	---	---	< 40	< 2.0	< 10	< 2.0	< 2.0	---	---	< 2.0	< 2.0
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2,4-Trimethylbenzene	1.50E+01	(1)	< 1.0	1.1	< 1.0	**36**	< 1.0	< 1.0	< 1.0	< 1.0	---	---	**420**	**1100**	---	---	---	---	---	<20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 40	< 40	---	---	---	---	---	< 40	< 2.0	< 10	< 2.0	< 2.0	---	---	< 2.0	< 2.0
1,2-Dibromoethane (EDB)	5.00E-02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2-Dichlorobenzene	6.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2-Dichloroethane (EDC)	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	**13**	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,2-Dichloropropane	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,3,5-Trimethylbenzene	1.20E+01	(1)	< 1.0	2.9	< 1.0	**14**	< 1.0	< 1.0	< 1.0	< 1.0	---	---	**110**	**350**	---	---	---	---	---	<20	< 1.0	< 5.0	< 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	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,3-Dichloropropane	7.30E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1,4-Dichlorobenzene	7.50E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
1-Methylnaphthalene	2.30E+00	(1)	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	---	---	**120**	**140**	---	---	---	---	---	<20	**37**	**26**	< 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	---	---	< 40	< 40	---	---	---	---	---	< 40	< 2.0	< 10	< 2.0	< 2.0	---	---	< 2.0	< 2.0
2-Butanone	7.06E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 200	< 200	---	---	---	---	---	< 200	< 10	< 50	< 10	< 10	---	---	< 10	< 10
2-Chlorotoluene	7.30E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
2-Hexanone	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 200	< 200	---	---	---	---	---	< 200	< 10	< 50	< 10	< 10	---	---	< 10	< 10
2-Methylnaphthalene	1.50E+02	(1)	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	---	---	**190**	**240**	---	---	---	---	---	**240**	< 4.0	<20	< 4.0	< 4.0	---	---	< 4.0	< 4.0
4-Chlorotoluene	2.60E+03	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 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	---	---	20	30	---	---	---	---	---	<20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
4-Methyl-2-pentanone	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 200	< 200	---	---	---	---	---	< 200	< 10	< 50	< 10	< 10	---	---	< 10	< 10
Acetone	2.18E+04	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 200	< 200	---	---	---	---	---	< 200	< 10	< 50	< 10	< 10	---	---	< 10	< 10
Benzene	5.00E+00	(2)	< 1.0	**90**	2.0	**390**	< 1.0	< 1.0	< 1.0	< 1.0	---	---	**7800**	**11000**	---	---	---	---	---	**4500**	**38**	**42**	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Bromobenzene	2.00E+01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Bromodichloromethane	1.17E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Bromoform	8.50E+00	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Bromomethane	8.66E+00	(5)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 60	< 60	---	---	---	---	---	< 60	< 3.0	< 15	< 3.0	< 3.0	---	---	< 3.0	< 3.0
Carbon disulfide	1.04E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 200	< 200	---	---	---	---	---	< 200	< 10	< 50	< 10	< 10	---	---	< 10	< 10
Carbon Tetrachloride	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Chlorobenzene	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Chloroethane	-	-	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	---	---	< 40	< 40	---	---	---	---	---	< 40	< 2.0	< 10	< 2.0	< 2.0	---	---	< 2.0	< 2.0
Chloroform	1.00E+02	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Chloromethane	1.78E+01	(5)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 60	< 60	---	---	---	---	---	< 60	< 3.0	< 15	< 3.0	< 3.0	---	---	< 3.0	< 3.0
cis-1,2-DCE	7.00E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
cis-1,3-Dichloropropene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Dibromochloromethane	1.47E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Dibromomethane	3.70E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Dichlorodifluoromethane	3.95E+02	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Ethylbenzene	7.00E+02	(2)	< 1.0	4.1	< 1.0	22	< 1.0	< 1.0	< 1.0	< 1.0	---	---	**2000**	**2600**	---	---	---	---	---	140	260	100	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Hexachlorobutadiene	8.60E-01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Isopropylbenzene	6.79E+02	(5)	< 1.0	< 1.0	< 1.0	3.4	< 1.0	< 1.0	< 1.0	< 1.0	---	---	160	180	---	---	---	---	---	110	32	15	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	**7800**	**7000**	---	---	---	---	---	**15000**	**330**	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Methylene Chloride	5.00E+00	(2)	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	---	---	< 60	< 60	---	---	---	---	---	< 60	< 3.0	< 15	< 3.0	< 3.0	---	---	< 3.0	< 3.0
Naphthalene	1.43E+00	(5)	< 2.0	**4.6**	< 2.0	**9**	< 2.0	< 2.0	< 2.0	< 2.0	---	---	**520**	**660**	---	---	---	---	---	**120**	**69**	**51**	< 2.0	< 2.0	---	---	< 2.0	< 2.0
n-Butylbenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	30	62	---	---	---	---	---	<20	11	8.3	< 1.0	< 1.0	---	---	< 1.0	< 1.0
n-Propylbenzene	-	-	< 1.0	< 1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 1.0	---	---	390	490	---	---	---	---	---	110	32	12	< 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	---	---	27	29	---	---	---	---	---	<20	9.4	6.4	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Styrene	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 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	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Tetrachloroethene (PCE)	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Toluene	7.50E+02	(3)	< 1.0	2.4	< 1.0	8.9	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	29	---	---	---	---	---	<20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
trans-1,2-DCE	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
trans-1,3-Dichloropropene	4.30E-01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Trichloroethene (TCE)	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Trichlorofluoromethane	1.29E+03	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Vinyl chloride	1.00E+00	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	---	---	< 20	< 20	---	---	---	---	---	< 20	< 1.0	< 5.0	< 1.0	< 1.0	---	---	< 1.0	< 1.0
Xylenes, Total	6.20E+02	(3)	< 1.5	< 1.5	< 1.5	34	< 1.5	< 1.5	< 1.5	< 1.5	---	---	620	**1700**	---	---	---	---	---	<30	< 1.5	< 7.5	< 1.5	< 1.5	---	---	< 1.5	< 1.5

Table 6
RCRA Wells Analytical Summary

			MW-50		MW-51		MW-52		MW-53		MW-54		MW-55		MW-56		MW-57		MW-58		MW-59		MW-60		MW-61		MW-62	
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10
Semi Volatile Organic Compounds (ug/l):																												
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
1,2-Dichlorobenzene	6.00E+02	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
1,3-Dichlorobenzene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
1,4-Dichlorobenzene	7.50E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
1-Methylnaphthalene	2.30E+00	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	73	<10	---	---	---	---	---	<10	13	< 10	< 10	< 10	---	---	< 10	< 10
2,4,5-Trichlorophenol	3.65E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2,4,6-Trichlorophenol	3.65E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2,4-Dichlorophenol	1.10E+02	(5)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
2,4-Dimethylphenol	7.30E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2,4-Dinitrophenol	7.30E+01	(5)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
2,4-Dinitrotoluene	2.17E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2,6-Dinitrotoluene	3.70E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Chloronaphthalene	2.90E+03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Chlorophenol	1.83E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Methylnaphthalene	1.50E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	110	150	---	---	---	---	---	90	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Methylphenol	1.80E+03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Nitroaniline	1.10E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
2-Nitrophenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
3,3´-Dichlorobenzidine	1.50E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
3+4-Methylphenol	1.80E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
3-Nitroaniline	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
4,6-Dinitro-2-methylphenol	-	-	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
4-Bromophenyl phenyl ether	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
4-Chloro-3-methylphenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
4-Chloroaniline	3.40E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
4-Chlorophenyl phenyl ether	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
4-Nitroaniline	3.40E+00	(1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
4-Nitrophenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Acenaphthene	2.19E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Acenaphthylene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Aniline	1.20E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Anthracene	1.10E+04	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Azobenzene	1.20E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benz(a)anthracene	9.21E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benzo(a)pyrene	2.00E-01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benzo(b)fluoranthene	9.21E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benzo(g,h,i)perylene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benzo(k)fluoranthene	9.21E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Benzoic acid	1.50E+05	(1)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
Benzyl alcohol	1.80E+04	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Bis(2-chloroethyl)ether	1.19E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Butyl benzyl phthalate	3.50E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Carbazole	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Chrysene	9.21E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Dibenz(a,h)anthracene	9.21E-02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Dibenzofuran	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Diethyl phthalate	2.92E+04	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Dimethyl phthalate	3.65E+05	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Di-n-butyl phthalate	3.65E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Di-n-octyl phthalate	-	-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Fluoranthene	1.46E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Fluorene	1.46E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Hexachlorobenzene	1.00E+00	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Hexachlorobutadiene	8.60E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Hexachlorocyclopentadiene	5.00E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Hexachloroethane	3.65E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Isophorone	7.07E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Naphthalene	1.43E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	200	290	---	---	---	---	---	76	22	12	< 10	< 10	---	---	< 10	< 10
Nitrobenzene	1.49E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
N-Nitrosodimethylamine	1.32E-02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
N-Nitrosodiphenylamine	1.37E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Pentachlorophenol	1.00E+00	(2)	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---	---	---	---	---	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20
Phenanthrene	1.10E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Phenol	5.00E+00	(3)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	16	---	---	---	---	---	11	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Pyrene	1.10E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10
Pyridine	3.70E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---	---	---	---	---	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10

Table 6
RCRA Wells Analytical Summary

			MW-50		MW-51		MW-52		MW-53		MW-54		MW-55		MW-56		MW-57		MW-58		MW-59		MW-60		MW-61		MW-62	
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10
General Chemistry (mg/l):																												
Fluoride	1.6	(3)	0.39	0.4	0.59	0.52	0.69	0.76	0.22	0.29	---	---	<0.10	0.35	---	---	---	---	---	0.31	0.33	0.34	0.26	<0.10	---	---	0.14	<0.10
Chloride	250	(3)	8	12	12	14	**690**	**600**	**920**	**840**	---	---	**420**	**470**	---	---	---	---	---	**270**	140	120	210	110	---	---	15	16
Nitrite	1	(2)	<0.10	0.10	<0.10	<0.10	<2.0	<2.0	<2.0	<2.0	---	---	<0.10	*6.1	---	---	---	---	---	*5.5	<0.10	*1.3	<0.10	<2.0	---	---	<0.10	<0.10
Bromide	-	-	<0.10	<0.10	<0.10	<0.10	1.70	1.70	1.80	1.80	---	---	4.20	4.40	---	---	---	---	---	5.00	0.31	1.40	4.40	2.30	---	---	<1.0	<0.10
Nitrate	10	(3)	0.21	0.14	0.70	0.14	**15**	3	**11**	8.10	---	---	<0.10	*6.1	---	---	---	---	---	*5.5	0.26	*1.3	**26**	**31**	---	---	<0.50	0.29
Phosphorus	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	<0.50	---	---	---	---	---	<0.50	<0.50	<0.50	<0.50	<0.50	---	---	<0.50	<0.50
Sulfate	600	(6)	38.0	66.00	**67**	**61**	**1200**	**1700**	**1000**	**990**	---	---	<0.50	1	---	---	---	---	---	2	320	210	**1000**	**730**	---	---	**3700**	**5100**
Carbon Dioxide	-	-	200	210	210	250	250	190	330	350	---	---	1000	1000	---	---	---	---	---	1100	940	860	730	590	---	---	530	550
Alkalinity	-	-	230	210	240	250	270	190	370	350	---	---	1100	1000	---	---	---	---	---	1100	940	860	780	590	---	---	550	550
Bicarbonate	-	-	230	210	240	250	270	190	370	350	---	---	1100	1000	---	---	---	---	---	1100	940	860	780	590	---	---	550	550
Total Metals (mg/l):																												
Arsenic	0.01	(2)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	---	---	<0.02	0.06	---	---	---	---	---	<0.02	<0.02	<0.02	<0.02	<0.02	---	---	<0.02	**0.024**
Barium	1	(3)	0.11	0.13	0.13	0.12	0.087	0.11	0.15	0.078	---	---	**2.6**	**5.9**	---	---	---	---	---	**1.6**	0.087	0.095	0.07	0.089	---	---	0.048	0.032
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002	---	---	---	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	**0.054**	---	---	---	---	---	<0.006	<0.006	<0.006	<0.006	0.0063	---	---	<0.006	<0.006
Lead	0.015	(2)	<0.005	<0.005	**0.0086**	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	**0.023**	**0.3**	---	---	---	---	---	**0.034**	<0.005	<0.005	0.0063	0.0051	---	---	<0.005	<0.005
Selenium	0.05	(2)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	---	<0.05	<0.05	---	---	---	---	---	<0.05	<0.05	<0.05	<0.05	<0.05	---	---	<0.05	<0.05
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	---	<0.0002	<0.001	---	---	---	---	---	<0.001	<0.0002	<0.001	<0.0002	<0.0002	---	---	<0.0002	<0.0002
Dissolved Metals (mg/l):																												
Arsenic	0.1	(3)	0.0033	<0.02	0.003	<0.02	0.0031	<0.02	0.0034	<0.02	---	---	0.0068	<0.02	---	---	---	---	---	<0.02	0.019	<0.02	0.0046	<0.02	---	---	0.001	<0.02
Barium	1	(3)	0.055	0.059	0.06	0.076	0.021	0.038	0.024	0.025	---	---	**2.6**	**2.5**	---	---	---	---	---	**1.6**	0.076	0.073	0.048	0.038	---	---	0.017	<0.02
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002	---	---	---	---	---	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002
Calcium	-	-	51	68	68	71	300	250	310	290	---	---	170	180	---	---	---	---	---	150	190	150	230	220	---	---	430	430
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006	---	---	---	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006
Copper	1	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006	---	---	---	---	---	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006
Iron	1	(3)	<0.02	0.035	<0.02	0.2	0.12	0.7	0.036	0.13	---	---	**9.8**	**12**	---	---	---	---	---	8.9	**4.9**	**2.7**	<0.02	<0.02	---	---	0.97	0.87
Lead	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	0.0061	<0.005	---	---	---	---	---	0.0085	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005
Magnesium	-	-	12	14	14	15	76	70	51	48	---	---	55	64	---	---	---	---	---	49	43	32	75	69	---	---	37	37
Manganese	0.2	(3)	**2.3**	**3.7**	**1.3**	**2**	**3.1**	**3.6**	**0.5**	**0.96**	---	---	**5.6**	**6.8**	---	---	---	---	---	**4.3**	**3.4**	**2.9**	0.048	**0.33**	---	---	**1.61**	**1.2**
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	1.8	1.9	2	2	4.4	4.4	4.8	5.3	---	---	10	11	---	---	---	---	---	4.9	2.7	3.2	3.5	2.9	---	---	9.7	10
Selenium	0.05	(3)	0.001	<0.05	0.001	<0.05	0.036	<0.05	0.02	<0.05	---	---	0.016	<0.05	---	---	---	---	---	<0.05	0.0084	<0.25	0.023	<0.05	---	---	0.0015	<0.05
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	0.005	---	---	---	---	---	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005
Sodium	-	-	40	42	51	48	600	560	750	700	---	---	500	400	---	---	---	---	---	390	370	340	560	320	---	---	1400	1400
Uranium	0.03	(3)	<0.001	<0.001	0.0023	0.0018	0.0094	0.0072	0.015	0.0108	---	---	<0.001	<0.001	---	---	---	---	---	<0.001	0.0023	0.0023	0.012	0.0086	---	---	0.0077	0.0066
Zinc	10	(3)	0.25	<0.05	0.16	<0.05	0.099	<0.05	0.17	<0.05	---	---	0.18	<0.05	---	---	---	---	---	<0.05	0.046	<0.05	0.085	<0.05	---	---	0.075	<0.05
Organics (mg/l):																												
Benzene	0.005	(2)	<0.001	**0.09**	<0.002	**0.39**	<0.001	<0.001	<0.001	<0.001	---	---	**7.8**	**11**	---	---	---	---	---	**4.5**	**0.038**	**0.42**	<0.001	<0.001	---	---	<0.001	<0.001
Toluene	0.75	(3)	<0.001	0.0024	<0.001	0.0089	<0.001	<0.001	<0.001	<0.001	---	---	<0.020	0.029	---	---	---	---	---	<0.020	<0.001	<0.005	<0.001	<0.001	---	---	<0.001	<0.001
Ethylbenzene	0.7	(2)	<0.001	0.0041	<0.001	0.022	<0.001	<0.001	<0.001	<0.001	---	---	**2**	2.6	---	---	---	---	---	0.14	0.26	0.1	<0.001	<0.001	---	---	<0.001	<0.001
Xylene	0.62	(3)	<0.0015	<0.0015	<0.0015	0.034	<0.0015	<0.0015	<0.0015	<0.0015	---	---	0.62	**1.7**	---	---	---	---	---	<0.03	<0.0015	<0.0075	<0.0015	<0.0015	---	---	<0.0015	<0.0015
MTBE	0.125	(5)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	---	---	**7.8**	**7**	---	---	---	---	---	**15**	**0.33**	<0.005	<0.001	<0.001	---	---	<0.001	<0.001
Total Petroleum Hydrocarbons (mg/l):																												
Diesel Range Organics	0.2	(4)	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	---	---	**5.5**	**13**	---	---	---	---	---	**6.6**	**0.84**	**0.61**	<0.20	<0.20	---	---	<0.20	<0.20
Gasoline Range Organics	-	-	<0.05	0.48	<0.05	1.8	<0.05	<0.05	<0.05	<0.05	---	---	40.0	59	---	---	---	---	---	29	1.6	1.3	<0.05	0.43	---	---	<0.05	<0.05
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	<2.5

Notes:

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertantly not included in analysis.
ug/l = micrograms per liter
mg/l = milligrams per liter

Table 6
RCRA Wells Analytical Summary

			MW-63		MW-64		MW-65		MW-66		MW-67	MW-68	MW-69
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-11	Aug-11
Volatile Organic Compounds (ug/L)													
1,1,1,2-Tetrachloroethane	5.24E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,1,1-Trichloroethane	6.00E+01	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,1,2,2-Tetrachloroethane	1.00E+01	(3)	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 40	---	---	< 2.0	< 2.0	---
1,1,2-Trichloroethane	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,1-Dichloroethane	2.50E+01	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,1-Dichloroethene	5.00E+00	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,1-Dichloropropene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,2,3-Trichlorobenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,2,3-Trichloropropane	9.60E-02	(5)	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 40	---	---	< 2.0	< 2.0	---
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,2,4-Trimethylbenzene	1.50E+01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	**1900**	**2000**	---	---	< 1.0	< 1.0	---
1,2-Dibromo-3-chloropropane	2.00E-01	(2)	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 40	---	---	< 2.0	< 2.0	---
1,2-Dibromoethane (EDB)	5.00E-02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,2-Dichlorobenzene	6.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,2-Dichloroethane (EDC)	5.00E+00	(2)	1.2	3.5	< 1.0	< 1.0	**260**	**120**	---	---	< 1.0	< 1.0	---
1,2-Dichloropropane	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,3,5-Trimethylbenzene	1.20E+01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	**280**	**260**	---	---	< 1.0	< 1.0	---
1,3-Dichlorobenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,3-Dichloropropane	7.30E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1,4-Dichlorobenzene	7.50E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
1-Methylnaphthalene	2.30E+00	(1)	< 4.0	< 4.0	< 4.0	< 4.0	**160**	<200	---	---	< 4.0	< 4.0	---
2,2-Dichloropropane	-	-	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 40	---	---	< 2.0	< 2.0	---
2-Butanone	7.06E+03	(5)	< 10	< 10	< 10	< 10	< 200	< 200	---	---	< 10	< 10	---
2-Chlorotoluene	7.30E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
2-Hexanone	-	-	< 10	< 10	< 10	< 10	< 200	< 200	---	---	< 10	< 10	---
2-Methylnaphthalene	1.50E+02	(1)	< 4.0	< 4.0	< 4.0	< 4.0	**300**	<200	---	---	< 4.0	< 4.0	---
4-Chlorotoluene	2.60E+03	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
4-Isopropyltoluene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
4-Methyl-2-pentanone	-	-	< 10	< 10	< 10	< 10	< 200	< 200	---	---	< 10	< 10	---
Acetone	2.18E+04	(5)	< 10	< 10	< 10	< 10	1400	2800	---	---	< 10	< 10	---
Benzene	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	**6300**	**3600**	---	---	< 1.0	< 1.0	---
Bromobenzene	2.00E+01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Bromodichloromethane	1.17E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Bromoform	8.50E+00	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Bromomethane	8.66E+00	(5)	< 3.0	< 3.0	< 3.0	< 3.0	< 60	< 60	---	---	< 3.0	< 3.0	---
Carbon disulfide	1.04E+03	(5)	< 10	< 10	< 10	< 10	< 200	< 200	---	---	< 10	< 10	---
Carbon Tetrachloride	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Chlorobenzene	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Chloroethane	-	-	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 40	---	---	< 2.0	< 2.0	---
Chloroform	1.00E+02	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Chloromethane	1.78E+01	(5)	< 3.0	< 3.0	< 3.0	< 3.0	< 60	< 60	---	---	< 3.0	< 3.0	---
cis-1,2-DCE	7.00E+01	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
cis-1,3-Dichloropropene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Dibromochloromethane	1.47E+00	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Dibromomethane	3.70E+02	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Dichlorodifluoromethane	3.95E+02	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Ethylbenzene	7.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	**2100**	**2100**	---	---	< 1.0	< 1.0	---
Hexachlorobutadiene	8.60E-01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Isopropylbenzene	6.79E+02	(5)	< 1.0	< 1.0	< 1.0	< 1.0	85	82	---	---	< 1.0	< 1.0	---
Methyl tert-butyl ether (MTBE)	1.25E+02	(5)	11	110	< 1.0	< 1.0	**1600**	**960**	---	---	< 1.0	< 1.0	---
Methylene Chloride	5.00E+00	(2)	< 3.0	< 3.0	< 3.0	< 3.0	< 60	< 60	---	---	< 3.0	< 3.0	---
Naphthalene	1.43E+00	(5)	< 2.0	< 2.0	< 2.0	< 2.0	**620**	**550**	---	---	< 2.0	< 2.0	---
n-Butylbenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
n-Propylbenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	260	250	---	---	< 1.0	< 1.0	---
sec-Butylbenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Styrene	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
tert-Butylbenzene	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Tetrachloroethene (PCE)	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Toluene	7.50E+02	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
trans-1,2-DCE	1.00E+02	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
trans-1,3-Dichloropropene	4.30E-01	(1)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Trichloroethene (TCE)	5.00E+00	(2)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Trichlorofluoromethane	1.29E+03	(5)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Vinyl chloride	1.00E+00	(3)	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 20	---	---	< 1.0	< 1.0	---
Xylenes, Total	6.20E+02	(3)	< 1.5	< 1.5	< 1.5	< 1.5	**4400**	**9900**	---	---	< 1.5	< 1.5	---

Table 6
RCRA Wells Analytical Summary

			MW-63		MW-64		MW-65		MW-66		MW-67	MW-68	MW-69
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-11	Aug-11
Semi Volatile Organic Compounds (ug/l):													
1,2,4-Trichlorobenzene	7.00E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
1,2-Dichlorobenzene	6.00E+02	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
1,3-Dichlorobenzene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
1,4-Dichlorobenzene	7.50E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
1-Methylnaphthalene	2.30E+00	(1)	< 10	< 10	< 10	< 10	91	<10	---	---	< 10	< 10	---
2,4,5-Trichlorophenol	3.65E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2,4,6-Trichlorophenol	3.65E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2,4-Dichlorophenol	1.10E+02	(5)	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
2,4-Dimethylphenol	7.30E+02	(5)	< 10	< 10	< 10	< 10	32	54	---	---	< 10	< 10	---
2,4-Dinitrophenol	7.30E+01	(5)	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
2,4-Dinitrotoluene	2.17E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2,6-Dinitrotoluene	3.70E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2-Chloronaphthalene	2.90E+03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2-Chlorophenol	1.83E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2-Methylnaphthalene	1.50E+02	(1)	< 10	< 10	< 10	< 10	140	97	---	---	< 10	< 10	---
2-Methylphenol	1.80E+03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2-Nitroaniline	1.10E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
2-Nitrophenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
3,3´-Dichlorobenzidine	1.50E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
3+4-Methylphenol	1.80E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
3-Nitroaniline	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
4,6-Dinitro-2-methylphenol	-	-	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
4-Bromophenyl phenyl ether	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
4-Chloro-3-methylphenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
4-Chloroaniline	3.40E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
4-Chlorophenyl phenyl ether	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
4-Nitroaniline	3.40E+00	(1)	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
4-Nitrophenol	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Acenaphthene	2.19E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Acenaphthylene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Aniline	1.20E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Anthracene	1.10E+04	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Azobenzene	1.20E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benz(a)anthracene	9.21E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benzo(a)pyrene	2.00E-01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benzo(b)fluoranthene	9.21E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benzo(g,h,i)perylene	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benzo(k)fluoranthene	9.21E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Benzoic acid	1.50E+05	(1)	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
Benzyl alcohol	1.80E+04	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroethoxy)methane	1.10E+02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroethyl)ether	1.19E-01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Butyl benzyl phthalate	3.50E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Carbazole	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Chrysene	9.21E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Dibenz(a,h)anthracene	9.21E-02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Dibenzofuran	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Diethyl phthalate	2.92E+04	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Dimethyl phthalate	3.65E+05	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Di-n-butyl phthalate	3.65E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Di-n-octyl phthalate	-	-	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Fluoranthene	1.46E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Fluorene	1.46E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Hexachlorobenzene	1.00E+00	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Hexachlorobutadiene	8.60E-01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Hexachlorocyclopentadiene	5.00E+01	(2)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Hexachloroethane	3.65E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Isophorone	7.07E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Naphthalene	1.43E+00	(5)	< 10	< 10	< 10	< 10	330	260	---	---	< 10	< 10	---
Nitrobenzene	1.49E+01	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodimethylamine	1.32E-02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodi-n-propylamine	9.60E-03	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
N-Nitrosodiphenylamine	1.37E+02	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Pentachlorophenol	1.00E+00	(2)	< 20	< 20	< 20	< 20	< 20	< 20	---	---	< 20	< 20	---
Phenanthrene	1.10E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Phenol	5.00E+00	(3)	< 10	< 10	< 10	< 10	13	<10	---	---	< 10	< 10	---
Pyrene	1.10E+03	(5)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---
Pyridine	3.70E+01	(1)	< 10	< 10	< 10	< 10	< 10	< 10	---	---	< 10	< 10	---

Table 6
RCRA Wells Analytical Summary

			MW-63		MW-64		MW-65		MW-66		MW-67	MW-68	MW-69
			Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-10	Aug-11	Aug-11	Aug-11
General Chemistry (mg/l):													
Fluoride	1.6	(3)	0.2	0.16	0.27	0.18	0.26	<0.50	---	---	0.82	0.41	---
Chloride	250	(3)	180	**290**	**830**	**840**	180	220	---	---	22	72	---
Nitrite	1	(2)	<2.0	<2.0	<2.0	*52	<1.0	*<1.0	---	---	<0.10	<0.10	---
Bromide	-	-	2.90	4.60	3.80	2.90	4.00	3.70	---	---	0.16	0.25	---
Nitrate	10	(3)	**67**	**110**	**60**	***52**	<1.0	*<1.0	---	---	4.30	6.70	---
Phosphorus	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<2.5	---	---	<0.50	<0.50	---
Sulfate	600	(6)	**1400**	**2200**	**1600**	**1600**	460	**620**	---	---	190	470	---
Carbon Dioxide	-	-	540	580	310	340	1100	1100	---	---	360	190	---
Alkalinity	-	-	560	580	330	340	1200	1100	---	---	390	210	---
Bicarbonate	-	-	560	580	330	340	1200	1100	---	---	390	210	---
Total Metals (mg/l):													
Arsenic	0.01	(2)	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	---	---	<0.02	<0.02	---
Barium	1	(3)	0.05	0.029	0.26	0.6	0.062	0.076	---	---	0.051	0.065	---
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002	---
Chromium	0.05	(3)	<0.006	<0.006	0.0094	0.029	<0.006	<0.006	---	---	<0.006	<0.006	---
Lead	0.015	(2)	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	---	---	<0.005	<0.005	---
Selenium	0.05	(2)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	---	---	<0.05	<0.05	---
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005	---
Mercury	0.002	(3)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	---	---	<0.0002	<0.0002	---
Dissolved Metals (mg/l):													
Arsenic	0.1	(3)	0.0034	<0.02	0.0046	<0.02	0.024	<0.02	---	---	<0.0010	<0.0010	---
Barium	1	(3)	0.013	<0.02	0.012	<0.02	0.069	0.069	---	---	0.034	0.026	---
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	---	---	<0.002	<0.002	---
Calcium	-	-	350	430	450	430	170	180	---	---	120	100	---
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006	---
Copper	1	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	---	---	<0.006	<0.006	---
Iron	1	(3)	<0.02	<0.02	<0.02	0.03	**4.1**	**6.2**	---	---	<0.02	<0.02	---
Lead	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005	---
Magnesium	-	-	91	150	72	67	52	56	---	---	27	25	---
Manganese	0.2	(3)	**1.7**	**3.7**	<0.002	0.013	**3.2**	**3.5**	---	---	0.45	0.21	---
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	4.4	5	5	4.9	3.6	3.8	---	---	3.4	3.1	---
Selenium	0.05	(3)	0.031	<0.05	0.041	<0.05	0.016	<0.05	---	---	0.0035	0.0048	---
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	---	---	<0.005	<0.005	---
Sodium	-	-	570	660	750	780	530	490	---	---	100	130	---
Uranium	0.03	(3)	**0.041**	**0.056**	0.017	0.0143	0.0077	0.0067	---	---	0.0083	0.0052	---
Zinc	10	(3)	0.15	<0.05	0.062	<0.05	0.026	<0.05	---	---	0.074	0.27	---
Organics (mg/l):													
Benzene	0.005	(2)	<0.001	<0.001	<0.001	<0.001	6.3	3.6	---	---	<0.001	<0.001	---
Toluene	0.75	(3)	<0.001	<0.001	<0.001	<0.001	<0.02	<0.02	---	---	<0.001	<0.001	---
Ethylbenzene	0.7	(2)	<0.001	<0.001	<0.001	<0.001	2.1	2.1	---	---	<0.001	<0.001	---
Xylene	0.62	(3)	<0.0015	<0.0015	<0.0015	<0.0015	4.4	9.9	---	---	<0.0015	<0.0015	---
MTBE	0.125	(5)	0.011	0.11	<0.001	<0.001	1.6	0.96	---	---	<0.001	<0.001	---
Total Petroleum Hydrocarbons (mg/l):													
Diesel Range Organics	0.2	(4)	<0.20	<0.20	<0.20	<0.20	**9.8**	**9.8**	---	---	**0.26**	<0.20	---
Gasoline Range Organics	-	-	<0.05	0.13	<0.05	<0.05	40.0	40	---	---	<0.05	<0.05	---
Motor Oil Range Organics	-	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	---	---	<2.5	<2.5	---

Notes:
(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
* - Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
--- = Analyte inadvertantly not included in analysis.
ug/l = micrograms per liter
mg/l = milligrams per liter

Table 7
Collection and Observation Wells Analytical Summary

			CW 0+60				CW 25+95				OW 0+60				OW 1+50				OW 3+85				OW 5+50				OW 6+70			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
Volatile Organic Compounds (mg/l)																														
Benzene	0.005	(2)	<0.001	0.019	0.25	0.036	3.6	6.7	14	22	---	---	<0.005	<0.005	---	---	---	0.029	---	---	0.007	0.018	---	---	<0.005	---	---	---	---	---
Toluene	0.750	(3)	<0.001	<0.001	<0.001	<0.001	0.16	0.16	5.7	9	---	---	<0.020	<0.005	---	---	---	0.014	---	---	<0.005	<0.01	---	---	<0.01	---	---	---	---	---
Ethylbenzene	0.700	(2)	0.003	0.0016	0.0039	0.0069	0.58	0.8	1.8	2	---	---	<0.020	<0.005	---	---	---	0.31	---	---	0.16	0.32	---	---	<0.01	---	---	---	---	---
Xylene	0.620	(3)	<0.002	<0.003	<0.003	0.003	0.33	0.32	4.2	7.4	---	---	<0.060	<0.015	---	---	---	5.7	---	---	0.23	0.47	---	---	<0.030	---	---	---	---	---
MTBE	0.012	(5)	<0.001	<0.001	<0.001	<0.001	<0.002	<0.005	<0.096	<0.001	---	---	<0.020	<0.005	---	---	---	<0.01	---	---	<0.005	<0.01	---	---	<0.01	---	---	---	---	---
Total Petroleum Hydrocarbons (mg/l):																														
Diesel Range Organics	0.2	(4)	0.77	2.8	1.2	2.8	0.31	0.31	0.6	2.5	---	---	160	38	---	---	---	1100	---	---	120	860	---	---	150	---	---	---	---	---
Gasoline Range Organics	-	-	---	---	---	---	---	---	---	---	---	---	3.5	2.3	---	---	---	43	---	---	7.4	7.4	---	---	1.9	---	---	---	---	---
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	---	---	---	---	---

			OW 8+10				OW 11+15				OW 14+10				OW 16+60				OW 19+50				OW 22+00				OW 23+10			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
Volatile Organic Compounds (mg/l)																														
Benzene	0.005	(2)	---	---	---	---	0.22	---	---	0.15	---	---	---	---	0.082	0.079	0.27	0.49	---	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	2.5	0.081
Toluene	0.750	(3)	---	---	---	---	<0.01	---	---	<0.01	---	---	---	---	<0.01	<0.010	<0.01	<0.005	---	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.005
Ethylbenzene	0.700	(2)	---	---	---	---	<0.01	---	---	0.23	---	---	---	---	0.045	0.044	0.15	0.43	---	---	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.028	<0.005
Xylene	0.620	(3)	---	---	---	---	<0.03	---	---	<0.03	---	---	---	---	0.058	<0.003	0.066	0.14	---	---	<0.003	<0.003	<0.002	<0.003	<0.003	<0.003	<0.002	<0.003	<0.015	<0.015
MTBE	0.012	(5)	---	---	---	---	0.69	---	---	1.3	---	---	---	---	0.81	1.1	0.84	1.5	---	---	0.055	0.057	0.17	0.061	0.34	<0.001	0.0032	0.0015	<0.005	<0.005
Total Petroleum Hydrocarbons (mg/l):																														
Diesel Range Organics	0.2	(4)	---	---	---	---	33	---	---	1500	---	---	---	---	20	65	11	280	---	---	2.2	1.2	0.36	<0.20	0.41	0.28	<0.20	0.63	1.8	2.5
Gasoline Range Organics	-	-	---	---	---	---	2.8	---	---	2.5	---	---	---	---	4.8	7.8	5.8	12	---	---	0.065	0.076	0.25	0.11	0.37	<0.05	0.25	0.31	5.7	0.45
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

			OW 23+90				OW 25+70			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
Volatile Organic Compounds (mg/l)										
Benzene	0.005	(2)	<0.001	0.003	3.1	0.76	0.11	4.4	6.6	15
Toluene	0.750	(3)	<0.001	<0.001	<0.001	0.009	<0.020	<0.1	0.12	0.11
Ethylbenzene	0.700	(2)	<0.001	<0.001	0.071	0.0082	<0.020	0.3	0.71	0.75
Xylene	0.620	(3)	<0.002	<0.003	<0.003	0.011	<0.040	<0.3	<0.060	1.4
MTBE	0.012	(5)	<0.001	<0.001	<0.001	<0.001	<0.020	<0.1	<0.020	<0.02
Total Petroleum Hydrocarbons (mg/l):										
Diesel Range Organics	0.2	(4)	<0.20	<0.20	1.0	0.31	<0.20	0.4	0.83	1.2
Gasoline Range Organics	-	-	0.34	0.11	7.4	2.3	0.85	12	20	50
Motor Oil Range Organics	-	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

(1) = EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) = EPA - Regional Screening Levels (April 2009) - 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 TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) = NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
- = No screening level or analytical result available
* = Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
mg/l= milligrams per liter

Table 8
Outfalls Analytical Summary

			Outfall #2				Outfall #3			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
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
Toluene	0.75	(3)	<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
Xylene	0.62	(3)	<0.003	<0.002	<0.003	<0.003	<0.003	<0.002	<0.003	<0.003
MTBE	0.125	(5)	<0.0015	<0.001	<0.0015	<0.0015	<0.0015	<.001	<0.0015	<0.0015
General Chemistry (mg/l):										
Fluoride	1.6	(3)	<0.50	0.57	0.57	0.58	0.22	0.42	0.42	0.26
Chloride	250	(3)	3.80	11.00	11.00	11.0	3.10	21.00	21.00	7.7
Nitrite	1	(2)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bromide	-	-	<0.10	0.21	0.21	<0.10	<0.10	0.15	0.15	<0.10
Nitrate	10	(3)	<0.50	1.40	1.40	1.40	<0.10	3.20	3.20	0.57
Phosphorus	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Sulfate	600	(6)	46.00	76.00	76.00	110.00	51.00	170.00	170.00	110.00
Carbon Dioxide	-	-	93	350	350	240	86	300	300	110
Alkalinity	-	-	100	390	390	270	96	330	330	120
Bicarbonate	-	-	100	390	390	270	96	330	330	120
Total Metals (mg/l):										
Arsenic	0.01	(2)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	1	(3)	0.012	0.085	0.085	0.058	0.069	0.058	0.058	0.064
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Lead	0.015	(2)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	0.05	(2)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Dissolved Metals (mg/l):										
Arsenic	0.1	(3)	<0.02	<0.001	<0.02	<0.02	<0.02	<.001	<0.02	<0.02
Barium	1	(3)	0.064	0.085	0.085	0.056	0.066	0.059	0.059	0.063
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Calcium	-	-	36	100	100	86	37	110	110	59
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Copper	1	(3)	<0.006	<0.030	<0.006	<0.006	<0.006	<0.030	<0.006	<0.006
Iron	1	(3)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Magnesium	-	-	6.8	22	22	18	6.8	23	23	11
Manganese	0.2	(3)	0.014	0.0032	0.0032	<.002	0.0025	<0.002	<0.002	<0.002
Mercury	-	-	---	---	---	---	---	---	---	---
Potassium	-	-	1.5	1.9	1.9	1.7	1.7	2.1	2.1	1.8
Selenium	0.05	(3)	<0.05	0.0031	0.0031	<0.05	<0.05	0.0054	0.0054	<0.05
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Sodium	-	-	17	62	62	55	17	82	82	30
Uranium	0.03	(3)	0.001	0.0049	0.0049	---	<0.001	0.0045	0.0045	---
Zinc	10	(3)	0.18	<0.05	<0.05	<0.05	0.075	<.010	<0.05	<0.05

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - 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
(4) NMED TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific
(5) NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
-- No screening level or analytical result available
mg/l = milligrams per liter
ug/l= micrograms per liter
--- = analyte inadvertantly not included in analysis.

Table 9
Seeps Analytical Summary

			Seep #1				Seep #2				Seep #3				Seep #6				Seep #9			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
Volatile Organic Compounds (mg/l):																						
Benzene	0.005	(2)	<0.001	<0.005	<0.001	<0.001	---	<0.005	---	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	---	<0.001
Toluene	0.750	(3)	<0.001	<0.005	<0.001	<0.001	---	<0.005	---	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	---	<0.001
Ethylbenzene	0.700	(2)	<0.001	<0.005	<0.001	<0.001	---	<0.005	---	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	<0.001	<0.001	---	<0.005	---	<0.001
Xylene	0.620	(3)	<0.002	<0.01	<0.002	<0.003	---	<0.01	---	<0.003	---	<0.01	<0.002	<0.003	---	<0.01	<0.002	<0.003	---	<0.01	---	<0.003
MTBE	0.125	(5)	<0.001	0.062	<0.001	0.073	---	<0.005	---	0.0077	---	0.013	<0.001	0.011	---	0.007	<0.001	0.006	---	0.039	---	0.027
Semi Volatile Organic Compounds (ug/l):																						
1,2,4-Trichlorobenzene	7.00E+01	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
1,2-Dichlorobenzene	6.00E+02	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
1,3-Dichlorobenzene	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
1,4-Dichlorobenzene	7.50E+01	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
1-Methylnaphthalene	2.30E+00	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2,4,5-Trichlorophenol	3.65E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2,4,6-Trichlorophenol	3.65E+01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2,4-Dichlorophenol	1.10E+02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 21	---	---	---	< 10	---	---	---	< 20
2,4-Dimethylphenol	7.30E+02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2,4-Dinitrophenol	7.30E+01	(5)	---	---	---	< 20	---	---	---	< 20	---	---	---	< 21	---	---	---	< 20	---	---	---	< 20
2,4-Dinitrotoluene	2.17E+00	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2,6-Dinitrotoluene	3.70E+01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Chloronaphthalene	2.90E+03	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Chlorophenol	1.83E+02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Methylnaphthalene	1.50E+02	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Methylphenol	1.80E+03	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Nitroaniline	1.10E+02	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
2-Nitrophenol	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
3,3'-Dichlorobenzidine	1.50E-01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
3+4-Methylphenol	1.80E+02	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
3-Nitroaniline	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4,6-Dinitro-2-methylphenol	-	-	---	---	---	< 20	---	---	---	< 20	---	---	---	< 21	---	---	---	< 20	---	---	---	< 20
4-Bromophenyl phenyl ether	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4-Chloro-3-methylphenol	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4-Chloroaniline	3.40E-01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4-Chlorophenyl phenyl ether	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4-Nitroaniline	3.40E+00	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
4-Nitrophenol	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Acenaphthene	2.19E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Acenaphthylene	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Aniline	1.20E+01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Anthracene	1.10E+04	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Azobenzene	1.20E-01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benz(a)anthracene	9.21E-01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benzo(a)pyrene	2.00E-01	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benzo(b)fluoranthene	9.21E-01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benzo(g,h,i)perylene	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benzo(k)fluoranthene	9.21E+00	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Benzoic acid	1.50E+05	(1)	---	---	---	< 20	---	---	---	< 20	---	---	---	< 21	---	---	---	< 20	---	---	---	< 20
Benzyl alcohol	1.80E+04	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Bis(2-chloroethoxy)methane	1.10E+02	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Bis(2-chloroethyl)ether	1.19E-01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Bis(2-chloroisopropyl)ether	9.60E+00	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Bis(2-ethylhexyl)phthalate	6.00E+00	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Butyl benzyl phthalate	3.50E+01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Carbazole	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Chrysene	9.21E+01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Dibenz(a,h)anthracene	9.21E-02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Dibenzofuran	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Diethyl phthalate	2.92E+04	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Dimethyl phthalate	3.65E+05	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Di-n-butyl phthalate	3.65E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Di-n-octyl phthalate	-	-	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Fluoranthene	1.46E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Fluorene	1.46E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Hexachlorobenzene	1.00E+00	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Hexachlorobutadiene	8.60E-01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Hexachlorocyclopentadiene	5.00E+01	(2)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Hexachloroethane	3.65E+01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10

Table 9
Seeps Analytical Summary

			Seep #1				Seep #2				Seep #3				Seep #6				Seep #9			
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10	Aug-11	Apr-11	Aug-10	Apr-10
Indeno(1,2,3-cd)pyrene	2.90E-02	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Isophorone	7.07E+02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Naphthalene	1.43E+00	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Nitrobenzene	1.49E+01	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
N-Nitrosodimethylamine	1.32E-02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
N-Nitrosodi-n-propylamine	9.60E-03	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
N-Nitrosodiphenylamine	1.37E+02	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Pentachlorophenol	1.00E+00	(2)	---	---	---	< 20	---	---	---	< 20	---	---	---	< 21	---	---	---	< 20	---	---	---	< 20
Phenanthrene	1.10E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Phenol	5.00E+00	(3)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Pyrene	1.10E+03	(5)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
Pyridine	3.70E+01	(1)	---	---	---	< 10	---	---	---	< 10	---	---	---	< 11	---	---	---	< 10	---	---	---	< 10
General Chemistry (mg/l):																						
Fluoride	1.6	(3)	0.43	0.49	0.32	0.19	---	1.4	---	0.83	---	0.39	0.7	0.21	---	<0.50	<0.50	0.17	---	0.36	---	0.37
Chloride	250	(3)	**380**	**230**	**380**	**220**	---	**890**	---	**640**	---	**280**	**6000**	**370**	---	**2800**	**5800**	**3100**	---	**660**	---	**710**
Nitrite	1.0	(2)	<2.0	<0.10	<0.10	<0.10	---	<2.0	---	0.69	---	<2.0	<0.50	<0.10	---	<2.0	<2.0*	<1.0*	---	<2.0	---	<0.10
Bromide	-	-	2.70	1.70	2.3	1.5	---	9.40	---	7.5	---	2.00	9.9	2.1	---	1.4	2.9	1.00	---	1.40	---	0.99
Nitrate	10	(3)	<2.0	<2.0	<2.0	<2.0	---	2.60	---	<2.0	---	<0.10	<2.0	<2.0	---	<0.10	*	*	---	<0.10	---	<2.0
Phosphorus	-	-	<0.50	<0.50	<0.50	<0.50	---	<0.50	---	<10.0	---	<0.50	<0.50	<0.50	---	<0.50	<2.5	<0.50	---	<0.50	---	<0.50
Sulfate	600	(6)	**1900**	**1700**	**1800**	**1600**	---	**7300**	---	**5000**	---	50	**1800**	**2500**	---	**1400**	**2000**	**1300**	---	**2100**	---	**2000**
Carbon Dioxide	-	-	250	400	260	360	---	150	---	110	---	360	240	330	---	320	140	350	---	360	---	350
Alkalinity	-	-	280	440	260	360	---	170	---	120	---	400	240	330	---	350	140	350	---	390	---	350
Bicarbonate	-	-	280	440	260	360	---	170	---	120	---	400	240	330	---	350	140	350	---	390	---	350

(1) EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) EPA - Regional Screening Levels (April 2009) - MCL
(3) NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for
(4) NMED TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5
(5) NMED TAP Water Screening Levels - 2009 Background Document for
-- No screening level or analytical result available
mg/l = milligrams per liter
ug/l= micrograms per liter

Table 10
San Juan River Terrace: San Juan River Analytical Summary

			North of MW-46						North of MW-45						Upstream of Refinery						Downstream of Refinery					
			Aug-11	Apr-11	Aug-10	Apr-10	Aug-09	Apr-09	Aug-11	Apr-11	Aug-10	Apr-10	Aug-09	Apr-09	Aug-11	Apr-11	Aug-10	Apr-10	Aug-09	Apr-09	Aug-11	Apr-11	Aug-10	Apr-10	Aug-09	Apr-09
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	<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	<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	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylene	0.620	(3)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.002
MTBE	0.012	(5)	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0025	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0025	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0025	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0025
Total Petroleum Hydrocarbons (mg/l):																										
Diesel Range Organics	0.2	(4)	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0	<0.2	<0.2	<1.0	<1.0	<1.0	<1.0
Gasoline Range Organics	-	-	<2.5	<2.5	<5.0	<5.0	<5.0	<5.0	<2.5	<2.5	<5.0	<5.0	<5.0	<5.0	<2.5	<2.5	<5.0	<5.0	<5.0	<5.0	<2.5	<2.5	<5.0	<5.0	<5.0	<5.0
Motor Oil 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	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
General Chemistry (mg/l):																										
Fluoride	1.6	(3)	0.16	0.19	0.16	0.14	0.22	0.15	0.17	0.19	0.17	0.16	0.1	0.14	0.17	0.19	0.18	0.15	0.23	0.15	0.17	0.2	0.16	0.16	0.22	0.18
Chloride	250	(3)	2.60	3.00	3.10	3.70	3.2	3.10	2.80	2.90	3.00	3.60	3.10	3.10	2.60	2.90	3.20	3.60	3.50	3.30	2.60	3.30	3.10	3.80	2.80	3.10
Nitrite	1.0	(2)	<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	<0.10	<0.10	<0.10	<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	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrite	10	(3)	<0.10	0.14	<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	<0.10	<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	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Sulfate	600	(3)	49	66	61	72	49	72	51	65	60	72	50	72	47	66	60	74	62	73	50	87	65	77	44	75
Carbon Dioxide	-	-	---	87	86	84	82	78	---	84	88	84	83	78	---	87	85	84	83	76	---	90	86	87	280	78
Alkalinity	-	-	---	87	86	84	82	87	---	88	84	84	83	87	---	87	85	84	83	85	---	90	86	87	84	87
Total Dissolved Solids	1000	(3)	---	198	204	221	180	250	---	186	211	220	193	240	---	200	203	220	184	250	---	234	206	231	196	280
Electric Conductivity	-	-	---	330	320	340	310	330	---	330	320	340	280	340	---	320	310	340	270	340	---	380	320	350	280	350
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	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Barium	1.0	(3)	0.17	0.076	0.068	0.065	0.07	0.07	0.12	0.076	0.069	0.065	0.07	0.07	0.11	0.071	0.068	0.065	0.07	0.07	0.1	0.073	0.067	0.65	0.07	0.08
Cadmium	0.005	(2)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Lead	0.015	(2)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Selenium	0.05	(2)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.005	<0.005	<0.050	<0.050	<0.050	<0.050
Silver	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	0.002	(3)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Dissolved Metals (mg/l):																										
Arsenic	0.1	(3)	<0.001	<0.001	<0.020	<0.020	<0.020	<0.020	<0.001	<0.001	<0.020	<0.020	<0.020	<0.020	<0.001	<0.001	<0.020	<0.020	<0.020	<0.020	<0.001	<0.001	<0.020	<0.020	<0.020	<0.020
Barium	1	(3)	0.06	0.58	0.068	0.065	0.06	0.064	0.06	0.058	0.069	0.065	0.041	0.068	0.059	0.058	0.068	0.065	0.06	0.065	0.061	0.057	0.067	0.65	0.063	0.064
Cadmium	0.01	(3)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Calcium	-	-	32	33	36	35	30	36	33	33	35	35	22	35	32	33	34	34	28	35	34	39	36	36	31	38
Chromium	0.05	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Copper	1.0	(3)	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
Iron	1.0	(3)	<0.02	<0.02	0.036	0.027	<0.02	0.03	<0.02	<0.02	0.036	0.026	<0.02	0.032	<0.02	<0.02	<0.02	0.022	<0.02	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	0.04
Lead	0.05	(3)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Magnesium	-	-	5.8	6.1	6	6.5	5.6	6.1	5.8	6.1	6	6.5	4.1	6.1	5.9	6	6	6.7	5.4	6.2	6	6.7	6.1	6.6	5.7	6.4
Manganese	0.2	(3)	0.0087	0.015	0.011	0.025	0.0035	0.017	0.0079	0.015	0.0099	0.025	0.004	0.18	0.011	0.019	0.007	0.033	0.003	0.023	0.013	0.044	0.016	0.054	0.006	0.046
Mercury	-	-	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	-	-	1.6	1.6	1.8	1.8	1.7	1.7	1.6	1.8	1.8	1.8	1.1	1.6	1.6	1.7	1.8	1.8	1.6	1.7	1.7	1.8	1.8	1.8	1.6	1.8
Selenium	0.05	(3)	<0.001	<0.001	<0.050	<0.050	<0.050	<0.050	<0.001	<0.001	<0.050	<0.050	<0.050	<0.050	<0.001	<0.001	<0.050	<0.050	<0.050	<0.050	<0.001	<0.001	<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	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Sodium	-	-	16	21	19	25	16	23	16	21	19	25	11	22	16	22	19	29	14	25	17	26	20	26	16	24
Uranium	0.03	(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	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc	10.0	(3)	0.068	<0.01	<0.05	<0.05	<0.05	0.066	0.035	<0.01	<0.05	<0.05	<0.05	0.052	0.045	<0.01	<0.05	<0.05	<0.05	0.12	0.06	<0.01	<0.05	<0.05	<0.05	0.082

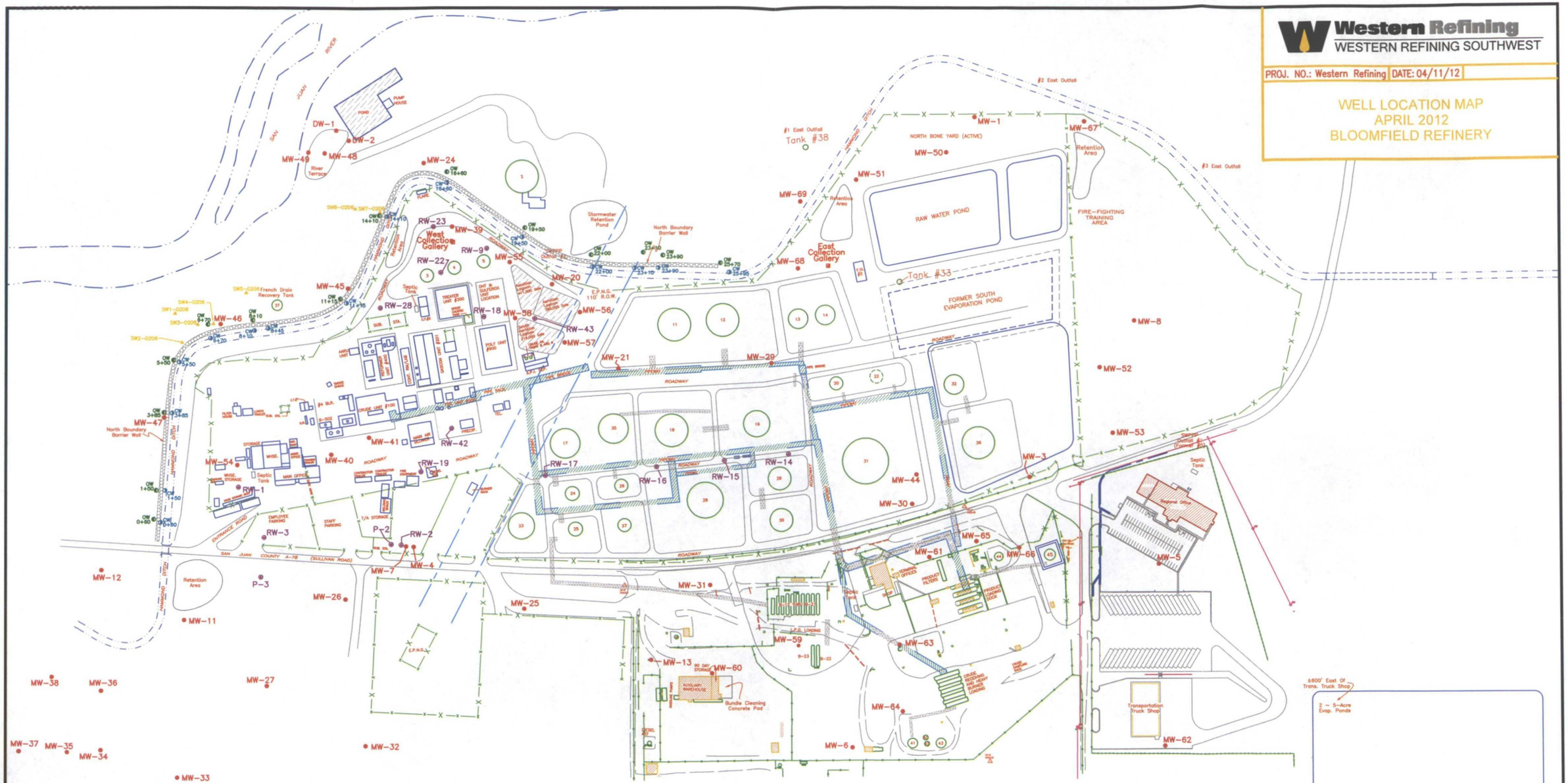
(1) = EPA - Regional Screening Levels (April 2009) - EPA Screening Levels.Tap Water
(2) = EPA - Regional Screening Levels (April 2009) - MCL
(3) = NMED WQCC standards - Title 20 Chapter 6, Part 2, - 20.6.2.3101 Standards for Ground Water of 10,000 mg/l TDS Concentration or less
(4) = NMED TPH Screening Guidelines Oct. 2006 - "unknown oil" - see report Sections 5 and 7 for use on location specific screening levels
(5) = NMED TAP Water Screening Levels - 2009 Background Document for Development of Soil Screening Levels
- = No screening level or analytical result available
* = Laboratory analyzed for combined Nitrate (As N) + Nitrite (As N) to meet holdtime
NS[1] = Not Enough Water to Sample- No Sample
mg/l = milligrams per liter
--- = Analyte inadvertently not included in analysis.

Figures

Western Refining
WESTERN REFINING SOUTHWEST

PROJ. NO.: Western Refining | DATE: 04/11/12

WELL LOCATION MAP
APRIL 2012
BLOOMFIELD REFINERY



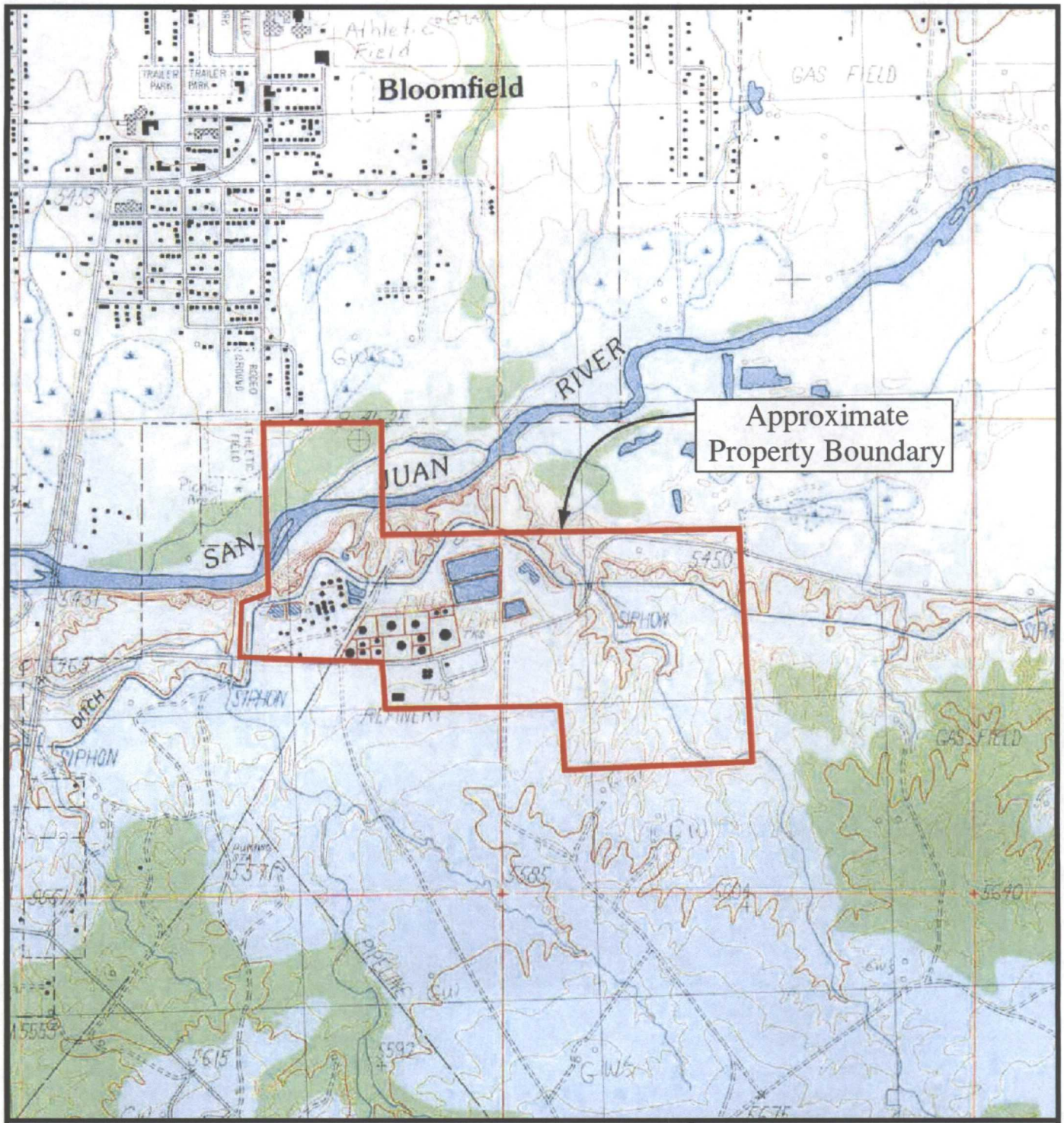
LEGEND

- 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
- UNDER GROUND PIPE-WAY
- ABOVE GROUND PIPE-WAY
- SLURRY BARRIER WALL
- FORMER TANK LOCATION

0 300
SCALE IN FEET

Figure 2


North of 45
Seep 4
SW 6
SW 7
Downstream
Sample Point
North of 46
Seep 9
Seep 3
Seep 2
Seep 1
Seep 7
Seep 5
SW 5
Seep 6
Seep 8
Tank 37
SW 1
SW 3
SW 4
SW 2
Upstream
Sample Point
San Juan River
East Fork
Outfall
Outfall 2
Outfall 3
Outfall 1
(Tank 38)
Downstream
Sample Points
© 2012 Google Maps
Legend
River Sample Point
Outfall
Seep
Sump Well
N
0 125 250 375 500
Feet
Western Refining
San Juan River
Area Location Map
April 2012
Figure 3



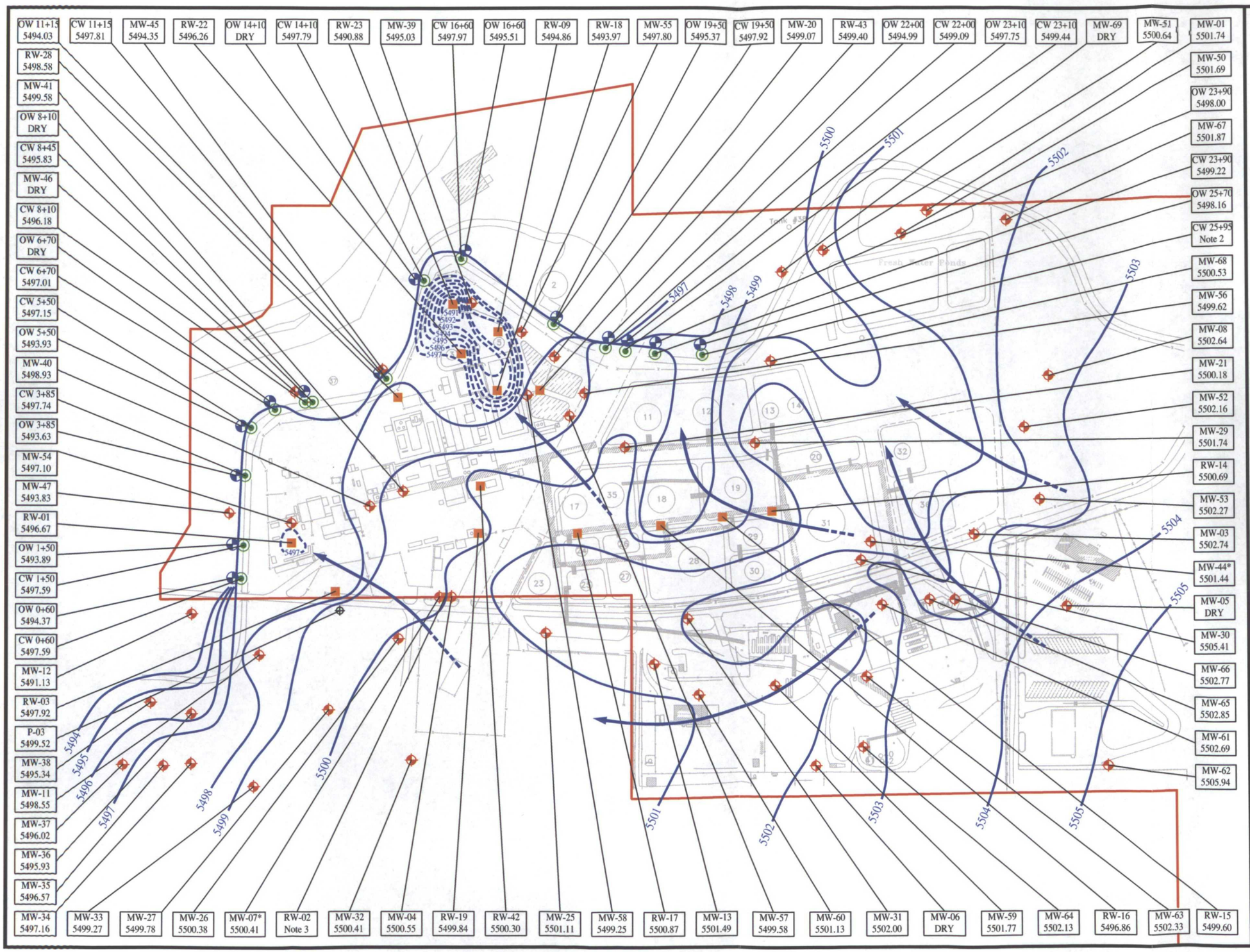
0 500 1000 1500 2000

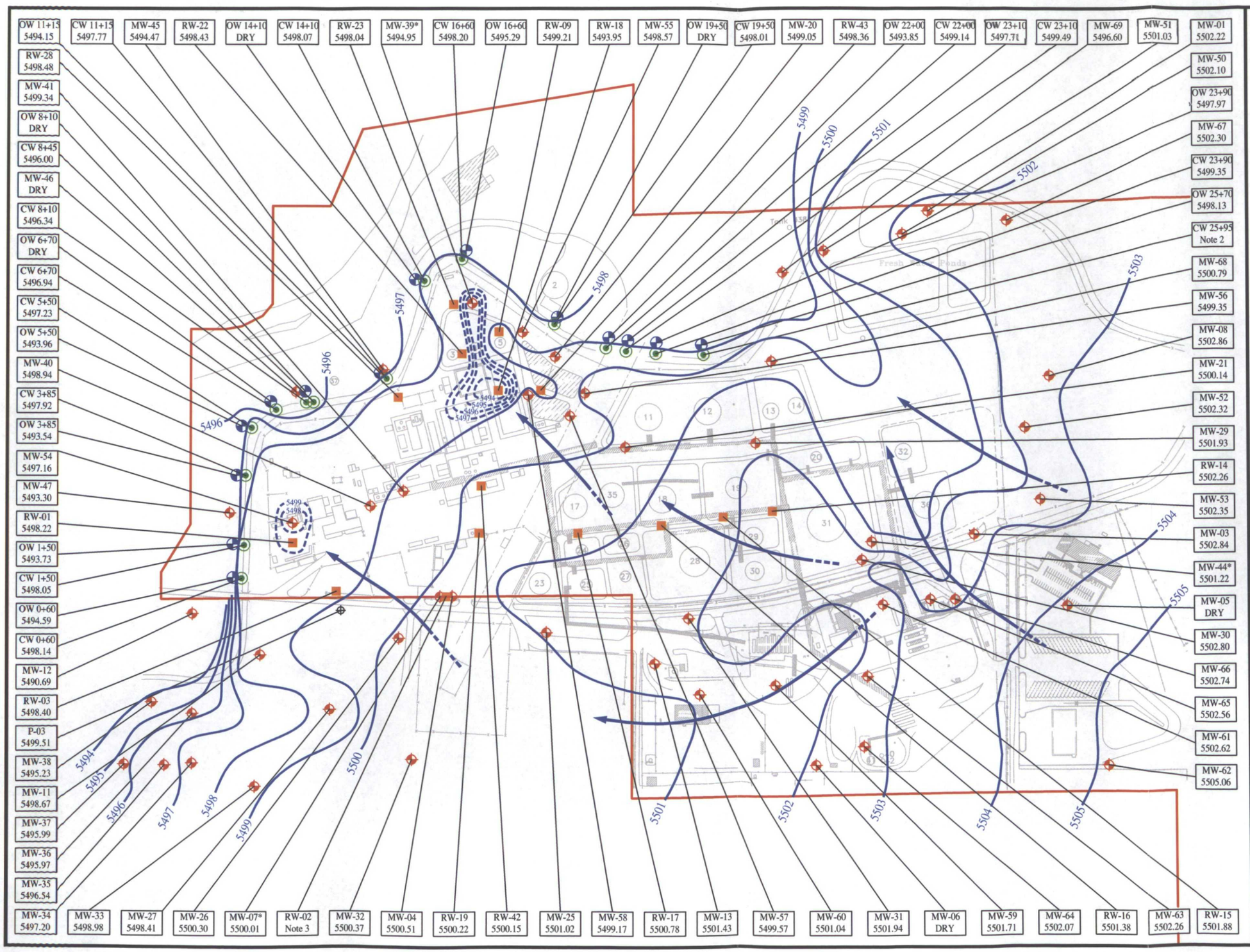
Feet

Western Refining

Bloomfield Refinery Site Location Map

April 2012 | Figure 1


OW 11+15 5494.03
CW 11+15 5497.81
MW-45 5494.35
RW-22 5496.26
OW 14+10 DRY
CW 14+10 5497.79
RW-23 5490.88
MW-39 5495.03
CW 16+60 5497.97
OW 16+60 5495.51
RW-09 5494.86
RW-18 5493.97
MW-55 5497.80
OW 19+50 5495.37
CW 19+50 5497.92
MW-20 5499.07
RW-43 5499.40
OW 22+00 5494.99
CW 22+00 5499.09
OW 23+10 5497.75
CW 23+10 5499.44
MW-69 DRY
MW-51 5500.64
MW-01 5501.74
MW-50 5501.69
OW 23+90 5498.00
MW-67 5501.87
CW 23+90 5499.22
OW 25+70 5498.16
CW 25+95 Note 2
MW-68 5500.53
MW-56 5499.62
MW-08 5502.64
MW-21 5500.18
MW-52 5502.16
MW-29 5501.74
RW-14 5500.69
MW-53 5502.27
MW-03 5502.74
MW-44* 5501.44
MW-05 DRY
MW-30 5505.41
MW-66 5502.77
MW-65 5502.85
MW-61 5502.69
MW-62 5505.94
RW-28 5498.58
MW-41 5499.58
OW 8+10 DRY
CW 8+45 5495.83
MW-46 DRY
CW 8+10 5496.18
OW 6+70 DRY
CW 6+70 5497.01
CW 5+50 5497.15
OW 5+50 5493.93
MW-40 5498.93
CW 3+85 5497.74
OW 3+85 5493.63
MW-54 5497.10
MW-47 5493.83
RW-01 5496.67
OW 1+50 5493.89
CW 1+50 5497.59
OW 0+60 5494.37
CW 0+60 5497.59
MW-12 5491.13
RW-03 5497.92
P-03 5499.52
MW-38 5495.34
MW-11 5498.55
MW-37 5496.02
MW-36 5495.93
MW-35 5496.57
MW-34 5497.16
MW-33 5499.27
MW-27 5499.78
MW-26 5500.38
MW-07* 5500.41
RW-02 Note 3
MW-32 5500.41
MW-04 5500.55
RW-19 5499.84
RW-42 5500.30
MW-25 5501.11
MW-58 5499.25
RW-17 5500.87
MW-13 5501.49
MW-57 5499.58
MW-60 5501.13
MW-31 5502.00
MW-06 DRY
MW-59 5501.77
MW-64 5502.13
RW-16 5496.86
MW-63 5502.33
RW-15 5499.60
5494
5495
5496
5497
5498
5499
5500
5501
5502
5503
5504
5505
Fresh Water Ponds
Tank #38
Legend
Monitoring Well
Observation Well
Recovery Well
Collection Well
Piezometer
Seep
Site
Approximate Property Line
Groundwater Elevation Contours
Inferred Groundwater Elevation
Groundwater Flow Direction - Dashed where inferred
MW-47 5493.83
-Well ID
-Groundwater Elevation (ft amsl)
Notes:
* Deeper Well; data not used to contour.
1. MW-65 thru MW-69 are not part of facility wide monitoring plan.
2. CW 25+95 is being pumped.
3. Data not used to contour due to screen interval.
April 2011
0 125 250 375 500
Feet
Western Refining
Groundwater Elevation and Flow Direction - April 2011 Bloomfield Refinery
April 2012
Figure 4



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Piezometer
- Seep
- Site
- Approximate Property Line
- Groundwater Elevation Contours
- Inferred Groundwater Elevation
- Groundwater Flow Direction - Dashed where inferred
- MW-47 5493.30 -Well ID -Groundwater Elevation (ft amsl)

Notes:

* Deeper Well; data not used to contour.

1. MW-65 thru MW-69 are not part of facility wide monitoring plan.
2. CW 25+95 is being pumped.
3. Data not used to contour due to screen interval.

August 2011

0 125 250 375 500

Feet

Western Refining

Groundwater Elevation and Flow Direction - August 2011 Bloomfield Refinery

April 2012 | Figure 5

OW 11+15 0.01
MW-45 0.15
RW-28 0.25
RW-22 1.57
RW-23 NPP
RW-09 NPP
MW-58 0.06
RW-43 0.07
MW-20 0.62
MW-56 0.95
MW-21 0.06
RW-16 NPP
OW 3+85 0.01
MW-54 0.41
MW-47 0.43
OW 1+50 0.22
RW-01 0.37
RW-03 NPP
MW-41 0.59
RW-42 0.65
MW-25 0.16
MW-57 1.58
RW-14 0.20
MW-61 0.35
MW-66 0.09

Tank 538
Fresh Water Ponds

Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well
- Site
- Approximate Property Line
- RW-14 0.20 -Well ID -Product Thickness (feet)

NPP -No Product Present

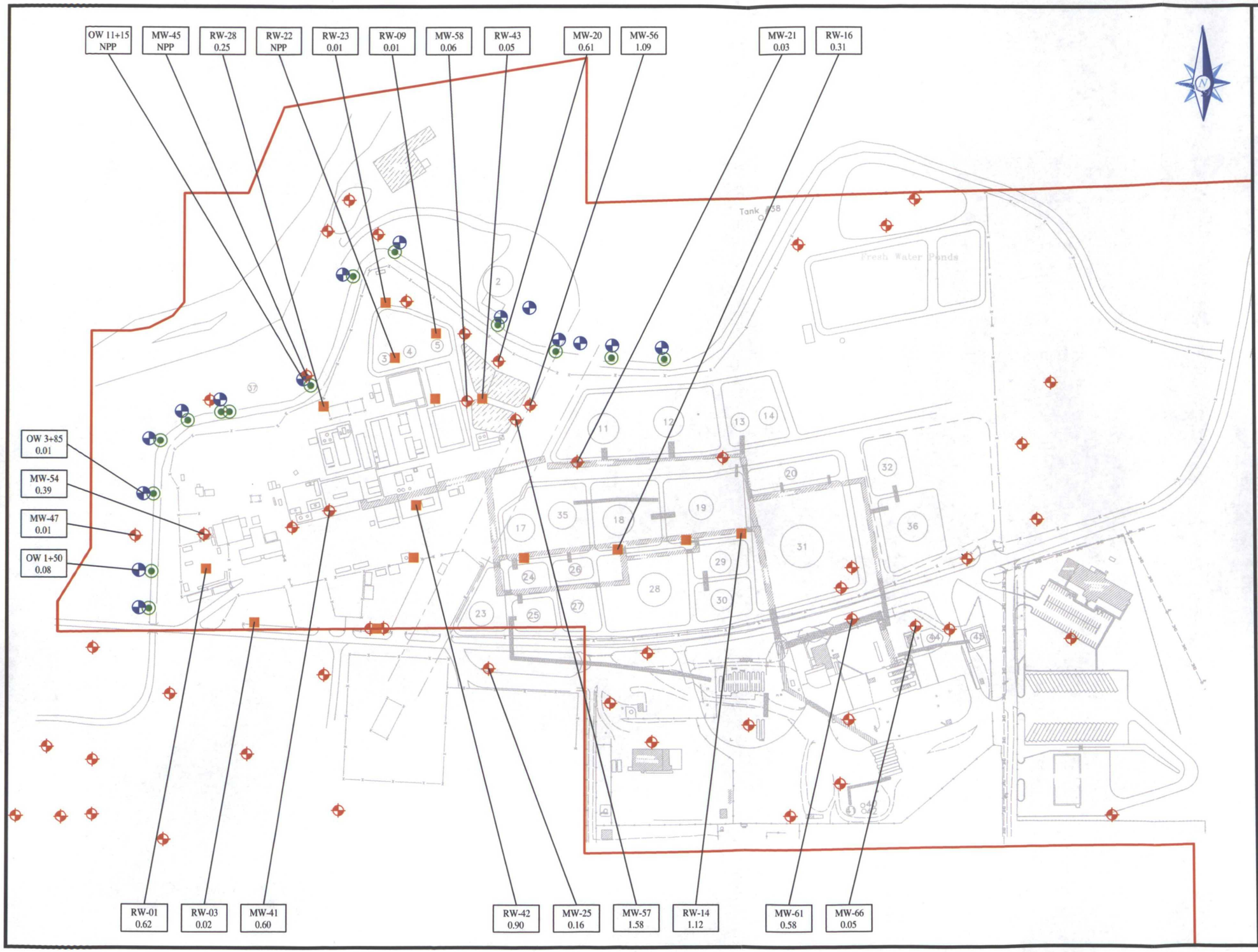
April 2011

0 125 250 375 500
Feet

Western Refining

Product Thickness Map
April 2011
Bloomfield Refinery

April 2012 | Figure 6



Legend

- Monitoring Well
- Observation Well
- Recovery Well
- Collection Well

Site

Approximate Property Line

RW-14
0.20
-Well ID
-Product Thickness (feet)

NPP -No Product Present

August 2011

0 125 250 375 500
Feet

Western Refining

Product Thickness Map
August 2011
Bloomfield Refinery

February 2012 | Figure 7

MW-46 NS[1]
OW 8+10 NS[1]
OW 11+15 NR[1]
RW-28 NS[2]
OW 14+10 NS[1]
RW-23 NS[2]
MW-39 NS[2]
OW 16+60 0.079 < 0.001 0.044 < 0.003 1.1
RW-09 NS[2]
RW-18 NS[2]
RW- 43 NS[2]
OW 19+50 NS[1]
MW-20 NR[1]
OW 22+00 < 0.001 < 0.001 < 0.001 < 0.003 0.061
OW 23+10 < 0.001 < 0.001 < 0.001 < 0.003 0.0015
OW 23+90 0.003 < 0.001 < 0.001 < 0.003 < 0.001
OW 25+70 4.4 < 0.1 0.3 < 0.3 < 0.1
CW 25+95 6.7 0.16 0.8 0.32 < 0.005
MW-01 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
East Outfall 2 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
OW 6+70 NS[1]
OW 5+50 NS[1]
RW-01 NS[2]
OW3+85 NR[1]
MW-47 NR[1]
East Outfall 3 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
MW-08 < 0.001 < 0.001 0.0019 0.002 < 0.001
OW1+50 NR[1]
CW 0+60 0.019 < 0.001 0.0016 < 0.003 < 0.001
OW 0+60 NS[1]
MW-12 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
MW-11 NS[2]
MW-38 < 0.001 < 0.001 < 0.001 < 0.002 0.0014
MW-37 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
MW-35 < 0.001 < 0.001 < 0.001 < 0.002 0.0024
MW-34 NS[2]
MW-33 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
MW-27 NS[2]
MW- 40 NS[2]
MW-26 NS[2]
MW-32 NS[2]
MW-04 NS[2]
RW- 42 NS[2]
MW-21 NS[2]
MW-13 < 0.001 < 0.001 < 0.001 < 0.002 < 0.001
MW-31 NS[2]
RW-15 NS[2]
MW-06 NS[1]
MW-29 NS[2]
MW-30 6.7 5.0 3.7 14.0 < 0.10
MW- 44 NS[2]
MW-03 NS[2]
MW- 05 NS[2]

Tank #38
Fresh Water Ponds

Legend

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

MW-38	-Well ID
< 0.001	-Benzene
< 0.001	-Toluene
< 0.001	-Ethylbenzene
< 0.0015	-Xylenes, Total
0.0014	-MTBE

Notes:

All concentrations in milligrams per liter (mg/L)

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

NS[2] = Not sampled due to approved Facility-wide Monitoring Plan.

NS[3] = Sample Inadvertently not Collected this Sampling Event.

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

NR[2] = No Sample Required per OCD and NMED Conditions

0 125 250 375 500
Feet

Western Refining

BTEX and MTBE Concentration Map - April 2011 Bloomfield Refinery

April 2012 | Figure 8

RW-18
0.042
< 0.02
0.09
< 0.002
2.2

OW 14+10
NS[1]

RW-23
NR[1]

MW-39
NS[2]

RW-09
NR[1]

OW 16+60
0.082
< 0.01
0.045
0.058
0.81

MW-58
NR[1]

MW-55
7.8
< 0.020
2.0
0.62
7.8

RW-43
NR[1]

OW 19+50
NS[1]

MW-20
NR[1]

MW-56
NR[1]

OW 22+00
< 0.001
< 0.001
< 0.001
< 0.002
0.17

OW 23+10
< 0.001
< 0.001
< 0.001
<0.002
0.0032

OW 23+90
< 0.001
< 0.001
< 0.001
< 0.002
< 0.001

OW 25+70
0.02
< 0.02
<0.02
< 0.04
< 0.020

CW 25+95
3.6
0.16
0.58
0.33
< 0.002

MW-69
NS[1]

MW-51
0.002
< 0.001
< 0.001
< 0.0015
< 0.001

MW-68
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

E Outfall 2
< 0.001
< 0.001
< 0.001
< 0.003
< 0.0015

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

MW-50
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

OW 11+15
0.22
< 0.01
< 0.01
< 0.03
0.690

RW-28
NR[1]

OW 8+10
NS[1]

MW-46
NS[1]

OW 6+70
NS[1]

OW 5+50
NR[1]

MW-54
NR[1]

OW 3+85
NR[1]

RW-01
NR[1]

MW-47
NR[1]

OW 1+50
NR[1]

CW 0+60
< 0.001
< 0.001
.003
< 0.002
< 0.001

OW 0+60
NS[1]

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

MW-11
0.056
< 0.005
< 0.005
< 0.0075
0.012

MW-38
< 0.001
< 0.001
< 0.001
< 0.001
0.0016

MW-67
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

East Outfall 3
< 0.001
< 0.001
< 0.001
< 0.003
< 0.0015

MW-08
0.0014
0.011
0.0099
0.076
< 0.001

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

MW-53
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-03
NS[1]

MW-44
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.0013

MW-05
NS[1]

MW-30
6.3
5.6
4.4
15.0
< 0.10

MW-66
NR[1]

MW-65
6.3
< 0.02
2.1
4.4
1.6

MW-61
NR[1]

MW-37
< 0.001
< 0.01
< 0.01
< 0.015
< 0.01

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

MW-34
0.02
< 0.001
< 0.001
< 0.0015
0.0031

MW-33
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-27
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-40
0.023
< 0.005
0.0053
< 0.0075
< 0.005

MW-26
0.026
< 0.01
0.046
< 0.015
< 0.001

MW-32
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-04
0.16
< 0.01
0.069
0.14
< 0.001

RW-42
NR[1]

MW-57
NR[1]

MW-21
NR[1]

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

MW-60
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-31
2.9
0.46
1.2
4.2
< 0.10

RW-15
2.8
0.79
2.5
9.7
0.071

MW-06
NS[1]

MW-59
0.038
< 0.001
0.26
< 0.0015
0.33

MW-64
< 0.001
< 0.001
< 0.001
< 0.0015
< 0.001

MW-63
< 0.001
< 0.001
< 0.001
< 0.0015
0.011

MW-29
< 0.001
< 0.001
< 0.001
< 0.0015
0.0012

MW-62
< 0.001
< 0.001
< 0.001
< 0.0015
<0.001

Tank 638

Fresh Water Ponds

Legend

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

MW-38	-Well ID
< 0.005	-Benzene
< 0.005	-Toluene
< 0.005	-Ethylbenzene
< 0.0075	-Xylenes, Total
0.0016	-MTBE

Notes:

All concentrations in milligrams per liter (mg/L)

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

NS[2] = Not sampled due to approved Facility-wide Monitoring Plan.

NS[3] = Sample Inadvertently not Collected this Sampling Event.

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

NR[2] = No Sample Required per OCD and NMED Conditions

0 125 250 375 500

Feet

Western Refining

BTEX and MTBE Concentration Map - August 2011 Bloomfield Refinery

April 2012

Figure 9

Legend

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

Note:
All identified wells were sampled in April 2011

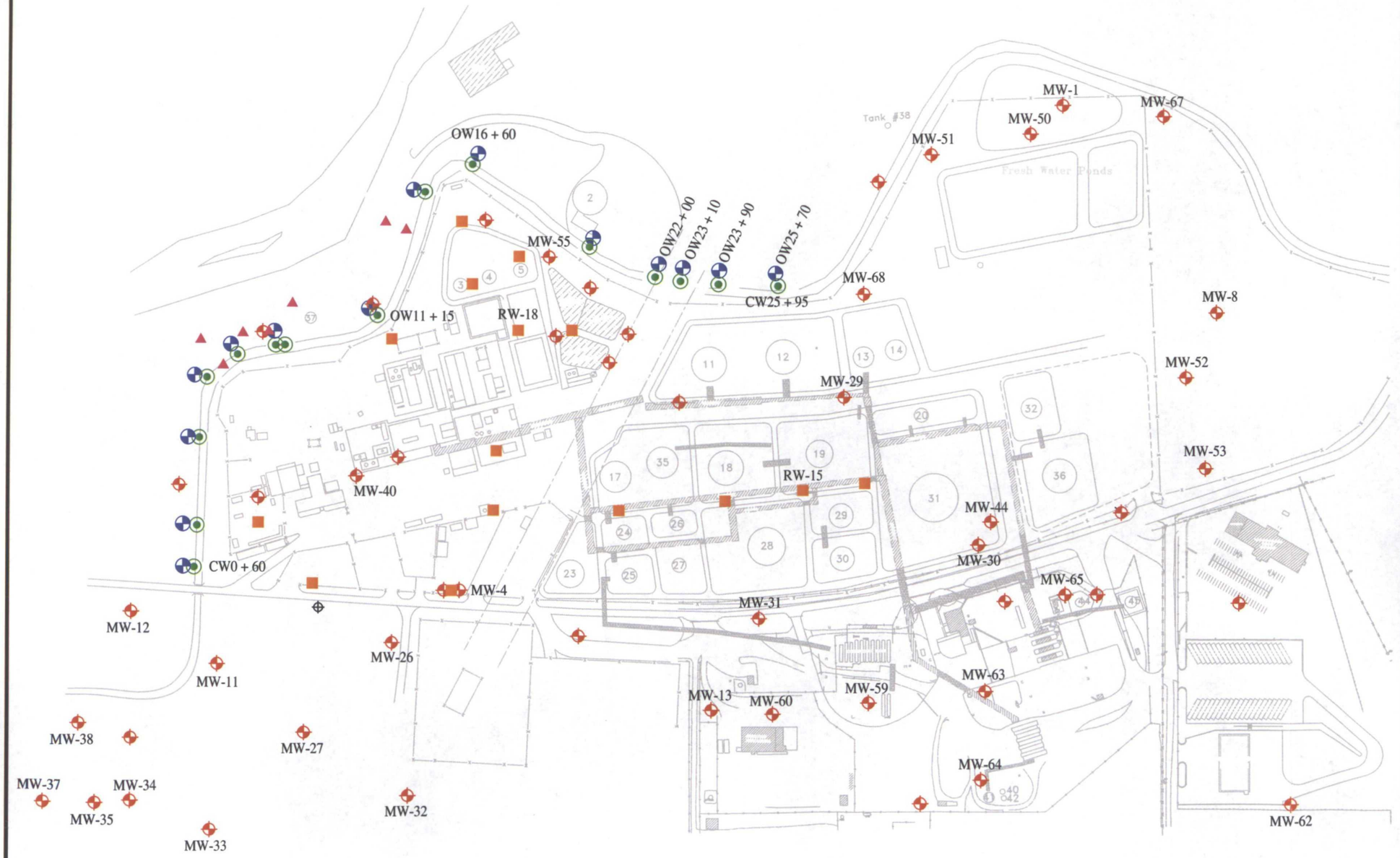
April 2011

0 125 250 375 500
Feet

Western Refining

Wells Sampled
April 2011
Bloomfield Refinery

April 2012	Figure 10



Legend

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

Note:
All identified wells were sampled in August 2011

August 2011

0 125 250 375 500
Feet

Western Refining

Wells Sampled
August 2011
Bloomfield Refinery

April 2012 | Figure 11

Appendix A

Field Methods

Appendix A

Groundwater Elevation

All facility monitoring wells, recovery wells, observation and collection wells were measured for groundwater elevation in March, April, and August. Refinery personnel followed the guidelines of the *Facility-Wide Groundwater Monitoring Plan December 2007 (Revised May 2008)* to collect groundwater levels and SPH thickness measurements In March and April. Water elevation measurements were collected in all wells while the recovery wells were in operation and again after the pumps were removed and water levels had stabilized (5 or more days later). 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. In August, prior to groundwater sampling activities, groundwater levels and SPH thickness measurements were collected at all wells after the pumps had been removed and water levels had stabilized.

All water/product levels are determined to an accuracy of 0.01 foot using a Geotech Interface Meter. The technician records separate phase hydrocarbon, depth to water, and total well depth using this probe.

Water Quality/Groundwater Sampling

Prior to purging, a YSI 550A Dissolved Oxygen Probe is used to determine dissolved oxygen (DO) levels. Water quality parameters are measured using an Ultrameter 6P by the Myron L Company. Electrical conductance, oxidation-reduction potential (ORP), Total Dissolved Solids (TDS), pH, and temperature are monitored during purging.

Well Purging Technique

After determining water levels and measuring DO, initial well volumes are calculated. Total purge volume is determined by monitoring electrical conductance, pH, temperature, ORP, and TDS after every two gallons or each well volume, whichever is less, has been purged from the well. The wells were considered satisfactorily purged when the field parameter values did not vary by more than 10 percent for at least three measurements.
Well volumes are determined using the following equation:
Well Depth – Casing Height – Depth to Liquid X Conversion Factor X Three.
The conversion factor is determined by the diameter of the well casing.

Casing	Conversion Factor
6"	1.50 gal/ft
5"	1.02 gal/ft
4"	0.74 gal/ft
3"	0.367 gal/ft
2"	0.163 gal/ft

Typically disposable bailers are used for purging and sampling. Each bailer holds one liter of liquid. Three well volumes can be calculated by counting the number of times a well is bailed.
On occasion, the submersible pump is used for purging wells that have a large volume of water. All purged water is poured/pumped into a 55-gallon drum designated for sampling events.

Well Sampling and Sample Handling Procedure
Equipment and supplies needed for collecting representative groundwater samples include:

- Interface Meter
- YSI 550A Dissolved Oxygen Probe
- Ultrameter 6P
- Distilled Water
- Disposable Latex Gloves
- Disposable Bailers
- Submersible pump and Generator (if needed)
- String/Twine
- Cooler with Ice
- Bottle kits with Preservatives (provided by the contract laboratory)
- Disposable 0.45 micron Field Filters and Syringes
- Glass Jar (usually 4 oz.)
- Sharpie Permanent Marker
- Field Paperwork/Logsheet
- Two 5-gallon buckets
- Trash container (plastic garbage bag)
- Ziploc Bags
- Paper towels

After sufficient purging, samples are collected with the bailer and poured into the appropriate sample containers. Two people are usually utilized for sampling. Sampling takes place over a bucket to insure that spills are contained

For dissolved metals, sample water is poured into a jar and then extracted with a syringe. The syringe is then used to push water through a field filter into the proper sample bottle to collect the dissolved metals sample. Volatile organic analysis samples are collected as to allow no head space in the container.

Samples are labeled immediately with location, date, time, analysis, preservative, and sampler. Then they are put in a Ziploc bag and placed in a cooler holding sufficient ice to keep them cool. The field logsheet is reviewed to verify all entries.

Purge and Decontamination Water Disposal

The Ultrameter 6P, YSI 550A Dissolved Oxygen Probe, and the interface probe are rinsed with distilled water after every well. The rinse procedure takes place over a bucket to insure that spills are contained.
All rinse and purge water is contained and then disposed of through the refinery wastewater system.

The submersible pump is decontaminated by placing it in a 55-gallon barrel filled with plant water and some Alconox. The pump is activated and will pump down the barrel twice. External areas are washed down and rinsed, also. All wash and rinse water is on containment and runs to the refinery wastewater system.
Any glassware used is taken to the refinery laboratory and washed with Alconox and water and rinsed with reverse osmosis water. Laboratory wastewater runs through the refinery system.

Instrument Calibration

Calibration of the YSI 550A Dissolved Oxygen Instrument occurs at the beginning of each day of sampling. The probe is powered on and allowed to stabilize, which usually takes 15 minutes. Enter the calibration menu. The LCD will prompt you to enter the local altitude in hundreds of feet. When the proper altitude appears on the LCD, press the **ENTER** key.

The LCD will then prompt you to enter the salinity of the water you are about to analyze. After entering the correct salinity, the instrument will return to normal operation.

The Ultrameter 6P instrument calibration occurs at the beginning of each day of sampling. For Conductivity and TDS calibration, the cell is rinsed three times with a 3000 umhos/cm NaCl Standard. The cell cup is refilled with the standard. Either the **COND** or the **TDS** button is pressed and then the **CAL** button is pushed. Press the up or down arrow until the display agrees with the standard. The **CAL** button is pressed to accept the value.

The Ultrameter 6P has an electronic ORP calibration which is automatically calibrated with the 7 pH. The pH sensor well is rinsed three times with 7.0 buffer solution and then refilled again with that buffer. The **pH** button is pressed then the **CAL** button. The up or down arrow is adjusted until the display agrees with the buffer value. The **CAL** button is pushed to accept that value. Repeat the calibration steps using an acid buffer solution and then again with a base buffer solution.

Remediation System Measurement

Recovery well flows are measured using a 1000 ml graduated cylinder. The sample port on the discharge line of the pump is opened and effluent flows into the graduated cylinder. During a pump cycle, a measurement is taken over time and then calculated to a gallon per day rate.

Recovery rates at Tk #37 (Hammond Ditch French Drain) and Tk #38 (#1 East Outfall) are determined through flow meters installed in those systems. Refinery personnel record the rates periodically.

Appendix B

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Semi-ANNUAL
San Juan River Bluff - 2011

Project #:

Project Manager:

Sampler: Bob

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.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	WQCC Dissolved metals	CATion/ANION Balance	Carbon Dioxide/Alkalinity		Air Bubbles (Y or N)
4-12-11	7:35	H_2O	outfall #2	3-VOA	HCl	1										X						
			Filtered	1-125ml	HNO_3													X				
				1-500ml	—														X	X		
				1-125ml	H_2SO_4														X	X		
				1-500ml	HNO_3								X									
4-12-11	7:15		outfall #3	3-VOA	HCl	2										X						
			Filtered	1-125ml	HNO_3													X				
				1-500ml	—														X	X		
				1-125ml	H_2SO_4														X	X		
				1-500ml	HNO_3								X									

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
4-12-11	3:06	Robert Krakow		4/13/11	1025	TRIP BLANK-03
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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

ain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-11-11
San Juan River Bluff

Project #:

Project Manager:

Sampler: Bob & Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE and	8270 (Semi-VOA)	WQCC Dissolved metals	Cation/Anion Balance	Carbon Dioxide/Alkalinity		Air Bubbles (Y or N)
8-11-11	8:00	H_2O	outfall #2	3-VOA	HCl											X						
			filtered		HNO_3													X				
																			X	X		
					H_2SO_4														X	X		
					HNO_3								X									
8-11-11	8:30		outfall #3	3-VOA	HCl	2										X						
			filtered		HNO_3													X				
																			X	X		
					H_2SO_4														X	X		
					HNO_3								X									

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-11-11	3:00	Robert Krabacher		8/12/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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.

UPS

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
San Juan River 8-11-11

Project #:

Project Manager:

Sampler: Bob & Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved Metals	Cations/Anions		Air Bubbles (Y or N)
8-11-11	1015	H2O	North of 45	VOA	HCl	-3			X							X						
					amber													X				
					HNO3								X									
			filtered		HNO3														X			
																				X		
					H2SO4															X		
8-11-11	10:20		North of 46	VOA	HCl	-4			X							X						
					amber													X				
					HNO3								X									
			filtered		HNO3														X			
																				X		
					H2SO4															X		

Date: 8-11-11 Time: 3:00 Relinquished by: Robert Graham
Date: Time: Relinquished by:

Received by: Date: 8/12/11 Time: 945
Received by: Date: Time:

Remarks: Trip Blank-05 8/12/11

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: San Juan River 8-11-11

Project #:

Project Manager:

Sampler: Bob & Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE	8270 (Semi-VOA)	DRO - 8015B	WQCC Dissolved Metals	Cations/Anions		Air Bubbles (Y or N)
8-11-11	9:00	H2O	Upstream	VOA	HCl	-1			X							X						
					amber													X				
					HNO_3								X									
			filtered		HNO_3														X			
																				X		
					H_2SO_4															X		
			Downstream	VOA	HCl	-2			X							X						
8-11-11	11:45				amber													X				
					HNO_3								X									
			filtered		HNO_3														X			
																				X		
					H_2SO_4															X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-11-11	3:00	Robert Krakow			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				8/12/11	945

Remarks:

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.

1 of 5

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: San Juan River April 2011

Project #:

Project Manager:

Sampler: Bob
On Ice: ☒
Sample Temperature: 1.8

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. 1104215
4-11-11	10:00	H_2O	upstream	5-VOA	HCl	3
				1-liter	Amber	
				1-500 ml	HNO_3	
			Filtered	2-250 ml	HNO_3	
				1-500ml	—	
				1-250ml	H_2SO_4	
4-11-11	12:15		DOWN Stream	5-VOA	HCl	4
				1-Liter	Amber	
				1-500ml	HNO_3	
			filtered	2-250ml	HNO_3	
				1-500ml	—	
				1-250ml	H_2SO_4	

Analysis Request	
BTEX + MTBE + TMB's (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH Method 8015B (Gas/Diesel)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
8310 (PNA or PAH)	
RCRA 8 Metals	X
Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	
8081 Pesticides / 8082 PCB's	
8260B (VOA) BTEX, MTBE only	X
8270 (Semi-VOA)	X
DRO - 8015B	X
WQCC Dissolved metals	X
Cation/Anion, TDS, Ec	X
Air Bubbles (Y or N)	

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-12-11	3:00	Robert Knakow		4/13/11	1025
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield NM 87413

Phone #: 505-632-4105

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
San Juan River April 2011

Project #:

Project Manager:

Sampler: BJG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2

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. 1105378	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	DRO-8015B	WQCC Dissolved metals	Cations/Anions, TDS, Ec	Air Bubbles (Y or N)
4-12-11	11:00	H2O	North of 45	5-VOA	HCl	1			X							X					
				1-Liter	Amber													X			
				1-500ml	HNO3								X								
			Filtered	2-250ml	HNO3														X		
				1-500ml	—															X	
				1-250ml	H2SO4															X	
4-12-11	10:45		North of 46	5-VOA	HCl	2			X							X					
				1-Liter	Amber													X			
				1-500ml	HNO3								X								
			Filtered	2-250ml	HNO3														X		
				1-500ml	—															X	
				1-250ml	H2SO4															X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-12-11	3:00	Robert Krakow		4/13/11	1025
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Trip Blank -05

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4188

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Semi-Annual River Bluff Seeps 2011

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
4-12-11	8:15	H_2O	Seep 6e	3-VOA	HCl	5
				1-500ml		
				1-125ml	H_2SO_4	
4-12-11	8:25		Seep 9	3-VOA	HCl	6
				1-500ml		
				1-125ml	H_2SO_4	

Date	Time	Relinquished by:	Received by:	Date	Time
4-12-11	3:00	Robert Krakow		4/13/11	1025
Date:	Time:	Relinquished by:	Received by:	Date	Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	CO_3, Alkalinity				Air Bubbles (Y or N)
									X						
											X				
							X								
									X						
											X				
							X								

Remarks:

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4165

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: Semi-Annual River Bluff Seeps 2011

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 4°C

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. 1104572	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	Ca, Alkalinity				Air Bubbles (Y or N)
4-12-11	8:55	H2O	Seep 1	3-VOA	HCl	1										X						
				1-500ml														X				
				1-125ml	H2SO4									X								
4-12-11	8:45		Seep 2	3-VOA	HCl	2										X						
				1-500ml	~~nit~~													X				
				1-125ml	H2SO4									X								
4-12-11	8:45		Seep 2FD	3-VOA	HCl	3										X						
				1-500ml														X				
				1-125ml	H2SO4									X								
4-12-11	8:35		Seep 3	3-VOA	HCl	4										X						
				1-500ml														X				
				1-125ml	H2SO4									X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-12-11	3:00	Robert Kraken		4/13/11	1025
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: TRIP BLANK-07

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990 Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: North Barrier Wall - Semi-Annual 2011

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8

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.
4-13-11	11:00	H_2O	OW-1660	-VOA	HCl	-1
				500 amber		
4-13-11	12:30		OW-22+00	-VOA	HCl	-2
				500 amber		
4-13-11	1:00		OW-23+10	-VOA	HCl	-3
				500 amber		
4-13-11	1:20		OW-23+90	-VOA	HCl	-4
				500 amber		
4-13-11	1:45		OW-25+70	-VOA	HCl	-5
				500 amber		
			~~OW~~	~~-VOA~~	~~HCl~~	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 80158				Air Bubbles (Y or N)
		X							X		X				
		X							X		X				
		X							X		X				
		X							X		X				
		X							X		X				
		X							X		X				
	X							-	X		X				

Date	Time	Relinquished by:	Received by:	Date	Time
4-13-11	3:00	Robert Knabon			
Date:	Time:	Relinquished by:	Received by:	4/14/11	955

Remarks: TRIP BLANK - 6

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4166 / 4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: 8-11-11
San Juan River Bluff

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: Y / N

Sample Temperature: 14

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
8-11-11	7:40	H_2O	Seep-1	3-VOA	HCl	B
"	"	"	"	1-500ml	—	
"	"	"	"	1-250ml	H_2SO_4	

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

Analysis Request

BTEX + MTBE + [redacted] (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE and	8270 (Semi-VOA)	CO_3, Alkalinity				Air Bubbles (Y or N)
									X						
											X				
							X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-11-11	3:00	Robert Kraker	[signature]	8/12/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Trip Blank

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. LAS

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
North Boundary Barrier Well

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: [illegible]

Sample Temperature: [illegible]

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 Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	D720-8015B				Air Bubbles (Y or N)
8-15-11	2:30	H2O	OW-25+70	VOA	HCl	6		X	X							X		X				
				1-500ml	amber																	
8-15-11	2:30		OW-25+70 Dup	VOA	HCl	7		X	X							X						
				1-500ml	amber													X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-15-11	3:20	Tony Moore	Jacob Ortiz	8-16-11	10:20
Date:	Time:	Relinquished by:	Received by:	Date	Time
			Michael Cpan	8/16/11	10:20

Remarks:

1.0

Chain-of-Custody Record

Client: Western Refining CR

Mailing Address: 50 CR 4990 Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: North Barrier Wall - Semi-Annual 2011

Project #:

Project Manager:

Sampler: Bob

On Ice:

Sample Temperature: 2.8

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 Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	D20 - 8015B					Air Bubbles (Y or N)
4-13-11	11:00	H2O	OW-1660	-VOA	HCl	-1			X							X							
				500 amber														X					
4-13-11	12:30		OW-22+00	-VOA	HCl	-2			X							X							
				500 amber														X					
4-13-11	1:00		OW-23+10	-VOA	HCl	-3			X							X							
				500 amber														X					
4-13-11	1:20		OW-23+90	-VOA	HCl	-4			X							X							
				500 amber														X					
4-13-11	1:45		OW-25+70	-VOA	HCl	-5			X							X							
				500 amber														X					
			~~OW~~	~~-VOA~~	~~HCl~~			X	X						-	X							
																	X						

Date	Time	Relinquished by	Received by	Date	Time
4-13-11	3:00	Robert Krakow			
				4/14/11	955

Remarks: TRIP BLANK - 6

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4166

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
North Barrier Wall - Semi-Annual 2011

Project #:

Project Manager:

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 4°C

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 Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE	8270 (Semi-VOA)	DRO - 80158				Air Bubbles (Y or N)
4-13-11	10:15	H2O	CW-0+60	3-VOA	HCl	-1			X							X						
				1-500ml	amber													X				
4-13-11	2:00		CW-25+95	3-VOA	HCl	-2			X							X						
				1-500ml	amber													X				
4-13-11	10:15		~~DW~~ CW0+60 FD	4-VOA	HCl	-3			X							X						
				1-500ml	amber													X				
4-13-11	2:30		Field BLANK	3-VOA	HCl	-4										X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-13-11	3:00	Robert Krakow			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				4/14/11	955

Remarks: TRIP BLANK - 05

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratory. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical

Chain-of-Custody Record

Client: WesTerN Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name:
North Boundary Barrier Wall

Project #:

Project Manager:

Sampler: Bob + Terry

[redacted]

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE and	8270 (Semi-VOA)	DRO-8015B				Air Bubbles (Y or N)
8-15-11	1:00	H_2O	OW-11+15	5 VOA	HCl	1			X							X						
				1-500 ml	Amber													X				
	1:20		OW-16+60	5 VOA	HCl	2			X							X						
				1-500 ml	Amber													X				
			~~OW-19+50~~	~~VOA~~	~~HCl~~																	
				~~1-500 ml~~	~~Amber~~																	
	1:45		OW-22+00	5 VOA	HCl	3			X							X						
					Amber													X				
	2:00		OW-23+10	5 VOA	HCl	4			X							X						
	2:00			1-500 ml	Amber													X				
	2:15		OW-23+90	5 VOA	HCl	5			X							X						
				1-500 ml	Amber													X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-15-11	3:35	Robert Krakow	Michelle Garcia	8/16/11	9:50
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
Trip Blank-11
Sample CW-25+95 had a ph >2 for the 60 vial.
4

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.

UPS

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11 Down Gradient Wells

Project #:

Project Manager:

Sampler: Bob & Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC - Dissolved metals	Cation/Anion Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
8-16-11	1:30	H_2O	MW-38	5-VOA	HCl	-3			X							X						
				1-Liter	amber	-3											X					
				1-500ml	amber	-3												X				
				1-500ml	HNO_3	-3							X									
				1-250ml	HNO_3	-3													X			
				1-500ml		-3														X	X	
				1-250ml	H_2SO_4	-3														X		
			Trip Blank			-4																
			AT 8/17/11																			

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Bradow		8/17/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
North Boundary Barrier wall

Project #:

Project Manager:

Sampler: Bob + Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE, TMB, Naph	8270 (Semi-VOA)	DRO - 8015B				Air Bubbles (Y or N)
8-15-11	12:45	H_2O	CW-0+60	VOA	HCl	8										X						
				1-500ml	amber													X				
8-15-11	13:00		CW-25+95	VOA	HCl	9										X						
				1-500ml	amber													X				
			Field Blank	3-VOA	HCl	10										X						
			TRIP BLANK			-11																

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-15-11	3:20		Isaiah Ortiz	8-16-11	10:20
Date:	Time:	Relinquished by:	Received by:	Date	Time
			Michael Gonzales	8/16/11	10:20

Remarks:

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.

UPS

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11 Down Gradient Wells

Project #:

Project Manager:

Sampler: Bob + Terry

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	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC - Dissolved metals	Cation/Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
8-16-11	2:30	H_2O	MW-34	5-VOA	HCl			X							X						
				1-500ml	amber												X				
				1-500ml	HNO_3							X									
				250ml	HNO_3													X			
				1-500ml															X	X	
				1-250ml	H_2SO_4														X		
8-16-11	2:45		MW-35	5-VOA	HCl			X							X						
				1-500ml	amber												X				
				1-500ml	HNO_3							X									
				250ml	HNO_3													X			
				1-500ml															X	X	
				1-250ml	H_2SO_4														X		

Date: 8-16-11 Time: 3:30 Relinquished by: Robert Kraker

Received by: Date: 8/17/11 Time: 945

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks: Trip Blank -5
AT 8/17/11

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11 Down Gradient Wells

Project #:

Project Manager:

Sampler: Bob & Terry

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved Metals	CATIon/Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
8-16-11	2:00	H_2O	MW-37	5-VOA	HCl	-3			X							X						
				1-500ml	amber	-3												X				
				1-500ml	HNO_3	-3							X									
			Filtered	1-250ml	HNO_3	-3													X			
				1-500ml		-3														X	X	
				1-250ml	H_2SO_4	-3														X		
8-16-11	2:30		MW-34 Dup	5-VOA	HCl	-4			X							X						
				1-500ml	amber	-4												X				
				1-500ml	HNO_3	-4							X									
			Filtered	1-250ml	HNO_3	-4													X			
				1-500		-4														X	X	
				1-250ml	H_2SO_4	-4														X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Krakow			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				8/17/11	945

Remarks:

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11
Down Gradient Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: [illegible]

Sample Temperature: [illegible]

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	[illegible]
8-16-11	1:00	H_2O	MW-11	5-VOA	HCl	-1
				1-liter	amber	-1
				1-500ml	amber	-1
				1-500ml	HNO_3	-1
				-250ml	HNO_3	-1
				1-500ml		-1
				1-250ml	H_2SO_4	-1

Date: 8-16-11 Time: 3:30 Relinquished by: Robert Knakow Received by: Date 8/17/11 Time 945

Date: Time: Relinquished by: Received by: Date Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (GRO / DRO)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-80158	WQCC Dissolved metals	Cation/Anion Balance	Alkalinity/CO_3	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Remarks:

[illegible] necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories [illegible] serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical r[illegible]

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11 Down Gradient Wells

Project #:

Project Manager:

Sampler: Bob + Terry

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	[redacted]
8/16/11	1:15	H2O	MW-12	5-VOA	HCl	-2
				1-Liter	amber	-2
				1-500ml	amber	-2
				1-500ml	HNO3	-2
				1 250ml	HNO3	-2
				1-500ml	—	-2
				1-250ml	H2SO4	-2

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Anderson		8/17/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel: 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals Total	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015B	Water Dissolved Metals	Cation/Anion Balance	Alkalinity/CO2	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Remarks:

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11
Cross Gradient Wells

Project #:

Project Manager:

Sampler: Bob & Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TOTAL	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015B	WRCC Dissolved metals	Cation/Anion Balance	Alkalinity /CO3	Air Bubbles (Y or N)
8-16-11	1130	H2O	MW-32	5-VOA	HCl	-5			X							X						
				1-500ml	amber	-5												X				
				1-500ml	HNO3	-5							X									
				-250ml	HNO3	-5													X			
				1-500ml		-5														X	X	
				1-250ml	H2SO4	-5														X		
8-16-11	1115		MW-33	5-VOA	HCl	-6			X							X						
			MW-33	1-500ml	amber	-6												X				
				1-500ml	HNO3	-6							X									
				-250ml	HNO3	-6													X			
				1-500ml		-6														X	X	
				1-250ml	H2SO4	-6														X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Hudson		8/17/11	9:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Field Blank-7 - 8/16/11 @ 1515 to 8/17/11
Trip Blank-8

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 r

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR #990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Down Gradient Wells
Semi-Annual 2011

Project #:

Project Manager:
Bob

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.4

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. 1204179	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE only	8270 (Semi-VOA)	8015B DRO				Air Bubbles (Y or N)
4-18-11	8:30	H2O	MW-12	4-VOA	HCl	-1			X							X						
				1-500ml	Amber													X				
			MW-12 FD	4-VOA	HCl	-2			X							X						
				1-500ml	Amber													X				
	9:20		MW-35	3-VOA	HCl	-3										X						
	9:45		MW-37	4-VOA	HCl				X							X						
				1-500ml	Amber	-4												X				
	10:30		MW-38	4-VOA	HCl				X							X						
				1-500ml	Amber	-5												X				
	11:00		Field Blank	3-VOA	HCl											X						
			TRIP BLANK	2-VOA	HCl	-6			X							X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-18-11	13:00	Robert Bracken	Michelle Garcia	4/19/11	10:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Trip Blank

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11
Cross Gradient Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice:

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.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TOTAL	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015B	WQCC Dissolved metals	Cation/Anion Balance	Alkalinity/CO3	Air Bubbles (Y or N)
8-16-11	9:30	H2O	MW-1	5-VOA	HCl	-1			X							X						
				1-500ml	Amber	-1												X				
				1-500ml	HNO3	-1							X									
			Filtered	-250ml	HNO3	-1													X			
				1-500ml		-1														X	X	
				1-250ml	H2SO4	-1														X		
8-16-11	10:00		MW-13	5-VOA	HCl	-2			X							X						
				1-500ml	Amber	-2												X				
				1-500ml	HNO3	-2							X									
			Filtered	-250ml	HNO3	-2													X			
				1-500		-2														X	X	
				1-250ml	H2SO4	-2														X		

Date	Time	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Knudson		8/17/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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 r

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-16-11
Cross Gradient Wells

Project #:

Project Manager:

Sampler: Bob + Terry

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	[redacted]
8-16-11	10:30	H_2O	MW-26	5-VOA	HCl	-3
				1-500ml	Amber	-3
				1-500ml	HNO_3	-3
			Filtered	-250ml	HNO_3	-3
				1-500ml		-3
				1-250ml	H_2SO_4	-3
8-16-11	11:00		MW-27	5-VOA	HCl	-4
				1-500ml	Amber	-4
				1-500ml	HNO_3	-4
			Filtered	-250ml	HNO_3	-4
				1-500ml		-4
				1-250ml	H_2SO_4	-4

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved Metals	Cations/Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
		X							X						
											X				
						X									
												X			
													X	X	
													X		
		X							X						
											X				
						X									
												X			
													X	X	
													X		

Remarks: Trip Blank

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-16-11	3:30	Robert Bradshaw		8/17/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-18-11 Refinery Wells

Project #:

Project Manager:

Sampler: Bob + Terry

[redacted]

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	418.1 Diesel/Motor Oil	Cation/Anion Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
8-18-11	7:30	H2O	RW-15	5-VOA	HCl	1			X							X						
				1-500	amber													X				
				1-500	HNO_3								X									
				1-250	HNO_3														X			
				1-500	—															X	X	
				1-250	H_2SO_4															X		
8-18-11	9:00		RW-18	5-VOA	HCl	2			X							X						
				1-500	amber													X				
				1-500	HNO_3								X									
				1-250	HNO_3														X			
				1-500	—															X	X	
				1-250	H_2SO_4															X		

Date: 8-18-11 Time: 3:00 Relinquished by: Bob Krahon
Received by: Date: 8/19/11 Time: 9:30

Date: Time: Relinquished by:
Received by: Date: Time:

Remarks: Field BLANK-3

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Cross Gradient Wells
Semi-Annual 2011

Project #:

Project Manager:
Bob

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.5

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. 1204
4-14-11	8:30	H_2O	MW-1	3-40A	HCl	-1
				1-liter 500ml	Amber	
4-14-11	10:15		MW-13	3-VOA	HCl	-2
4-14-11	11:00		MW-33	4-VOA	HCl	-3
				1500ml	amber	
4-14-11	11:30		Field Blank	3-VOA	HCl	-4

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX, MTBE and	8270 (Semi-VOA)	8015B DRO					Air Bubbles (Y or N)
		X							X							
											X					
									X							
									X							
											X					
									X							

Date	Time	Relinquished by:	Received by:	Date	Time
4-14-11	3:00	Robert Krakow		4/15/11	9:27
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Refinery Wells 8-17-11

Project #:

Project Manager:

Sampler: Bob + Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved Metals	Cation / Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
8-17-11	10:30	H_2O	MW-31	5-VOA	HCl	-7			X							X							
				1-500ml	Amber	-7												X					
				1-500ml	HNO_3	-7							X										
				1-250ml	HNO_3	-7													X				
				1-500ml		-7														X	X		
8-17-11				1-250ml	H_2SO_4	-7														X			
8-17-11	11:00		MW-40	5-VOA	HCl	-8			X							X							
				1-500ml	Amber	-8												X					
				1-500ml	HNO_3	-8							X										
				1-250ml	HNO_3	-8													X				
				1-500ml		-8														X	X		
				1-250ml	H_2SO_4	-8														X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-17-11	3:00	Robert Knakow		8/18/11	10:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
Field BLANK-9 8/17/11 8/11/30
AT 8/19/11

Chain-of-Custody Record

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

Client: Western Refining	Turn-Around Time: ☒ Standard ☐ Rush
Mailing Address: #50 CR 4990 Bloomfield, NM 87413	Project Name: Refinery Wells 8-17-11
Phone #: 505-632-4135	Project #:
email or Fax#:	Project Manager:
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)	Sampler: Bob + Terry
Accreditation ☐ NELAP ☐ Other	On Ice:
☐ EDD (Type)	Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
8-17-11	10:00	H2O	MW-44	5-40 A	HCl	-5
				1-500ml	Amber	-5
				1-500ml	HNO_3	-5
				1-250ml	HNO_3	-5
				1-500ml		-5
				1-250ml	H_2SO_4	-5
	10:00		MW-44 Dup	5-VOA	HCl	-6
				1-500ml	Amber	-6
				1-500ml	HNO_3	-6
				1-250ml	HNO_3	-6
				1-500ml		-6
				1-250ml	H_2SO_4	-6

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved metals	Cations / Anions Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
		X							X						
											X				
						X									
												X			
													X	X	
													X		
		X							X						
											X				
						X									
												X			
													X	X	
													X		

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
8-17-11	3:00	Robert Knallow		8/18/11	1000
Date:	Time:	Relinquished by:	Received by:	Date	Time

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-17-11
Refinery Wells

Project #:

Project Manager:

Sampler: Rob & Terry

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TOTAL	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 80158	WQCC Dissolved metals	Cation/Anion Balance	Alkalinity / CO3	Air Bubbles (Y or N)
8-17-11	7:45	H2O	MW-4	5-VOA	HCl	-1			X							X						
				½ Liter	Amber	-1												X				
				1-500ml	HNO3	-1							X									
				1-250ml	HNO3	-1													X			
				1-500ml		-1														X	X	
				1-250ml	H2SO4	-1														X		
	8:35		MW-8	5-VOA	HCl	-2			X							X						
				½ Liter	Amber	-2												X				
				1-500ml	HNO3	-2							X									
				1-250ml	HNO3	-2													X			
				1-500ml		-2														X	X	
				1-250ml	H2SO4	-2														X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-17-11	3:00	Robert Kuhn		8/18/11	100
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Refinery Wells 8-17-11

Project #:

Project Manager:

Sampler: Bob + Terry

[redacted]

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved Metals	Cation/Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
8-17-11	8:15	H_2O	MW-29	5-VOA	HCl	-3			X							X						
				1-500ml	amber	-3												X				
				1-500ml	HNO_3	-3							X									
				1-250ml	HNO_3	-3													X			
				1-500ml		-3														X	X	
				1-250ml	H_2SO_4	-3														X		
8-17-11	9:00		MW-30	5-VOA	HCl	-4			X							X						
				1-500ml	amber	-4												X				
				1-500ml	HNO_3	-4							X									
				1-250ml	HNO_3	-4													X			
				1-500ml		-4														X	X	
				1-250ml	H_2SO_4	-4														X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-17-11	3:00	Robert Krakow	[redacted]	8/18/11	10:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4165

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Refinery Wells
Semi-Annual 2011

Project #:

Project Manager:
Bob

Sampler: Bob

On Ice: ☐ No

Sample Temperature: 5.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1105212	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX + MTBE only	8270 (Semi-VOA)	Air Bubbles (Y or N)
4-14-11	9:15	H2O	MW-8	3-VOA	HCl	-1										X		
4-14-11	9:45	H2O	MW-30	3-VOA	HCl	-2										X		
			TRIP BLANK	3 VOA	HCl	-3										X		

Date: 4-14-11 Time: 3:00 Relinquished by: Robert Krakow

Received by: Date: 4/15/11 Time: 0927

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks: TRIP BLANK

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

Analysis Request

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4165

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
Refinery Wells
Semi-Annual 2011

Project #:

Project Manager:
Kelly Bob

Sampler: Bob

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.0

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. 1104516
4-14-11	9:15	H_2O	MW-8	3-VOA	HCl	-1
4-14-11	9:45	H_2O	MW-30	3-VOA	HCl	-7
			TRIP BLANK	3-VOA	HCl	-3

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) BTEX only	8270 (Semi-VOA)	Air Bubbles (Y or N)
									X		
									X		
									X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-14-11	3:00	Robert Knakow		4/15/11	927
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: TRIP BLANK

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield NM 87413

Phone #: 505-632-4166/4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: 8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

On Ice: ☐ Yes ☐ No

Sample Temperature: 2.6

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. 1204067
8-22-11	11:00	H2O	MW-67	5-VOA	HCl	-7-10
				1-Liter	Amber	
				1-500	Amber	
				1-500	HNO_3	
				1-250	HNO_3	
				1-500	—	
				1-250	H_2SO_4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/ [redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-80158	WQCC Dissolved metals	Cation / Anion Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-22-11	3:00	Robert Bracken			
Date:	Time:	Relinquished by:	Received by:	8/23/11	945

Remarks:

ssary, 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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4466 4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

On Ice: ☐ Yes ☐ No

Sample Temperature: 2.0

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. 1204108	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-8015B	WQCC-Dissolved metals	Cation/Anion Balance	Alkalinity/CO3	Air Bubbles (Y or N)
8-22-11	1:00	H2O	MW-68	5-VOA	HCl	-B			X							X						
				1-Liter	amber												X					
				1-500	amber													X				
				1-500	HNO_3								X									
				1-250	HNO_3														X			
				1-500	—															X	X	
				1-250	H_2SO_4															X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-22-11	7:00	Robert Anderson		8/23/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4161 4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-24-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: [redacted]

Sample Temperature: [redacted]

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 Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-8015B	WQCC Dissolved Metals	Cations/Anions Balance	Alkalinity/CO_2	Air Bubbles (Y or N)
8-24-11	7:00	H_2O	MW-64	5-VOA	HCl	-2			X							X						
				1-Liter	Amber												X						
				1-500ml	Amber													X					
				1-500ml	HNO_3								X						X				
				1-250ml	HNO_3															X	X		
				1-500ml																X			
				1-250ml	H_2SO_4															X	X		
8-24-11	7:45		Field Blank	3-40A	HCl											X							
			Trip Blank 8/25/11													X							

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-24-11	3:00	Robert Kraken		8/25/11	11:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratori[illegible] serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytica[illegible]

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4166 / 4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-23-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

On Ice: ☐ Yes ☐ No

Sample Temperature: 1.4

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. 1108194
8-23-11	7:30	H2O	MW-65	5-VOA	HCl	-2
				1-Liter	amber	
				1-500	amber	
				1-500	HNO3	
				1-250	HNO3	
				1-500		
				1-250	H2SO4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-80157B	WQCC Dissolved Metals	Cation / Anion Balance	Alkalinity as $CaCO_3$	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-24-11	3:00	Robert Kraker		8/25/11	11:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: 8-23-11
RCRA investigation wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: [redacted]

Sample Temperature: 1

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. [redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas [redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TotM	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO-8015B	WQCC Dissolved Metals	Cation/Anion Balance	Alkalinity / Cor	Air Bubbles (Y or N)
8-23-11	7:00	H2O	MW-62	5-VOA	HCl	-1			X							X						
				1-Liter	amber												X					
				1-500	amber													X				
				1-500	HNO3								X									
				1-250	HNO3														X			
				1-500	—															X	X	
				1-250	H2SO4															X		

Date	Time	Relinquished by:	Received by:	Date	Time
8-24-11	3:00	Robert Knakeon		8/25/11	11:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: TRIP BLANK-3

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: 8-24-11
RCRA investigation wells

Project #:

Project Manager:

Sampler: Bob & Terry

On Ice: [redacted]

Sample Temperature: [redacted]

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.
6-24-11	6:45	H2O	MW-63	5-VOA	HCl	-1
				1-Liter	amber	
				1-500ml	amber	
				1-[redacted]50	HNO3	
				1-250	HNO3	
				1-500		
				1-250	H2SO4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals Total	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 80158	WQCC Dissolved Metals	Cation/Anion Balance	Alkalinity / CO3	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-24-11	3:00	Robert Krakow		8/25/11	11:10
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4464135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-25-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: ☐ Yes ☐ No

Sample Temperature: 2.7

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.
8-25-11	12:25	H2O	MW59 Dup	5-VOA	HCl	-2
				1-Liter	amber	
				1-500ml	amber	
				1-500ml	HNO_3	
				1-250ml	HNO_3	
				1-500ml		
				1-250ml	H_2SO_4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TBTM	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015B	WQCC Dissolved Metals	cation/anion Balance	Alkalinity/CO2	Air Bubbles (Y or N)

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-25-11	3:00	Robert Kraken		8/26/11	9:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

...essary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratori... ...serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytic...

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#: 505-632-4911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-25-11 RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice:

Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
8-25-11	1:15	H2O	MW-60	5-VOA	HCl	-3
				1-Liter	amber	
				1-500	amber	
				1-500	HNO3	
				1-250	HNO3	
				1-500	—	
				1-250	H2SO4	
8-25-11	2:00		Field Blank	3-VOA	HCl	-4
			~~Trip Blank~~	~~3-VOA~~	~~HCl~~	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-25-11	3:00	Robert Krakow		8/26/11	9:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	Water Dissolved Metals	Cation / Anion Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		
									X						
									X	1					

Remarks:

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4185

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: 8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob + Terry

On Ice: ☒ Yes ☐ No

Sample Temperature: 2 + 0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
8-22-11	1:30	H2O	MW-55	5-VOA	HCl	-5
				1-Liter	amber	
				1-500	amber	
				1-500	HNO_3	
				1-250	HNO_3	
				1-500	—	
				1-250	H_2SO_4	

Date	Time	Relinquished by:	Received by:	Date	Time
8-22-11	3:00	Robert Krakow			
				8/23/11	945

Date	Time	Relinquished by:	Received by:	Date	Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 80158	WQCC Dissolved Metals	Cations / Anions Balance	Alkalinity / CO_3	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													XX	X	

Remarks:

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

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4464135

email or Fax#: 505-632-3911

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-25-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

On Ice: [redacted]

Sample Temperature: [redacted]

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.
8-25-11	12:30	H2O	MW-59	5-VOA	HCl	- 1
				1-Liter	amber	
				1-500ml	amber	
				1-500ml	HNO3	
				1-250ml	HNO3	
				1-500ml		
				1-250ml	H2SO4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TOTAL	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO-8015B	LUFT Dissolved	Cation/Anion Balance	Alkalinity/COA	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Date: 8-25-11 Time: 3:00 Relinquished by: Robert Kraker

Received by: [signature] Date: 8/26/11 Time: 9:00

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks:

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-22-11
RCRA investigation wells

Project #:

Project Manager:

Sampler: Bob + Terry

[redacted]

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	[redacted]
8-22-11	1920	H_2O	MW-52	5-VOA	HCl	-34
				1-Liter	Amber	
				1-500ml	Amber	
				1-500	HNO_3	
				1-250	HNO_3	
				1-500	—	
				1-250	H_2SO_4	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO - 8015B	WQCC Dissolved metals	Cation/Anion Balance	Alkalinity/CO_2	Air Bubbles (Y or N)
		X							X						
										X					
											X				
						X									
												X			
													X	X	
													X		

Date: 8-22-11 Time: 2:00 Relinquished by: Robert Graham

Received by: [redacted] Date: 8/23 Time: 1145

Date: Time: Relinquished by:

Received by: Date: Time:

Remarks:

...ssary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratorie... serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

[redacted]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TAL TM	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRO - 8015B	WQCC Dissolved Metals	Cation / Anion Balance	Alkalinity / CO_2	Air Bubbles (Y or N)
8-22-11	10:00	H_2O	MW-53	5-VOA	HCl	-5			X							X						
				1-Liter	Amber												X						
				1-500	Amber													X					
				1-500	HNO_3								X										
				1-250	HNO_3														X				
				1-500															X	X			
				1-250	H_2SO_4														X				

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8-22-11	3:00	Robert Krakow		8/23/11	945	
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob & Terry

[redacted]

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	[redacted]	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-8015B	WQCC Dissolved metals	cation/anion Balance	alkalinity/CO_3	Air Bubbles (Y or N)
8-22-11	9:20	H_2O	MW-50	5-VOA	HCl	-1			X							X						
				1-Liter	Amber	-2											X						
				1-500	Amber													X					
				1-500	HNO_3								X										
				1-250	HNO_3														X				
				1-500																X	X		
				1-250	H_2SO_4															X			

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
8-22-11	3:00	Robert Krakow		8/23/11	9:45	
Date:	Time:	Relinquished by:	Received by:	Date	Time	

Chain-of-Custody Record

Client: Western Refining

Mailing Address: #50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4135

email or Fax#:

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 8-22-11
RCRA Investigation Wells

Project #:

Project Manager:

Sampler: Bob + Terry

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		BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/[redacted])	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	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)	DRO-80158	WQCC Dissolved metals	Cation/Anion Balance	Alkalinity/CO_3	Air Bubbles (Y or N)
8-22-11	9:00	H_2O	MW-51	5-VOA	HCl	-2			X							X						
				1-Liter	amber												X						
				1-500	amber													X					
				1-500	HNO_3								X										
				1-250	HNO_3														X				
				1-500																X	X		
				1-250	H_2SO_4															X			
8-22-11	2:30	H_2O	Field Blank	3-VOA	HCl	3										X							

Date:	Time:	Relinquished by:	Received by:	Date	Time
8-22-11	3:00	Robert Krakow		8/23/11	945
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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.

Appendix C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory

QUALITY ASSURANCE PLAN

Effective Date: July 1st, 2011

Revision 9.4

www.hallenvironmental.com

Control Number: 00000104

Approved By:

Andy Freeman — Date
Laboratory Manager

Approved By:

Carolyn Swanson — 4/29/2011 Date
Quality Assurance/Quality Control Officer

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Approved By:

6.29.11

B. Derek Harmon Date
Organic Manager/Technical Director

Approved By:

6/29/11

Ian Cameron Date
Inorganic Manager/Technical Director

Approved By:

06/29/11

Michael Williams Date
Microbiology Technical Director

Table of Contents

3.0 Introduction

Purpose of Document

The purpose of this Quality Assurance Plan is to formally document the quality assurance policies and procedures of Hall Environmental Analysis Laboratory, Inc. (HEAL), for the benefit of its employees, clients, and accrediting organizations. HEAL continually implements all aspects of this plan as an essential and integral part of laboratory operations in order to ensure that high quality data is produced in an efficient and effective manner.

Objectives

The objective of HEAL is to achieve and maintain excellence in environmental testing. This is accomplished by developing, incorporating and documenting the procedures and policies specified by each of our accrediting authorities and outlined in this plan. These activities are carried out by a laboratory staff that is analytically competent, well-qualified, and highly trained. An experienced management team, knowledgeable in their area of expertise, monitors them. Finally, a comprehensive quality assurance program governs laboratory practices and ensures that the analytical results are valid, defensible, reproducible, reconstructable and of the highest quality.

HEAL establishes and thoroughly documents its activities to ensure that all data generated and processed will be scientifically valid and of known and documented quality. Routine laboratory activities are detailed in method specific standard operating procedures (SOP). All data reported meets the applicable requirements for the specific method that is referenced, ORELAP, TCEQ, EPA, client specific requirements and/or State Bureaus. In the event that these requirements are ever in contention with each other, it is HEAL's policy to always follow the most prudent requirement available. For specific method requirements refer to HEAL's Standard Operating Procedures (SOP's), EPA methods, Standard Methods 20th edition, ASTM methods or state specific methods.

HEAL management ensures that this document is correct in terms of required accuracy and data reproducibility, and that the procedures contain proper quality control measures. HEAL management additionally ensures that all equipment is reliable, well-maintained and appropriately calibrated. The procedures and practices of the laboratory are geared towards not only strictly following our regulatory requirements but also allowing the flexibility to conform to client specific specifications. Meticulous records are maintained for all samples and their respective analyses so that results are well-documented and defensible in a court of law.

The HEAL Quality Assurance/Quality Control Officer (QA/QCO) and upper management are responsible for supervising and administering this quality assurance program, and ensuring each individual is responsible for its proper implementation. All HEAL management remains committed to the encouragement of excellence in analytical testing and will continue to provide the necessary resources and environment conducive to its achievement.

Policies

Understanding that quality cannot be mandated, it is the policy of this laboratory to provide an environment that encourages all staff members to take pride in the quality of their work. In addition to furnishing proper equipment and supplies, HEAL stresses the importance of continued training and professional development. Further, HEAL recognizes the time required for data interpretation. Therefore, no analyst should feel pressure to sacrifice data quality for data quantity. Each staff member must perform with the highest level of integrity and professional competence, always being alert to problems that could compromise the quality of their technical work.

Management and senior personnel supervise analysts closely in all operations. Under no circumstance is the willful act or fraudulent manipulation of analytical data condoned. Such acts must be reported immediately to HEAL management. Reported acts will be assessed on an individual basis and resulting actions could result in dismissal. The laboratory staff is encouraged to speak with lab managers or senior management if they feel that there are any undo commercial, financial, or other pressures, which might adversely affect the quality of their work; or in the event that they suspect that data quality has been compromised in any way. HEAL's Quality Assurance/Quality Control Officer is available if any analyst and/or manager wishes to anonymously report any suspected or known breaches in data integrity.

Understanding the importance of meeting customer requirements in addition to the requirements set forth in statutory and regulatory requirements, HEAL shall periodically seek feedback from customers and evaluate the feedback in order to initiate improvements.

All proprietary rights and client information at HEAL (including national security concerns) are considered confidential. No information will be given out without the express verbal or written permission of the client. All reports generated will be held in the strictest of confidence.

HEAL shall continually improve the effectiveness of its management system through the use of the policies and procedures outlined in this Quality Assurance Plan. Quality control results, internal and external audit findings, management reviews, new and continual training and corrective and preventive actions are continually evaluated to identify possible improvements and to ensure that appropriate communication processes are taking place regarding the effectiveness of the management system. HEAL shall ensure that the integrity of the quality system is maintained when changes to the system are planned and implemented.

This is a controlled document. Each copy is assigned a unique tracking number and when released to a client or accrediting agency the QA/QCO keeps the tracking number on file. This document is reviewed on an annual basis to ensure that it is valid and representative of current practices at HEAL.

4.0 Organization and Responsibility

Company

HEAL is accredited in accordance with the 2009 TNI standard (see NELAC accredited analysis list in Appendix B and C), through ORELAP and TCEQ and by the Arizona Department of Health Services. Additionally, HEAL is qualified as defined under the State of New Mexico Water Quality Control Commission regulations and the New Mexico State Drinking Water Bureau. HEAL is a locally owned small business that was established in 1991. HEAL is a full service environmental analysis laboratory with analytical capabilities that include both organic and inorganic methodologies and has performed analyses of soil, water, and air as well as various other matrices for many sites in the region. HEAL's client base includes local, state and federal agencies, private consultants, commercial industries as well as individual homeowners. HEAL has performed as a subcontractor to the state of New Mexico and to the New Mexico Department of Transportation. HEAL has been acclaimed by its customers as producing quality results and as being adaptive to client-specific needs.

The laboratory is divided into an organic section and an inorganic section. Each section has a designated manager/technical director. The technical directors report directly to the laboratory manager, who oversees all operations.

Certifications

ORELAP – NELAC Oregon Primary accrediting authority.

TCEQ – NELAC Texas Secondary accrediting authority.

The Arizona Department of Health Services

The New Mexico Drinking Water Bureau

The New Mexico Department of Health

See Appendix B-F for copies of current licenses and licensed parameters, or refer to our current list of certifications online at www.hallenvironmental.com.

In the event of a certification being revoked or suspended, HEAL will notify, in writing, those clients that require the affected certification.

Personnel

HEAL management ensures the competence of all who operate equipment, perform environmental tests, evaluate results, and sign test reports. Personnel performing specific tasks shall be qualified on the basis of appropriate education, training, experience and /or demonstrated skills.

HEAL ensures that all personnel are aware of the relevance and importance of their activities and how each employee contributes to the achievement of the objectives defined throughout this document.

All personnel shall be responsible for complying with HEAL's quality assurance/quality control requirements that pertain to their technical function. Each technical staff member must have a combination of experience and education to adequately demonstrate specific knowledge of their particular function and a general knowledge of laboratory operations, test methods, quality assurance/quality control procedures, and records management.

All employees' training certificates and diplomas are kept on file with demonstrations of capability for each method they perform. An Organizational Chart can be found at the end of this section and a personnel list is available in Appendix A.

Laboratory Director

The Laboratory Director is responsible for overall technical direction and business leadership of HEAL. The Laboratory Manager, the Project Manager and Quality Assurance/Quality Control Officer report directly to the Laboratory Director. Someone with a minimum of 7 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

Laboratory Manager/Lead Technical Director

The Laboratory Manager shall exercise day–to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results. The Laboratory Manager shall be experienced in the fields of accreditation for which the laboratory is approved or seeking accreditation. The Laboratory Manager shall certify that personnel with appropriate educational and/or technical background perform all tests for which HEAL is accredited. Such certification shall be documented.

The Laboratory Manager shall monitor standards of performance in quality control and quality assurance and monitor the validity of the analyses performed and data generated at HEAL to assure reliable data.

The Laboratory Manager is responsible for the daily operations of the laboratory. The Laboratory Manager is the lead technical director of the laboratory and, in conjunction with the section technical directors, is responsible for coordinating activities within the

laboratory with the overall goal of efficiently producing high quality data within a reasonable time frame.

In events where employee scheduling or current workload is such that new work cannot be incorporated, without missing hold times, the Laboratory Manager has authority to modify employee scheduling, re-schedule projects or, when appropriate, allocate the work to approved subcontracting laboratories.

Additionally, the laboratory manager reviews and approves new analytical procedures and methods, and performs a final review of most analytical results. The Laboratory Manager provides technical support to both customers and HEAL staff.

The Laboratory Manager also observes the performance of supervisors to ensure that good laboratory practices and proper techniques are being taught and utilized, and to assist in overall quality control implementation and strategic planning for the future of the company. Other duties include assisting in establishing laboratory policies that lead to the fulfillment of requirements for various certification programs, assuring that all Quality Assurance and Quality Control documents are reviewed and approved, and assisting in conducting Quality Assurance Audits.

The laboratory manager addresses questions or complaints that cannot be answered by the section managers.

The Laboratory Manager shall have a bachelor's degree in a chemical, environmental, biological sciences, physical sciences or engineering field, and at least five years of experience in the environmental analysis of representative inorganic and organic analytes for which the laboratory seeks or maintains accreditation.

Quality Assurance Quality Control Officer

The Quality Assurance/Quality Control Officer (QA/QCO) serves as the focal point for QA/QC and shall be responsible for the oversight and/or review of quality control data. The QA/QCO functions independently from laboratory operations and shall be empowered to halt unsatisfactory work and/or prevent the reporting of results generated from an out-of-control measurement system. The QA/QCO shall objectively evaluate data and perform assessments without any outside/managerial influence. The QA/QCO shall have direct access to the highest level of management at which decisions are made on laboratory policy and/or resources. The QA/QCO shall notify laboratory management of deficiencies in the quality system in periodic, independent reports.

The QA/QCO shall have general knowledge of the analytical test methods for which data review is performed and have documented training and/or experience in QA/QC procedures and in the laboratory's quality system. The QA/QCO will have a minimum of a BS in a scientific or related field and a minimum of three years of related experience.

The QA/QCO shall schedule and conduct internal audits as per the Internal Audit SOP at least annually, monitor and trend Corrective Action Reports as per the Data Validation

SOP, periodically review control charts for out of control conditions, and initiate any appropriate corrective actions.

The QA/QCO shall oversee the analysis of proficiency testing in accordance with our standards and monitor any corrective actions issued as a result of this testing.

The QA/QCO reviews all standard operating procedures and statements of work in order to assure their accuracy and compliance to method and regulatory requirements.

The QA/QCO shall be responsible for maintaining and updating this quality manual.

Project Manager

The role of the project manager is to act as a liaison between HEAL and our clients. The Project Manager updates clients on the status of projects in-house, prepares quotations for new work, and is responsible for HEAL's marketing effort.

All new work is assessed by the Project Manager and reviewed with the other managers so as to not exceed the laboratory's capacity. In events where employee scheduling or current workload is such that new work cannot be incorporated without missing hold times, the Project Manager has authority to re-schedule projects.

It is also the duty of the project manager to work with the Laboratory Manager and QA/QCO to insure that before new work is undertaken, the resources required and accreditations requested are available to meet the client's specific needs.

Additionally, the Project Manager can initiate the review of the need for new analytical procedures and methods, and perform a final review of some analytical results. The Project Manager provides technical support to customers. Someone with a minimum of 2 years of directly related experience and a bachelor's degree in a scientific or engineering discipline should fill this position.

Technical Directors

Technical Directors are full-time members of the staff at HEAL who exercise day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results for their department within HEAL. A Technical Director's duties shall include, but not be limited to, monitoring standards of performance in quality control and quality assurance, monitoring the validity of the analyses performed and the data generated in their sections to ensure reliable data, overseeing training and supervising departmental staff, scheduling incoming work for their sections, and monitoring laboratory personnel to ensure that proper procedures and techniques are being utilized. They supervise and implement new Quality Control procedures as directed by the QA/QCO, update and maintain quality control records including, but not limited to, training forms, IDOCs, ADOCPs, and MDLs, and evaluate laboratory personnel in their Quality Control activities.

In addition, technical directors are responsible for upholding the spirit and intent of HEAL's data integrity procedures.

As Technical Directors of their associated section, they review analytical data to acknowledge that data meets all criteria set forth for good Quality Assurance practices. Someone with a minimum of 2 years of experience in the environmental analysis of representative analytes for which HEAL seeks or maintains accreditation and a bachelor's degree in a scientific or related discipline should fill this position.

Section Supervisors

Section Supervisors are full time members of staff at HEAL who exercise day-to-day supervision of laboratory operations for the appropriate fields of accreditation and reporting of results for their department within HEAL. Section Supervisors report directly to their technical director. A Section Supervisor's duties shall include, but not be limited to, monitoring standards of performance in quality control and quality assurance, monitoring the validity of the analyses performed and the data generated in their sections to ensure reliable data, overseeing training and supervising departmental staff, scheduling incoming work for their sections, and monitoring laboratory personnel to ensure that proper procedures and techniques are being utilized. They supervise and implement new Quality Control procedures as directed by the QA/QCO, update and maintain quality control records including, but not limited to, training forms, IDOCs, ADOCPs, and MDLs, and evaluate laboratory personnel in their Quality Control activities. In addition, Section Supervisors are responsible for upholding the spirit and intent of HEAL's data integrity procedures. Section Supervisors update their Technical Director on the status and needs of their departments and submit all Quality Control documents to their technical director for their review, approval and signature.

As section supervisors, they review analytical data to acknowledge that data meets all criteria set forth for good Quality Assurance practices. Someone with a minimum of 2 years of experience in the environmental analysis of representative analytes for which HEAL seeks or maintains accreditation and a bachelor's degree, or equivalent experience in a scientific or related discipline should fill this position.

Health and Safety / Chemical Hygiene Officer

Refer to the most recent version of the Health and Safety and Chemical Hygiene Plans for the roles, responsibilities, and basic requirements of the Health and Safety Officer (H&SO) and the Chemical Hygiene Officer (CHO). These jobs can be executed by the same employee.

Analyst I, II and III

Analysts are responsible for the analysis of various sample matrices including, but not limited to, solid, aqueous, and air, as well as the generation of high quality data in

accordance with the HEAL SOPs and QA/QC guidelines in a reasonable time as prescribed by standard turnaround schedules or as directed by the Section Manager or Laboratory Manager.

Analysts are responsible for making sure all data generated is entered in the database in the correct manner and the raw data is reviewed, signed and delivered to the appropriate peer for review. An analyst reports daily to the section manager and will inform them as to material needs of the section specifically pertaining to the analyses performed by the analyst. Additional duties may include preparation of samples for analysis, maintenance of lab instruments or equipment, and cleaning and providing technical assistance to lower level laboratory staff.

The senior analyst in the section may be asked to perform supervisory duties as related to operational aspects of the section. The analyst may perform all duties of a lab technician.

The position of Analyst is a full or part time hourly position and is divided into three levels, Analyst I, II, and III. All employees hired into an Analyst position at HEAL must begin as an Analyst I and remain there at a minimum of three months regardless of their education and experience. Analyst I must have a minimum of an AA in a related field or equivalent experience (equivalent experience means years of related experience can be substituted for the education requirement). An Analyst I is responsible for analysis, instrument operation, including calibration and data reduction. Analyst II must have a minimum of an AA in a related field or equivalent experience and must have documented and demonstrated aptitude to perform all functions of an Analyst II. An Analyst II is responsible for the full analysis of their test methods, routine instrument maintenance, purchase of consumables as dictated by their Technical Director, advanced data reduction, and basic data review. Analyst II may also assist Analyst III in method development and, as dictated by their Technical Director, may be responsible for the review and/or revision of their method specific SOPs. Analyst III must have Bachelors degree or equivalent experience and must have documented and demonstrated aptitude to perform all functions of an Analyst III. An Analyst III is responsible for all tasks completed by an Analyst I and II as well as advanced data review, non-routine instrument maintenance, assisting their technical director in basic supervisory duties and method development.

Laboratory Technician

A laboratory technician is responsible for providing support to analysts in the organics, inorganics and disposal departments. Laboratory Technicians can assist analysts in basic sample preparation, general laboratory maintenance, glassware washing, chemical inventories, sample disposal and sample kit preparation. This position can be filled by someone without the education and experience necessary to obtain a position as an analyst.

Sample Control Manager

The sample control manager is responsible for receiving samples and reviewing the sample login information after it has been entered into the computer. The sample control manager also checks the samples against the chain-of-custody for any sample and/or labeling discrepancies prior to distribution.

The sample control manager is responsible for sending out samples to the sub-contractors along with the review and shipping of field sampling bottle kits. The sample control manager acts as a liaison between the laboratory and field sampling crew to ensure that the appropriate analytical test is assigned. If a discrepancy is noted, the sample control manager or sample custodian will contact the customer to resolve any questions or problems. The sample control manager is an integral part of the customer service team.

This position should be filled by someone with a high school diploma and a minimum of 2 years of related experience and can also be filled by a senior manager.

Sample Custodians

Sample Custodians work directly under the Sample Control Manager. They are responsible for sample intake into the laboratory and into the LIMS. Sample Custodians take orders from our clients and prepare appropriate bottle kits to meet the clients' needs. Sample Custodians work directly with the clients in properly labeling and identifying samples as well as properly filling out legal COCs. When necessary, Sample Custodians contact clients to resolve any questions or problems associated with their samples. Sample Custodians are responsible for distributing samples throughout the laboratory and are responsible for notifying analysts of special circumstances such as short holding times or improper sample preservation upon receipt.

Sample Disposal Custodian

The sample disposal custodian is responsible for characterizing and disposing of samples in accordance to the most recent version of the sample disposal SOP. The sample disposal custodian collects waste from the laboratory and transports it to the disposal warehouse for storage and eventual disposal. The sample disposal custodian is responsible for maintaining the disposal warehouse and following the requirements for documentation, integrity, chemical hygiene and health and safety as set forth in the various HEAL administrative SOPs. The sample disposal custodian is responsible for overseeing any laboratory technicians employed at the disposal warehouse.

This position should be filled by someone with a high school diploma and a minimum of 1 year of related experience.

Delegations in the Absence of Key Personnel

Planned absences shall be preceded by notification to the Laboratory Manager. The appropriate staff members shall be informed of the absence. In the case of unplanned absences, the superior shall either assume the responsibilities and duties or delegate the responsibilities and duties to another appropriately qualified employee.

In the event that the Laboratory Manager is absent for a period of time exceeding fifteen consecutive calendar days, another full-time staff member meeting the basic qualifications and competent to temporarily perform this function will be designated. If this absence exceeds thirty-five consecutive calendar days, HEAL will notify ORELAP in writing of the absence and the pertinent qualifications of the temporary laboratory manager.

Laboratory Personnel Qualification and Training

All personnel joining HEAL shall undergo orientation and training. During this period the new personnel shall be introduced to the organization and their responsibilities, as well as the policies and procedures of the company. They shall also undergo on-the-job training and shall work with trained staff. They will be shown required tasks and be observed while performing them.

When utilizing staff undergoing training, appropriate supervision shall be dictated and overseen by the appropriate section technical director. Prior to analyzing client samples, a new employee, or an employee new to a procedure, must meet the following basic requirements. The SOP and Method for the analysis must be read and signed by the employee indicating that they read, understand, and intend to comply with the requirements of the documents. The employee must undergo documented training. Training is conducted by a senior analyst familiar with the procedure and overseen by the section Technical Director. This training is documented by any means deemed appropriate by the trainer and section Technical Director, and kept on file in the employees file located in the QA/QCO's office. The employee must perform a successful Initial Demonstration of Proficiency (IDOC). See Appendix I for the training documents and checklists utilized at HEAL to ensure that all of these requirements are met. Once all of the above requirements are met it is incumbent upon the section Technical Director to determine at which point the employee can begin to perform the test unsupervised. A Certification to Complete Work Unsupervised (see Appendix I) is then filled out by the employee and technical director.

IDOCs are required for all new analysts and methods prior to sample analysis. IDOCs are also required any time there is a change in the instrument, analyte list or method. If more than twelve months have passed since an analyst performed an IDOC and they have not performed the method and/or have not met the continuing DOC requirements, the analyst must perform an IDOC prior to resuming the test.

All IDOCs shall be documented through the use of the certification form which can be found in Appendix I . IDOCs are performed by analyzing four Laboratory Control Spikes (LCSs). Using the results of the LCSs the mean recovery is calculated in the appropriate

reporting units and the standard deviations of the population sample (n-1) (in the same units) as well as the relative percent difference for each parameter of interest. When it is not possible or pertinent to determine mean and standard deviations HEAL assesses performance against establish and documented criteria dictated in the method SOP. The mean and standard deviation are compared to the corresponding acceptance criteria for precision and accuracy in the test method (if applicable) or in laboratory-generated acceptance criteria. In the event that the HEAL SOP or test method fail to establish the pass/fail criteria the default limits of +/- 20% for calculated recovery and <20% relative percent difference based on the standard deviation will be utilized. If all parameters meet the acceptance criteria, the IDOC is successfully completed. If any one of the parameters do not meet the acceptance criteria, the performance is unacceptable for that parameter and the analyst must either locate and correct the source of the problem and repeat the test for all parameters of interest or repeat the test for all parameters that failed to meet criteria. Repeat failure, however, confirms a general problem with the measurement system. If this occurs the source of the problem must be identified and the test repeated for all parameters of interest.

New employees that do not have prior analysis experience will not be allowed to perform analysis until they have demonstrated attention to detail with minimal errors in the assigned tasks. To ensure a sustained level of quality performance among staff members, continuing demonstration of capability shall be performed at least once a year. These are as an Annual Documentation of Continued Proficiency (ADOCP).

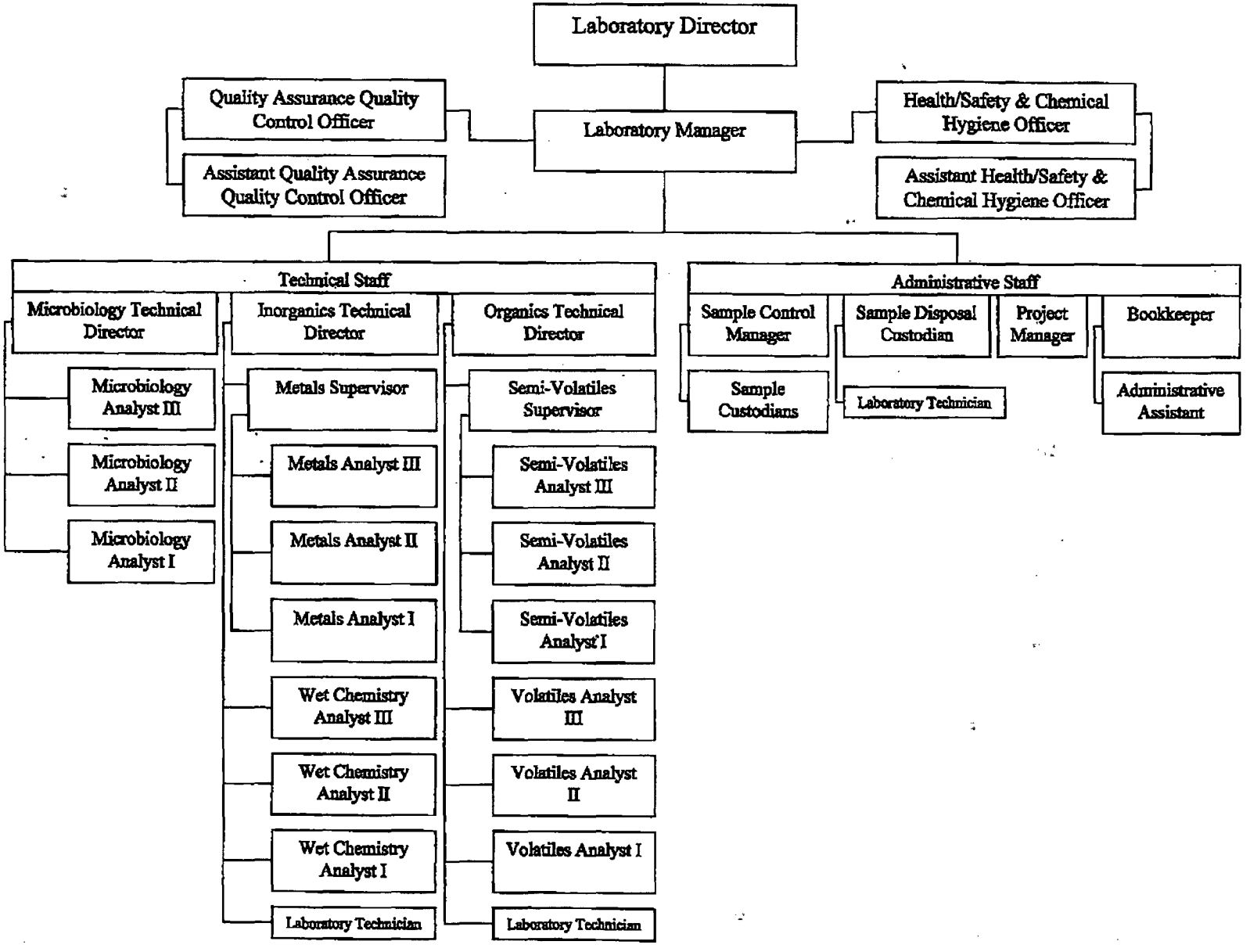
At least once per year an ADOCP must be completed. This is achieved by the acceptable performance of a blind sample (typically by using a PT sample, but can be a single blind (to the analyst) sample), by performing another IDOC, or by summarizing the data of four consecutive laboratory control samples with acceptable levels of precision and accuracy (these limits are those currently listed in the LIMS for an LCS using the indicated test method.) ADOCPs are documented using a standard form and are kept on file in each analyst's employee folder.

Each new employee shall be provided with data integrity training as a formal part of their new employee orientation. Each new employee will sign an ethics and data integrity agreement to ensure that they understand that data quality is our main objective. Every HEAL employee recognizes that although turn around time is important, quality is put above any pressure to complete the task expediently. Analysts are not compensated for passing QC parameters nor are incentives given for the quantity of work produced. Data Integrity and Ethics training are performed on an annual basis in order to remind all employees of HEAL's policy on data quality. Employees are required to understand that any infractions of the laboratory data integrity procedures will result in a detailed investigation that could lead to very serious consequences including immediate termination, debarment, or civil/criminal prosecution.

Training for each member of HEAL's technical staff is further established and maintained through documentation that each employee has read, understood, and is using the latest version of this Quality Assurance Manual. Training courses or workshops on specific equipment, analytical techniques, or laboratory procedures are documented through attendance sheets, certificates of attendance, training forms, or quizzes. This training

documentation is located in analyst specific employee folders in the QA/QCO Office. On the front of all methods, SOPs, and procedures for HEAL, there is a signoff sheet that is signed by all pertinent employees, indicating that they have read, understand, and agree to perform the most recent version of the document.

The effectiveness of training will be evaluated during routine data review, annual employee reviews, and internal and external audits. Repetitive errors, complaints and audit findings serve as indicators that training has been ineffective. When training is deemed to have been ineffective a brief review of the training process will be completed and a re-training conducted as soon as possible.


Laboratory Director
Quality Assurance Quality Control Officer
Assistant Quality Assurance Quality Control Officer
Laboratory Manager
Health/Safety & Chemical Hygiene Officer
Assistant Health/Safety & Chemical Hygiene Officer
Technical Staff
Microbiology Technical Director
Microbiology Analyst III
Microbiology Analyst II
Microbiology Analyst I
Inorganics Technical Director
Metals Supervisor
Metals Analyst III
Metals Analyst II
Metals Analyst I
Wet Chemistry Analyst III
Wet Chemistry Analyst II
Wet Chemistry Analyst I
Laboratory Technician
Organics Technical Director
Semi-Volatiles Supervisor
Semi-Volatiles Analyst III
Semi-Volatiles Analyst II
Semi-Volatiles Analyst I
Volatiles Analyst III
Volatiles Analyst II
Volatiles Analyst I
Laboratory Technician
Administrative Staff
Sample Control Manager
Sample Custodians
Sample Disposal Custodian
Laboratory Technician
Project Manager
Bookkeeper
Administrative Assistant

5.0 Receipt and Handling of Samples

Sampling

Procedures

HEAL does not provide field sampling for any projects. Sample kits are prepared and provided for clients upon request. The sample kits contain the appropriate sampling containers (with a preservative when necessary), labels, blue ice (The use of "blue ice" by anyone except HEAL personnel is discouraged because it generally does not maintain the appropriate temperature of the sample. If blue ice is used, it should be completely frozen at the time of use, the sample should be chilled before packing, and special notice taken at sample receipt to be certain the required temperature has been maintained.), a cooler, chain-of-custody forms, plastic bags, bubble wrap, and any special sampling instructions. Sample kits are reviewed prior to shipment for accuracy and completeness.

Containers

Containers which are sent out for sampling are purchased by HEAL from a commercial source. Glass containers are certified "EPA Cleaned" QA level 1. Plastic containers are certified clean when required. These containers are received with a Certificate of Analysis verifying that the containers have been cleaned according to the EPA wash procedure. Containers are used once and discarded. If the samples are collected and stored in inappropriate containers the laboratory may not be able to accurately quantify the amount of the desired components. In this case, re-sampling may be required.

Preservation

If sampling for analyte(s) requires preservation, the sample custodians fortify the containers prior to shipment to the field, or provide the preservative for the sampler to add in the field. The required preservative is introduced into the vials in uniform amounts and done so rapidly to minimize the risk of contamination. Vials that contain a preservative are labeled appropriately. If the samples are stored with inappropriate preservatives, the laboratory may not be able to accurately quantify the amount of the desired components. In this case re-sampling may be required.

Refer to the current Login SOP and/or the current price book for detailed sample receipt and handling procedures, appropriate preservation and holding time requirements.

Sample Custody

Chain-of-Custody Form

A Chain-of-Custody (COC) form is used to provide a record of sample chronology from the field to receipt at the laboratory. HEAL's COC contains the client's name, address, phone and fax numbers, the project name and number, the project manager's name, and the field sampler's name. It also identifies the date and time of sample collection, sample matrix, field sample ID number, number/volume of sample containers, sample temperature upon receipt, and any sample preservative information.

There is also a space to record the HEAL ID number assigned to samples after they are received. Next to the sample information is a space for the client to indicate the desired analyses to be performed. There is a section for the client to indicate the data package level as well as any accreditation requirements. Finally, there is a section to track the actual custody of the samples. The custody section contains lines for signatures, dates and times when samples are relinquished and received. The COC form also includes a space to record special sample related instructions, sampling anomalies, time constraints, and any sample disposal considerations.

It is paramount that all COCs arrive at HEAL complete and accurate so that the samples can be processed and allocated for testing in a timely and efficient manner. A sample chain-of-custody form can be found in Appendix H or on line at www.hallenvironmental.com.

Receiving Samples

Samples are received by authorized HEAL personnel. Upon arrival, the COC is compared to the respective samples. After the samples and COC have been determined to be complete and accurate, the sampler signs over the COC. The HEAL staff member in turn signs the chain-of-custody, also noting the current date, time, and sample temperature. This relinquishes custody of the samples from the sampler and delegates sample custody to HEAL. The first (white) copy of the COC form is filed in the appropriate sample folder. The second (yellow) copy of the COC form is filed in the COC file in the sample control manger's office. The third (pink) copy of the COC form is given to the person who has relinquished custody of the samples.

Logging in Samples and Storage

Standard Operating Procedures have been established for the receiving and tracking of all samples (refer to the current HEAL Login SOP). These procedures ensure that samples are received and properly logged into the laboratory and that all associated documentation, including chain of custody forms, is complete and consistent with the samples received. Each sample set is given a unique HEAL tracking ID number.

Individual sample locations within a defined sample set are given a unique sample ID suffix-number. Labels with the HEAL numbers, and tests requested, are generated and placed on their respective containers. The pH of preserved, non-volatile samples is checked and noted if out of compliance. Due to the nature of the samples, the pHs of volatiles samples are checked after analysis. Samples are reviewed prior to being distributed for analysis.

Samples are distributed for analysis based upon the requested tests. In the event that sample volume is limited and different departments at HEAL are required to share the sample, volatile work takes precedence and will always be analyzed first before the sample is sent to any other department for analysis.

All samples that require thermal preservation shall be acceptably stored at a temperature range just above freezing to 6°C.

Each project (sample set) is entered into the Laboratory Information Management System (LIMS) with a unique ID that will be identified on every container. The ID tag includes the Lab ID, Client ID, date and time of collection, and the analysis/analyses to be performed. The LIMS continually updates throughout the lab. Therefore, at any time, an analyst or manager may inquire about a project and/or samples status. For more information about the login procedures, refer to the Sample Login SOP.

Disposal of Samples

Samples are held at HEAL for a minimum of thirty days and then transferred to the HEAL warehouse for disposal. Analytical results are used to characterize their respective sample contamination level(s) so that the proper disposal can be performed. These wastes will be disposed of according to their hazard as well as their type and level of contamination. Refer to the Hall Environmental Analysis Laboratory Chemical Hygiene Plan and current Sample Disposal SOP for details regarding waste disposal.

Waste drums are provided by an outside agency. These drums are removed by the outside agency and disposed of in a proper manner.

The wastes that are determined to be non-hazardous are disposed of as non-hazardous waste in accordance with the Chemical Hygiene Plan and Sample Disposal SOP.

6.0 Analytical Procedures

All analytical methods used at HEAL incorporate necessary and sufficient Quality Assurance and Quality Control practices. A Standard Operating Procedure (SOP) is used for each method to provide the necessary criteria to yield acceptable results. These procedures are reviewed at least annually and revised as necessary and are attached as a pdf file in the Laboratory Information Management System (LIMS) for easy access by each analyst. The sample is often consumed or altered during the analytical process. Therefore, it is important that each step in the analytical process be correctly followed in order to yield valid data.

When unforeseen problems arise, the analyst, technical director, and, when necessary, laboratory manager meet to discuss the factors involved. The analytical requirements are evaluated and a suitable corrective action or resolution is established. The client is notified in the case narrative with the final report or before, if the validity of their result is in question.

List of Procedures Used

Typically, the procedures used by HEAL are EPA approved methodologies or 20th edition Standard Methods. However, proprietary methods for client specific samples are sometimes used. The following tables list EPA and Standard Methods Method numbers with their corresponding analytes and/or instrument classification.

Methods Utilized at HEAL

Drinking Water(DW) Non-Potable Water (NPW) Solids (S)

Methodology	Matrix	Title of Method
120.1	DW NPW	"Conductance(Specific Conductance, uohms at 25 ° C)"
180.1	DW NPW	"Turbidity (Nephelometric)"
200.2	DW NPW	"Sample Preparation Procedure For Spectrochemical Determination of Total Recoverable Elements"
200.7	DW NPW	"Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry"
200.8	DW NPW	"Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry."
245.1	DW NPW	"Mercury (Manual Cold Vapor Technique)"
300	DW NPW S	"Determination of Inorganic Anions by Ion Chromatography"

413.2	NPW S	"Oil and Grease"
418.1	NPW S	"Petroleum Hydrocarbons (Spectrophotometric, Infrared)"
504.1	DW	"EDB, DBCP and 123TCP in Water by Microextraction and Gas Chromatography"
505	DW	"Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl (PCB) Products in Water by Microextraction and Gas Chromatography"
515.1	DW	"Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector"
524.2	DW	"Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry"
531.1	DW	"Measurement of N-Methylcarbomoyloximes and N-Methylcarbamates in Water by Direct Aqueous Injection HPLC with Post Column Dervivatization"
547	DW	"Determination of Glyphosate in Drinking Water by Direct-Aqueous Injection HPLC, Post-Column Derivatization, and Fluorescence Detection"
552.1	DW	"Determination of Haloacetic Acids and Dalapon in Drinking Water by Ion-Exchange Liquid-Solid Extraction and Gas Chromatography with an Electron Capture Detector"
624	DW	Appendix A to Part 136 Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater Method 624-Purgeables"
625	DW	Appendix A to Part 136 Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater Method 625-Base/Neutrals and Acids"
1311	S	"Toxicity Characteristic Leaching Procedure"
1311ZHE	S	"Toxicity Characteristic Leaching Procedure"
1164A	NPW	"N-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated N-Hexane Extractable Material) by Extraction and Gravimetry"
3005A	NPW	"Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by FLAA or ICP Spectroscopy"
3010A	S	"Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by FLAA or ICP Spectroscopy"
3050B	S	"Acid Digestion of Sediment, Sludge, and Soils"
3510C	DW NPW	"Separatory Funnel Liquid-Liquid Extraction"

3540	S	"Soxhlet Extraction"
3545	S	"Pressurized Fluid Extraction(PFE)"
3665	NPW S	"Sulfuric Acid/Permanganate Cleanup"
5030B	NPW	"Purge-and-Trap for Aqueous Samples"
5035	S	"Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples"
6010B	NPW S	"Inductively Coupled Plasma-Atomic Emission Spectrometry"
6020	NPW S	"Inductively Coupled Plasma-Mass Spectrometry"
7470A	NPW	"Mercury in Liquid Waste (Manual Cold-Vapor Technique)"
7471A	S	"Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)"
8021B	NPW S	"Aromatic and Halogenated Volatiles By Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors"
8015B	NPW S	"Nonhalogenated Volatile Organics by Gas Chromatography" (Gasoline Range and Diesel Range Organics)
8015AZ	S	"C10-C32 Hydrocarbons in Soil-8015AZ"
8081A	NPW S	"Organochlorine Pesticides by Gas Chromatography"
8082	NPW S	"Polychlorinated Biphenyls (PCBs) by Gas Chromatography"
8260B	NPW S	"Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"
8270C	NPW S	"Semivolatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)"
8310	NPW S	"Polynuclear Aromatic Hydrocarbons"
9045C	S	"Soil and Waste pH"
9060	NPW	"Total Organic Carbon"
9067	NPW S	"Phenolics (Spectrophotometric, MBTH With Distillation)"
9095	S	Paint Filter
Walkley/Black	S	FOC/TOC WB
SM2320 B	DW NPW	"Alkalinity"
SM2540 B	NPW	"Total Solids Dried at 103-105° C"

SM2540 C	DW NPW	"Total Dissolved Solids Dried at 180° C"
SM2540 D	NPW	"Total Suspended Solids Dried at 103-105° C"
SM4500-CL G	DW	"Chlorine (Residual) 4500-CL G. DPD Colorimetric Method"
SM4500-H+B	DW NPW	"pH Value"
SM4500-NH3 C	NPW S	"4500-NH3" Ammonia
SM4500-Norg C	NPW S	"4500-Norg" Total Kjeldahl Nitrogen (TKN)
SM5210 B	NPW	"5210 B. 5-day BOD Test"
SM5310 B	DW	"5310" Total Organic Carbon (TOC)
8000B	NPW S	"Determinative Chromatographic Separations"
8000C	NPW S	"Determinative Chromatographic Separations"

Criteria for Standard Operating Procedures

HEAL has Standard Operating Procedures (SOPs) for each of the test methods listed above. These SOPs are based upon the listed methods and detail the specific procedure and equipment utilized as well as the quality requirements necessary to prove the integrity of the data. SOPs are reviewed or revised every twelve months or sooner if necessary. The review/revision is documented in the Master SOP Logbook filed in the QA/QC Office. All SOPs are available in the LIMS linked under the specific test method. Administrative SOPs, which are not linked in the LIMS, are available on desktops throughout the laboratory in the link to administrative SOPs folder.

Hand written corrections or alterations to SOPs are not permitted. In the event that a correction is needed and a revision is not immediately possible, a corrective action report will be generated documenting the correction or alteration, signed by the section Technical Director and the QA/QC Officer and will be scanned into the current SOP and will document the change until a new revision is possible.

Each HEAL test method SOP shall include or reference the following topics where applicable:

Identification of the test method;
Applicable matrix or matrices;
Limits of detection and quantitation;
Scope and application, including parameters to be analyzed;
Summary of the test method;
Definitions;
Interferences;
Safety;
Equipment and supplies;
Reagents and standards;
Sample collection, preservation, shipment and storage;
Quality control parameters;
Calibration and standardization;
Procedure;
Data analysis and calculations;
Method performance;
Pollution prevention;
Data assessment and acceptance criteria for quality control measures;
Corrective actions for out-of-control data;
Contingencies for handling out-of-control or unacceptable data;
Waste management;
References; and
Any tables, diagrams, flowcharts and validation data.

7.0 Calibration

All equipment and instrumentation used at HEAL are operated, maintained and calibrated according to manufacturers' guidelines, as well as criteria set forth in applicable analytical methodology. Personnel who have been properly trained in their procedures perform the operation and calibration. Brief descriptions of the calibration processes for our major laboratory equipment and instruments are found below.

Thermometers

The thermometers in the laboratory are used to measure the temperatures of the refrigerators/freezers, ovens, water baths, hot blocks, ambient laboratory conditions, TCLP Extractions, digestion blocks, and samples at the time of log-in. All NIST traceable thermometers are either removed from use upon their documented expiration date or they are checked annually with a NIST-certified thermometer and a correction factor is noted on each thermometer log. See the most current Login SOP for detailed procedures on this calibration procedure.

Dickson Data Loggers are used to record sample and standard storage refrigerators over the weekend when the appropriate staff is not available to record the temperatures. These data loggers are shipped back to the manufacturer once a year to be re-calibrated.

Refrigerators/Freezers

Each laboratory refrigerator or freezer contains a thermometer capable of measuring to a minimum precision of 0.1°C. The thermometers are kept with the bulb immersed in liquid. Each day of use, the temperatures of the refrigerators are recorded to insure that the refrigerators are within the required designated range. Samples are stored separately from the standards to reduce the risk of contamination.

See the current Catastrophic Failure SOP for the procedure regarding how to handle failed refrigerators or freezers.

Ovens

The ovens contain thermometers graduated by 1° C. The ovens are calibrated quarterly against NIST thermometers and checked each day of use as required and in whatever way is dictated by or appropriate for the method in use.

Analytical and Table Top Balances

The table top balances are capable of weighing to a minimum precision of 0.01 grams. The analytical balances are capable of weighing to a minimum precision of 0.0001 grams. Records are kept of daily calibration checks for the balances in use. Working weights are used in these checks. The balances are annually certified by an outside source and the certifications are on file with the QA/QCO.

Balances, unless otherwise indicated by method specific SOPs, will be checked each day of use with at least two weights that will bracket the working range of the balance for the day. Daily balance checks will be done using working weights that are calibrated annually against Class S weights. Class S weights are calibrated by an external provider as required. The Class S weights are used once a year, or more frequently if required, to assign values to the Working Weights. During the daily balance checks, the working weights are compared to their assigned values and must pass in order to validate the calibration of the balance. The assigned values, as well as the daily checks, for the working weights are recorded in the balance logbook for each balance.

Instrument Calibration

An instrument calibration is the relationship between the known concentrations of a set of calibration standards introduced into an analytical instrument and the measured response they produce. Calibration curve standards are a prepared series of aliquots at various known concentration levels from a primary source reference standard. Specific mathematical types of calibration techniques are outlined in SW-846 8000B and/or 8000C. The entire initial calibration must be performed prior to sample analyses.

The lowest standard in the calibration curve must be at or below the required reporting limit.

Refer to the current SOP to determine the minimum requirement for calibration points.

Most compounds tend to be linear and a linear approach should be favored when linearity is suggested by the calibration data. Non-linear calibration should be considered only when a linear approach cannot be applied. It is not acceptable to use an alternate calibration procedure when a compound fails to perform in the usual manner. When this occurs, it is indicative of instrument issues or operator error.

If a non-linear calibration curve fit is employed, a minimum of six calibration levels must be used for second-order (quadratic) curves.

When more than 5 levels of standards are analyzed in anticipation of using second-order calibration curves, all calibration points MUST be used regardless of the calibration option employed. The highest or lowest calibration point may be excluded for the purpose of

narrowing the calibration range and meeting the requirements for a specific calibration option. Otherwise, unjustified exclusion of calibration data is expressly forbidden.

Analytical methods vary in QC acceptance criteria. HEAL follows the method specific guidelines for QC acceptance. The specific acceptance criteria are outlined in the analytical methods and their corresponding SOPs.

pH Meter

The pH meter measures to a precision of 0.01 pH units. The pH calibration logbook contains the calibration before each use, or each day of use, if used more than once per day. It is calibrated using a minimum of 3 certified buffers. Also available with the pH meter is a magnetic stirrer with a temperature sensor. See the current pH SOP (SM4500 H+ B) for specific details regarding calibration of the pH probe.

Other Analytical Instrumentation and Equipment

The conductivity probe is calibrated as needed and checked daily when in use.

Eppendorf (or equivalent brands) pipettes are checked gravimetrically prior to use.

Standards

All of the source reference standards used are ordered from a reliable commercial vendor. A Certificate of Analysis (CoA), which verifies the quality of the standard, accompanies the standards from the vendor. The Certificates of Analysis are dated and stored on file by the Technical Directors or their designee. These standards are traceable to the National Institute of Standards (NIST). When salts are purchased and used as standards the certificate of purity must be obtained from the vendor and filed with the CoAs.

All standard solutions, calibration curve preparations, and all other quality control solutions are labeled in a manner that can be traced back to the original source reference standard. All source reference standards are entered into the LIMS with an appropriate description of the standard. Dilutions of the source reference standard (or any mixes of the source standards) are fully tracked in the LIMS. Standards are labeled with the date opened for use and with an expiration date.

As part of the quality assurance procedures at HEAL, analysts strictly adhere to manufacturer recommendations for storage times/expiration dates and policies of analytical standards and quality control solutions.

Reagents

HEAL ensures that the reagents used are of acceptable quality for their intended purpose. This is accomplished by ordering high quality reagents and adhering to good laboratory practices so as to minimize contamination or chemical degradation. All reagents must meet any specifications noted in the analytical method. Refer to the current Purchase of Consumables SOP for details on how this is accomplished and documented.

Upon receipt, all reagents are assigned a separate ID number, and logged into the LIMS. All reagents shall be labeled with the date received into the laboratory and again with the date opened for use. Recommended shelf life, as defined by the manufacturer, shall be documented and controlled. Dilutions or solutions prepared shall be clearly labeled, dated, and initialed. These solutions are traceable back to their primary reagents and do not extend beyond the expiration date listed for the primary reagent.

All gases used with an instrument shall meet specifications of the manufacturer. All safety requirements that relate to maximum and/or minimum allowed pressure, fitting types, and leak test frequency, shall be followed. When a new tank of gas is placed in use, it shall be checked for leaks and the date put in use will be written in the instrument maintenance logbook.

HEAL continuously monitors the quality of the reagent water and provides the necessary indicators for maintenance of the purification systems in order to assure that the quality of laboratory reagent water meets established criteria for all analytical methods.

Reagent blank samples are also analyzed to ensure that no contamination is present at detectable levels. The frequency of reagent blank analysis is typically the same as calibration verification samples. Refrigerator storage blanks are stored in the volatiles refrigerator for a period of one week and analyzed and replaced once a week.

8.0 Maintenance

Maintenance logbooks are kept for each major instrument and all support equipment in order to document all repair and maintenance. In the front of the logbook, the following information is included:

Unique Name of the Item or Equipment
Manufacturer
Type of Instrument
Model Number
Serial Number
Date Received and Date Placed into Service
Location of Instrument
Condition of Instrument Upon Receipt

For routine maintenance, the following information shall be included in the log:

Maintenance Date
Maintenance Description
Maintenance Performed by Initials

A manufacturer service agreement (or equivalent) covers most major instrumentation to assure prompt and reliable response to maintenance needs beyond HEAL instrument operator capabilities.

Refer to the current Maintenance and Troubleshooting SOP for each section in the laboratory for further information.

9.0 Data Integrity

For HEAL's policy on ethics and data integrity, see section 3.0 of this document. Upon being hired, and annually there after, all employees at HEAL undergo documented data integrity training. All new employees sign an Ethics and Data Integrity Agreement, documenting their understanding of the high standards of integrity required at HEAL and outlining their responsibilities in regards to ethics and data integrity. See Appendix I for a copy of this agreement.

In instances of ethical concern, analysts are required to report the known or suspected concern to their Technical Director, the Laboratory Manager, or the QA/QCO. This will be done in a confidential and receptive environment, allowing all employees to privately discuss ethical issues or report items of ethical concern.

Once reported and documented, the ethical concern will be immediately elevated to the Laboratory Manager and the need for an investigation, analyst remediation, or termination will be determined on a case-by-case basis.

All reported instances of ethical concern will be thoroughly documented and handled in a manner sufficient to rectify any breaches in data integrity with an emphasis on preventing similar incidences from happening in the future.

10.0 Quality Control

Internal Quality Control Checks

HEAL utilizes various internal quality control checks, including duplicates, matrix spikes, matrix spike duplicates, method blanks, laboratory control spikes, laboratory control spike duplicates, surrogates, internal standards, calibration standards, quality control charts, proficiency tests and calculated measurement uncertainty.

Refer to the current method SOP to determine the frequency and requirements of all quality controls. In the event that the frequency of analysis is not indicated in the method specific SOP, duplicate samples, laboratory control spikes (LCS), Method Blanks (MB), and matrix spikes and matrix spike duplicates (MS/MSD) are analyzed for every batch of twenty samples.

When sample volume is limited on a test that requires an MS/MSD an LCSD shall be analyzed to demonstrate precision and accuracy and when possible a sample duplicate will be analyzed.

Duplicates are identical tests repeated for the same sample or matrix spike in order to determine the precision of the test method. A Relative Percent Difference (RPD) is calculated as a measure of this precision. Unless indicated in the SOP, the default acceptance limit is </= 20%.

Matrix Spikes and Matrix Spike Duplicates are spiked samples (MS/MSD) that are evaluated with a known added quantity of a target compound. This is to help determine the accuracy of the analyses and to determine the matrix affects on analyte recovery. A percent recovery is calculated to assess the quality of the accuracy. In the event that the acceptance criteria is not outlined in the SOP, a default limits of 70-130% will be utilized. When an MSD is employed an RPD is calculated and when not indicated in the SOP shall be acceptable at </= 20%.

When appropriate for the method, a Method Blank should be analyzed with each batch of samples processed to assess contamination levels in the laboratory. MBs consist of all the reagents measured and treated as they are with samples, except without the samples. This enables the laboratory to ensure clean reagents and procedures. Guidelines should be in place for accepting or rejecting data based on the level of contamination in the blank. In the event that these guidelines are not dictated by the SOP or in client specific work plans, the MB should be less than the MDL reported for the analyte being reported. Blanks shall be no more negative than the negative of the PQL for that test and instrument unless otherwise stated in the SOP/method. Corrective action must be initiated if negative blanks are out of control.

A Laboratory Control Spike and Laboratory Control Spike Duplicate (LCS/LCSD) are reagent blanks, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes. It is generally used to establish intra-laboratory or analyst-specific precision and bias or to assess the performance of all or a portion of the measurement system. Guidelines are outlined in each SOP for the frequency and pass fail requirements for LCS and LCSDs. These limits can be set utilizing control charts as discussed below.

Surrogates are utilized when dictated by method and are substances with properties that mimic the analytes of interest. The surrogate is an analyte that is unlikely to be found in environmental samples. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for surrogates.

Internal Standards are utilized when dictated by the method and are known amounts of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method. Refer to the appropriate Method and SOP for guidelines on pass/fail requirements for Internal Standards.

Proficiency Test (PT) Samples are samples provided by an unbiased third party. They are typically analyzed twice a year, between five and seven months apart, or at any other interval as defined in the method SOP. They contain a pre-determined concentration of the target compound, which is unknown to HEAL. HEAL's management and all analysts shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates and other procedures as used when analyzing routine samples. PT results are reported as normal samples, within the working range of the associated calibration curve. In the event an analyte concentration is less than the PQL, the result shall be reported as less than the PQL.

With regards to analyzing PT Samples HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seek accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall not attempt to obtain the assigned value of any PT sample from the PT Provider.

Upon receiving a Not Acceptable PT result for any analyte, a root cause analysis is conducted and the cause of the failure determined and corrected. As defined by TNI, two out of the past three PTs must be acceptable to maintain accreditation for any given analyte. If this requirement is not met a successful history will be reestablished by the analysis of an additional PT sample. For accredited tests, the PT provider will be notified, when the PT is for corrective action purposes. The analysis dates of successive PT samples for the same accredited analyte shall be at least fifteen days apart.

Calibration standards are standards run to calibrate. Once the calibration is established the same standards can be analyzed as Continuing Calibration Verifications (CCV), used to confirm the consistency of the instrumentation. Calibration standards can be utilized at the beginning and end of each batch, or more frequently as required. Typically Continuing Calibration Blanks (CCB) are run in conjunction with CCVs. Refer to the current method SOP for frequency and pass/fail requirements of CCVs and CCBs.

Control Limits are limits of acceptable ranges of the values of quality control checks. The control limits approximate a 99% confidence interval around the mean recovery. Any matrix spike, surrogate, or LCS results outside of the control limits require further evaluation and assessment. This should begin with the comparison of the results from the samples or matrix spike with the LCS results. If the recoveries of the analytes in the LCS are outside of the control limits, then the problem may lie with the application of the extraction, with cleanup procedures, or with the chromatographic procedure. Once the problem has been identified and addressed, corrective action may include reanalysis of samples or re-extraction followed by reanalysis. When the LCS results are within the control limits, the issue may be related to the sample matrix or to the use of an inappropriate extraction, cleanup, and/or determinative method for the matrix. If the results are to be used for regulatory compliance monitoring, then steps must be taken to demonstrate that the analytes of concern can be determined in the sample matrix at the levels of interest. Data generated with laboratory control samples that fall outside of the established control limits are judged to be generated during an "out-of-control" situation. These data are considered suspect and shall be repeated or reported with qualifiers.

Control limits are to be updated only by Technical Directors, Section Supervisors or the Quality Assurance Officer. Control limits should be established and updated according to the requirements of the method being utilized. When the method does not specify, and control limits are to be generated or updated for a test, the following guidelines shall be utilized.

Limits should typically be generated utilizing the most recent 20-40 data values. In order to obtain an even distribution across multiple instruments and to include more than a single day's worth of data, surrogate limits should be generated using around 100 data values. The data values used shall not reuse values that were included in the previous Control Limit update. The data values shall also be reviewed by the LIMS for any Grubbs Outliers, and if identified, the outliers must be removed prior to generating new limits. The results used to update control limits should meet all other QC criteria associated with the determinative method. For example, MS/MSD recoveries from a GC/MS procedure should be generated from samples analyzed after a valid tune and a valid initial calibration that includes all analytes of interest. Additionally, no analyte should be reported when it is beyond the working range of the calibration currently in use. MS/MSD and surrogate limits should be generated using the same set of extraction, cleanup, and analysis procedures.

All generated limits should be evaluated for appropriateness. Where limits have been established for MS/MSD samples, the LCS/LCSD limits should fall within those limits, as the LCS/LCSD are prepared in a clean matrix. Surrogate limits should be updated using all

sample types and should be evaluated to ensure that all instruments as well as a reasonable dispersion across days are represented by the data. LCS/LCSD recovery limits should be evaluated to verify that they are neither inappropriately wide nor unreasonably tight. The default LCS/LCSD acceptance limits of 70-130% and RPD of 20% (or those limits specified by the method for LCS/LCSD and/or CCV acceptability), should be used to help make this evaluation. Technical directors may choose to use warning limits when they feel their generated limits are too wide, or default LCS limits when they feel their limits have become arbitrarily tight.

Once new Control Limits have been established and updated in the LIMS, the Control Charts shall be printed and reviewed by the appropriate section supervisor and primary analyst performing the analysis for possible trends and compared to the previous Control Charts. The technical director initials the control charts, indicating that they have been reviewed and that the updated Limits have been determined to be accurate and appropriate. Any manual alterations to the limits will be documented and justified on the printed control chart. These initialed charts are then filed in the QA/QCO office.

Once established, control limits should be reviewed after every 20-30 data values and updated at least every six months, provided that there are sufficient points to do so. The limits used to evaluate results shall be those in place at the time that the sample was analyzed. Once limits are updated, those limits apply to all subsequent analyses.

When updating surrogate control limits, all data, regardless of sample/QC type, shall be updated together and assigned one set of limits for the same method/matrix.

In the event that there are insufficient data points to update limits that are over a year old, the default limits, as established in the method or SOP, shall be re-instated. Refer to the requirements in SW-846 method 8000B and 8000C for further guidance on generating control limits.

Calculated Measurement Uncertainty is calculated annually using LCSs in order to determine the laboratory specific uncertainty associated with each test method. These uncertainty values are available to our clients upon request and are utilized as a trending tool internally to determine the effectiveness of new variables introduced into the procedure over time.

Precision, Accuracy, Detection Levels

Precision

The laboratory uses sample duplicates, laboratory control spike duplicates, and matrix spike duplicates to assess precision in terms of relative percent difference (RPD). HEAL requires the RPD to fall within the 99% confidence interval of established control charts or an RPD of less than 30% if control charts are not

available. RPD's greater than these limits are considered out-of-control and require an appropriate response.

$$RPD = \frac{2 \times (\text{Sample Result} - \text{Duplicate Result})}{(\text{Sample Result} + \text{Duplicate Result})} \times 100$$

Accuracy

The accuracy of an analysis refers to the difference between the calculated value and the actual value of a measurement. The accuracy of a laboratory result is evaluated by comparing the measured amount of QC reference material recovered from a sample and the known amount added. Control limits can be established for each analytical method and sample matrix. Recoveries are assessed to determine the method efficiency and/or the matrix effect.

Analytical accuracy is expressed as the Percent Recovery (%R) of an analyte or parameter. A known amount of analyte is added to an environmental sample before the sample is prepared and subsequently analyzed. The equation used to calculate percent recovery is:

$$\%Recovery = \{(concentration^* recovered)/(concentration^* added)\} \times 100$$

*or amount

HEAL requires that the Percent Recovery to fall within the 99 % confidence interval of established control limits. A value that falls outside of the confidence interval requires a warning and process evaluation. The confidence intervals are calculated by determining the mean and sample standard deviation. If control limits are not available, the range of 80 to 120% is used unless the specific method dictates otherwise. Percent Recoveries outside of this range mandate additional action such as analyses by Method of Standard Additions, additional sample preparation(s) where applicable, method changes, and out-of-control action or data qualification.

Detection Limit

Current practices at HEAL define the Detection Limit (DL) as the smallest amount that can be detected above the baseline noise in a procedure within a stated confidence level.

HEAL presently utilizes an Instrument Detection Limit (IDL), a Method Detection Limit (MDL), and a Practical Quantitation Limit (PQL). The relationship between these levels is approximately
IDL: MDL: PQL = 1:5:5.

The IDL is a measure of the sensitivity of an analytical instrument. The IDL is the amount which, when injected, produces a detectable signal in 99% of the analyses at that concentration. An IDL can be considered the minimum level of analyte concentration that is detectable above random baseline noise.

The MDL is a measure of the sensitivity of an analytical method. MDL studies are required annually for each quality system matrix, technology and analyte, unless indicated otherwise in the referenced method. An MDL determination (as required in 40CFR part 136 Appendix B) consists of replicate spiked samples carried through all necessary preparation steps. The spike concentration is three times the standard deviation of three replicates of spikes. At least seven replicates are spiked and analyzed and their standard deviation(s) calculated. Routine variability is critical in passing the 10 times rule and is best achieved by running the MDLs over different days and when possible over several calibration events. The Manual for the Certification of Laboratories Analyzing Drinking Water, 5th edition Chapter IV section 7.2.11 recommends that MDLs be performed over a period of at least three days in order to include the day to day variations. The method detection limit (MDL) can be calculated using the standard deviation according to the formula:

$$MDL = s * t\,(99\%),$$

where t (99%) is the Student's t-value for the 99% confidence interval. The t-value depends on the number of trials used in calculating the sample standard deviation, so choose the appropriate value according to the number of trials.

Number of Trials	t(99%)
6	3.36
7	3.14
8	3.00
9	2.90

The calculated MDL must not be less than 10 times the spiked amount or the study must be performed again with a lower concentration.

Where there are multiple MDL values for the same test method in the LIMS the highest MDL value is utilized.

The PQL is significant because different laboratories can produce different MDLs although they may employ the same analytical procedures, instruments and sample matrices. The PQL is about two to five times the MDL and represents a practical, and routinely achievable, reporting level with a good certainty that the reported value is reliable. It is often determined by regulatory limits. The reported PQL for a sample is dependent on the dilution factor utilized during sample analysis.

In the event that an analyte will not be reported less than the PQL, an MDL study is not required and a PQL check shall be done, at least annually, in place of the MDL

study. The PQL check shall consist of a QC sample spiked at or below the PQL. All sample-processing and analysis steps of the analytical method shall be included in the PQL check and shall be done for each quality system matrix, technology, and analyte. A successful check is one where the recovery of each analyte is within the established method acceptance criteria. When this criterion is not defined by the method or SOP, a default limit of +/-50% shall be utilized.

Quality Control Parameter Calculations

Mean

The sample mean is also known as the arithmetic average. It can be calculated by adding all of the appropriate values together, and dividing this sum by the number of values.

$$\text{Average} = (\Sigma x_i) / n$$

x_i = the value x in the i^{th} trial
n = the number of trials

Standard Deviation

The sample standard deviation, represented by s, is a measure of dispersion. The dispersion is considered to be the difference between the average and each of the values x_i. The variance, s^2, can be calculated by summing the squares of the differences and dividing by the number of differences. The sample standard deviation, s, can be found by taking the square root of the variance.

$$\text{Standard deviation} = s = [\Sigma (x_i - \text{average})^2 / (n - 1)]^{1/2}$$

Percent Recovery (LCS and LCSD)

$$\text{Percent Recovery} = \frac{(\text{Spike Sample Result})}{(\text{Spike Added})} X100$$

Percent Recovery (MS, MSD)

$$\text{Percent Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{(\text{Spike Added})} X100$$

Control Limits

Control Limits are calculated by the LIMS using the average percent recovery (x), and the standard deviation (s).

$$\text{Upper Control Limit} = x + 3s$$
$$\text{Lower Control Limit} = x - 3s$$

These control limits approximate a 99% confidence interval around the mean recovery.

RPD (Relative Percent Difference)

Analytical precision is expressed as a percentage of the difference between the results of duplicate samples for a given analyst. Relative percent difference (RPD) is calculated as follows:

$$RPD = \frac{2 \times (\text{Sample Result} - \text{Duplicate Result})}{(\text{Sample Result} + \text{Duplicate Result})} \times 100$$

Uncertainty Measurements

Uncertainty, as defined by ISO, is the parameter associated with the result of a measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurement. Ultimately, uncertainty measurements are used to state how good a test result is and to allow the end user of the data to properly interpret their reported data. All procedures allow for some uncertainty. For most analyses, the components and estimates of uncertainty are reduced by following well-established test methods. To further reduce uncertainty, results generally are not reported below the lowest calibration point (PQL) or above the highest calibration point (UQL). Understanding that there are many influential quantities affecting a measurement result, so many in fact that it is impossible to identify all of them, HEAL calculates measurement uncertainty at least annually using LCSs. These estimations of measurement uncertainty are kept on file in the method folders in the QA/QC office.

Measurement Uncertainty contributors are those that may be determined statistically. These shall be generated by estimating the overall uncertainty in the entire analytical process by measuring the dispersion of values obtained from laboratory control samples over time. At least 20 of the most recent LCS data points are gathered.

The standard deviation(s) is calculated using these LCS data points. Since it can be assumed that the possible estimated values of the spikes are approximately normally distributed with approximate standard deviation(s), the unknown value of the spike is believed to lie in 95% confidence interval, corresponding to an uncertainty range of +/- 2(s).

Calculate standard deviation (s) and 95% confidence interval according to the following formulae:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{(n-1)}}$$

Where: s = standard deviation
x = number in series
$\bar{x}$ = calculated mean of series
n = number of samples taken

$95\%\ confidence = 2 \times s$

Example: Assuming that after gathering 20 of the most recent LCS results for Bromide, we have calculated the standard deviations of the values and achieved a result of 0.0326, our measurement uncertainty for Bromide (at 95% confidence = 2 x s) is 0.0652.

Total Nitrogen

Total nitrogen is calculated as follows:

Total Nitrogen = TKN + NO_2 + NO_3

Calibration Calculations

1. Response Factor or Calibration Factor:

$RF = ((A_x)(C_{is}))/((A_{is})(C_x))$ $\qquad$ $CF = (A_x)/(C_x)$

a. Average RF or CF

$RF_{AVE} = \Sigma\ RF_i / n$

b. Standard Deviation

$s = SQRT\ \{ [\ \Sigma\ (RF_i - RF_{AVE})^2\ ] / (n-1)\ \}$

c. Relative Standard Deviation

$$RSD = s / RF_{AVE}$$

Where:
A_x = Area of the compound
C_x = Concentration of the compound
A_{is} = Area of the internal standard
C_{is} = Concentration of the internal standard
n = number of pairs of data
RF_i = Response Factor (or other determined value)
RF_{AVE} = Average of all the response factors
Σ = the sum of all the individual values

2. Linear Regression

$$y=mx+b$$

a. Slope (m)

$$m =(n\Sigma x_i y_i - (n\Sigma x_i)*(n\Sigma y_i)) / (n\Sigma x_i^2 - (\Sigma x_i)^2)$$

b. Intercept (b)

$$b =y_{AVE} - m*(x_{AVE})$$

c. Correlation Coefficient (cc)

$$CC (r) =\{ \Sigma((x_i-x_{ave})*(y_i-y_{ave})) \} / \{ SQRT((\Sigma(x_i-x_{ave})^2)*(\Sigma(y_i-y_{ave})^2)) \}$$

Or

$$CC (r) =[(\Sigma w * \Sigma wxy) - (\Sigma wx * \Sigma wy)] / (sqrt(([(\Sigma w * \Sigma wx^2) - (\Sigma wx * \Sigma wx)] * [(\Sigma w * \Sigma wy^2) - (\Sigma wy * \Sigma wy)])))]$$

d. Coefficient of Determination

$$COD (r^2) = CC*CC$$

Where:
y = Response (Area) Ratio A_x/A_{is}
x = Concentration Ratio C_x/C_{is}
m = slope
b = intercept

n = number of replicate x,y pairs
x_i = individual values for independent variable
y_i = individual values for dependent variable
Σ = the sum of all the individual values
x_{ave} = average of the x values
y_{ave} = average of the y values
w = weighting factor, for equal weighting w=1

3. Quadratic Regression

$$y = ax^2 + bx + c$$

a. Coefficient of Determination

$$COD\ (r^2) = (\Sigma(y_i - y_{ave})^2 - \{[(n-1)/(n-p)] * [\Sigma(y_i - Y_i)^2]\}) / \Sigma(y_i - y_{ave})^2$$

Where:
y = Response (Area) Ratio A_x/A_{is}
x = Concentration Ratio C_x/C_{is}
a = x^2 coefficient
b = x coefficient
c = intercept
y_i = individual values for each dependent variable
x_i = individual values for each independent variable
y_{ave} = average of the y values
n = number of pairs of data
p = number of parameters in the polynomial equation (I.e., 3 for third order, 2 for second order)
Yi = ((2*a*(C_x/C_{is})^2)-b^2+b+(4*a*c))/(4a)

b. Coefficients (a,b,c) of a Quadratic Regression

$$a = S_{(x2y)}S_{(xx)} - S_{(xy)}S_{(xx2)} / S_{(xx)}S_{(x2x2)} - [S_{(xx2)}]^2$$

$$b = S_{(xy)}S_{(x2x2)} - S_{(x2y)}S_{(xx2)} / S_{(xx)}S_{(x2x2)} - [S_{(xx2)}]^2$$

$$c = [(\Sigma yw)/n] - b*[(\Sigma xw)/n] - a*[\Sigma(x^2w)/n]$$

Where:
n = number of replicate x,y pairs
x = x values
y = y values
$w = S^{-2} / (\Sigma S^{-2}/n)$
$S_{(xx)} = (\Sigma x^2 w) - [(\Sigma xw)^2 / n]$

$S_{(xy)} = (\Sigma xyw) - [(\Sigma xw)*(\Sigma yw) / n]$
$S_{(xx2)} = (\Sigma x^3w) - [(\Sigma xw)*(\Sigma x^2w) / n]$
$S_{(x2y)} = (\Sigma x^2yw) - [(\Sigma x^2w)*(\Sigma yw) / n]$
$S_{(x2x2)} = (\Sigma x^4w) - [(\Sigma x^2w)^2 / n]$
Or If unweighted calibration, w=1
S(xx) = (Sx2) - [(Sx)2 / n]
S(xy) = (Sxy) - [(Sx)*(Sy) / n]
S(xx2) = (Sx3) - [(Sx)*(Sx2) / n]
S(x2y) = (Sx2y) - [(Sx2)*(Sy) / n]
S(x2x2) = (Sx4) - [(Sx2)2 / n]

Concentration Calculations

On-Column Concentration for Average RRF Calibration using Internal Standard

On-Column Concentration $C_x = ((A_x)(C_{is}))/((A_{is})(RF_{AVE}))$

On-Column Concentration for Average CF Calibration using External Standard

On-Column Concentration $C_x = (A_x)/(CF_{AVE})$

On-Column Concentration for Linear Calibration

If determining an external standard, then exclude the A_{is} and C_{is} for internal standards
On-Column Concentration C_x = ((Absolute{[$(A_x)/(A_{is})$] - b})/m) * C_{is}

Where: m = slope
b = intercept
A_x = Area of the Sample
C_{is} = Concentration of the Internal Standard
A_{is} = Area of the Internal Standard

On-Column Concentration for Quadratic Calibration

If determining an external standard, then exclude the A_{is} and C_{is} for internal standards
On-Column Concentration =[(+SQRT(b^2-(4*a*(c-y)))-b)/(2*a)] * C_{is}
Where: a = x^2 coefficient
b = x coefficient
c = intercept
y = Area Ratio = A_x/A_{is}
C_{is} = Concentration of the Internal Standard

Final Concentration (Wet Weight)

$$\text{Concentration for Extracted Samples} = \frac{\text{(On-Column Conc)(Dilution)(Final Volume)}}{\text{(Initial Amount)(Injection Volume)}}$$

$$\text{Concentration for Purged Samples} = \frac{\text{(On-Column Conc)(Purged Amount)(Dilution)}}{\text{(Purged Amount)}}$$

Dry Weight Concentration

$$\text{Dry Weight Concentration} = \frac{\text{Final Concentration Wet Weight}}{\text{Total Solids}}$$

Percent Difference

$$\% \text{ Difference} = \frac{\text{Absolute(Continuing Calibration RRF - Average RRF)}}{\text{Average RRF}} * 100$$

Percent Drift

$$\% \text{ Drift} = \frac{\text{Absolute(Calculated Concentration - Theoretical Concentration)}}{\text{Theoretical Concentration}} * 100$$

Dilution Factor

Dilution Factor =(Volume of Solvent + Solute) / Volume of Solute

Relative Retention Time

RRT =RT of Compound / RT of ISTD

Breakdown Percent

$$\text{Breakdown} = \frac{\text{Area of DDD + Area of DDE}}{\text{Average (DDT, DDE and DDD)}}$$

-or-

$$\frac{\text{Area of Endrin Ketone + Area of Endrin Aldehyde}}{\text{Average (Endrin, Endrin Ketone, Endrin Aldehyde)}}$$

11.0 Data Reduction, Validation, Reporting, and Record Keeping

All data reported must be of the highest possible accuracy and quality. During the processes of data reduction, validation, and report generation, all work is thoroughly checked to insure that error is minimized.

Data Reduction

The analyst who generated the data usually performs the data reduction. The calculations include evaluation of surrogate recoveries (where applicable), and other miscellaneous calculations related to the sample quantitation.

If the results are computer generated, then the formulas must be confirmed by hand calculations, at minimum, one per batch.

See the current Data Validation SOP for details regarding data reduction.

Validation

A senior analyst, most often the section supervisor, validates the data. All data undergoes peer review. If an error is detected, it is brought to the analyst's attention so that he or she can rectify the error, and perform further checks to ensure that all data for that batch is sound. Previous and/or common mistakes are stringently monitored throughout the validation process. Data is reported using appropriate significant figure criteria. In most cases, two significant digits are utilized, but three significant digits can be used in QC calculations. Significant digits are not rounded until after the last step of a sample calculation. All final reports undergo a review by the laboratory manager, the project manager, or their designee, to provide a logical review of all results before they are released to the client.

If data is to be manually transferred between media, the transcribed data is checked by a peer. This includes data typing, computer data entry, chromatographic data transfer, data table inclusion to a cover letter, or when data results are combined with other data fields.

All hand-written data from run logs, analytical standard logbooks, hand-entered data logbooks, or on instrument-generated chromatograms, are systematically archived should the need for future retrieval arise.

See the current Data Validation SOP for details regarding data validation.

Reports and Records

All records at HEAL are retained and maintained through the procedures outlined in the most recent version of the Records Control SOP.

The reports are compiled by the Laboratory Information Management System (LIMS). Most data is transferred directly from the instruments to the LIMS. After being processed by the analyst and reviewed by a data reviewer, final reports are approved and signed by the senior laboratory management. A comparative analysis of the data is performed at this point. For example, if TKN and NH3 are analyzed on the same sample, the NH3 result should never be greater than the TKN result. Lab results and reports are released only to appropriately designated individuals. Release of the data can be by fax, email, electronic deliverables, or mailed hard copy.

When a project is completed, the final report, chain of custody, any relevant supporting data, and the quality assurance/control worksheets are scanned as a .pdf file onto the main server. Original client folders are kept on file and are arranged by project number. Additionally, all electronic data is backed up routinely on the HEAL main server. The backup includes raw data, chromatograms, and report documents. Hard copies of chromatograms are stored separately according to the instrument and the analysis date. All records and analytical data reports are retained in a secure location as permanent records for a minimum period of five years (unless specified otherwise in a client contract). Access to archived information shall be documented with an access log. Access to archived electronic reports and data will be password protected. In the event that HEAL transfers ownership or terminates business practices, complete records will be maintained or transferred according to the client's instructions.

After issuance, the original report shall remain unchanged. If a correction to the report is necessary, then an additional document shall be issued. This document shall have a title of "Addendum to Test Report or Correction to Original Report", or equivalent. Demonstration of original report integrity comes in two forms. First, the report date is included on each page of the final report. Second, each page is numbered in sequential order, making the addition or omission of any data page(s) readily detectable.

12.0 Corrective Action

Refer to the most recent version of the Data Validation SOP for the procedure utilized in filling out a Corrective Action Report. A blank copy of the corrective action report is available in Appendix I.

The limits that have been defined for data acceptability also form the basis for corrective action initiation. Initiation of corrective action occurs when the data generated from continuing calibration standard, sample surrogate recovery, laboratory control spike, matrix spike, or sample duplicates exceed acceptance criteria. If corrective action is necessary, the analyst or the section supervisor will coordinate to take the following guidelines into consideration in order to determine and correct the measurement system deficiency:

Check all calculations and data measurements systems (Calibrations, reagents, instrument performance checks, etc.).

Assure that proper procedures were followed.

Unforeseen problems that arise during sample preparation and/or sample analysis that lead to treating a sample differently from documented procedures shall be documented with a corrective action report. The section supervisor and laboratory manager shall be made aware of the problem at the time of the occurrence. See the appropriate SOP regarding departures from documented procedures.

Continuing calibration standards below acceptance criteria can not be used for reporting analytical data unless method specific criteria states otherwise.

Continuing calibration standards above acceptance criteria can be used to report data as long as the failure is isolated to a single standard and the corresponding samples are non-detect for the failing analyte.

Samples with non-compliant surrogate recoveries should be reanalyzed, unless deemed un-necessary by the supervisor for matrix, historical data, or other analysis-related anomalies.

Laboratory and Matrix Spike acceptance criteria vary significantly depending on method and matrix. Analysts and supervisors meet and discuss appropriate corrective action measures as spike failures occur.

Sample duplicates with RPD values outside control limits require supervisor evaluation and possible reanalysis.

A second mechanism for initiation of corrective action is that resulting from Quality Assurance performance audits, system audits, inter- and intra-laboratory comparison studies. Corrective Actions initiated through this mechanism will be monitored and coordinated by the laboratory QA/QCO.

All corrective action forms are entered in the LIMS and included with the raw data for peer review, signed by the technical director of the section and included in the case narrative to the client whose samples were affected. All Corrective action forms in the LIMS are reviewed by the QA/QCO.

13.0 Quality Assurance Audits, Reports and Complaints

Internal/External Systems' Audits, Performance Evaluations, and Complaints

Several procedures are used to assess the effectiveness of the quality control system. One of these methods includes internal performance evaluations, which are conducted by the use of control samples, replicate measurements, and control charts. External performance audits, which are conducted by the use of inter-laboratory checks, such as participation in laboratory evaluation programs and performance evaluation samples available from a NELAC-accredited Proficiency Standard Vendor, are another method.

Proficiency samples will be obtained twice per year from an appropriate vendor for all tests and matrices for which we are accredited and for which PTs are available. HEAL participates in soil, waste water, drinking water, and underground storage tank PT studies. Copies of results are available upon request. HEAL's management and all analysts shall ensure that all PT samples are handled in the same manner as real environmental samples utilizing the same staff, methods, procedures, equipment, facilities, and frequency of analysis as used for routine analysis of that analyte. When analyzing a PT, HEAL shall employ the same calibration, laboratory quality control and acceptance criteria, sequence of analytical steps, number of replicates, and other procedures as used when analyzing routine samples.

With regards to analyzing PT Samples, HEAL shall not send any PT sample, or portion of a PT sample, to another laboratory for any analysis for which we seek accreditation, or are accredited. HEAL shall not knowingly receive any PT sample or portion of a PT sample from another laboratory for any analysis for which the sending laboratory seeks accreditation, or is accredited. Laboratory management or staff will not communicate with any individual at another laboratory concerning the PT sample. Laboratory management or staff shall not attempt to obtain the assigned value of any PT sample from the PT Provider.

Internal Audits are performed annually by the QA/QCO in accordance with the current Internal Audit SOP. The system audit consists of a qualitative inspection of the QA system in the laboratory and an assessment of the adequacy of the physical facilities for sampling, calibration, and measurement. This audit includes a careful evaluation and review of laboratory quality control procedures. Internal audits are performed using the guidelines outlined below, which include, but are not limited to:

1. Review of staff qualifications, demonstration of capability, and personnel training programs
2. Storage and handling of reagents, standards, and samples
3. Standard preparation logbook and LIMS procedures
4. Extraction logbooks
5. Raw data logbooks
6. Analytical logbooks or batch printouts and instrument maintenance logbooks
7. Data review procedures

8. Corrective action procedures
9. Review of data packages, which is performed regularly by the lab manager/QA Officer.

The QA/QCO will conduct these audits on an annual basis.

Management Reviews

HEAL management shall periodically, and at least annually, conduct a review of the laboratory's quality system and environmental testing activities to ensure their continuing suitability and effectiveness, and to introduce necessary changes or improvements. The review shall take account of:

1. the suitability and implementation of policies and procedures
2. reports from managerial and supervisory personnel
3. the outcome of recent internal audits
4. corrective and preventive actions
5. assessments by external bodies
6. the results of inter-laboratory comparisons or proficiency tests
7. changes in volume and type of work
8. client feed back
9. complaints
10. other relevant factors, such as laboratory health and safety, QC activities, resources, and staff training.

Findings from management reviews and the actions that arise from them shall be recorded and any corrective actions that arise shall be completed in an appropriate and agreed upon timescale.

Complaints

Complaints from clients are documented and given to the laboratory manager. The lab manager shall review the information and contact the client. If doubt is raised concerning the laboratory's policies or procedures, then an audit of the section or sections may be performed. All records of complaints and subsequent actions shall be maintained in the client compliant logbook for five years unless otherwise stated.

Internal and External Reports

The QA/QCO is responsible for preparation and submission of quality assurance reports to the appropriate management personnel as problems and issues arise. These reports include the assessment of measurement systems, data precision and accuracy, and the results of performance and system audits. Additionally, they include significant QA

problems, corrective actions, and recommended resolution measures. Reports of these Quality Assurance Audits describe the particular activities audited, procedures utilized in the examination and evaluation of laboratory records, and data validation procedures. Finally, there are procedures for evaluating the performance of Quality Control and Quality Assurance activities, and laboratory deficiencies and the implementation of corrective actions with the review requirements.

14.0 References (Analytical Protocols Utilized at HEAL)

1. Analytical Chemistry of PCB's. Erickson, Mitchell D., CRC Press, Inc. 1992.

2. Diagnosis & Improvement of Saline & Alkali Soils, Agriculture Handbook No. 60, USDA, 1954

3. Environmental Perspective on the Emerging Oil Shale Industry, EPA Oil & Shale Research Group.

4. Field and Laboratory Methods Applicable to Overburdens and Mine Soils, USEPA, EPA-600/2-78-054, March 1978

5. Handbook of Chemistry and Physics, 62nd Edition, CRC Press, Inc. 1981-1982.

6. Handbook on Reference Methods for Soil Testing, The Council on Soil Testing & Plant Analysis, 1980 and 1992

7. Laboratory Procedures for Analyses of Oilfield Waste. Department of Natural Resources, Office of Conservation, Injection and Mining Division, Louisiana, August 1988

8. Manual for the Certification of Laboratories Analyzing Drinking Water, Criteria and procedures Quality Assurance Fifth Edition, U.S. Environmental Protection Agency, January 2005.

9. Manual of Operating Procedures for the Analysis of Selected Soil, Water, Plant Tissue and Wastes Chemical and physical Parameter. Soil, Water, and Plant Analysis Laboratory, Dept. of Soil and Water Science, The University of Arizona, August 1989

10. The Merck Index, Eleventh Edition, Merck & Co., Inc. 1989.

11. Methods for Chemical Analysis of Water and Wastes, USEPA, EPA-600/4-79-020, March 1979 and as amended December, 1982 (EPA-600/4-82-055)

12. Methods for the Determination of Metals in Environmental Samples, USEPA, EPA-600/4-91-010, June 1991

13. Methods of Soil Analysis: Parts 1 & 2, 2nd Edition, Agronomy Society of America, Monograph 9

14. Polycyclic Aromatic Hydrocarbons in Water Systems, CRC Press, Inc.

15. Procedures for Collecting Soil Samples and Methods of Analysis for Soil Survey. USDA Soil Conservation Service, SSIR No. 1

16. Quality Systems for Analytical Services, Revision 2.2, U.S. Department of Energy, October 2006.

17. Sampling Procedures and Chemical Methods in Use at the U.S. Salinity Laboratory for Characterizing Salt-Affected Soils and Water. USDA Salinity Laboratory.

18. Soil Survey Laboratory Methods Manual. Soil Survey Laboratory Staff. Soil Survey Investigations Report No. 42, version 2.0, August 1992.

19. Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity, Technical Bulletin LT B88-2 January, 1988

20. Standard Methods for the Examination of Water and Wastewater: AOHA, AWWA, and WPCG; 20th Edition, 1999.

21. Technical Notes on Drinking Water Methods, U.S. Environmental Protection Agency, October 1994.

22. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, USEPA SW-846, 3rd Edition, Updates I, II, IIA, IIB, III, December, 1996.

Appendix D

App · D

2011 Underground Process and W ter Piping Inpsection Summary

Line Number	Description (Service)	Line Size	Line Length	Starting Location	End Location	Drawing Reference	Construction Material	Inspection Scheduled	Inspection Date	Inspection Results Pass/Fail	Test/ Inspection Method	Repairs/Main t Needed	Repairs-Maint Completion date
1	Effilent Wtr. Transfer Line	6	3250L/F	Effilent Pond Outlet Pump P-616	Effluent Transfer P-671	D-500-800-031	PVC	2012	Jul-10	Pass	Hydrostatic	None	N/A
2	Effilent Wtr. Trans. Pump	6	908 L/F	North Evaporation Pond Outlet	Effilent Transfer Pump P-671	D-500-800-031	PVC	2012					
3	Effilent Wtr. Pump Disch.	6	2,797 L/F	Effluent Transfer P-671	Injection Well Building	D-500-800-031	PVC	2012	Oct-09	Pass	Hydrostatic	None	N/A
4	Injection Well Recir. Line	6	910 L/F	Injection Well Building	North Evaporation Pond	D-500-800-031	PVC	2012					
5	River Terrace Transfer Line	2	277 L/F	River Terrace Processing Skid	River Pump Building Water Basin	D-500-800-043	PVC	2012	Aug-11	Pass	Hydrostatic	None	N/A
6	Crude Transfer Line	12	215 L/F	Pipe Rack East Of LPG Stg Tks.	Pipe Rack Southwest of Tk. # 31	N/A	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
7	Steam Header at Terminals	6	215 L/F	Pipe Rack Southwest of Tk. # 31	Pipe Rack East Of LPG Stg. Tks.	N/A	Carbon steel	2012					
8	Condensate Return Header	4	215 L/F	Pipe Rack East Of LPG Stg Tks.	Pipe Rack Southwest of Tk. # 31	N/A	Carbon steel	2012					
9	C-4 To Blend	4	218 L/F	Pipe Rack East Of LPG Bullets	Pipe Rack Southwest of Tk. # 31	N/A	Carbon steel	*Temporarily Out of Service					
10	ULSD Sales Line	12	521 L/F	Pipe Rack Southwest of Tk. # 31	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
11	Unleaded Gasoline Sales	12	534 L/F	Pipe Rack Southwest of Tk. # 31	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
12	Transmix Sales from Tk #35	12	515 L/F	Pipe Rack Southwest of Tk. # 31	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	out of service					
13	Lite Straight Run Product	4	218 L/F	Pipe Rack Southwest of Tk. # 31	Rack Area North Of B-23	N/A	Carbon steel	2012					
14	VRU Return	3	275 L/F	Pipe Rack Southwest of Tk. # 31	Area Northeast of B-21	N/A	Carbon steel	*Temporarily Out of Service					
15	VRU Return (Former Poly Feed Lines)	2	275 L/F	Area Northeast of B-21	Pipe Rack Southwest of Tk. # 31	N/A	Carbon steel	2012					
16	LPG Rerun Line	2	275 L/F	Area Northeast of B-21	Pipe Rack Southwest of Tk. # 31	N/A	Carbon steel	*Temporarily Out of Service					
17	Saturate To Storage	2	275 L/F	Pipe Rack Southwest of Tk. # 31	Area Northeast of B-21	N/A	Carbon steel	*Temporarily Out of Service					
18	C-4 To Storage	2	275 L/F	Pipe Rack Southwest of Tk. # 31	Area Northeast of B-21	N/A	Carbon steel	*Temporarily Out of Service					
19	C-3 To Storage	2	275 L/F	Pipe Rack Southwest of Tk. # 31	Area Northeast of B-21	N/A	Carbon steel	*Temporarily Out of Service					
20	Sour Naphtha From Tk. 3 & 4	8	388 L/F	Pipe Rack Southwest of Tk. # 31	Out Of Service	N/A	Carbon steel	out of service					
21	Off Road Diesel Sales From Tk.18	6	389 L/F	Pipe Rack Southwest of Tk. # 31	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
22	Slop Line ToTk. # 22	4	390 L/F	Area Northeast of B-21	Out of Service	N/A	Carbon steel	out of service					
23	Isomerate/Naptha Line	6	285 L/F	Low Rack West Of Tk.# 25	Area West of B-12	D-000-900-023	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
24	Sub Grade Gasloine Tk #13 &14	8	392 L/F	Pipe Rack West Of Tk.# 36	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
25	Premium Sales from Tk. 32	6	393 L/F	Pipe Rack West Of Tk.# 36	Filter Pad Area North Of Loading Pad	N/A	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
26	Naptha to VRU	4	313 L/F	Crude Line East of B-21	Manifold @ VRU Unit	NewTech 595-M-601	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
27	Naphta Feed To VRU Unit	4	223 L/F	Transfer Pump @ Tk. # 44	Manifold @ VRU Unit	NewTech 595-M-601	Carbon steel	out of service	May-08	Pass	Praxair	None	N/A
28	Naptha Fill/Rerun To Tk. #44	4	223 L/F	Manifold @ VRU Unit	Naptha Fill Line To Tk. # 44	NewTech 595-M-601	Carbon steel	out of service	May-08	Pass	Praxair	None	N/A
29	Off-Road Diesel To Bays #1 & 2	8	397 L/F	From F-706 Filter Piping	To Meter Spools @ Bays # 1&2	D-700-500-118	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
30	(Old Kerosene) To Bay # 3	6	398 L/F	From F-706 Filter Piping	To Meter Spools @ Bays # 3	D-700-500-118	Carbon steel	2012					
31	Premiun Sales Line	10	399 L/F	From F-705 Filter Piping	To Meter Spools @ Bays # 1,2 & 3	D-700-500-118	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
32	Unleaded GasolineSales Line	10	400 L/F	From F-704 Filter Piping	To Meter Spools @ Bays # 1,2 & 3	D-700-500-118	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A
33	ULSD To Bay # 4	8	401 L/F	From F-703 Filter Piping	To Meter Spool @ Bay # 4	D-700-500-123	Carbon steel	2007	Nov-07	Pass	Praxair	None	N/A

2011 Underground Process and Water Piping Inpsection Summary

Line Number	Description (Service)	Line Size	Line Length	Starting Location	End Location	Drawing Reference	Construction Material	Inspection Scheduled	Inspection Date	Inspection Results Pass/Fail	Test/ Inspection Method	Repairs/Maint Needed	Repairs-Maint Completion date
34	Ethanol Pump Suction Line	8	330 L/F	From Tk. # 45 Outlet Nozzel	To P-707 & P-707A Pump Suction	D-700-500-140	Carbon steel	2012					
35	Ethanol Unloading Line	4	330 L/F	From P-706 Pump Discharge	To Tk. # 45 Inlet Nozzel	D-700-500-140	Carbon steel	2012					
36	Naphtha Unloading Line	6	420 L/F	Suction Manifold @ P-607A	Unloading line @ Tk. #18 and 19	B-600-500-296	Carbon steel	2007	Sep-07	Pass		None	N/A
37	Naptha Rundown To Tk.# 35	3	99	Line From North Pipe Rack Area	To Tk. # 35 Fill Nozzle	B-600-500-232	Carbon steel	*Temporarily Out of Service					
38	Naptha Feed Line to Unit	4	99	From P-607A Pump Discharge	To North Pipe Rack Feed To Units	B-600-500-236	Carbon steel	*Temporarily Out of Service					
39	Cooling Water Supply Line	12	165 L/F	From # 1 Cooling Tower Pumps	To Rack Area @ Reformer Unit	D-500-500-011	Carbon steel	*Temporarily Out of Service					
40	Cooling Water Return Line	12	165 L/F	From Rack Area @ Reformer	To #1 Cooling Tower Water Inlet	D-500-500-011	Carbon steel	*Temporarily Out of Service					
41	Cooling Water Supply Line	20	145 L/F	From # 2 Cooling Tower Pumps	To S. End of FCC Unit @ Twr. 207 Area	D-201-500-123	Carbon steel	*Temporarily Out of Service					
42	Cooling Water Return Line	20	145 L/F	From South End of FCC Unit	To # 2 Cooling Tower Water Inlet	D-201-500-123	Carbon steel	*Temporarily Out of Service					
43	Sewer Transfer Line	10	54 L/F	From Main Sewer Box # 12	To Main Sewer Box # 11	D-500-500-402	Carbon steel	2012					
44	Sewer Transfer Line	10	46 L/F	From Main Sewer Box # 11	To Observation Access Can # 10	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
45	Sewer Transfer Line	12	33 L/F	From Observation Access Can #10	To Observation Access Can # 6	D-500-500-402	Carbon steel	2012					
46	Sewer Transfer Line	12	73 L/F	From Observation Access Can # 6	To Main Sewer Box # 5	D-500-500-402	Carbon steel	2012					
47	Sewer Transfer Line	14	69 L/F	From Main Sewer Box # 5	To Observation Access Can # 4	D-500-500-402	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A
48	Sewer Transfer Line	14	86 L/F	From Observation Access Can #4	To Main Sewer Box # 3	D-500-500-402	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A
49	Sewer Transfer Line	12	62 L/F	From Main Sewer Box # 9	To main Sewer Box # 8	D-500-500-402	Carbon steel	2012					
50	Sewer Transfer Line	12	66 L/F	From Main Sewer Box # 8	To Main Sewer Box # 7	D-500-500-402	Carbon steel	2012					
51	Sewer Transfer Line	14	86 L/F	From Main Sewer Box # 7	To Main Sewer Box # 3	D-500-500-402	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A
52	Sewer Transfer Line	14	145 L/F	From Main Sewer Box # 3	To Observation Access Can #2	D-500-500-402	Carbon steel	2012					
53	Sewer Transfer Line	14	100 L/F	From Observation Access Can #2	To Main Sewer Box # 1	D-500-500-402	Carbon steel	2012					
54	Sewer Transfer Line	12/10	TBD	From Main Sewer Box # 1	To Inlet @ API Seperator	D-500-500-106	Carbon steel	2012					
55	Sewer Collection Manifold	8>4	56 L/F	Area East Side of # 4 Boiler	To North Side of Sewer Box # 12	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
56	Sewer Collection Manifold	10>4	164 L/F	Area @ & Around Crude Twr.	To North Side Of Sewer Box # 11	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
57	Sewer Collection Manifold	8>4	100 L/F	Area @ & Around E-106A & B	To Northwest Of Sewer Box # 10	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
58	Sewer Collection Manifold	6	10 L/f	Area @ V-101A Desalter	To East Side Of Sewer Box # 10	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
59	Sewer Collection Manifold	10>4	452 L/F	Area Thru Reformer Pump Row	To Observation Access Can # 6	D-500-500-098	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A
60	Sewer Collection Manifold	10>4	316 L/F	Area Along East Side of Reformer	To Observation Access Can # 6	D-500-500-098	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A
61	Sewer Collection Manifold	8>4	60 L/F	Area @ & Around V101 Desalter	To Observation Access Can #4	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
62	Sewer Collection Manifold	8>4	140 L/F	Area @ & Around T-101 Tower	To West Side Of Sewer Box # 9	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
63	Sewer Collection Manifold	8>4	104 L/F	Area @ & Around P101 Charge P.	To North Side Of Sewer Box # 9	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
64	Sewer Collection Manifold	8>4	88 L/F	Area @ & Around T-103 Tower	To Northwest Side Of Sewer Box # 8	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
65	Sewer Collection Manifold	8>4	92 L/F	Area @ & Around Heavy Oil Exch.	To North Side Of Sewer Box # 8	D-500-500-402	Carbon steel	2010	Jul-10	Pass	Hydrostatic	None	N/A
66	Sewer Collection Manifold	8>4	41 L/F	Area @ & Around Main Air Blower	To Northwest Side Of Sewer Box # 3	D-500-500-134	Carbon steel	2012	Aug-11	Pass	Hydrostatic	None	N/A

2011 Underground Process and Water Piping Inpsection Summary

Line Number	Description (Service)	Line Size	Line Length	Starting Location	End Location	Drawing Reference	Construction Material	Inspection Scheduled	Inspection Date	Inspection Results Pass/Fail	Test/ Inspection Method	Repairs/Maint Needed	Repairs-Maint Completion date
67	Sewer Collection Manifold	6>3	TBD	Area @ Burner Fuel Loading	To Observation Access Can (Precipitator)	D-600-500-127	Carbon steel	2012					
68	Sewer Collection Manifold	4	TBD	Area Drains @ Air Building	To Sewer Transfer Line(Box # 1 to API)	D-500-500-160	Carbon steel	2012					
69	Sewer Collection Manifold	4	86 L/F	P-224 Pump & Cat Surface Drain	To Sewer Transfer Line From FCC Process	D-201-500-001	Carbon steel	2011	Jul-09	Pass	Hydrostatic	None	N/A
70	Sewer Collect./Transfer Line	6	896 L/F	Gas Con Unit Collection M.H.	To FCC Sewer Box Manhole # 13	D-201-500-001	Carbon steel	2011	Aug-11	Pass	Hydrostatic	None	N/A
71	Sewer Transfer Line	10	35 L/F	From FCC Sewer Box M.H. # 13	To FCC Sewer Box # 14 (Roadway)	D-201-500-001	Carbon steel	2011	Aug-11	Pass	Hydrostatic	None	N/A
72	Sewer Transfer Line	10	TBD	From FCC Sewer Box M.H. #14	To 20" Inlet @ API	D-500-500-106	Carbon steel	2012					
73	Sewer Collection Manifold	6/4	335 L/F	Area @ & Around Gas Con. Unit	To Gas Con. Unit Sewer Collection	D-200-200-233	Carbon steel	2011	Aug-11	Pass	Hydrostatic	None	N/A
74	Sewer Transfer Line	10	159 L/F	From Treater Main Sewer Box # 16	To Sewer Box #15 - S.E. Of C-204	D-500-500-166	Carbon steel	2011	Aug-11	Pass	Hydrostatic	None	N/A
75	Sewer Transfer Line	10	162 L/F	Sewer Box #15 - S.E. Of C-204	To 20" Inlet @ API	D-500-500-105	Carbon steel	2012					
76	Sewer Collection Manifold	10>4	411 L/F	Area In & Around Treater Unit	To Treater Sewer Box At South Side Of Unit	D-500-500-122	Carbon steel	2011	Aug-11	Pass	Hydrostatic	None	N/A
77	Sewer Collection Manifold	6>2	550 L/F	Area In & Around Poly Unit	To Inlet Bay @ API	D-500-500-126	Carbon steel	out of service	May-09	Pass	Hydrostatic	None	N/A
78	Sewer Transfer Line	10	130 L/F	From Sewer Box # 17 @ DHT Unit	To Sewer Box # 18 @ S.E. Corner of Poly	D-500-500-097	Carbon steel	2011	Aug-11	Pass	Replaced with Stainless Steel Piping	None	N/A
79	Sewer Transfer Line	12	35 L/F	From Sewer Box # 18	To Inlet Manifold @ API Basin Area		Carbon steel	2012					
80	Sewer Collection Manifold	10>4	635 L/F	Area In & Around DHT/Larox Unit	To Sewer Box # 18 @ S.E. Corner of DHT		Carbon steel	2007	Aug-11	Pass	Hydrotest	None	N/A
81	Crude Transfer Line	12	99 L/F	Pipe Rack East Of LPG Stg Tks.	Pipe Rack South of Crude Unloading Bays	D-000-900-023	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
82	Crude Transfer Line	12	194 L/F	Pipe Rack South of Crude Unloading Bays	Berm South of Tank #43	D-000-900-023	Carbon steel	2008	May-08	Pass	Praxair	None	N/A
83	Sewer Transfer Line	4	822 L/F	Discharge at Tk #37	Valve box at corner Northeast of DHT	AMEC 6/7	Carbon Steel/PVC	2010	Jun-10	Pass	Hydrostatic	None	N/A
84	Premium Sales Line from Tk #3 & 4	8	300 L/F	Area West of API Separator	DHT Option City		Carbon Steel	2007	Nov-07	Pass	Praxair	None	N/A
85	Diesel Reciepts	6	25 L/F	Roadway SW of Tk #17	Piperack btwn Tk #34 and Tk #25	D-800-600-104	Carbon Steel	2010	Jun-10	Pass	Hydrotest	None	N/A
86	Premium/Uneaded Reciepts	6	25 L/F	Roadway SW of Tk #17	Piperack btwn Tk #34 and Tk #25	D-800-600-099 D 600-800-113	Carbon Steel	2010	Jun-10	Pass	Hydrotest	None	N/A
87	Groundwater Recovery Transfer Line	3	970 L/F	Tk #38	Slop Line NE of Tk #31	D-600-800-121	Carbon Steel	2010	Aug-10	Pass	Hydrotest	None	N/A
88	Injection Well Transfer	4	45 L/F	Injection Well Building	Downhole Injection Well	D-500-800-031	Carbon Steel	2010	Oct-10	Pass	Hydrotest	None	N/A
89	VRU Return to Tanks 13 and 14	3	32 L/F	Pipe Bridge South of Tanks 13 and 14	Exits inside South Wall of Containtment Berm	B-600-500-532	Carbon Steel	2011	Jan-11	Pass	Hydrostatic	None	N/A
90	Tie-in Tank 11 Crude to LACT	6	116 L/F	Pipe Bridge North of LACT Unit	10 ft East of Tie-in to LACT Unit	B-600-500-561	Carbon Steel	2011	Dec-11	Pass	Hydrostatic	None	N/A
91	Crude to Tank 11	6	34 L/F	Under Pipe Rack South of Tank 11	Exits Berm South of Tank 11	B-600-500-558	Carbon Steel	2011	11-Nov	Pass	Hydrostatic	None	N/A

*All lines that are temporarily out of service due to suspension of refining operations were steamed out and are hydrocarbon free

Api D
Tank Inspe. Schedule

Tank #	Service	Normal Capacity (bbls)	Last Test/ Inspection	Test/ Inspection Method	Next Test/ Inspection Scheduled	Date OCD-SFO Requirements Satisfied	Test/ Inspection Date	Repairs/Maint Needed	Repairs/Maint Completion Date
2	FILTERED WATER	64,347	2000	Internal	2010	2010	11/13/2010	None	11/13/2010
3	NAPHTHA	9,365	2003	Internal	2013	2013	10/1/2003	Seal Replacement	10/8/2003
4	NAPHTHA	9,365	2003	Internal	2013	2013	9/17/2003	Seal Replacement	9/24/2003
5	WASTE WATER SURGE	9096	2007	Internal	2017	2007	5/28/2008	None	N/A
8	CRUDE SLOP	460	2007	External (Conrete Liner)	2017	2007	6/7/2007	None	N/A
9	CRUDE SLOP	460	2007	External (Conrete Liner)	2017	2007	11/10/07	None	N/A
10	SPENT CAUSTIC - O/S	360	O/S	O/S	O/S	O/S	O/S	Out of Service	O/S
11	CRUDE	50,358	2011	Internal	2021	2011	11/2/2011	Floor Coating **	N/A
12	CAT / POLY GAS - O/S	50,358	1999	Internal	2010	2010	5/5/2010	Emptied, Cleaned - Not Inspected	
13	UNLEAD SALES	27,646	2008	Internal	2018	2008	5/15/2010	New Floor Installed	5/15/2011
14	UNLEAD SALES	27,615	2005	Internal	2015	2005	9/21/2005	None	N/A
17	CAT FEED - O/S	38403	2007	Internal	2017	2007	1/15/2010		
18	#1 DIESEL SALES - O/S	50358	1999	Internal	2010	2010	4/23/2010	Emptied, Cleaned - Inspected	
19	#2 DIESEL SALES	34991	2000	Internal	2010	2010	12/01/10	Floor Repair	12/28/2010
20	NAPHTHA	10000	2007	Internal	2017	2007	10/29/07	New Construction	N/A
23	BASE GASOLINE - O/S	38,402	2002	Internal	2012	2012	06/15/10	Emptied, Cleaned - Not Inspected	
24	ULS DIESEL	10107	2006	Internal	2016	2006	03/01/06	New Construction	N/A
25	ULS DIESEL	10107	2006	Internal	2016	2006	02/06/06	New Construction	N/A
26	SWEET NAPHTHA	3,264	2008	Praxair	2018	2008	05/29/08	None	N/A
27	HEAVY BURNER FUEL - O/S	9,854	2006	Internal	2016	2006	08/31/06	Emptied, Cleaned - Not Inspected	
28	CRUDE - O/S	77,854	2009	Internal	2019	2009	11/09/09	Emptied, Cleaned - Not Inspected	
29	#2 DIESEL/FCC SLOP - O/S	16,676	2005	Internal	2015	2005	07/10/10	Emptied, Cleaned - Not Inspected	
30	TRANSMIX	16,676	2004	Internal	2014	2004	05/24/10	None	5/24/2010
31	CRUDE O/S	98,676	2003	Internal	2013	2013	01/09/03	Emptied, Cleaned - Not Inspected	
32	PREMIUM UNLEAD SALES	17,913	1999	Internal/UTS*	2019	2009	04/01/09	None	N/A
33	RECOVERY WELL WATER	360	2008	Internal	2018	2008	04/09/08	None	N/A
34	INJECTION WELL RESERVIOR	360	2002	Internal	2012	2012	11/20/02	Repair Pinhole	1/20/2002
35	REFORMER FEED	43904	2005	Internal	2015	2005	03/18/10	Emptied, Cleaned - Not Inspected	
36	PREMIUM UNLEAD SALES	43904	2005	Internal	2015	2005	08/24/05	None	N/A
37	FRENCH DRAIN	121	2009	Internal/UTS*	2019	2009	06/11/09	None	N/A
38	EAST OUTFALL	302	2003	Internal	2013	2013	04/09/08	None	N/A
41	CRUDE STORAGE	2798	2008	Praxair	2018	2008	05/29/08	None	N/A
42A	TERMINALS SLOP	400	2007	API 650	2017	2007	06/01/07	New Construction	N/A
42B	TERMINALS SLOP	400	2007	API 650	2017	2007	06/01/07	New Construction	N/A
43	TERMINALS SLOP	560	O/S	O/S	O/S	O/S	O/S	Out of Service	O/S
44	ETHANOL	1,751	2008	Praxair	2018	2008	05/29/08	None	N/A
45	ETHANOL	4821	2008	Internal	2018	2008	02/20/08	None	N/A

* UTS = Utransonic Thickness Survey O/S = Out of Service

** = Floor Coating was done due to the Tank's change of service only.

App x D

Sump Inspection Summary

Sump Number	Location	Type Material	Drawing Reference	Actual Inspection Date	Inspection results Pass/Fail	Repairs/Maint Needed	Repairs/Maint Completion date
16	Sump @ S.W. Side Of Tk. 3	Concrete	D-000-900-023	6/27/2011	Pass	None	
17	Sump Between Tk. 3 & 4	Concrete	D-000-900-023	6/27/2011	Pass	None	
18	Sump Between Tk. 4 & 5	Concrete	D-000-900-023	6/27/2011	Pass	None	
19	Sump @ N.Side Of Tk. 5	Concrete	D-000-900-023	6/27/2011	Pass	None	
20	Sump Between Tk. 11 & 12	Concrete	D-000-900-023	6/27/2011	Pass	None	
21	Sump Between Tk. 13 & 14	Concrete	D-000-900-023	6/28/2011	Pass	None	
22	Sump @ N. Side Of Tk. 17	Concrete	D-000-900-023	Permanently Removed From Service and Demolished			
23	Sump @ N.E. Side Of Tk. 18	Concrete	D-000-900-023	6/28/2011	Pass	None	
24	Sump @ N.E. Side Of Tk. 19	Concrete	D-000-900-023	6/29/2011	Pass	None	
25	Sump @ S.W. Side Of Tk. 20	DW Steel	D-000-900-023	6/30/2011	Pass	None	
26	Sump @ S. Side Of Tk. 23	Concrete	D-000-900-023	6/29/2011	Pass	None	
27	Sump @ E. Side Of Tk. 24	DW Steel	D-000-900-023	6/30/2011	Pass	None	
28	Sump @ E. Side Of Tk. 25	DW Steel	D-000-900-023	6/30/2011	Pass	None	
29	Sump @ N.W. Side Of Tk. 26	Concrete	D-000-900-023	6/29/2011	Pass	None	
30	Sump @ S.E. Side Of Tk. 27	Concrete	D-000-900-023	7/5/2011	Pass	None	
31	Sump @ West Side Of Tk. 28	Concrete	D-000-900-023	7/6/2011	Pass	None	
32	Sump @ N.E. Side Of Tk. 29	Concrete	D-000-900-023	7/18/2011	Pass	None	
33	Sump @ S.W. Side Of Tk. 30	Concrete	D-000-900-023	7/1/2011	Pass	None	
34	Sump @ N.W. Side Of Tk. 31	Concrete	D-000-900-023	7/20/2011	Pass	None	
35	Sump @ S.E. Side Of Tk. 31	Concrete	D-000-900-023	7/21/2011	Pass	None	
36	Sump @ East Side Of Tk. 32	Concrete	D-000-900-023	6/30/2011	Pass	None	
37	Sump @ N.E. Side Of Tk. 35	DW Steel	D-000-900-023	6/28/2011	Pass	None	
38	Sump @ N.E. Side Of Tk. 36	DW Steel	D-000-900-023	6/30/2011	Pass	None	
39	Sump @ S. Side Of Tk. 18	DW Steel	D-000-900-023	6/29/2011	Pass	None	
40	Sump @ S. Side Of Tk. 19	Concrete	D-000-900-023	6/29/2011	Pass	None	
41	Sump @ S. Side Of Flare	Concrete	D-000-900-023	7/1/2011	Pass	None	
42	Sump @ N.W. Of Precipitator	Concrete	D-000-900-023	7/18/2011	Pass	None	

Appendix D
Below-Grade Sewer Box Inspection Summary

Sewer Box Number	Location	Type Material	Drawing Reference	Actual Inspection Date	Inspection results Pass/Fail	Repairs/Maint Needed	Repairs/Maint Completion date
1	Northwest of Main Pipe Bridge	Concrete	D-500-500-134	na	na	na	Could not test due to operational changes.
2	Southeast of Precipitator	Steel	D-500-500-134	8/1/2011	Pass	None	
3	Southeast of Main Blower	Concrete	D-500-500-134	7/28/2011	Pass	None	
4	Southeast of Old Desalter	Steel	D-500-500-134	8/3/2011	Pass	None	
5	Southeast of Control Room	Concrete	D-500-500-134	7/29/2011	Pass	None	
6	Southeast of Reformer	Steel	D-500-500-124	7/29/2011	Pass	None	
7	Southwest of Mainblower	Concrete	D-500-500-124	7/29/2011	Pass	None	
8	South of E-113's	Concrete	D-500-500-124	7/29/2011	Pass	None	
9	South of P-105's	Concrete	D-500-500-124	7/29/2011	Pass	None	
10	West of New Desalter	Steel	D-500-500-124	8/2/2011	Pass	None	
11	South of T-102	Concrete	D-500-500-124	8/3/2011	Pass	None	
12	South of P-103;s	Concrete	D-500-500-124	8/2/2011	Pass	None	
13	In Roadway South of FCCU	Concrete	D-500-500-134	7/29/2011	Pass	None	
14	In Roadway Southwest of C-801's	Concrete	D-500-500-134	8/1/2011	Pass*	None	
15	In Roadway Southeast of Wet Gas	Concrete	D-500-500-134	8/1/2011	Pass*	None	
16	South of Treater	Concrete	D-500-500-134	8/1/2011	Pass*	None	
17	In Roadway East of DHT	Stainless Steel	D-500-500-134	8/1/2011	Pass	None	
18	In Roadway Southeast of Poly Unit	Concrete	D-500-500-134	8/1/2011	Pass	None	

APPI .X E

Waste 2011

Pick-up Date	Manifest #	Description	Containers		Quantity	Destination	Treatment	Cert. of Disposal/ Consumption
			No.	Type				
3/14/2011	002844410 FLE	UN 2809, Waste Mercury D-009	1	DM	5 G	US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624	Metals Recovery	Yes
3/14/2011	002844410 FLE	NA3077, Hazardous Waste, Solid (Main Column Bottoms Sludge) D-006, D-009, K-170	1	DM	325 P	US Ecology Idaho, Inc. 20400 Lemley Road Grand View, ID 83624	Incineration	Yes
3/14/2011	423421-11	UN 3077, Non-RCRA / Non-DOT Regulated Soil with Dye	1	DM	500 P	Idaho Waste Systems 16415 NW Waste Site Drive Boise, ID 83716	Landfill	Yes

DM = Metal Drum
P = Pounds
G = Gallons

WESTERN REFINING SOUTHWEST, INC. - BLOOMFIELD REFINERY
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2011	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN-TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	3,038,000	0	1,344,152	0	1055	889	943	179	142	164	47	18	30
FEB	482,000	0	1,236,937	0	1078	891	937	188	155	170	51	18	30.2
MAR	1,578,000	0	1,127,624	8	1118	889.0	992.7	202	116	152	45.0	18	25
APR	1,845,000	0	1,420,829	0	1109	892	966	190	145	163	54	18	32
MAY	2,250,000	0	1,658,138	0	1120	926	1044	209	150	180	47	25	38
JUN	1,351,000	2,448,862	1,056,598	217.5	1115	917	1042	210	163	166	47	22	34
JUL	2,684,000	3,052,200	1,823,541	0	1111	976	1045	236	117	165	49	30	40
AUG	1,991,000	1,745,829	1,569,856	45.75	1120	935	1048	153	101	125	53	22	38
SEP	1,478,000	2,823,969	2,823,969	13	1113	1012	1074	140	114	120	51	37	45
OCT	789,000	1,607,062	1,828,580	319	1062	910	1006	143	114	119.5	97	35	66.5
NOV	2,011,000	84,960	3,260,845	50	1057	931	1019	200	117	133.5	97	52	80.9
DEC	779,000	803,606	1,260,585	445	1037	935	1014	200	62	152.9	83	43	76.4

The total amount injected in 2011 is 20,411,654 gallons.

CERTIFICATION: Kelly Rowan DATE: 4/12/12