

AP - 110

**Facility-Wide GW
Monitoring Report**

April 2014

Chavez, Carl J, EMNRD

From: Speer, Julie <JSpeer@trcsolutions.com>
Sent: Friday, June 20, 2014 2:51 PM
To: Chavez, Carl J, EMNRD; Griswold, Jim, EMNRD
Cc: Gilbert, Bryan; Robert.Combs@hollyfrontier.com; Crawford, Dan (Dan.Crawford@HollyFrontier.com); Sahba, Arsin
Subject: Navajo Lovington Refinery (AP-110) - Response to FWGWMWP and 2013 FWGWMR Comments
Attachments: Lovington - Response to OCD FWGWMWP Comments FINAL to OCD 062014.pdf

Carl,

Attached please find Navajo Refining Company's response to your May 16, 2014, correspondence regarding NRC's July 2013 *Facility-Wide Groundwater Monitoring Work Plan* (FWGWMWP) and 2013 *Annual Facility-Wide Groundwater Monitoring Report* (FWGWMR) for the Lovington Refinery.

Thank you,
Julie Speer, E.I.T.
Associate Project Manager



505 East Huntland Drive, Suite 250, Austin, TX 78752
T: 512.684.3148 | F: 512.329.8750 | C: 512.431.8184

jspeer@trcsolutions.com | www.trcsolutions.com



505 East Huntland Drive
Suite 250
Austin, TX 78752

512.329.6080 PHONE
512.329.8750 FAX

www.TRCSolutions.com

June 20, 2014

Mr. Carl J. Chávez
Environmental Engineer
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Sante Fe, New Mexico 87505

Re: Response to OCD's May 16, 2014, Letter Regarding Facility-Wide Groundwater Monitoring Work Plan (July 2013) and Facility-Wide Groundwater Monitoring Report (April 2014), Navajo Refining Company, LLC, Lea Refinery, Lovington, New Mexico, AP-110

Dear Mr. Chávez:

On behalf of Navajo Refining Company LLC (NRC), TRC Environmental Corporation (TRC) is providing this response to the Oil Conservation Division's (OCD's) May 16, 2014, correspondence regarding NRC's July 2013 *Facility-Wide Groundwater Monitoring Work Plan* (FWGWMWP) and 2013 *Annual Facility-Wide Groundwater Monitoring Report* (FWGWMR), dated April 2014.

In the May 16, 2014, letter, the OCD requested a written response to their comments by June 16, 2014. The following provides a response to the OCD's correspondence regarding the FWGWMWP and 2013 FWGWMR. NRC will submit a revised FWGWMWP pending OCD's review and approval of this response.

RESPONSE TO OCD COMMENTS

OCD Cover Letter Comment 1

OCD notices on Page 5 of the letter "Laboratory Analytical List" Paragraph 1: The operator states, "However, this sample plan was developed before the installation of many of the wells in the current network and without historical perspective of relevant ground water chemicals of concern." This statement questions the appropriateness of any operator request(s) in the letter accompanying the plan for reduction in the monitoring frequency, etc. However, a recent review

of the submitted report containing contaminant hydrogeologic information has allowed OCD to proceed with its review and comment on the plan, letter, etc.

Response

The intent of the referenced sentence was to explain that the historically utilized groundwater monitoring program conducted under Groundwater Discharge Permit (GW-014) was developed without the benefit of historical groundwater analytical data. The FWGWMWP was developed in careful consideration of historical groundwater analytical and hydrogeological data. Based on the evaluation of historic groundwater monitoring data, the sampling and analysis scope of the historically utilized groundwater monitoring program can be reduced yet maintain the following objectives: (1) determine and monitor groundwater flow direction and gradient and (2) monitor the nature and extent of dissolved-phase chemicals of concern (COCs). The groundwater monitoring program proposed in the FWGWMWP was developed based on the following criteria for each monitoring well:

1. Location relative to the Site boundaries, dissolved-phase COC exceedance zone, and other wells;
2. The current or historical presence of groundwater COCs at concentrations above Water Quality Control Commission (WQCC) Standards; and
3. Groundwater COC concentration trends over time.

The above criteria could not be considered during the development of the historically utilized groundwater monitoring program under GW-014 as it was developed before the installation of many of the monitoring wells and the available historical groundwater data was limited.

OCD Cover Letter Comment 2

In the future, the operator shall incorporate details of the cover letter into the plan for OCD review, consideration, and possible approval instead of into a separate cover letter.

Response

The FWGWMWP cover letter will not be incorporated into the revised FWGWMWP. The intent of the cover letter was to summarize the proposed modifications to the monitoring program and explain the rationale for those modifications so that the FWGWMWP could be used as a standalone document. In the future, the cover letter will serve only as a transmittal letter that introduces the accompanying document (i.e., work plan, investigation report, etc.).

OCD Cover Letter Comment 3

All monitor/recovery wells that are not sampled shall remain in-tact for possible utilization in the future.

Response

All monitor and recovery wells will remain in-tact for possible future utilization. All monitor and recovery wells will be inspected on an annual basis to ensure well integrity. Based upon inspection results, NRC reserves the right to propose that wells not used after a given period can be plugged and abandoned (P&A'd). NRC is concerned that wells not used are potential conduits to the groundwater (i.e., Lovington Well Head Protection Area) and should be P&A'd.

OCD Cover Letter Comment 4

MWs 10 and 26, which were recommended to not be sampled anymore by the operator, shall be sampled at least annually. The MWs provide useful contaminant hydrogeologic information, i.e. spreading plume(s), etc. that could initiate the contingency plan (CP) over time.

Response

Monitor wells MW-10 and MW-26 will be sampled on an annual basis for select COCs. The FWGWMWP will be revised accordingly.

OCD Cover Letter Comment 5

WW-North, WW-South, and WW-East wells are required to be monitored at least quarterly from now on because they appear to be effectively controlling the facility hydrogeology and ultimately capturing any migrating contaminants in ground water at the facility. Since the facility is within the City of Lovington Well Head Protection Area (WHPA) and ground water appears to be a USDW, and the water produced from the wells is used for sanitary and refinery purposes.

Response

NRC concurs that the refinery water supply wells WW-North, WW-South, and WW-East control the local hydrogeology and prevents off-Site migration of contaminants in the groundwater. NRC also agrees with the monitoring approach that OCD requires, and therefore, these wells will be sampled on a quarterly basis in lieu of collecting monthly samples from WW-East and water supply holding tank Tank 1210. The samples will be analyzed for the same constituents that are analyzed during the semi-annual events, as specified in Table 2-1 of the FWGWMWP. Quarterly sampling of the water supply wells will commence in August 2014. The FWGWMWP will be revised accordingly.

OCD Cover Letter Comment 6

Analytical field sample results for pH, Specific Conductivity, field samples results, etc. shall be reported with the analytical data in future reports. OCD understands why field sample analysis makes sense for certain parameters following acceptable field sample collection and test procedures.

Response

NRC recognizes that the field indicator parameters are used for qualitative purposes during groundwater sample collection. They are measured in the field to determine well stabilization and should not be used for evaluation as opposed to laboratory analytical results. Results of field-measured water quality parameter (pH, temperature, conductivity, total dissolved solids [TDS], oxidation-reduction potential [ORP], dissolved oxygen [DO]) will be presented in a standalone summary table as an appendix in future FWGWMRs.

OCD Cover Letter Comment 7

The CP becomes effective in Section 5.0 when 19.15.30 NMAC becomes applicable. Therefore, the CP must comply with the above environmental contingency measures and/or regulations.

Response

The contingency plan (CP) was developed to comply with 19.15.30 NMAC. As described in Section 5.0 of the FWGWMWP, the CP will become effective if increasing COC concentration trends are identified.

OCD Cover Letter Comment 8

On Page 6 “Closing” the operator indicates that wells installed after the date of the submittal (July 13, 2013 – MWs 12, 17, and 30?) will be sampled on a semi-annual basis until a concentration history has been developed. OCD requires that “until a concentration history has been developed” be replaced with “and listed in the FWGWMWP approved by the OCD”.

Response

The statement is included to indicate that additional wells, unless installed to monitor a specific area on a different schedule, will be incorporated into the existing FWGWMWP and monitored on a semi-annual basis. Monitoring wells MW-12R, MW-17R, and MW-30 were installed prior to the submittal of the FWGWMWP and are already monitored on a semi-annual basis. The text will be revised as requested.

OCD Work Plan Comment 1

The Operator shall comply with United State Environmental Protection Agency (EPA) Quality Assurance/Quality Control with Data Quality Objectives (DQOs) associated with all environmental field sampling and environmental analytical laboratory work completed for the OCD, and/or OCD approved environmental methods, etc.

Response

All groundwater monitoring and laboratory analysis will comply with applicable United States EPA Quality Assurance/Quality Control DQOs and/or OCD approved environmental methods.

OCD Work Plan Comment 2

Table 2-1 Groundwater Sampling Plan Summary: F, G, and H shall also be included during February and August Sampling Events; however, the operator shall utilize acceptable field analytical methods to document these parameters for reports.

Response

Field-measured water quality parameters, including specific conductivity and pH (noted as G and H in Table 2-1, respectively) will be recorded during the February and August sampling events. Select wells will be sampled for laboratory analysis of alkalinity (noted as F in Table 2-1). The FWGWMWP will be revised accordingly.

OCD Work Plan Comment 3

Section 5.0 “Groundwater Monitoring Contingency Plan” of the Table of Contents and Page 5-1 do not correlate, i.e., Section 5.0 “Additional Assessment”. OCD does not approve of this section because the facility is under an Abatement Plan Permit (AP-110) and shall comply with part 30 (19.15.30 NMAC “Remediation”) of the Oil and Gas Regulations when applicable.

Response

The section titled “Groundwater Monitoring Contingency Plan” is Section 5.0 of the FWGWMWP and the section titled “Additional Assessment” is Section 5.0 of Appendix B (“Release Response Guidance”). The FWGWMWP will be revised so that the section headings in Appendix B (“Release Response Guidance”) are identified as B1, B2, B3, etc. NRC acknowledges that the Site is regulated under an Abatement Plan Permit (AP-110).

OCD Work Plan Comment 4

Section 5.0 above could be changed to address OCD leaks, spills, releases guidance associated with any new “C-141 Spill/Release” form submittal that is associated with Part 29 of the Oil and Gas Regulations and would be applicable only in the event of a new leak, spill, and/or release.

Response

Appendix B of the FWGWMWP (“Release Response Guidance”) addresses leaks, spills, and releases, including those that require a C-141 Form in accordance with Part 29 of the Oil and Gas Regulation. The additional assessment described in Section 5.0 of Appendix B (“Additional Assessment”) may be conducted after the initial C-141 Form was submitted and initial spill abatement measures have been completed.

OCD Work Plan Comment 5

Section 5.0 rationale for groundwater sampling based on soil screening limits is also not approved. OCD relies on some criteria from it oil and gas regulations, but also utilizes the WQCC Toxic Pollutants and Standards for ground water contamination in 20.6.2.7(WW) NMAC and 20.6.2.3013 NMAC. Since ground water contamination above WQCC Standards has been confirmed, OCD relies on these standards for ground water cleanup to the greater of the standards and/or background.

Response

Section 5.0 of Appendix B (“Additional Assessment”) proposes the use of New Mexico Environment Department (NMED) risk-based soil screening limits (SSLs) to assess soil conditions and evaluate potential to impact groundwater (i.e., leaching to groundwater pathway) when conducting release assessment and cleanup activities in accordance with 19.15.20 NMAC. NRC understands OCD relies on WQCC Standards for groundwater cleanup in accordance with 19.15.30 NMAC. NRC proposes to use SSLs to evaluate the potential for contaminants in soil to migrate to groundwater to a degree that would exceed WQCC standards, using the scientifically established guidance tool adopted by NMED and EPA.

OCD Work Plan Comment 6

Section 6.0 References should include OCD Oil and Gas Spill/Release (Part 29) (19.15.29 NMAC) and Remediation (Part 30) (19.15.30 NMAC) references along with Water Quality Control Commission (WQCC) (20.6.2 NMAC) water quality toxic pollutants (Section 7(WW)) and ground water standards.

Response

Section 6.0 of the FWGWMWP will be revised to include the requested references.

OCD Plan “Appendix B” Comment 1

Section 1.0 “Initial Release Response and Notification”: The reference to 19.15.3.116 NMAC does not exist. Leaks, spills, and releases are handled under Part 29 (10.15.29 NMAC) and require verification soil remediation in the C-141 Form.

Response

Section 1.0 of Appendix B (“Initial Release Response and Notification”) erroneously referenced former regulation 19.15.3.116 NMAC, which has since been replaced by 19.15.29 NMAC. The reference in Section 1.0 of Appendix B will be corrected to 19.15.29 NMAC.

OCD Plan “Appendix B” Comment 2

Section 3.0 “Soil Confirmation Sampling”: The operator appears to be relying on RALs or SSLs to determine whether leaks, spills, releases to soil media need to be cleaned up. All leaks, spills, and releases to soil media need to be cleaned up by the operator. The issue will become the chemicals of concern and clean-up approved by OCD. It is important to note that OCD must protect all ground water less than 10,000 ppm TDS. While SSLs may be used to assess risk to human health from acceptable exposure in contaminated soil media, OCD’s focus is on the protection of surface and ground water, in addition to public safety at refineries.

Response

NRC understands the requirement to clean up all leaks, spills, and releases and is committed to remediation of spilled materials in order to protect human health and the environment, including groundwater quality. SSLs (including industrial/occupational, construction worker, and leaching to groundwater SSLs) are proposed to be used to evaluate potential impacts to soil due to the absence of OCD-specific clean up values for COCs other than benzene, BTEX, and TPH. NRC shares OCD’s commitment to ensuring groundwater is not affected by leaks, spills, and releases. However, the presence of detectable concentrations of COCs in soil does not necessarily indicate a risk to groundwater. Thus, the use of NMED’s risk-based SSLs for the leaching to groundwater pathway was proposed in Appendix B of the FWGWMWP. In lieu of the utilization of NMED SSLs, NRC requests that OCD provide a standardized approach on the use of soil sample analytical data in evaluating the leaching to groundwater pathway.

The intent of Section 3.0 of Appendix B (“Soil Confirmation Sampling”) was to describe soil sampling protocol to be followed after initial abatement/cleanup activities have been performed

(i.e., after free liquids have been recovered and/or impacted soils have been excavated) to determine if the initial abatement/cleanup activities were sufficient. After initial cleanup activities have been completed, confirmation soil samples will be collected from within and around the potentially affected area as described in Section 3.0. The confirmation soil sample analytical results will be compared to OCD remediation action levels (RALs) or NMED SSLs to determine if the initial abatement or cleanup activities were sufficient or additional assessment and cleanup is required. In addition, NRC will utilize best professional judgment during all cleanup activities.

OCD Plan “Appendix B” Comment 3

Section 4.0 Development of RALs and SSLs: OCD relies on the action levels specified in the Table on Page 4-2; however, OCD may stipulate other parameters of concern, i.e., chloride, sulfate, pH, etc. The operator is directed to Part 30 (19.15.30 NMAC “remediation”) for ground water issues at or from the facility.

Response

NRC understands OCD may stipulate analysis of additional COCs not included on the table on Page 4-2 of Appendix B. Table 1 of Appendix B specifies potential additional COCs that may be analyzed depending on the type of substance released. NRC will consider analysis of additional COCs as required by the OCD, following discussions with OCD regarding the rationale of the request.

OCD Plan “Appendix B” Comment 4

Table 1 does not address contaminants, i.e., VOCs, SVOCs, general chemistry, metals, etc. in ground water.

Response

Please note that contaminants in groundwater are addressed in Table 1 within the third column titled “Groundwater COCs and Analytical Methods”. This column includes VOCs (i.e., BTEX), semi-volatile organic compounds (SVOCs), TPH, metals, anions, and pH.

OCD Plan “Appendix B” Comment 5

OCD accepts Attachment 1 (C-141 Form) for notification of leaks, spills, and releases at the facility. OCD may also accept it for reporting spreading of the ground water plume; however, OCD requires the operator to address Part 30 (see above) for any ground water contamination under its Abatement Plan Permit (AP-110). The C-141 Form may be utilized for ground water contamination discovery purposes.

Response

NRC understands groundwater contamination is to be addressed under its Abatement Plan (AP-110). The C-141 Form will continue to be submitted for any spills, and may be utilized for groundwater contamination discovery purposes.

OCD Report Comment 1

OCD observes the presence of toxic pollutants detected in some monitor wells at the facility.

Response

Although toxic pollutants may be present, NRC will evaluate whether they are a threat to human health and the environment. If contaminants are detected, NRC will monitor concentration trends as compared to applicable standards and discuss with OCD whether further action is warranted based on potential risk.

OCD Report Comment 2

Nitrites and nitrates have been detected above the WQCC Standards at MW-25 near the office and sanitary facilities. The operator shall evaluate septic disposition procedures for preventing discharges into ground water above the WQCC water quality standards, i.e., pumping septic systems and proper disposal, etc.

Response

NRC has evaluated septic disposition procedures for preventing discharges into groundwater. The septic system includes a leach field and is therefore not pumped out except for unusual circumstances or maintenance. The septic tank has only been pumped out once since it was installed in July 2009 – in January 2014 due to a clog in the system piping. The septic system was installed in accordance with 20.7.3 NMAC under the July 9, 2009, NMED permit HO-09-0073. There have been no known releases associated with the septic system. In addition, the August 2013 and February 2014 nitrate-nitrite concentrations at well MW-25 (3.42 milligrams per liter [mg/L] and 2.98 mg/L, respectively) were below the WQCC standard of 10 mg/L, which is consistent with historical concentrations at this well and nearby wells MW-26, WW-North, and WW-South. Regardless, nitrate-nitrite concentrations will continue to be monitored closely at well MW-25 and NRC will continue to maintain and monitor the septic system to prevent discharges into groundwater (i.e., beyond regular leaching in accordance with the NMED permit).

OCD Report Comment 3

OCD requires that a monitor well be emplaced hydrogeologically upgradient of MW-11 where BTEX is present above WQCC water quality standards to help identify the source of contamination. In addition, the operator shall propose corrective action(s) to remove contamination from ground water within 30 days of receipt of this letter.

Response

NRC acknowledges the intermittent presence of benzene detected in MW-11, but feels there is a lack of risk for off-Site migration and/or danger to potential receptors due to the current groundwater flow regime towards the central portion of the refinery (i.e., the groundwater cone of depression) and the lack of benzene impacts in any other Site wells. As presented in the 2013 FWGWMWR, benzene was not detected at monitoring well MW-11 in February 2013 or August 2013.

One monitoring well, MW-30, was installed hydrogeologically upgradient of MW-11 in June 2013 in an attempt to identify the source of benzene concentrations intermittently detected in MW-11. The results were provided to the OCD in the December 2013 *Refinery Investigation Report*. As described in the *Refinery Investigation Report*, NRC believes that unidentified historical releases within the refinery process area are the likely source of sporadic benzene concentrations in monitoring well MW-11 that exceeded the WQCC Standard. Existing Site infrastructure prohibits the safe installation of a well within the refinery process area. However, well MW-11 serves as a representative monitoring point of the refinery process area as it is located immediately downgradient of the refinery process area in the only available location in which a well can be installed due to existing Site infrastructure (i.e., above- and belowground piping, tanks, berms, etc).

NRC will continue to closely monitor BTEX concentrations at MW-11, but does not propose any corrective actions at this time. NRC will propose appropriate corrective actions in a *Phase 2 Abatement Plan Proposal*, which will be submitted pending OCD review and approval of the *Refinery Investigation Report*.

OCD Report Comment 4

MWs 18 and 19 appear to be positioned at the center of the groundwater cone of depression and should be monitored semi-annually at a minimum.

Response

The FWGWMWP proposed semi-annually sampling of well MW-19 and annual sampling of well MW-18. Monitor well MW-18 was proposed to be sampled on an annual basis for select COCs because of the following rationale:

1. Historical COC concentrations are stable to decreasing in this well.
2. No VOCs, SVOCs, or metals have been detected at concentrations that exceeded their respective WQCC Standards in this well
3. MW-18 is located adjacent and up-gradient (within the cone of depression) to water supply well WW-North, which will now be sampled on a quarterly basis.

NRC requests further justification from the OCD regarding the requirement of semi-annual sampling of MW-18.

OCD Report Comment 5

The operator shall review oil and gas well records based on well API #s within vicinity and upgradient of contamination (Figures 5-10) to identify any possible oil and gas well source(s) of contamination, i.e., any compliance issues. LPU-14 is the only active well (injection well) located upgradient from MW-15 based on the hydrogeology. There are also some production wells that are TA's and a PA'd injection well (LSAU-4). MW-2 appears to be the background ground water quality well for the facility.

Response

NRC reviewed oil and gas records within the vicinity of the Site and presented the results in the December 2013 *Refinery Investigation Report*. The location of the active and plugged injection and production wells in the vicinity of the Site will be provided on a Site figure and submitted with the revised FWGWMWP for your reference.

NRC does not agree that well MW-2 appears to be the background groundwater quality well for the facility. Background is defined in 20.6.2 NMAC as “the amount of groundwater contaminants naturally occurring from undisturbed geologic sources or water contaminants which...are occurring from a source other than the responsible person’s facility”. Well MW-2 does not meet the requirements of a background groundwater quality well because it is located immediately downgradient of a potential source (Tanks 1201A and 1201B) and is therefore not outside influence of the Site’s potential operations and impacts. Well MW-15 is the only Site well that is located upgradient from all potential Site sources as it is located along the upgradient property boundary. COCs, including chloride, fluoride, TDS, and chromium, have historically

Mr. Carl J. Chavez

June 20, 2014

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been detected in well MW-15 at concentrations greater than those detected in well MW-2. Chromium has never been detected in MW-2, but it has historically been detected in MW-15 and at a concentration that exceeded the WQCC Standard in February 2013. In addition, chloride and TDS have been present in MW-15 at concentrations that exceed the WQCC Standards since January 2012. For these reasons, NRC believes MW-15 is the most representative well to demonstrate background conditions at the Site.

OCD Report Comment 6

The operator should implement analytical and acceptable statistical measures to establish background ground water quality for the facility if it does not wish to rely solely on WQCC water quality standards at the facility.

Response

NRC will consider future establishment of background groundwater quality for the Site.

CLOSING

NRC will submit a revised FWGWMWP pending OCD's review and approval of this response.

If you have any questions regarding this response, please do not hesitate to contact TRC representatives Bryan Gilbert at (512) 684-3104 or Julie Speer at (512) 684-3148 or NRC personnel Robert Combs at (575) 746-5382 or Dan Crawford at (575) 746-5487.

Sincerely,



Bryan Gilbert, P.G.
Project Manager
bgilbert@trcsolutions.com

Sincerely,



Julie Speer, E.I.T.
Associate Project Manager
jspeer@trcsolutions.com

cc: Jim Griswold, OCD, Santa Fe, New Mexico
Robert Combs, NRC, Artesia, New Mexico
Dan Crawford, NRC, Artesia, New Mexico



505 East Huntland Drive
Suite 250
Austin, TX 78752

512.329.6080 PHONE
512.329.8750 FAX

www.TRCsolutions.com

April 15, 2014

Mr. Carl J. Chavez
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: 2013 Annual Facility-Wide Groundwater Monitoring Report, Navajo Refining Company, Lea Refinery, Lovington, New Mexico, AP-110.

Dear Mr. Chavez:

Please find enclosed the original and one electronic copy of the *2013 Annual Facility-Wide Groundwater Monitoring Report* (Report) for the Navajo Refining Company (NRC) Lea Refinery (refinery) located in Lovington, New Mexico. The Report summarizes the results of groundwater monitoring activities conducted at the refinery under AP-110 during calendar year 2013.

If you should have any questions or comments regarding this Report, please feel free to contact me at (512) 684-3104 or Julie Speer at (512) 684-3148.

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Gilbert".

Bryan Gilbert, P.G.
Project Manager

Sincerely,

A handwritten signature in blue ink, appearing to read "Julie Speer".

Julie Speer, E.I.T.
Associate Project Manager

cc: Robert Combs, The HollyFrontier Companies, Artesia, New Mexico
Dan Crawford, Navajo Refining Company, Artesia, New Mexico
Arsin Sahba, TRC, Austin, Texas

2013 Annual Facility-Wide Groundwater Monitoring Report



**The HollyFrontier Companies
Navajo Refining Company
Lea Refinery
Lovington, New Mexico**

April 2014

Prepared for:


HOLLYFRONTIER
Navajo Refining Company
Artesia, New Mexico

Prepared by:



TRC Environmental Corporation
Austin, Texas

2013 Annual Facility-Wide Groundwater Monitoring Report

The HollyFrontier Companies/Navajo Refining Company
Lea Refinery
Lovington, New Mexico

Prepared for:



The HollyFrontier Companies/Navajo Refining Company
Artesia, New Mexico

Prepared by:



505 East Huntland Drive, Suite 250
Austin, Texas 78752

TRC Project No. 212979

April 2014

Principal Lead



Technical Lead



EXECUTIVE SUMMARY

This *2013 Annual Facility-Wide Groundwater Monitoring Report* documents groundwater monitoring activities conducted at the Lea Refinery (refinery) in Lovington, New Mexico during calendar year 2013. The monitoring objectives are to determine groundwater elevations, flow direction, and gradient and obtain dissolved-phase toxic pollutant concentration data.

The groundwater monitoring program consists of semi-annual groundwater gauging of wells; semi-annual groundwater sampling of wells; monthly sampling of one water supply well and holding tank; and annual reporting. Monitoring activities were conducted in general accordance with the Groundwater Discharge Permit (GW-014) issued by the New Mexico Oil Conservation Division (OCD). The OCD rescinded the Groundwater Discharge Permit on February 9, 2012, and the refinery is currently regulated under Abatement Plan (AP-110). This *2013 Annual Facility-Wide Groundwater Monitoring Report* documents groundwater monitoring activities conducted in 2013 under AP-110, in accordance with NRC's February 22, 2013, Memorandum to the OCD.

The 2013 groundwater monitoring results indicate that physical and chemical groundwater conditions are generally consistent with historical data. The presence of select anions, total dissolved solids, and metals in select wells at concentrations above Water Quality Control Commission (WQCC) Human Health Standards is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

Navajo Refining Company (NRC) will continue to implement groundwater monitoring activities during 2014. A *Facility-Wide Groundwater Monitoring Work Plan* (FWGWMWP) including standard response/corrective action procedures for responding to releases at the refinery was submitted to the OCD on July 31, 2013. NRC will continue to implement groundwater monitoring at the refinery in accordance with GW-014, pending OCD review and approval of the FWGWMWP.

Groundwater source determination and background evaluation activities were conducted in June 2013 in accordance with the *Source Determination and Background Evaluation Work Plan* submitted to the OCD under AP-110 on December 6, 2012. The source determination and background evaluation included the installation of monitoring well MW-30 and results were presented in the *Refinery Investigation Report* that was submitted to the OCD on December 30, 2013. A *Phase 2 Abatement Plan Proposal* will be submitted pending OCD review and approval of the *Refinery Investigation Report*.

Damaged monitoring wells MW-12 and MW-17 were replaced in June 2013 with monitoring wells MW-12R and MW-17R.

No reportable releases occurred at the refinery during 2013.

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APPENDIX D	PLOTS OF GROUNDWATER CONCENTRATIONS OVER TIME

1.0 INTRODUCTION

On behalf of The HollyFrontier Companies (HFC) and Navajo Refining Company (NRC), TRC Environmental Corporation (TRC) is submitting this *2013 Annual Facility-Wide Groundwater Monitoring Report* to summarize the results of groundwater monitoring activities conducted at the Lea Refinery (refinery) in Lovington, New Mexico during calendar year 2013. Previous annual monitoring reports were submitted in accordance with a Groundwater Discharge Permit (GW-014) issued by the New Mexico Oil Conservation Division (OCD). The Groundwater Discharge Permit was due to expire on October 30, 2011 and a renewal draft permit was issued in August 2011 that was to go into effect by November 1, 2011. However, the OCD rescinded the Groundwater Discharge Permit on February 9, 2012, and the refinery is currently regulated by the OCD under AP-110. This report is prepared in accordance with NRC's February 22, 2013, Memorandum to the OCD and OCD's response on February 28, 2013.

1.1 Refinery Description

The NRC Lea Refinery is located approximately five miles south of Lovington in Lea County, New Mexico. The facility is operated by NRC and consists of refining operations and includes Holly Energy Partners – Operating, L.P. (HEP) pipeline and receiving stations. A refinery vicinity map is provided as Figure 1 and a refinery site plan is provided as Figure 2.

2.0 MONITORING WELL INSTALLATION AND REPLACEMENT

TRC conducted groundwater investigation activities from June 18 to 21, 2013, to (1) determine the likely source of benzene concentrations in monitoring well MW-11 and (2) replace monitoring wells MW-12 and MW-17, which were damaged by past refinery operations. A total of three monitoring wells (MW-12R, MW-17R, and MW-30) were installed in the uppermost groundwater-bearing unit (GWBW). Monitoring wells MW-12 and MW-17 were plugged and abandoned and replacement wells MW-12R and MW-17R, respectively, were installed in close proximity to the former well locations. Monitoring well MW-30 was installed downgradient (approximately southeast) of Tanks 1201B, 1201C, and 1201D and upgradient (northwest) of the refinery process area to determine which of these potential sources is responsible for the benzene concentrations historically present at MW-11. The locations of these monitoring wells are shown on Figure 2.

2.1 Well Installation

Monitoring wells MW-12R, MW-17R, and MW-30 were installed on June 18 and 19, 2013 under the State of New Mexico Office of the State Engineer (OSE) permit L-13332 using air-rotary drilling methods. The return cuttings from the boreholes were continuously collected with a clean shovel; described based on lithology, moisture content, and notable presence of contamination (i.e., odor and staining); and field screened for volatile organic compounds (VOCs) using a photoionization device (PID). The monitoring wells were constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and twenty linear feet of 0.010-inch machine-slot PVC screen. The well screens were installed across the saturated zone-vadose zone interface. The annular space was filled with 8/16-grade silica sand to approximately 2 feet above the screen. The annular space above the sand pack was sealed as follows:

- MW-12R: Four feet of hydrated 3/8-inch bentonite chips was emplaced above the sand pack. Portland cement and bentonite grout was emplaced above the bentonite chips with a tremie pipe to two feet below ground surface (bgs). The remaining annular space was sealed with Portland cement.
- MW-17R and MW-30: Hydrated 3/8-inch bentonite chips were emplaced above the sand pack to two feet bgs. The remaining annular space was sealed with Portland cement to the ground surface. Mechanical failure of the grout pump prevented the use of cement and bentonite grout to seal these wells.

Each monitoring well was completed with a concrete pad and either a flush-grade steel cover (MW-30) or a three-foot stickup, steel protective cover (MW-12R and MW-17R). Soil boring/well construction logs and State of New Mexico Well Records for monitor wells MW-

12R, MW-17R, and MW-30 are provided in Appendix A. Upon completion, the monitor wells were developed by surging and purging using a submersible pump.

A groundwater sample was collected for laboratory analysis from monitoring well MW-30 on June 21, 2013, after development. The results were presented in the December 2013 *Refinery Investigation Report* and are presented in Table 2 and Table 3.

2.2 Monitoring Well Abandonment

Monitoring wells MW-12 and MW-17 were plugged and abandoned on June 21, 2013, under permit by the OSE. These wells were damaged by operations at the refinery and could no longer be sampled. Replacement wells were installed as detailed above.

Monitoring wells MW-12 and MW-17 were plugged in accordance with the plugging permit by pressure filling the casing with cement grout from total depth to land surface. The grout was allowed to settle and any remaining void was filled with additional cement grout. The upper portion of the top of casing was cut below ground surface and removed.

3.0 SEMI-ANNUAL GROUNDWATER MONITORING ACTIVITIES

Semi-annual groundwater monitoring activities were conducted at the refinery in February 2013 and August 2013. TRC conducted the first semi-annual groundwater monitoring event from February 19 to February 27, 2013, and the second semi-annual event from August 20 to August 22, 2013. Groundwater monitoring activities consisted of: (1) gauging all refinery monitoring wells (MW-1 through MW-29 in February 2013; MW-1 through MW-30 in August 2013) and one recovery well (RW-1) and (2) collecting groundwater samples for laboratory analysis from all refinery monitoring wells (MW-1 through MW-29 in February 2013; MW-1 through MW-30 in August 2013), one recovery well, and three water supply wells (WW-North, WW-South, and WW-East). The locations of the monitoring wells, recovery well, and water supply wells are presented in Figure 2.

The following deviations to the sampling and analysis plan presented in the rescinded Groundwater Discharge Permit (GW-014) were documented during the February 2013 monitoring event:

- Well MW-12 was damaged and could not be sampled.
- Well MW-17 was damaged and could not be gauged or sampled.
- Water supply well WW-East was not in operation and could not be sampled.

The following deviations to the sampling and analysis plan presented in the rescinded Groundwater Discharge Permit (GW-014) were documented during the August 2013 monitoring event:

- Water supply wells WW-North, WW-South, and WW-East were not in operation and could not be sampled.
- Well MW-14 could only be sampled for VOCs due to poor recharge resulting in insufficient water volume.

3.1 Fluid Level Gauging

Except as identified as deviations above, all refinery monitoring and recovery wells were gauged during the February and August 2013 semi-annual monitoring events to determine the groundwater elevation, groundwater flow direction and gradient, the presence or absence of phase-separated hydrocarbons (PSH), and apparent PSH thickness. A decontaminated oil-water interface probe was used to measure depth to water and depth to PSH, if present. Depth to water and depth to PSH were measured to the nearest 0.01-foot from the top of the well casing.

3.2 Groundwater Sample Collection

Groundwater samples were collected for laboratory analysis from the following wells during the semi-annual monitoring events:

- February 2013: 27 refinery monitoring wells (MW-1 through MW-11, MW-13 through MW-16, MW-18 through MW-29), one recovery well (RW-1), and two water supply wells (WW-North and WW-South)
- August 2013: 30 refinery monitoring wells (MW-1 through MW-30) and one recovery well (RW-1)

Each monitoring and recovery well was purged and sampled using low-flow sampling procedures. A stainless steel, submersible pump (Proactive model SS-Monsoon) with a low-flow, electric controller and dedicated vinyl tubing or disposable low-density polyethylene (LDPE) was used for purging and sampling the monitoring wells and recovery well. The pump intake was placed at the middle of the water column because the water elevations were within the screened well intervals. A water quality meter and turbidity meter were used to measure pH, temperature, conductivity, oxidation/reduction potential (ORP), dissolved oxygen and turbidity at regular intervals during the purging process to obtain geochemical data and to monitor for stabilization of the groundwater. The purging process was considered complete when three of the six water quality parameters achieved stabilization.

The water supply wells were purged and sampled from a sampling point (i.e., tap or spigot) located at or near the well head or pump house and before the water supply is introduced into any storage tank or treatment unit. The wells were purged at the sample point to remove any standing water from the well casing and surface piping. Grab readings of geochemical parameters, including pH, temperature, conductivity, ORP, dissolved oxygen and turbidity, were also collected during the purging process.

After the purging process was complete, groundwater samples were collected directly from the dedicated tubing (for the monitoring and recovery wells) or from the water supply well sampling point into method-specific containers provided by the laboratory. Samples collected for dissolved metal analyses were filtered in the field using a 0.45 micron filter. Samples collected for total metals were filtered with a 10 micron filter if the turbidity at the time of sampling was greater than 10 nephelometric turbidity units (NTUs). All groundwater samples were submitted to ALS Environmental Laboratory in Houston, Texas under appropriate chain-of-custody documentation for the following analyses:

- VOCs by Method SW8260;
- Semi-volatile organic compounds (SVOCs) by Method SW8270;

- Dissolved metals (aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, uranium, zinc) by Method SW6020;
- Total mercury by Method SW7470A;
- Anions (chloride, fluoride, nitrate, nitrite, and sulfate) by United States Environmental Protection Agency (U.S. EPA) Method 300.0;
- Alkalinity by Method SM2320B;
- Specific conductivity by Method M2510 B; and
- Total dissolved solids (TDS) by Method M2540C.

4.0 SEMI-ANNUAL GROUNDWATER MONITORING RESULTS

Results of the semi-annual groundwater monitoring activities conducted in February 2013 and August 2013 are discussed below.

4.1 Fluid Gauging Results

Fluid level gauging was performed on February 18, 2013, and on August 19, 2013. Depth to water measurements and groundwater elevations are presented in Table 1. No PSH was detected in any monitoring or recovery well during either gauging event. Potentiometric groundwater surface maps for the February 2013 and August 2013 gauging events are presented as Figures 3 and 4, respectively. The groundwater elevations measured during both gauging events indicate groundwater flows radially (southeast, south, and north/northwest) towards a cone of depression near the three water supply wells located within the central portion of the refinery. This cone of depression is consistent with previous events and is induced by groundwater pumping from the three on-site water supply wells for refinery process use and non-potable restroom and safety shower use.

Groundwater elevations measured during the February 2013 event decreased an average 0.73 feet from those measured in January/February 2012. The February 2013 groundwater elevation data indicates groundwater beneath the northwestern portion of the refinery flows southeast towards the cone of depression at a hydraulic gradient ranging from 0.004 to 0.005 feet per foot. North of the cone of depression, groundwater flows south at a hydraulic gradient of 0.004 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.003 to 0.007 feet per foot.

Groundwater elevations measured during the August 2013 event decreased an average 1.57 feet from those measured in July 2012. The August 2013 groundwater elevation data indicates groundwater northwest of the cone of depression flows southeast at a hydraulic gradient ranging from 0.007 to 0.018 feet per foot. North of the cone of depression, groundwater flows south/southwest at a hydraulic gradient ranging from 0.009 to 0.012 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.005 to 0.010 feet per foot. The increased hydraulic gradient observed in August 2013 near the cone of depression is caused by a decrease in the groundwater elevation measured at MW-18. The groundwater elevation measured at MW-18 in August 2013 decreased 7.28 feet from February 2013, which is low compared to historical groundwater elevation measurements but is similar to the historical minimum groundwater elevation recorded in July 2012. The low groundwater elevation at MW-18 may be related to recent groundwater pumping at nearby water supply well WW-North. The groundwater level in MW-18 will be watched closely during the next monitoring event.

A graph of groundwater elevations versus time for wells MW-4 and MW-6 is provided in Appendix B. As shown on the graph, groundwater elevations in wells MW-4 and MW-6 have decreased 4.81 feet and 5.06 feet, respectively, from June 2009 to August 2013. These reductions in groundwater are consistent across the refinery and are likely due to (1) limited recharge due to low rainfall levels and (2) active pumping from three on-site water supply wells and City of Lovington water supply wells located northwest and west (i.e., upgradient) of the refinery.

4.2 Groundwater Sampling Results

Analytical results of organic and inorganic constituents in groundwater samples collected during the 2013 sampling events are presented in Tables 2 and 3, respectively. The analytical data are compared to the New Mexico Water Quality Control Commission (WQCC) Human Health Standards for groundwater and any results that exceeded these standards are shaded gray. Groundwater concentration maps are provided as Figures 5 to 10 for constituents that exceeded WQCC Standards. Laboratory analytical reports are provided in Appendix C. Plots of groundwater concentrations over time for detected constituents are provided in Appendix D.

4.2.1 Organic Constituent Results

Analytical results for VOCs and SVOCs (organic constituents) in groundwater are presented in Table 2. Naphthalene results are included in the VOC (SW8260) and SVOC (SW8270) sections of this report as it is reported by both analytical methods.

4.2.1.1 Volatile Organic Compounds

VOCs were not detected above the laboratory reporting limits in 29 of the 30 wells sampled during the February 2013 sampling event nor in any of the 31 wells sampled during the August 2013 sampling event. Benzene was detected at a concentration of 0.0052 milligrams per liter (mg/L), which is below the WQCC standard of 0.010 mg/L, in water supply well WW-South during the February 2013 sampling event. Benzene had not previously been detected in WW-South. Well WW-South was not in operation in August 2013 and no sample could be collected. Benzene concentrations in water supply well WW-South will be watched closely during future monitoring events.

Concentration maps of VOCs in groundwater for the February 2013 and August 2013 sampling events are not provided because none of the reported concentrations exceeded the WQCC Standards.

4.2.1.2 Semi-Volatile Organic Compounds

SVOCs were not detected above the laboratory reporting limit in 27 of the 30 wells sampled during the February 2013 event nor in 27 of the 31 wells sampled during the August 2013 event.

In February 2013, 2-methylnaphthalene was detected in monitoring well MW-21 at a concentration below the WQCC Standard of 0.03 mg/L. 2-methylnaphthalene had not previously been detected in well MW-21. In addition, phenol was detected in wells MW-2 and MW-28 at concentrations below the WQCC Standard of 0.005 mg/L. Phenol had not previously been detected in wells MW-2 or MW-28.

In August 2013, phenol was detected in wells MW-10, MW-26, and MW-28 at concentrations below the WQCC Standard of 0.005 mg/L. Phenol had not previously been detected in wells MW-10 or MW-26.

Wells MW-2, MW-10, MW-21, MW-26, and MW-28 will be watched closely during future monitoring events. Concentration maps of SVOCs in groundwater for the February 2013 and August 2013 sampling events are not provided because none of the reported concentrations exceeded the WQCC Standards.

4.2.2 Inorganic Constituent Results

Analytical results for anions, TDS, and metals (inorganic constituents) in groundwater are presented in Table 3. A discussion of the inorganic constituent results is provided below.

4.2.2.1 Anions

The February 2013 analytical results indicate that chloride, fluoride, and nitrate/nitrite are present in groundwater at concentrations above their respective WQCC Standards. Chloride was detected at a concentration above the WQCC Standard of 250 mg/L in 5 of the 30 wells sampled with a maximum detected concentration of 662 mg/L in MW-23. Fluoride was detected at a concentration above the WQCC Standard of 1.6 mg/L in 3 of the 30 wells sampled with a maximum detected concentration of 2.47 mg/L in MW-3. Nitrate-nitrite was detected at a concentration above the WQCC Standard of 10 mg/L in 2 of the 30 wells sampled with a maximum detected concentration of 19.4 mg/L in MW-25.

The August 2013 analytical results indicate that chloride and fluoride are present at concentrations above their respective WQCC Standards. Chloride was detected at a concentration above the WQCC Standard of 250 mg/L in 6 of the 31 wells sampled with a maximum detected concentration of 548 mg/L in MW-13. Fluoride was detected at a concentration above the WQCC Standard of 1.6 mg/L in 4 of the 31 wells sampled with a maximum detected concentration of 2.77 mg/L in MW-24.

Concentration maps of anions that exceeded WQCC Standards in groundwater for the February 2013 and August 2013 sampling events are provided as Figures 5 and 6, respectively.

Reported anion concentrations for the 2013 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

- MW-8: Nitrate-nitrite concentrations increased from 8.55 mg/L in July 2012 to 11.1 mg/L in February 2013, which is the historical maximum reported concentration at the well since June 2009. The nitrate-nitrite concentration decreased to 9.49 mg/L (below the WQCC Standard of 10 mg/L) in August 2013. The February 2013 nitrate-nitrite result is the first and only exceedance of the WQCC Standard for nitrate-nitrite observed in MW-8. This well will be watched closely during future groundwater monitoring events.
- MW-10: Chloride concentrations increased from 48 mg/L in February 2013 to 95 mg/L in August 2013, which is the historical maximum reported at the well since June 2009. However, the chloride concentrations remain below the WQCC standard of 250 mg/L. This well will be watched closely during future groundwater monitoring events.
- MW-15: Chloride concentrations increased from 254 mg/L in February 2013 to 381 mg/L in August 2013, which is the historical maximum reported concentration at the well since August 2010. The historical trend of chloride concentrations in MW-15 indicates fluctuating concentrations likely related to seasonal recharge effects.
- MW-25: Chloride concentrations increased from 109 mg/L in February 2013 to 314 mg/L in August 2013, which is the historical maximum reported concentration at the well since August 2010. This well will be watched closely during future groundwater monitoring events.
- MW-27: Chloride concentrations increased from 199 mg/L in February 2013 to 315 mg/L in August 2013, which is the historical maximum reported concentration at the well since August 2010. The August 2013 chloride result is the first exceedance of the WQCC Standard for observed in MW-27. This well will be watched closely during future groundwater monitoring events.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of anions at concentrations above WQCC Standards in select wells, including fluoride (wells MW-3, MW-9, MW-24, MW-28, and MW-30), chloride (wells MW-13, MW-15, MW-19, MW-23, MW-25, MW-27, and WW-South), and nitrate-nitrite (well MW-25), is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

4.2.2.2 Total Dissolved Solids

During the February 2013 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 5 of the 30 wells sampled with a maximum detected concentration of 2,040 mg/L in well MW-23. During the August 2013 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 9 of the 31 wells

sampled with a maximum detected concentration of 2,000 mg/L in well MW-13. Concentration maps of TDS in groundwater for the February 2013 and August 2013 sampling events are provided as Figures 7 and 8, respectively. Reported TDS concentrations for both 2013 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

- MW-25: TDS concentrations increased from 788 mg/L in February 2013 to 1,350 mg/L in August 2013, which is the historical maximum reported concentration at the well since August 2010. The historical trend of TDS concentrations in MW-25 indicates fluctuating concentrations likely related to seasonal recharge effects.
- MW-26: TDS concentrations increased from 760 mg/L in February 2013 to 1,170 mg/L in August 2013. The August 2013 TDS result is slightly higher than the previous historical maximum of 1,030 mg/L observed in July 2011. This well will be watched closely during future groundwater monitoring events.
- MW-27: TDS concentrations increased from 756 mg/L in February 2013 to 1,180 mg/L in August 2013, which is the historical maximum reported concentration at the well since August 2010. The August 2013 TDS result is the first exceedance of the WQCC Standard. This well will be watched closely during future groundwater monitoring events.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of TDS at concentrations above WQCC Standards in select wells (including wells MW-13, MW-15, MW-17R, MW-18, MW-19, MW-23, MW-25, MW-26, MW-27, and WW-South) is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

4.2.2.3 Metals

The February 2013 analytical results indicate that chromium, iron, and manganese are present in groundwater at concentrations above their respective WQCC Standards. Chromium was detected above its WQCC Standard of 0.05 mg/L in 2 of the 30 wells sampled at a maximum concentration of 0.129 mg/L in well MW-15. Iron was detected above its WQCC Standard of 1.0 mg/L in well MW-6 at a concentration of 1.33 mg/L. Manganese was detected at a concentration above the WQCC Standard of 0.2 mg/L in 5 of the 30 wells sampled with a maximum detected concentration of 5.47 mg/L in well MW-11.

The August 2013 analytical results indicate that chromium and manganese are present in groundwater at concentrations above their respective WQCC Standards. Chromium was detected above its WQCC Standard of 0.05 mg/L in well MW-29 at a concentration of 0.117 mg/L. Manganese was detected at a concentration above the WQCC Standard of 0.2 mg/L in 5 of the 31 wells sampled with a maximum detected concentration of 2.92 mg/L in well MW-11.

Concentration maps of metals that exceeded WQCC Standards in groundwater for the February 2013 and August 2013 sampling events are provided as Figures 9 and 10, respectively. As shown in Figures 9 and 10, metal exceedances are present in groundwater beneath the wastewater separator, the former salt water disposal wells, and between Tanks 1214 and 1203, which are all located within the northwestern/central portion of the Lea Refinery.

Reported metal concentrations for the 2013 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

- MW-11: Manganese concentrations increased from 2.54 mg/L in July 2012 to 5.47 mg/L in February 2013, which is the historical maximum reported at the well since June 2009. The historical trend of TDS concentrations in MW-11 indicates fluctuating concentrations likely related to seasonal recharge effects. This well will be watched closely during future sampling events.
- MW-13: Manganese concentrations increased from 0.459 mg/L in July 2012 to 0.571 mg/L in February 2013 and to 0.705 mg/L in August 2013, which is the maximum reported at the well since June 2009. This well will be watched closely during future sampling events.
- MW-15: Chromium concentrations increased from 0.0110 mg/L in July 2012 to 0.129 mg/L in February 2013, which is the historical maximum reported concentration at the well since August 2010. The chromium concentration decreased to 0.00594 mg/L (below the WQCC Standard of 0.05 mg/L) in August 2013. The February 2013 chromium result is the first and only exceedances of the WQCC Standard observed in MW-15. This well will be watched closely during future sampling events.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of metals at concentrations above WQCC Standards in select wells, including manganese (wells MW-11 and MW-13) and chromium (well MW-15), is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

5.0 MONTHLY WATER WELL AND TANK SAMPLING AND ANALYTICAL RESULTS

Groundwater samples were collected from water supply well WW-East and water supply holding tank Tank 1210 on a monthly basis if they were in operation in accordance with July 2012 e-mail correspondence between NRC and OCD. The objective of the monthly sampling was to evaluate the potential risk associated with use of the water in refinery restrooms and safety showers (the water is not used for drinking or cooking). Water supply holding tank Tank 1210 stores water pumped from water supply wells WW-North, WW-South, and WW-East. Water supply well WW-East is sampled monthly as it is the primary source of refinery water supply (i.e., the well operates approximately 70 to 80 percent of the time). Water supply wells WW-North and WW-South are used to supplement well WW-East (i.e., WW-North and WW-South each operate only 10 to 15 percent of the time) and are thus not sampled on a monthly basis. A sample was not collected from WW-East in January, August, or September 2013 because the well was not in operation during those months. A sample was not collected from Tank 1210 in January 2013 because the water supply wells were not in operation or in August through December 2013 because the tank was shut down for maintenance.

Groundwater samples collected from WW-East and Tank 1210 were submitted to ALS Environmental Laboratory in Houston, Texas under appropriate chain-of-custody documentation for analysis of U.S. EPA Region 5 Skinner List of Constituents. Analytical results of the water supply well and holding tank samples are summarized in Table 4 and are compared to WQCC Standards and risk-based remediation goals (RBRGs) as determined in the December 2013 *Refinery Investigation Report*. None of the Skinner List constituents were detected at concentrations above their respective WQCC Standard or RBRG in any of the monthly samples. Based on these results, the water poses no risk associated with continued use in refinery restrooms and safety showers. It is proposed that the frequency of sample collection of WW-East and Tank 1210 be reduced from monthly to quarterly.

6.0 QUALITY ASSURANCE/QUALITY CONTROL

6.1 Semi-Annual Groundwater Samples

Thirty water samples, three field duplicates, three trip blanks, and two equipment blanks were collected from February 19 to 27, 2013. Thirty-one water samples, four field duplicates, three ambient blanks, two equipment blanks, and one trip blank were collected on from August 20 to 22, 2013. These samples were submitted to ALS Environmental Laboratory in Houston, Texas for analyses. Data for the following methods are reported:

- Chloride, fluoride, sulfate, and nitrate/nitrite by U.S. EPA Method 300.0
- Alkalinity by Standard Method (SM) 2320B
- Specific conductivity by SM 2510B
- pH BY SM4500H+B
- TDS by SM 2540C
- Dissolved metals by SW846 Method 6020
- Mercury by SW846 Method 7470
- VOCs by SW846 Method 8260
- Low-level SVOCs by SW846 Method 8270

TRC Quality Assurance (QA) staff reviewed resultant data on March 21, 2014. Six separate data packages identified as work orders 1302675, 1302746, 1302789, 1303029, 1303034, and 13081020 were reviewed. Data were reviewed for compliance with the analytical protocols used for sample analysis and laboratory-defined control limits. Items reviewed during the data validation process included the following:

- Sample integrity
- Blank analyses
- Spike recoveries
- Duplicate recoveries
- Sample documentation

The following data interpretation issues were identified:

- Laboratory notes indicate that all pH analyses were performed outside of holding time. The method states that samples must be analyzed immediately. ALS interprets this to mean within 15 minutes of collection. Samples collected in February were analyzed within 8 days of collection. Samples collected in August were analyzed within 7 days of collection.
- Laboratory notes indicate that all SVOC internal standard recoveries associated with sample MW-14 07:40 (February 2013) were below control limits. However, these internal standards were not associated with reported compounds.
- Laboratory notes indicate that continuing calibration (CCV) percent differences (%D) were above the control limits for naphthalene and bromomethane in batch R143484. These compounds were not detected in any of the associated samples; therefore, there are no data interpretation issues associated with these high %Ds.
- The recovery of bromomethane in the laboratory control sample (LCS) exceeded control limits in batch R143203. Laboratory notes indicate that CCV recoveries for bromomethane in batches R143203 and R143267 exceeded control limits. Bromomethane was not detected in any of the associated samples; therefore, there are no data interpretation issues associated with these high recoveries.
- Relative percent difference (RPD) values for 2-chloronaphthalene and carbazole are greater than laboratory-defined limits in laboratory control samples (LCS/LCSD) associated with batch 68043 (February 2013). These compounds were not detected in any of the associated samples (MW-16, MW-4, MW-5, MW-22, MW-20, MW-18, and MW-21). Reported results for the listed compounds in these samples include excessive variability due to inadequate laboratory measurement control.
- Benzaldehyde and bis(2-ethylhexyl)phthalate were detected in equipment blank EB-02-22-13. Benzaldehyde was not detected in any of the associated samples. Bis(2-ethylhexyl)phthalate was detected in samples MW-22, MW-18, and MW-21 at concentrations less than five times the blank concentration and may include significant measurement contributions from inadequate decontamination of field equipment.
- Benzaldehyde, bis(2-ethylhexyl)phthalate, acetone, and TDS were detected in equipment blank EB-02-27-13. Bis(2-ethylhexyl)phthalate was detected in sample MW-26 at a concentration less than five times the blank concentration and may include significant measurement contributions from inadequate decontamination of field equipment. The remaining constituents were not detected in associated samples at concentrations less than five times the blank concentration.

- Recoveries and/or RPDs of several SVOCs did not meet laboratory-defined limits in matrix spike/matrix spike duplicate (MS/MSD) analyses (February 2013)
 - MW-20: Recoveries of 2,6-dinitrotoluene and benzaldehyde are greater than laboratory-defined limits. These constituents were not detected in MW-20; therefore, there are no data interpretation issues associated with these recoveries.
 - MW-25: RPD values for 3,3'-dichlorobenzidine and caprolactam are greater than laboratory-defined limits. These compounds were not detected in MW-25. Reported results for the listed compounds in MW-25 include excessive variability due to matrix interference.
- Recoveries of carbon tetrachloride, n-butylbenzene, and tetrachloroethene were reported in MSD analyses of sample MW-23 (February 2013). These constituents were not detected in this sample. In addition, the MS recovery and RPD for chlorobenzene exceed laboratory-defined limits in MW-23. Chlorobenzene was not detected in this sample. Reported results for the listed compounds in MW-23 include excessive variability due to matrix interference.
- The RPD for dissolved manganese in the laboratory duplicate analysis of sample MW-25 exceeded laboratory control limits. Reported results for dissolved manganese should be considered estimated in the following samples:
 - Dissolved manganese was not detected in samples MW-19, MW-3, MW-10, and MW-9.
 - Dissolved manganese was detected in samples MW-29, MW-25, MW-26, MW-24, MW-23, MW-13, MW-27, MW-8, MW-6, MW-6-D, MW-11, MW-11-D, MW-7, and RW-1.
- The RPD for diethyl phthalate for the field duplicate sample pair MW-6/MW-6-D (February 2013) exceeded control limits for diethyl phthalate, indicating excessive variability for this compound. The reported concentration of diethyl phthalate should be considered estimated at this sample location.
- Benzaldehyde, bis(2-ethylhexyl)phthalate, boron, and zinc were detected in equipment blanks EB-08-22-13-A and EB-08-22-13-B.
 - Benzaldehyde was not detected in any associated sample at concentrations within five times the blank concentration.

- Bis(2-ethylhexyl)phthalate was detected in the following samples within five times the blank concentration: MW-20, MW-21, MW-12R, MW-22, MW-23, MW-24, MW-28, MW-13, MW-14, MW-19, DUP-3, MW-18, MW-25, DUP-4, MW-15, DUP-1, MW-16, MW-30, MW-26, and MW-17R and may include measurement contributions from inadequate decontamination of field equipment.
- Boron was detected in sample MW-5 at a concentration within five times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment.
- Zinc was detected in the following samples at concentrations within five times the blank concentration: MW-20, MW-21, MW-12R, MW-22, MW-23, MW-24, MW-2, MW-28, MW-11, DUP-2, MW-8, MW-13, MW-1, MW-19, DUP-4, MW-15, DUP-1, MW-4, MW-26, and MW-10 and may include measurement contributions from inadequate decontamination of field equipment.
- RPD values of several SVOCs in MS/MSD analyses of samples MW-8 and MW-18 exceeded laboratory-defined limits. Reported results for the compounds listed below include excessive variability due to matrix interference. However, these compounds were not detected in these samples.
 - MW-8: 3,3'-dichlorobenzidine.
 - MW-18: 2,4,6-dinitrotoluene, 2,4-trichlorophenol, 3-nitroaniline, 4-chloroaniline, atrazine, Benzaldehyde, benzo(k)fluoranthene, bis(2-chloroethyl)ether, Caprolactam, isophorone, and phenol.
- Recoveries and/or RPDs of several VOCs are greater than laboratory-defined limits in MS/MSD analyses of samples MW-8, MW-18, and MW-7.
 - MW-8: High MS recovery of 4-methyl-2-pentanone. This compound was not detected in this sample; therefore, there are no data interpretation issues associated with this high recovery.
 - MW-18: Low MSD recovery of tetrachloroethene indicating a low bias due to matrix interference. This constituent was not detected in this sample.
 - MW-7: High MSD recoveries for chloroethane and n-propylbenzene. These constituents were not detected in this sample; therefore, there are no data interpretation issues associated with these high recoveries. High RPD values

for bromomethane and trichloroethene indicating matrix interference. These constituents were not detected in this sample.

- The RPD value for bis(2-ethylhexyl)phthalate is greater than expected (RPD > 20%) in field duplicate analyses of sample MW-11/DUP-2 (August 2013), indicating excessive variability due to matrix interferences. This excessive variability may extend to other samples collected at the refinery. Additional RPD values exceeded 20% in other field duplicate pairs; however, the detections were within five times the laboratory quantitation limit and are therefore not discussed further.

6.2 Monthly Water Well and Tank Samples

Fifteen water samples were collected on February 28, March 27, April 8, April 9, May 29, June 18, July 23, October 29, November 21, and December 26, 2013. These samples were submitted to ALS Laboratory Group in Houston, Texas for analyses. Data for the following methods are reported:

- Cyanide by U.S. EPA Method 335.2
- Metals by SW846 Method 6020
- Mercury by SW846 Method 7470
- VOCs by SW846 Method 8260
- Low-level SVOCs by SW846 Method 8270

TRC QA staff reviewed resultant data on March 21, 2014. Fifteen separate data packages identified as work orders 1303058, 1303078, 1304346, 1304347, 1306811, 1306813, 1311045, 13031074, 13031075, 13051253, 13051254, 13071050, 13071052, 13111208, and 13121105 were reviewed. Data were reviewed for compliance with the analytical protocols used for sample analysis and laboratory-defined control limits. Items reviewed during the data validation process included the following:

- Sample integrity
- Blank analyses
- Spike recoveries
- Duplicate recoveries
- Sample documentation

The following data interpretation issues were identified:

- Laboratory notes indicate that CCV %Ds were above the control limits for 1,4-dioxane in batches R148335 and R148390. This compound was not detected in any of the associated samples; therefore, there are no data interpretation issues associated with these high %Ds.
- RPD values for dibenz(a,h)acridine are greater than laboratory-defined limits in the LCS/LCSD associated with batch 68215. Reported results for dibenz(a,h)acridine (all non-detected) in samples 1210 Tank (1303058-01) and East Water Well (1303078-01) may include excessive variability due to inadequate laboratory measurement control.
- RPD values for benzo(b)fluoranthene are greater than laboratory-defined limits in the LCS/LCSD associated with batch 70477. Reported results for benzo(b)fluoranthene (all non-detected) in samples 1210 Tank (13051254-01) and East Water Well (13051253-01) may include excessive variability due to inadequate laboratory measurement control.
- RPD values for benzenethiol are greater than laboratory-defined limits in the LCS/LCSD associated with batch 71845. Reported results for benzenethiol (all non-detected) in samples 1210 Tank (13071050-01) and East Water Well (13071052-01) may include excessive variability due to inadequate laboratory measurement control.
- RPD values for benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, and indene are greater than laboratory-defined limits in the LCS/LCSD associated with batch 74973. Reported results for these constituents (all non-detected) in sample East Water Well (13111208-01) may include excessive variability due to inadequate laboratory measurement control.
- The RPD value for 1,4-dioxane in MS/MSD for East Water Well (13111208-01) is greater than laboratory-defined limits. Reported results for this constituent (non-detected) in sample East Water Well (13111208-01) may include excessive variability due to matrix interference.
- The RPD value for 2,4-dinitrophenol is greater than laboratory-defined limits in the LCS/LCSD associated with batch 75704. Reported results for 2,4-dinitrophenol (non-detected) in sample East Water Well (131211050-01) may include excessive variability due to inadequate laboratory measurement control.

7.0 2013 RELEASES AND REMEDIATION ACTIVITIES

No reportable releases occurred at the refinery in 2013.

8.0 CONCLUSIONS

Conclusions based on data collected during groundwater monitoring activities conducted during calendar year 2013 are discussed below.

Groundwater flow directions were consistent with previous groundwater monitoring events. Groundwater elevations decreased an average 0.73 feet from January/February 2012 to February 2013 and 1.57 feet July 2012 to August 2013. PSH was not detected in any monitoring wells.

No VOCs or SVOCs were reported at concentrations above WQCC Standards in any well during either semi-annual monitoring event.

Anion exceedances of WQCC Standards reported during 2013 included chloride (in wells MW-13, MW-15, MW-19, MW-23, and WW-South), fluoride (in wells MW-3, MW-24, and MW-28), and nitrate-nitrite (in wells MW-8 and MW-25) in February 2013; and chloride (in wells MW-13, MW-15, MW-19, MW-23, MW-25, and MW-27) and fluoride (in wells MW-3, MW-9, MW-24, and MW-28) in August 2013. The presence of select anions at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

TDS was reported at concentrations above its WQCC Standard in wells MW-8, MW-13, MW-19, MW-23, and WW-South during the February 2013 semi-annual monitoring event and in wells MW-13, MW-15, MW-17R, MW-18, MW-19, MW-23, MW-25, MW-26, and MW-27 during the August 2013 semi-annual monitoring event. The presence of TDS at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

Metal exceedances of WQCC Standards reported during 2013 included chromium (in wells MW-15 and MW-29), iron (in well MW-6), and manganese (in wells MW-1, MW-6, MW-7, MW-11, and MW-13) in February 2013; and chromium (in well MW-29) and manganese (in wells MW-1, MW-6, MW-7, MW-11, and MW-13) in August 2013. The presence of select metals at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-NRC sources at the refinery.

No constituents exceeded WQCC Standards in wells located along the southeastern refinery boundary (wells MW-5, MW-14, and MW-12R), which is the natural downgradient portion of the facility (i.e., if active pumping from the on-site water supply wells ceased). Groundwater pumping from refinery water supply wells WW-East, WW-North, and WW-South for industrial use causes radial groundwater flow towards a cone of depression at the central portion of the refinery preventing migration of constituents offsite.

WQCC Standards and RBRGs were not exceeded in any of the monthly samples collected from water supply well WW-East and Tank 1210. Based on these results, the water poses no risk associated with continued use in refinery restrooms and safety showers.

9.0 WORK PLANNED FOR 2014

The following summarizes the scope of work planned for 2014 at the refinery:

- Continue to implement semi-annual groundwater monitoring and annual reporting activities in accordance with the sampling and analysis plan presented in the rescinded Groundwater Discharge Permit (GW-014), pending OCD review and approval of the July 2013 FWGWMWP. NRC will continue to evaluate further reductions of the sampling plan based on historical analytical trends in groundwater.
- Reduce sampling of WW-East and Tank 1210 from a monthly basis to a quarterly basis, when in operation. Monthly sampling will continue pending approval from OCD.
- Submit a *Phase 2 Abatement Plan Proposal*, pending OCD review and approval of the December 2013 *Refinery Investigation Report*.
- Conduct further investigation of the April 2012 Cooling Tower release and conduct excavation and off-site disposal of affected soils, as appropriate, in accordance with OCD's January 22, 2014, e-mail.

Figure 1. Refinery Vicinity Map



NAVAJO REFINING COMPANY
LEA REFINERY

LEGEND

LW - CITY OF LOVINGTON WATER WELL

+++++ RAIL

x - x FENCE

1 inch = 700 feet

0 350 700 1,400

FEET

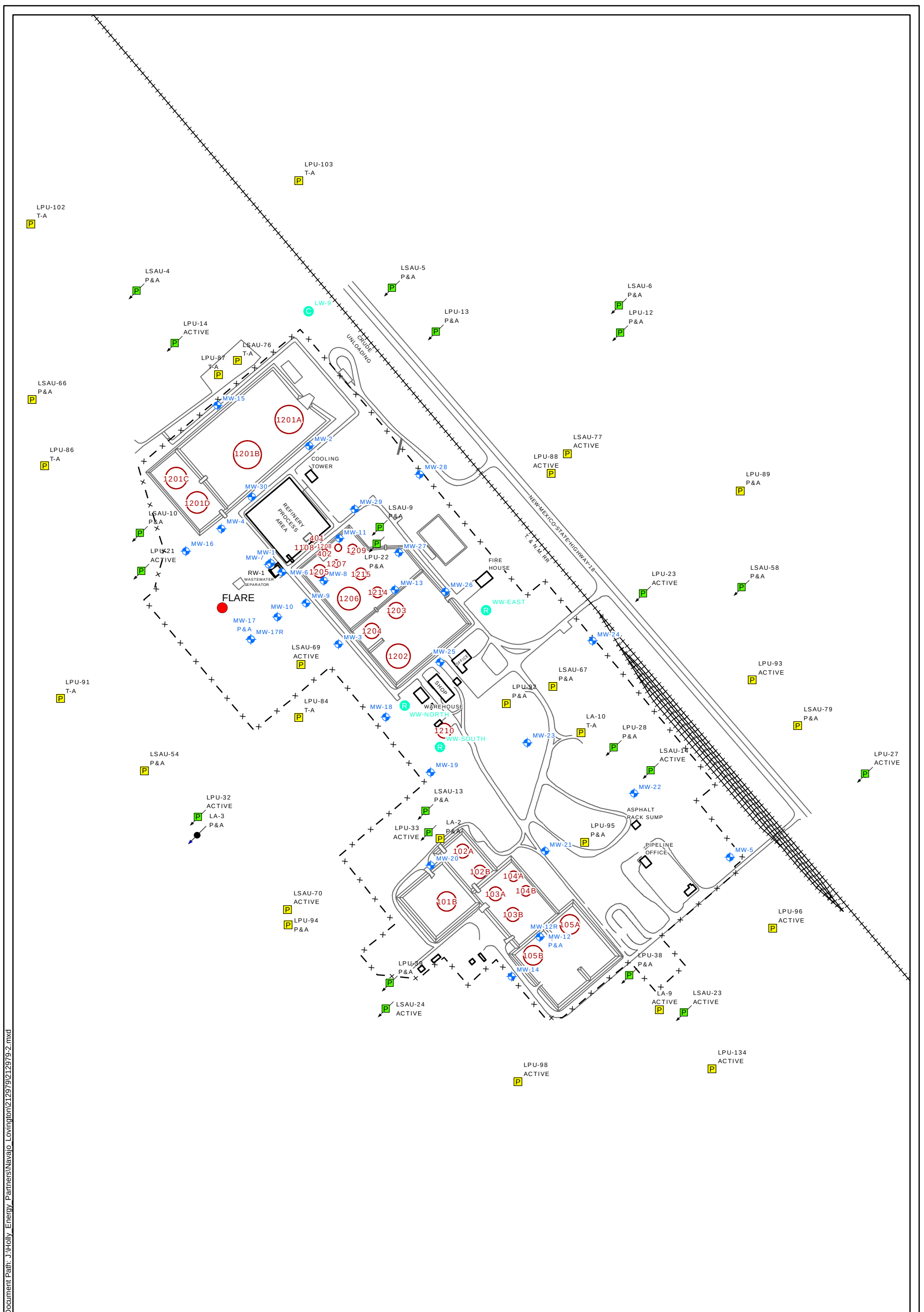
REFINERY VICINITY MAP

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979	MXD: 212979-1
AUTHOR: MFL	DATE: 3/24/2014

505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE
1



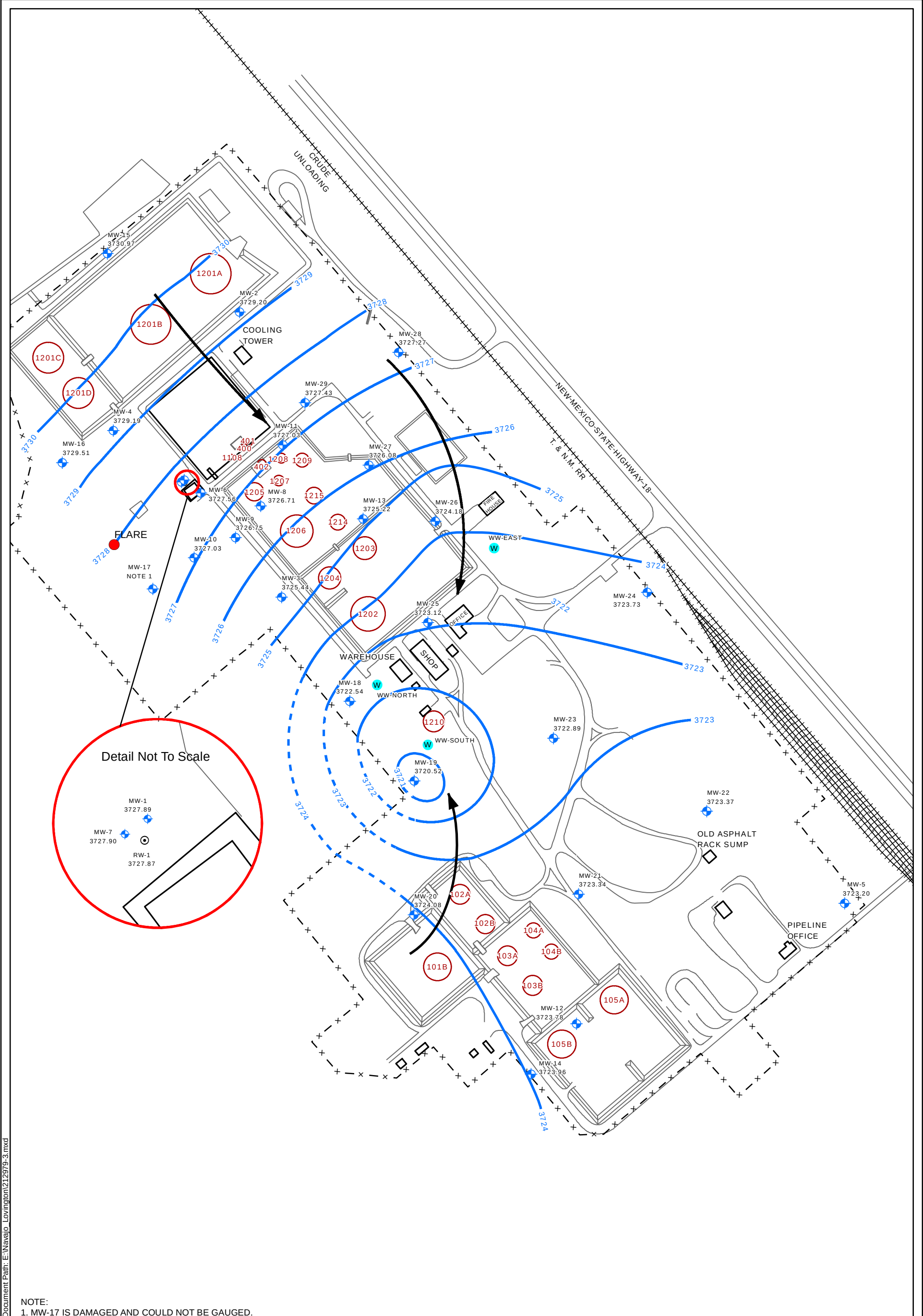
LEGEND

 WATER WELL
 FLARE
 RAIL
 FENCE
 BUILDINGS
 TANKS



REFINERY SITE PLAN

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NOTE:
1. MW-17 IS DAMAGED AND COULD NOT BE GAUGED.

LEGEND

GROUNDWATER CONTOURS (DASHED WHERE INFERRED)	+++++ RAIL
MONITORING WELL	x - x - FENCE
WATER WELL	BUILDINGS
RECOVERY WELL	TANKS
FLARE	GROUNDWATER ELEVATION CONTOUR (FEET)
GROUNDWATER FLOW DIRECTION	
- 0 175 350 700
FEET

GROUNDWATER POTENTIOMETRIC
SURFACE MAP - FEBRUARY 2013

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979

MXD: 212979-3

AUTHOR: MFL

DATE: 3/26/2014

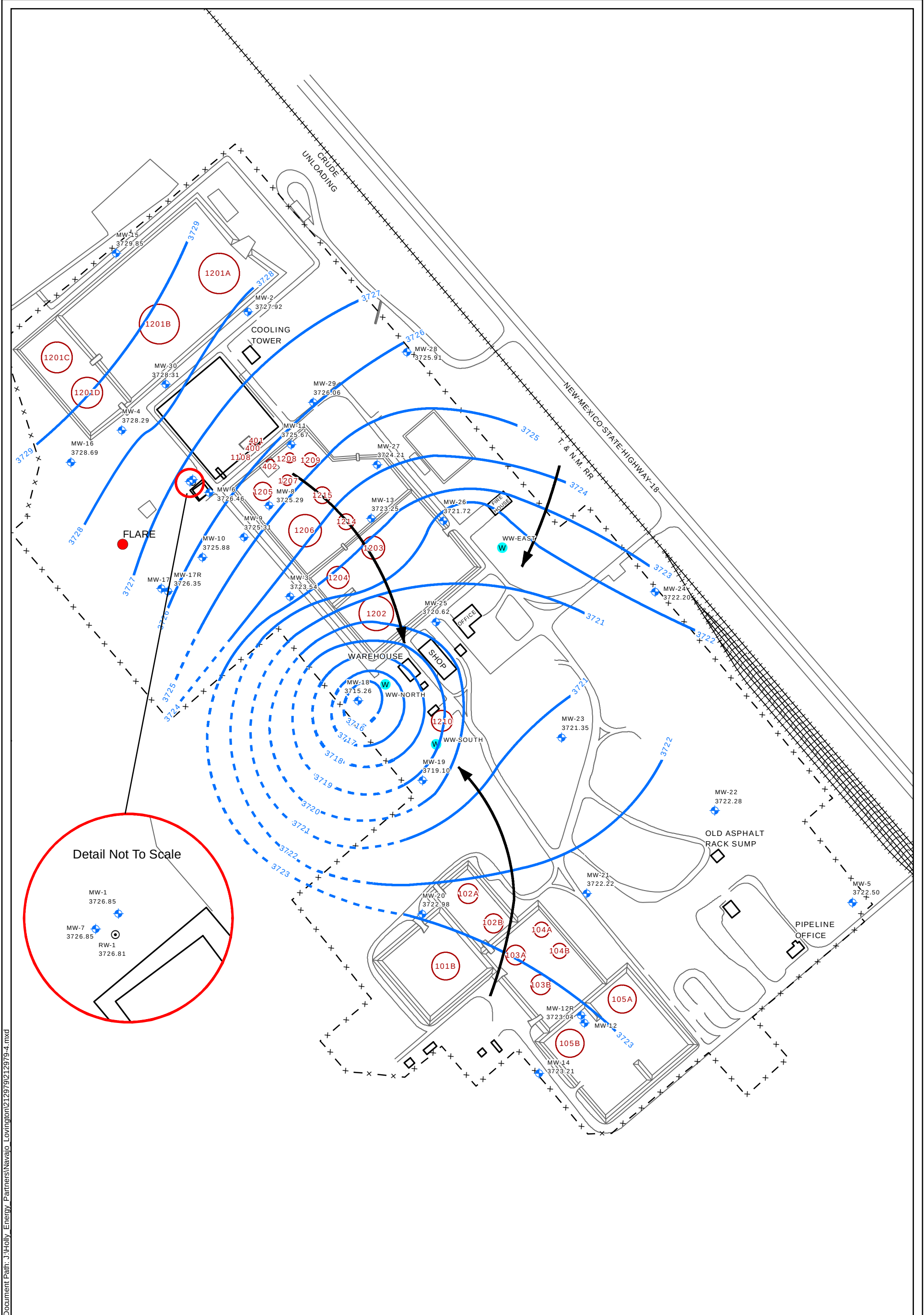


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE

3

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LEGEND

GROUNDWATER CONTOURS
(DASHED WHERE INFERRED)

MONITORING WELL

PLUGGED AND ABANDONED
MONITORING WELL

RECOVERY WELL

WATER WELL

FLARE

FENCE

RAIL

GROUNDWATER FLOW
DIRECTION

GROUNDWATER ELEVATION
CONTOUR (FEET)

BUILDINGS

TANKS

**GROUNDWATER POTENTIOMETRIC
SURFACE MAP - AUGUST 2013**

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979

MXD: 212979-4

AUTHOR: MFL

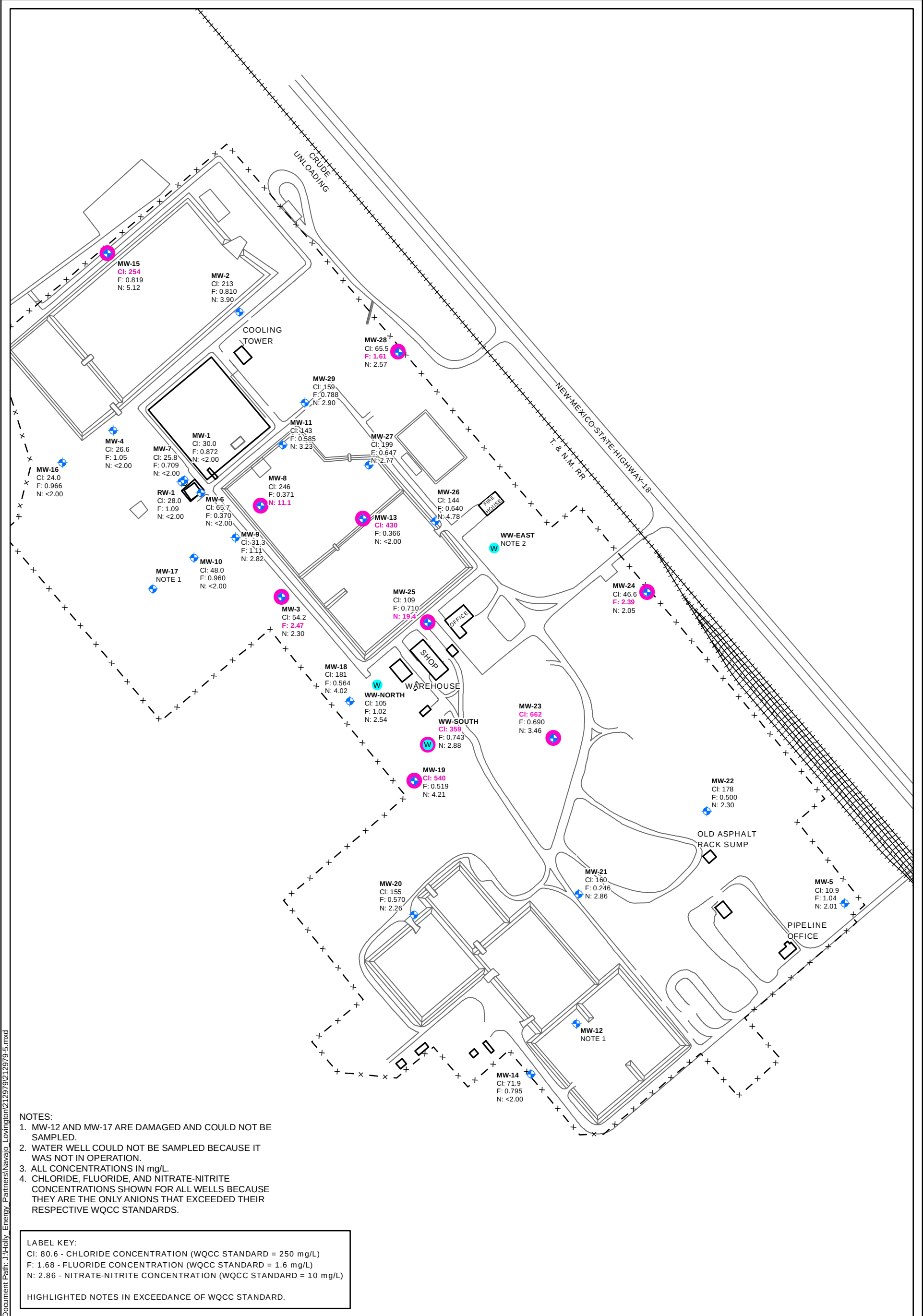
DATE: 4/15/2014

505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE

4

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LEGEND

MONITORING WELL

RECOVERY WELL

WATER WELL

WQCC STANDARD WAS EXCEEDED AT THIS LOCATION

RAIL

FENCE

BUILDINGS

ANIONS
CONCENTRATION MAP - FEBRUARY 2013

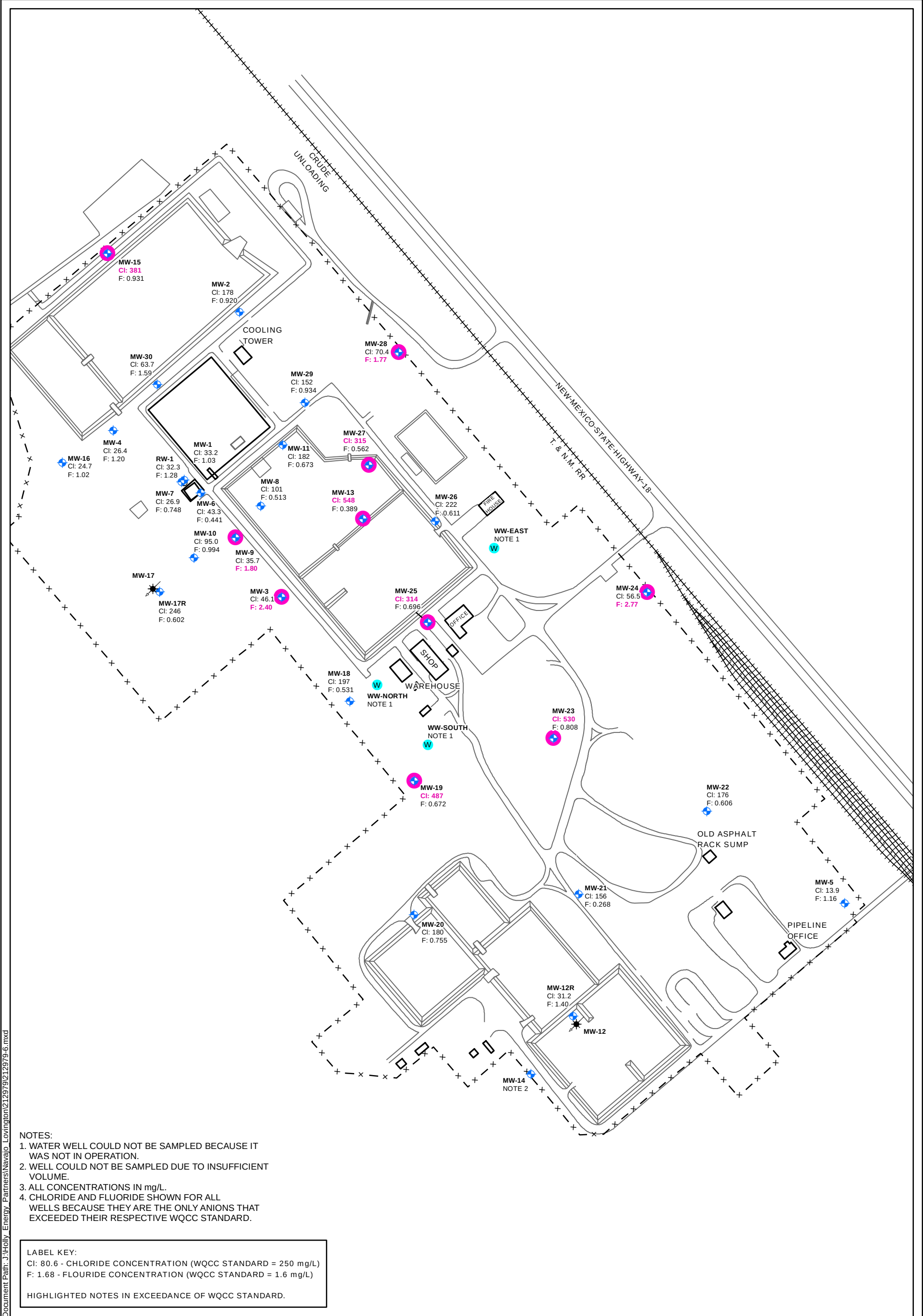
NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979	MXD: 212979-5
AUTHOR: MFL	DATE: 4/15/2014

505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE
5

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LEGEND

GROUNDWATER CONTOURS
(DASHED WHERE INFERRED)

MONITORING WELL

PLUGGED AND ABANDONED
MONITORING WELL

RECOVERY WELL

WATER WELL

RAIL

FENCE

BUILDINGS

WQCC STANDARD WAS
EXCEEDED AT THIS
LOCATION

N

0 175 350 700
FEET

**ANIONS
CONCENTRATION MAP - AUGUST 2013**

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979

MXD: 212979-6

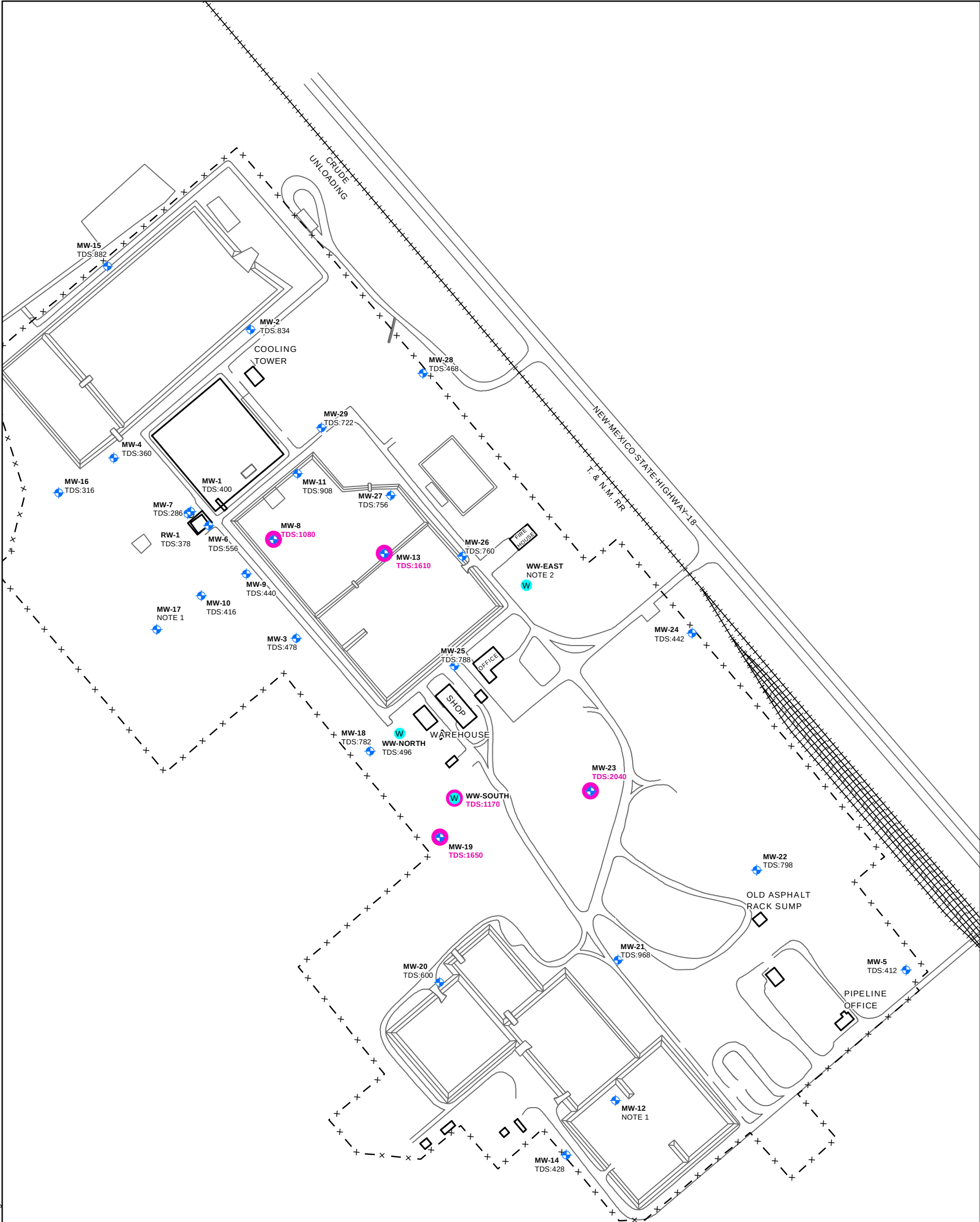
AUTHOR: MFL

DATE: 4/15/2014

505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE
6

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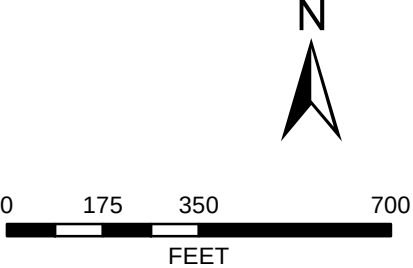
NOTES:
1. MW-12 AND MW-17 ARE DAMAGED AND COULD NOT BE SAMPLED.
2. WATER WELL COULD NOT BE SAMPLED BECAUSE IT WAS NOT IN OPERATION.
3. ALL CONCENTRATIONS IN mg/L.

LABEL KEY:
TDS: 1080 - TOTAL DISSOLVED SOLIDS CONCENTRATION

HIGHLIGHTED NOTES IN EXCEEDANCE OF WQCC STANDARD (1,000 mg/L).

LEGEND

- MONITORING WELL
- RECOVERY WELL
- WATER WELL
- WQCC STANDARD WAS EXCEEDED AT THIS LOCATION
- RAIL
- FENCE
- BUILDINGS



TOTAL DISSOLVED SOLIDS
CONCENTRATION MAP - FEBRUARY 2013

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979	MXD: 212979-7
AUTHOR: MFL	DATE: 4/15/2014
	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE	7

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- NOTES:
1. MW-12 AND MW-17 ARE DAMAGED AND COULD NOT BE SAMPLED.
 2. WATER WELL COULD NOT BE SAMPLED BECAUSE IT WAS NOT IN OPERATION.
 3. ALL CONCENTRATIONS IN mg/L.
 4. CHROMIUM, IRON, AND MANGANESE SHOWN FOR ALL WELLS BECAUSE THEY ARE THE ONLY METALS THAT EXCEEDED THEIR RESPECTIVE WQCC STANDARDS.

LABEL KEY:
Cr: <0.00500 CHROMIUM CONCENTRATION (WQCC STANDARD = 0.05 mg/L)
Fe: <0.200 IRON CONCENTRATION (WQCC STANDARD = 1.0 mg/L)
Mn: <0.00500 MANGANESE CONCENTRATION (WQCC STANDARD = 0.20 mg/L)

HIGHLIGHTED NOTES IN EXCEEDANCE OF WQCC STANDARD.

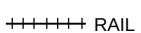
LEGEND

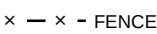
- 

MONITORING WELL
- 

RECOVERY WELL
- 

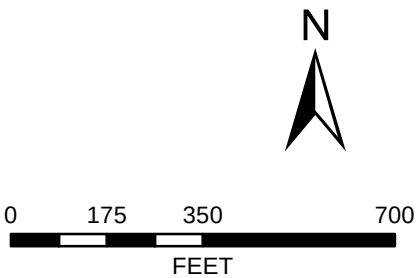
WATER WELL
- 

WQCC STANDARD WAS EXCEEDED AT THIS LOCATION
- 

RAIL
- 

FENCE
- 

BUILDINGS



METALS
CONCENTRATION MAP - FEBRUARY 2013

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 196364.0001

MXD: 212979-9

AUTHOR: MFL

DATE: 4/15/2014

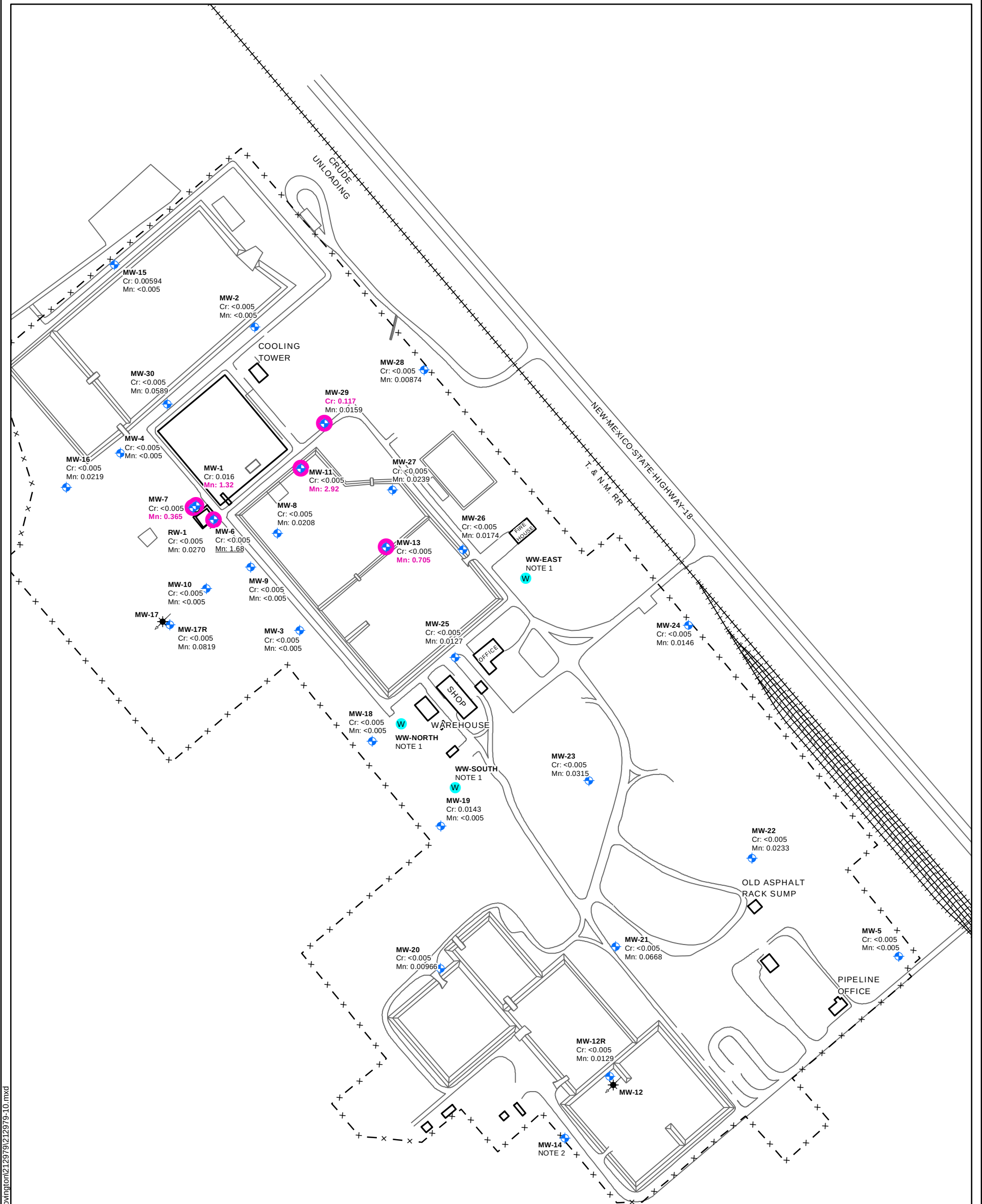


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE

9

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- NOTES:
1. WATER WELL COULD NOT BE SAMPLED BECAUSE IT WAS NOT IN OPERATION.
 2. WELL COULD NOT BE SAMPLED DUE TO INSUFFICIENT VOLUME.
 3. ALL CONCENTRATIONS IN mg/L.
 4. CHROMIUM AND MANGANESE ARE SHOWN FOR ALL WELLS BECAUSE THEY ARE THE ONLY METALS THAT EXCEEDED THEIR RESPECTIVE WQCC STANDARD.

LABEL KEY:
Cr: <0.00500 CHROMIUM CONCENTRATION (WQCC STANDARD = 0.05 mg/L)
Mn: <0.00500 MANGANESE CONCENTRATION (WQCC STANDARD = 0.20 mg/L)

HIGHLIGHTED NOTES IN EXCEEDANCE OF WQCC STANDARD.

LEGEND

GROUNDWATER CONTOURS (DASHED WHERE INFERRED)	WQCC STANDARD WAS EXCEEDED AT THIS LOCATION
MONITORING WELL	RAIL
PLUGGED AND ABANDONED MONITORING WELL	FENCE
RECOVERY WELL	BUILDINGS
WATER WELL	



0 175 350 700
FEET

METALS
CONCENTRATION MAP - AUGUST 2013

NAVAJO REFINING COMPANY
LEA REFINERY LOVINGTON, NM

PROJECT NO: 212979	MXD: 212979-10
AUTHOR: MFL	DATE: 4/15/2014
	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE 10	

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-1 ^(1,5)	3,838.40	3,739.19 to 3,709.19	04/30/09	--	106.35	136.10	0.00	106.35	3,732.05	NA
			06/10/09	--	106.49	NM	0.00	106.49	3,731.91	-0.14
			06/19/09	--	106.57	129.12	0.00	106.57	3,731.83	-0.08
			07/02/09	--	106.74	129.13	0.00	106.74	3,731.66	-0.17
			07/24/09	--	106.83	129.11	0.00	106.83	3,731.57	-0.09
			09/24/09	--	107.31	129.12	0.00	107.31	3,731.09	-0.48
			10/27/09	--	107.44	129.10	0.00	107.44	3,730.96	-0.13
			01/13/10	--	107.57	129.11	0.00	107.57	3,730.83	-0.13
			04/01/10	--	107.51	NM	0.00	107.51	3,730.89	0.06
			08/11/10	--	108.09	129.16	0.00	108.09	3,730.31	-0.58
			02/23/11	--	108.12	129.14	0.00	108.12	3,730.28	-0.03
			07/12/11	--	109.00	129.11	0.00	109.00	3,729.40	-0.88
			02/02/12	--	109.68	129.12	0.00	109.68	3,728.72	-0.68
			07/23/12	--	110.88	128.87	0.00	110.88	3,727.52	-1.20
			02/18/13	--	110.51	129.22	0.00	110.51	3,727.89	0.37
			08/19/13	--	111.55	130.60	0.00	111.55	3,726.85	-1.04
MW-2 ^(1,5)	3,837.35	3,739.77 to 3,709.77	06/22/09	--	104.32	126.41	0.00	104.32	3,733.03	NA
			01/13/10	--	105.44	126.68	0.00	105.44	3,731.91	-1.12
			08/11/10	--	105.97	126.42	0.00	105.97	3,731.38	-0.53
			02/23/11	--	105.92	126.46	0.00	105.92	3,731.43	0.05
			07/12/11	--	107.22	126.47	0.00	107.22	3,730.13	-1.30
			01/30/12	--	107.55	126.47	0.00	107.55	3,729.80	-0.33
			07/23/12	--	108.72	126.48	0.00	108.72	3,728.63	-1.17
			02/18/13	--	108.15	126.69	0.00	108.15	3,729.20	0.57
			08/19/13	--	109.43	126.75	0.00	109.43	3,727.92	-1.28
MW-3 ^(1,5)	3,831.65	3,733.73 to 3,703.73	06/16/09	--	102.65	130.45	0.00	102.65	3,729.00	NA
			01/13/10	--	103.29	130.69	0.00	103.29	3,728.36	-0.64
			08/11/10	--	104.82	130.42	0.00	104.82	3,726.83	-1.53
			09/28/10	--	104.70	NM	0.00	104.70	3,726.95	0.12
			02/23/11	--	104.11	130.47	0.00	104.11	3,727.54	0.59
			07/12/11	--	104.89	130.50	0.00	104.89	3,726.76	-0.78
			01/30/12	--	105.22	130.45	0.00	105.22	3,726.43	-0.33
			07/23/12	--	107.59	130.46	0.00	107.59	3,724.06	-2.37
			02/18/13	--	106.21	130.63	0.00	106.21	3,725.44	1.38
			08/19/13	--	108.11	130.88	0.00	108.11	3,723.54	-1.90
MW-4 ^(1,5)	3,839.89	3,741.76 to 3,711.76	06/16/09	--	106.79	128.02	0.00	106.79	3,733.10	NA
			01/13/10	--	107.72	127.94	0.00	107.72	3,732.17	-0.93
			08/11/10	--	108.19	128.03	0.00	108.19	3,731.70	-0.47
			09/28/10	--	108.47	NM	0.00	108.47	3,731.42	-0.28
			02/23/11	--	108.31	127.82	0.00	108.31	3,731.58	0.16
			07/12/11	--	109.27	128.02	0.00	109.27	3,730.62	-0.96
			01/30/12	--	109.91	128.02	0.00	109.91	3,729.98	-0.64
			07/23/12	--	111.00	127.82	0.00	111.00	3,728.89	-1.09
			02/18/13	--	110.70	127.95	0.00	110.70	3,729.19	0.30
			08/19/13	--	111.60	128.01	0.00	111.60	3,728.29	-0.90
MW-5 ^(1,5)	3,819.15	3,731.13 to 3,701.13	06/16/09	--	90.84	NM	0.00	90.84	3,728.31	NA
			01/13/10	--	92.02	118.30	0.00	92.02	3,727.13	-1.18
			08/11/10	--	92.67	117.93	0.00	92.67	3,726.48	-0.65
			02/23/11	--	92.68	118.00	0.00	92.68	3,726.47	-0.01
			07/12/11	--	93.38	117.97	0.00	93.38	3,725.77	-0.70
			01/31/12	--	94.75	117.75	0.00	94.75	3,724.40	-1.37
			07/23/12	--	95.22	117.92	0.00	95.22	3,723.93	-0.47
			02/18/13	--	95.95	118.85	0.00	95.95	3,723.20	-0.73
			08/19/13	--	96.65	117.90	0.00	96.65	3,722.50	-0.70

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-6 ^(1,5)	3,838.16	3,738.17 to 3,708.17	06/18/09	--	106.64	129.48	0.00	106.64	3,731.52	NA
			07/24/09	--	106.92	129.71	0.00	106.92	3,731.24	-0.28
			09/24/09	--	107.44	129.74	0.00	107.44	3,730.72	-0.52
			10/27/09	--	107.55	129.73	0.00	107.55	3,730.61	-0.11
			01/13/10	--	107.64	129.71	0.00	107.64	3,730.52	-0.09
			02/02/10	--	107.69	NM	0.00	107.69	3,730.47	-0.05
			04/01/10	--	107.65	NM	0.00	107.65	3,730.51	0.04
			08/11/10	--	108.00	129.71	0.00	108.00	3,730.16	-0.35
			02/23/11	--	108.22	129.72	0.00	108.22	3,729.94	-0.22
			07/12/11	--	109.09	129.74	0.00	109.09	3,729.07	-0.87
			02/02/12	--	109.78	129.74	0.00	109.78	3,728.38	-0.69
			07/23/12	--	111.00	129.47	0.00	111.00	3,727.16	-1.22
			02/18/13	--	110.60	133.32	0.00	110.60	3,727.56	0.40
			08/19/13	--	111.70	130.84	0.00	111.70	3,726.46	-1.10
MW-7 ^(1,5)	3,838.42	3,738.19 to 3,708.19	04/30/09	--	106.37	135.54	0.00	106.37	3,732.05	NA
			06/10/09	--	106.48	NM	0.00	106.48	3,731.94	-0.11
			06/19/09	--	106.68	129.34	0.00	106.68	3,731.74	-0.20
			07/02/09	--	106.75	129.51	0.00	106.75	3,731.67	-0.07
			07/24/09	--	106.84	129.52	0.00	106.84	3,731.58	-0.09
			09/24/09	--	107.33	129.29	0.00	107.33	3,731.09	-0.49
			10/27/09	--	107.46	129.53	0.00	107.46	3,730.96	-0.13
			01/13/10	--	107.60	129.55	0.00	107.60	3,730.82	-0.14
			02/02/10	--	107.61	NM	0.00	107.61	3,730.81	-0.01
			04/01/10	--	107.52	NM	0.00	107.52	3,730.90	0.09
			08/11/10	--	108.10	129.57	0.00	108.10	3,730.32	-0.58
			02/23/11	--	108.13	129.52	0.00	108.13	3,730.29	-0.03
			07/12/11	--	109.01	129.50	0.00	109.01	3,729.41	-0.88
			02/02/12	--	109.71	129.26	0.00	109.71	3,728.71	-0.70
			07/23/12	--	109.88	129.30	0.00	109.88	3,728.54	-0.17
			02/18/13	--	110.52	129.55	0.00	110.52	3,727.90	-0.64
			08/19/13	--	111.57	129.17	0.00	111.57	3,726.85	-1.05
MW-8 ^(2,5)	3,839.98	3,737.44 to 3,707.44	06/18/09	--	109.37	132.30	0.00	109.37	3,730.61	NA
			01/13/10	--	110.47	132.56	0.00	110.47	3,729.51	-1.10
			08/11/10	--	111.05	132.34	0.00	111.05	3,728.93	-0.58
			02/23/11	--	111.07	132.34	0.00	111.07	3,728.91	-0.02
			07/12/11	--	111.98	132.36	0.00	111.98	3,728.00	-0.91
			02/01/12	--	112.91	132.32	0.00	112.91	3,727.07	-0.93
			07/23/12	--	113.94	132.33	0.00	113.94	3,726.04	-1.03
			02/18/13	--	113.27	132.32	0.00	113.27	3,726.71	0.67
			08/19/13	--	114.69	132.39	0.00	114.69	3,725.29	-1.42
MW-9 ^(2,5)	3,835.22	3,736.13 to 3,706.13	06/16/09	--	104.58	129.18	0.00	104.58	3,730.64	NA
			01/13/10	--	105.61	129.48	0.00	105.61	3,729.61	-1.03
			08/11/10	--	106.37	129.21	0.00	106.37	3,728.85	-0.76
			02/23/11	--	106.28	129.24	0.00	106.28	3,728.94	0.09
			07/12/11	--	107.17	129.26	0.00	107.17	3,728.05	-0.89
			01/31/12	--	107.38	129.30	0.00	107.38	3,727.84	-0.21
			07/23/12	--	109.20	128.90	0.00	109.20	3,726.02	-1.82
			02/18/13	--	108.47	129.41	0.00	108.47	3,726.75	0.73
			08/19/13	--	109.91	129.38	0.00	109.91	3,725.31	-1.44
MW-10 ^(2,5)	3,833.66	3,735.49 to 3,705.49	06/16/09	--	102.57	129.14	0.00	102.57	3,731.09	NA
			01/13/10	--	103.51	127.42	0.00	103.51	3,730.15	-0.94
			08/11/10	--	104.31	128.47	0.00	104.31	3,729.35	-0.80
			02/23/11	--	104.26	128.54	0.00	104.26	3,729.40	0.05
			07/12/11	--	105.08	128.46	0.00	105.08	3,728.58	-0.82
			01/31/12	--	105.73	128.40	0.00	105.73	3,727.93	-0.65
			07/23/12	--	107.05	128.50	0.00	107.05	3,726.61	-1.32
			02/18/13	--	106.63	128.59	0.00	106.63	3,727.03	0.42
			08/19/13	--	107.78	128.56	0.00	107.78	3,725.88	-1.15

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-11 ^(3,5)	3,839.56	3,741.13 to 3,721.13	06/20/02	--	99.93	NM	0.00	99.93	3,739.63	NA
			09/17/02	--	100.63	NM	0.00	100.63	3,738.93	-0.70
			12/19/02	--	100.50	NM	0.00	100.50	3,739.06	0.13
			03/28/03	--	99.74	NM	0.00	99.74	3,739.82	0.76
			06/20/03	--	100.76	NM	0.00	100.76	3,738.80	-1.02
			09/15/03	--	101.51	NM	0.00	101.51	3,738.05	-0.75
			04/30/04	--	102.31	116.21	0.00	102.31	3,737.25	-0.80
			02/21/05	--	103.80	NM	0.00	103.80	3,735.76	-1.49
			06/28/05	--	104.33	NM	0.00	104.33	3,735.23	-0.53
			09/30/05	--	104.60	NM	0.00	104.60	3,734.96	-0.27
			12/29/05	--	104.81	NM	0.00	104.81	3,734.75	-0.21
			04/10/06	--	105.12	NM	0.00	105.12	3,734.44	-0.31
			07/06/06	--	105.61	NM	0.00	105.61	3,733.95	-0.49
			01/26/07	--	106.63	NM	0.00	106.63	3,732.93	-1.02
			03/27/07	--	106.80	NM	0.00	106.80	3,732.76	-0.17
			07/13/07	--	106.94	NM	0.00	106.94	3,732.62	-0.14
			09/12/07	--	107.22	NM	0.00	107.22	3,732.34	-0.28
			12/31/07	--	106.74	NM	0.00	106.74	3,732.82	0.48
			03/26/08	--	106.81	117.51	0.00	106.81	3,732.75	-0.07
			06/13/08	--	107.40	NM	0.00	107.40	3,732.16	-0.59
			09/24/08	--	108.76	NM	0.00	108.76	3,730.80	-1.36
			12/29/08	--	108.57	NM	0.00	108.57	3,730.99	0.19
			03/17/09	--	107.91	NM	0.00	107.91	3,731.65	0.66
			06/18/09	--	108.65	117.49	0.00	108.65	3,730.91	-0.74
			01/13/10	--	109.81	117.77	0.00	109.81	3,729.75	-1.16
			08/11/10	--	110.16	117.50	0.00	110.16	3,729.40	-0.35
			02/23/11	--	110.32	117.70	0.00	110.32	3,729.24	-0.16
			07/12/11	--	110.31	117.41	0.00	110.31	3,729.25	0.01
			02/01/12	--	112.02	117.37	0.00	112.02	3,727.54	-1.71
			07/23/12	--	113.10	117.38	0.00	113.10	3,726.46	-1.08
			02/18/13	--	112.53	117.75	0.00	112.53	3,727.03	0.57
			08/19/13	--	113.89	117.64	0.00	113.89	3,725.67	-1.36
MW-12 ^(3,5,8)	3,822.73	3,742.29 to 3,722.29	06/20/02	--	84.20	NM	0.00	84.20	3,738.53	NA
			12/21/02	--	85.21	NM	0.00	85.21	3,737.52	-1.01
			03/28/03	--	85.35	NM	0.00	85.35	3,737.38	-0.14
			06/20/03	--	85.51	NM	0.00	85.51	3,737.22	-0.16
			09/15/03	--	86.13	NM	0.00	86.13	3,736.60	-0.62
			11/02/03	--	86.57	NM	0.00	86.57	3,736.16	-0.44
			04/30/04	--	87.40	100.55	0.00	87.40	3,735.33	-0.83
			02/21/05	--	88.42	NM	0.00	88.42	3,734.31	-1.02
			06/28/05	--	88.76	NM	0.00	88.76	3,733.97	-0.34
			09/30/05	--	89.12	NM	0.00	89.12	3,733.61	-0.36
			12/29/05	--	89.31	NM	0.00	89.31	3,733.42	-0.19
			04/10/06	--	89.55	NM	0.00	89.55	3,733.18	-0.24
			07/06/06	--	90.03	NM	0.00	90.03	3,732.70	-0.48
			01/26/07	--	90.06	NM	0.00	90.06	3,732.67	-0.03
			03/27/07	--	90.10	NM	0.00	90.10	3,732.63	-0.04
			07/13/07	--	91.66	NM	0.00	91.66	3,731.07	-1.56
			09/12/07	--	92.01	NM	0.00	92.01	3,730.72	-0.35
			12/31/07	--	92.17	NM	0.00	92.17	3,730.56	-0.16
			03/26/08	--	92.39	100.57	0.00	92.39	3,730.34	-0.22
			06/13/08	--	92.59	NM	0.00	92.59	3,730.14	-0.20
			09/24/08	--	93.21	NM	0.00	93.21	3,729.52	-0.62
			12/29/08	--	93.59	NM	0.00	93.59	3,729.14	-0.38
			03/17/09	--	93.75	NM	0.00	93.75	3,728.98	-0.16
			06/16/09	--	93.83	100.51	0.00	93.83	3,728.90	-0.08
			01/13/10	--	94.78	100.71	0.00	94.78	3,727.95	-0.95
			08/11/10	--	95.67	100.56	0.00	95.67	3,727.06	-0.89
			02/23/11	--	95.85	100.56	0.00	95.85	3,726.88	-0.18
			07/12/11	--	96.58	100.55	0.00	96.58	3,726.15	-0.73
			02/01/12	--	97.57	100.57	0.00	97.57	3,725.16	-0.99
			07/23/12	--	98.10	100.50	0.00	98.10	3,724.63	-0.53
			02/18/13	--	98.95	100.50	0.00	98.95	3,723.78	-0.85

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-12R ⁽⁶⁾	3,823.29	3,734.95 to 3,714.95	08/19/13	--	100.25	108.34	0.00	100.25	3,723.04	NA
MW-13 ^(4,5)	3,837.06	3,738.75 to 3,718.75	04/30/04	--	101.41	119.82	0.00	101.41	3,735.65	NA
			02/21/05	--	103.09	NM	0.00	103.09	3,733.97	-1.68
			06/28/05	--	103.48	NM	0.00	103.48	3,733.58	-0.39
			09/30/05	--	103.80	NM	0.00	103.80	3,733.26	-0.32
			12/29/05	--	104.41	NM	0.00	104.41	3,732.65	-0.61
			04/10/06	--	104.59	NM	0.00	104.59	3,732.47	-0.18
			07/06/06	--	104.94	NM	0.00	104.94	3,732.12	-0.35
			01/26/07	--	106.41	NM	0.00	106.41	3,730.65	-1.47
			03/27/07	--	106.47	NM	0.00	106.47	3,730.59	-0.06
			07/13/07	--	106.93	NM	0.00	106.93	3,730.13	-0.46
			09/12/07	--	107.19	NM	0.00	107.19	3,729.87	-0.26
			12/31/07	--	106.71	NM	0.00	106.71	3,730.35	0.48
			03/26/08	--	107.02	119.75	0.00	107.02	3,730.04	-0.31
			06/13/08	--	107.19	NM	0.00	107.19	3,729.87	-0.17
			09/24/08	--	108.56	NM	0.00	108.56	3,728.50	-1.37
			12/29/08	--	108.71	NM	0.00	108.71	3,728.35	-0.15
			03/17/09	--	108.36	NM	0.00	108.36	3,728.70	0.35
			06/16/09	--	108.58	108.58	0.00	108.58	3,728.48	-0.22
			01/13/10	--	109.68	119.95	0.00	109.68	3,727.38	-1.10
			08/11/10	--	109.72	119.68	0.00	109.72	3,727.34	-0.04
			02/23/11	--	110.14	119.69	0.00	110.14	3,726.92	-0.42
			07/12/11	--	111.17	119.71	0.00	111.17	3,725.89	-1.03
			02/01/12	--	111.81	119.66	0.00	111.81	3,725.25	-0.64
			07/23/12	--	113.11	119.66	0.00	113.11	3,723.95	-1.30
			02/18/13	--	111.84	119.87	0.00	111.84	3,725.22	1.27
			08/19/13	--	113.81	119.95	0.00	113.81	3,723.25	-1.97
MW-14 ^(4,5)	3,823.03	3,737.88 to 3,717.88	04/30/04	--	87.46	NM	0.00	87.46	3,735.57	NA
			02/21/05	--	88.48	NM	0.00	88.48	3,734.55	-1.02
			06/28/05	--	88.80	NM	0.00	88.80	3,734.23	-0.32
			09/30/05	--	89.14	NM	0.00	89.14	3,733.89	-0.34
			12/29/05	--	89.34	NM	0.00	89.34	3,733.69	-0.20
			04/10/06	--	89.63	NM	0.00	89.63	3,733.40	-0.29
			07/06/06	--	90.08	NM	0.00	90.08	3,732.95	-0.45
			01/26/07	--	91.02	NM	0.00	91.02	3,732.01	-0.94
			03/27/07	--	91.18	NM	0.00	91.18	3,731.85	-0.16
			07/13/07	--	91.68	NM	0.00	91.68	3,731.35	-0.50
			09/12/07	--	92.02	NM	0.00	92.02	3,731.01	-0.34
			12/31/07	--	92.25	NM	0.00	92.25	3,730.78	-0.23
			03/26/08	--	92.43	105.08	0.00	92.43	3,730.60	-0.18
			06/13/08	--	92.64	NM	0.00	92.64	3,730.39	-0.21
			12/29/08	--	93.60	NM	0.00	93.60	3,729.43	-0.96
			03/17/09	--	93.84	NM	0.00	93.84	3,729.19	-0.24
			06/16/09	--	93.92	105.04	0.00	93.92	3,729.11	-0.08
			01/13/10	--	94.80	105.30	0.00	94.80	3,728.23	-0.88
			08/11/10	--	95.67	105.04	0.00	95.67	3,727.36	-0.87
			02/23/11	--	95.99	105.05	0.00	95.99	3,727.04	-0.32
			07/12/11	--	96.59	105.06	0.00	96.59	3,726.44	-0.60
			01/31/12	--	97.54	105.05	0.00	97.54	3,725.49	-0.95
			07/23/12	--	98.20	105.05	0.00	98.20	3,724.83	-0.66
			02/18/13	--	99.07	105.38	0.00	99.07	3,723.96	-0.87
			08/19/13	--	99.82	105.30	0.00	99.82	3,723.21	-0.75
MW-15 ^(6,7)	3,840.19	3,738.54 to 3,718.54	08/11/10	--	106.94	121.68	0.00	106.94	3,733.25	NA
			02/23/11	--	107.01	121.67	0.00	107.01	3,733.18	-0.07
			07/12/11	--	108.32	121.62	0.00	108.32	3,731.87	-1.31
			01/30/12	--	108.54	121.62	0.00	108.54	3,731.65	-0.22
			07/23/12	--	109.77	121.58	0.00	109.77	3,730.42	-1.23
			02/18/13	--	109.22	121.82	0.00	109.22	3,730.97	0.55
			08/19/13	--	110.34	121.83	0.00	110.34	3,729.85	-1.12

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-16 ^(6,7)	3,838.20	3,737.50 to 3,717.50	08/11/10	--	106.18	119.61	0.00	106.18	3,732.02	NA
			02/23/11	--	106.34	119.67	0.00	106.34	3,731.86	-0.16
			07/12/11	--	107.21	119.61	0.00	107.21	3,730.99	-0.87
			01/30/12	--	107.93	119.47	0.00	107.93	3,730.27	-0.72
			07/23/12	--	108.98	119.14	0.00	108.98	3,729.22	-1.05
			02/18/13	--	108.69	119.63	0.00	108.69	3,729.51	0.29
			08/19/13	--	109.51	119.50	0.00	109.51	3,728.69	-0.82
MW-17 ^(6,7,8)	3,831.43	3,735.79 to 3,715.79	08/11/10	--	101.65	115.92	0.00	101.65	3,729.78	NA
			02/23/11	--	101.71	115.69	0.00	101.71	3,729.72	-0.06
			07/12/11	--	102.41	115.55	0.00	102.41	3,729.02	-0.70
			01/31/12	WELL DAMAGED - NOT GAUGED						
			07/23/12	WELL DAMAGED - NOT GAUGED						
			02/18/13	WELL DAMAGED - NOT GAUGED						
MW-17R ⁽⁶⁾	3,831.14	3,731.19 to 3,711.19	08/19/13	--	104.79	119.95	0.00	104.79	3,726.35	NA
MW-18 ^(6,7)	3,825.05	3,725.52 to 3,705.52	08/11/10	--	108.54	119.36	0.00	108.54	3,716.51	NA
			09/30/10	--	104.47	NM	0.00	104.47	3,720.58	4.07
			02/23/11	--	100.02	119.38	0.00	100.02	3,725.03	4.45
			07/12/11	--	100.73	119.38	0.00	100.73	3,724.32	-0.71
			01/31/12	--	100.49	119.38	0.00	100.49	3,724.56	0.24
			07/23/12	--	110.18	119.37	0.00	110.18	3,714.87	-9.69
			02/18/13	--	102.51	119.59	0.00	102.51	3,722.54	7.67
			08/19/13	--	109.79	119.68	0.00	109.79	3,715.26	-7.28
MW-19 ^(6,7)	3,823.97	3,731.48 to 3,711.48	08/11/10	--	102.35	113.60	0.00	102.35	3,721.62	NA
			09/30/10	--	98.70	NM	0.00	98.70	3,725.27	3.65
			02/23/11	--	98.32	113.57	0.00	98.32	3,725.65	0.38
			07/12/11	--	101.87	113.56	0.00	101.87	3,722.10	-3.55
			01/31/12	--	100.92	113.54	0.00	100.92	3,723.05	0.95
			07/23/12	--	100.98	113.56	0.00	100.98	3,722.99	-0.06
			02/18/13	--	103.45	113.76	0.00	103.45	3,720.52	-2.47
			08/19/13	--	104.87	113.81	0.00	104.87	3,719.10	-1.42
MW-20 ^(6,7)	3,824.58	3,733.03 to 3,713.03	08/11/10	--	97.75	111.82	0.00	97.75	3,726.83	NA
			02/23/11	--	97.42	111.82	0.00	97.42	3,727.16	0.33
			07/12/11	--	98.50	111.74	0.00	98.50	3,726.08	-1.08
			01/31/12	--	99.07	111.74	0.00	99.07	3,725.51	-0.57
			07/23/12	--	99.75	111.75	0.00	99.75	3,724.83	-0.68
			02/18/13	--	100.50	111.78	0.00	100.50	3,724.08	-0.75
			08/19/13	--	101.60	111.98	0.00	101.60	3,722.98	-1.10
MW-21 ^(6,7)	3,820.26	3,731.59 to 3,711.59	08/11/10	--	94.06	108.31	0.00	94.06	3,726.20	NA
			02/23/11	--	93.84	108.27	0.00	93.84	3,726.42	0.22
			07/12/11	--	94.85	108.23	0.00	94.85	3,725.41	-1.01
			01/31/12	--	95.72	108.18	0.00	95.72	3,724.54	-0.87
			07/23/12	--	96.22	108.24	0.00	96.22	3,724.04	-0.50
			02/18/13	--	96.92	108.48	0.00	96.92	3,723.34	-0.70
			08/19/13	--	98.04	108.52	0.00	98.04	3,722.22	-1.12
MW-22 ^(6,7)	3,821.82	3,731.2 to 3,711.27	08/11/10	--	95.62	110.80	0.00	95.62	3,726.20	NA
			02/23/11	--	95.36	110.78	0.00	95.36	3,726.46	0.26
			07/12/11	--	96.26	110.74	0.00	96.26	3,725.56	-0.90
			01/31/12	--	97.56	110.72	0.00	97.56	3,724.26	-1.30
			07/23/12	--	97.90	110.70	0.00	97.90	3,723.92	-0.34
			02/18/13	--	98.45	110.92	0.00	98.45	3,723.37	-0.55
			08/19/13	--	99.54	110.85	0.00	99.54	3,722.28	-1.09

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-23 ^(6,7)	3,825.58	3,730.91 to 3,710.91	08/11/10	--	100.49	115.10	0.00	100.49	3,725.09	NA
			02/23/11	--	99.80	115.12	0.00	99.80	3,725.78	0.69
			07/12/11	--	101.29	115.10	0.00	101.29	3,724.29	-1.49
			02/01/12	--	102.04	115.07	0.00	102.04	3,723.54	-0.75
			07/23/12	--	102.39	114.98	0.00	102.39	3,723.19	-0.35
			02/18/13	--	102.69	115.25	0.00	102.69	3,722.89	-0.30
			08/19/13	--	104.23	115.00	0.00	104.23	3,721.35	-1.54
MW-24 ^(6,7)	3,830.50	3,731.31 to 3,711.31	08/11/10	--	104.04	118.14	0.00	104.04	3,726.46	NA
			02/23/11	--	104.26	118.09	0.00	104.26	3,726.24	-0.22
			07/12/11	--	105.29	118.04	0.00	105.29	3,725.21	-1.03
			02/01/12	--	106.65	119.10	0.00	106.65	3,723.85	-1.36
			07/23/12	--	106.96	118.04	0.00	106.96	3,723.54	-0.31
			02/18/13	--	106.77	118.35	0.00	106.77	3,723.73	0.19
			08/19/13	--	108.30	118.21	0.00	108.30	3,722.20	-1.53
MW-25 ^(6,7)	3,830.77	3,729.00 to 3,709.00	08/11/10	--	106.46	121.66	0.00	106.46	3,724.31	NA
			02/23/11	--	105.72	121.60	0.00	105.72	3,725.05	0.74
			07/12/11	--	107.24	121.49	0.00	107.24	3,723.53	-1.52
			02/01/12	--	108.53	121.42	0.00	108.53	3,722.24	-1.29
			07/23/12	--	109.13	121.47	0.00	109.13	3,721.64	-0.60
			02/18/13	--	107.65	121.45	0.00	107.65	3,723.12	1.48
			08/19/13	--	110.15	121.49	0.00	110.15	3,720.62	-2.50
MW-26 ^(6,7)	3,833.18	3,729.89 to 3,709.89	08/11/10	--	106.22	121.33	0.00	106.22	3,726.96	NA
			02/23/11	--	108.44	121.31	0.00	108.44	3,724.74	-2.22
			07/12/11	--	109.58	121.26	0.00	109.58	3,723.60	-1.14
			02/01/12	--	110.38	121.21	0.00	110.38	3,722.80	-0.80
			07/23/12	--	111.28	121.24	0.00	111.28	3,721.90	-0.90
			02/18/13	--	109.00	121.43	0.00	109.00	3,724.18	2.28
			08/19/13	--	111.46	121.43	0.00	111.46	3,721.72	-2.46
MW-27 ^(6,7)	3,837.27	3,733.03 to 3,713.03	08/11/10	--	109.00	124.07	0.00	109.00	3,728.27	NA
			02/23/11	--	109.58	123.96	0.00	109.58	3,727.69	-0.58
			07/12/11	--	110.59	124.00	0.00	110.59	3,726.68	-1.01
			02/01/12	--	111.37	123.97	0.00	111.37	3,725.90	-0.78
			07/23/12	--	112.32	123.78	0.00	112.32	3,724.95	-0.95
			02/18/13	--	111.19	123.89	0.00	111.19	3,726.08	1.13
			08/19/13	--	113.06	123.60	0.00	113.06	3,724.21	-1.87
MW-28 ^(6,7)	3,833.44	3,733.73 to 3,713.73	08/11/10	--	103.72	118.42	0.00	103.72	3,729.72	NA
			02/23/11	--	104.03	118.42	0.00	104.03	3,729.41	-0.31
			07/12/11	--	105.07	118.35	0.00	105.07	3,728.37	-1.04
			01/30/12	--	105.84	118.38	0.00	105.84	3,727.60	-0.77
			07/23/12	--	106.65	118.31	0.00	106.65	3,726.79	-0.81
			02/18/13	--	106.17	118.47	0.00	106.17	3,727.27	0.48
			08/19/13	--	107.53	118.50	0.00	107.53	3,725.91	-1.36
MW-29 ^(6,7)	3,835.55	3,734.52 to 3,714.52	08/11/10	--	105.80	120.42	0.00	105.80	3,729.75	NA
			02/23/11	--	105.97	120.35	0.00	105.97	3,729.58	-0.17
			07/12/11	--	107.08	120.33	0.00	107.08	3,728.47	-1.11
			01/30/12	--	107.69	120.33	0.00	107.69	3,727.86	-0.61
			07/23/12	--	108.74	120.27	0.00	108.74	3,726.81	-1.05
			02/18/13	--	108.12	120.47	0.00	108.12	3,727.43	0.62
			08/19/13	--	109.49	120.68	0.00	109.49	3,726.06	-1.37
MW-30 ⁽⁸⁾	3,839.25	3,732.28 to 3,712.28	08/19/13	--	110.94	126.97	0.00	110.94	3,728.31	NA

Table 1. Water Elevation Measurements, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
RW-1	3,838.48	3,738.19 to 3,708.19	04/30/09	--	106.45	136.09	0.00	106.45	3,732.03	NA
			06/10/09	--	106.59	NM	0.00	106.59	3,731.89	-0.14
			06/19/09	--	106.61	129.62	0.00	106.61	3,731.87	-0.02
			07/02/09	--	106.82	129.25	0.00	106.82	3,731.66	-0.21
			07/24/09	--	106.92	129.31	0.00	106.92	3,731.56	-0.10
			09/24/09	--	107.42	129.73	0.00	107.42	3,731.06	-0.50
			10/27/09	--	107.53	129.25	0.00	107.53	3,730.95	-0.11
			01/13/10	--	107.67	129.29	0.00	107.67	3,730.81	-0.14
			02/02/10	--	107.69	NM	0.00	107.69	3,730.79	-0.02
			04/01/10	--	107.60	NM	0.00	107.60	3,730.88	0.09
			08/11/10	--	108.18	129.29	0.00	108.18	3,730.30	-0.58
			02/23/11	--	108.22	129.31	0.00	108.22	3,730.26	-0.04
			07/12/11	--	109.09	129.27	0.00	109.09	3,729.39	-0.87
			02/02/12	--	109.81	129.34	0.00	109.81	3,728.67	-0.72
			07/23/12	--	110.98	129.07	0.00	110.98	3,727.50	-1.17
			02/18/13	--	110.61	135.79	0.00	110.61	3,727.87	0.37
			08/19/13	--	111.67	129.64	0.00	111.67	3,726.81	-1.06

Notes:

- Monitoring wells MW-1 through MW-7 installed September 1995; plugged and redrilled April 2009.
- Monitoring wells MW-8 through MW-10 installed March and April 1996; plugged and redrilled April 2009.
- Monitoring wells MW-6R, MW-11, MW-12 installed April and May 2002; MW-6R plugged April 2009.
- Monitoring wells MW-13 and MW-14 installed January 2004.
- Elevation survey of new and existing wells August 7, 2009. Earlier water level information corrected to current survey.
- Monitoring wells MW-15 through MW-29 installed May-June 2010.
- Elevation survey of wells MW-15 through MW-29 July 13, 2010.
- Monitoring wells MW-12R, MW-17R, and MW-30 installed June 2013; MW-12 and MW-17 plugged and abandoned June 2013.

btoc = below top of casing

-- = Not Detected

NM = Not Measured

NA = Not Applicable

Table 2. Organic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
MW-1	06/19/09	<0.0050	0.012	<0.0050	0.031	<0.0050	--	--	--	--	--
	01/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	<0.00020	<0.00020	<0.00020
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-2	06/22/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/16/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00022
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
(duplicate) MW-3	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-4	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/13/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.00044	0.00044	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
(duplicate) MW-5	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	

Table 2. Organic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
MW-6 (duplicate)	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	0.0075	--	--	--	--	--
	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	0.0074	--	--	--	--	--
	02/02/10	<0.0050	0.013	<0.0050	<0.015	0.0099	--	--	--	--	--
	08/19/10	<0.0050	0.015	<0.0050	<0.015	<0.0050	--	0.0017	--	0.0017	<0.0010
	03/01/11	<0.0050	0.018	<0.0050	<0.015	0.013	0.0094	0.0062	<0.00020	0.0032	0.0255
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.0008	0.0008	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-7	06/19/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/02/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-8	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-9	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-10	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/13/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	<0.00020	<0.00020
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.00028	0.00028	<0.00020	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00032	

Table 2. Organic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
MW-11	06/18/09	0.10	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	0.20 E	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/18/10	0.078	0.021	<0.0050	<0.015	<0.0050	0.00036	0.00036	--	--	0.00122
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/19/11	1.2	<0.0050	<0.0050	<0.015	<0.0050	0.00036	0.00036	--	<0.00020	0.00089
	02/01/12	7.8	0.051	<0.0050	0.200	0.096	0.0435	0.039	--	0.0045	0.0035
	07/27/12	0.049	<0.0050	<0.0050	<0.015	<0.0050	0.00022	0.00022	<0.00020	<0.00020	0.00023
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-12	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
DAMAGED WELL - NO SAMPLES COLLECTED											
MW-12R	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-13	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/18/10	0.016	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/25/11	0.0057	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00091
	07/19/11	0.0063	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-14	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.000205	<0.00020	<0.000205	<0.000205	<0.000205
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	
MW-15	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-16	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.00030	0.00030	--	<0.00020	<0.00020
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Table 2. Organic Constituent Concentrations in Groundwater, Navaio Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
MW-17	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	--	DAMAGED WELL - NO SAMPLES COLLECTED									
MW-17R	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-18	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.00021	0.00021	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-19	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
MW-20	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.

Table 2. Organic Constituent Concentrations in Groundwater, Navaio Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
MW-24 (duplicate)	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-25 (duplicate)	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-26	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00061	
MW-27	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00099
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	0.00034
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-28	08/28/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/23/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00086
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00022	
MW-29 (duplicate)	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.00050	0.00050	--	<0.00020	<0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
MW-30	06/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

Table 2. Organic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

WQCC Volatiles							WQCC Semi-Volatiles				
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Total Phenols (mg/L)
NM WQCC Groundwater Standards:		0.010	0.75	0.75	0.62	0.03	0.03	--	--	--	0.005
RW-1	06/19/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	02/02/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	0.015	<0.0050	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	0.0054	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	
North Well	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
South Well	06/22/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	0.0052	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
East Well	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	08/25/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/27/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.00020	<0.00020	<0.00020	--	<0.00020
	09/26/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.00020	<0.00020	<0.00020	--	<0.00020
	10/22/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.00020	<0.00020	<0.00020	--	<0.00020
12/27/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.00020	<0.00020	<0.00020	--	<0.00020	

Notes:

Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard

mg/L = milligrams per liter

< = Not reported above laboratory reporting limit

-- = Not Analyzed

E = Value above quantitation range

Analyses performed by ALS Laboratory Group, Houston, Texas

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-1	06/19/09	131	0.827	3.75	123	694	<0.0100	0.00914	0.147	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.974	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0124
	01/19/10	266	0.249	5.84	145	1,240	0.0202	0.00634	0.164	0.236	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.72	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00615	0.00989
	08/18/10	126	0.623	2.59	111	694	<0.0100	0.00841	0.117	0.182	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.62	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00538
	03/01/11	100	0.502	1.84	83.4	580	<0.0100	0.00821	0.0984	0.189	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.62	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00689
	07/20/11	34.7	0.623	1.14	73.9	492	<0.0100	0.00808	0.0903	0.168	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.485	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00832
	02/02/12	29.9	0.773	<1.00	65.4	392	<0.0100	0.00782	0.0843	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.780	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00766
	07/27/12	27.3	0.944	<2.00	59.5	358	0.0249	0.00870	0.0917	0.193	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.05	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00759
	02/27/13	30	0.872	<2.00	67.2	400	<0.0100	0.00857	0.0974	0.184	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.662	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0107
08/21/13	33.2	1.03	<1.00	70.5	406	0.0158	0.00589	0.102	0.187	<0.00200	0.016	<0.00500	<0.00500	<0.200	<0.00500	1.32	<0.000200	<0.00500	0.0164	<0.00500	<0.00500	<0.00500	0.00641	
MW-2	06/22/09	252	0.765	2.69	66.8	988	0.0657	0.0386	0.0803	0.190	<0.00200	<0.00500	<0.00500	0.00621	<0.200	<0.00500	0.00583	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.110
	01/19/10	246	0.672	3.39	55.1	966	<0.0100	<0.00500	0.00500	0.191	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00538	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0166
	08/16/10	276	0.824	3.23	55.9	1,180	0.1367	<0.00500	0.193	0.155	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0204
	03/03/11	221	0.763	3.49	57.6	1,010	<0.0100	<0.00500	0.176	0.171	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0117
	07/14/11	190	0.647	2.98	58.4	966	<0.0100	<0.00500	0.160	0.192	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0230
	01/30/12	214	0.784	3.43	75.1	1,230	<0.0100	<0.00500	0.130	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0255
	07/24/12	201	0.898	3.24	76.3	908	<0.0100	<0.00500	0.140	0.233	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0191
	02/19/13	213	0.81	3.9	86.6	834	0.0102	<0.00500	0.141	0.197	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0436
08/20/13	178	0.92	5.33	88.9	682	0.0346	<0.00500	0.118	0.216	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00721	
MW-3 (duplicate)	06/16/09	29.1	3.38	2.19	64.6	504	0.308	0.00815	0.115	0.160	<0.00200	0.00709	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.0151	<0.00500	<0.00500	<0.00500	--	<0.0100
	01/14/10	49.9	3.18	2.11	76.5	540	0.144	0.00703	0.119	0.148	<0.00200	0.00977	<0.00500	0.121	<0.200	<0.00500	0.00597	<0.000200	0.0200	0.00842	<0.00500	<0.00500	0.000625	0.0195
	01/14/10	49.8	3.18	2.11	75.0	552	0.142	0.00798	0.125	0.167	<0.00200	0.01050	<0.00500	0.148	<0.200	<0.00500	0.00699	<0.000200	0.0216	0.0096	<0.00500	<0.00500	0.000721	0.0230
	08/19/10	72.7	2.99	1.52	77.7	518	0.0767	0.00935	0.127	0.151	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00790	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/24/11	88.2	2.58	3.02	80.5	566	<0.0100	0.00892	0.124	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0524
	07/15/11	67.3	2.37	2.59	74.7	568	<0.0100	0.0125	0.113	0.202	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00510	<0.00500	<0.00500	<0.00500	<0.00500	0.0156
	01/30/12	65.6	2.94	2.37	86.3	472	<0.0100	0.0117	0.0831	0.168	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00621	<0.00500	<0.00500	<0.00500	<0.00500	0.00886
	07/25/12	35.0	2.70	<2.00	81.3	436	<0.0100	0.0152	0.0773	0.209	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00673
02/27/13	54.2	2.47	2.3	89.5	478	<0.0100	0.0156	0.101	0.186	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00546	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
08/22/13	46.1	2.4	2.06	81.9	456	0.0185	0.0169	0.0782	0.178	<0.00200	<0.00500	<												

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-6 (duplicate)	06/18/09	188	0.113	0.678	101	844	<0.0100	0.0201	0.186	0.175	<0.00200	<0.00500	<0.00500	<0.00500	0.418	<0.00500	2.86	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.00996
	06/18/09	168	<0.100	0.682	90.4	812	<0.0100	0.0221	0.200	0.192	<0.00200	<0.00500	<0.00500	<0.00500	0.219	<0.00500	2.76	<0.000200	<0.00500	0.00653	<0.00500	<0.00500	--	0.0141
	02/02/10	334	<0.100	0.822	90.2	1,400	<0.0200	0.0250	0.499	0.234	<0.00200	<0.00500	<0.00500	<0.00500	2.08	<0.00500	4.51	<0.000200	<0.00500	0.00634	<0.00500	<0.00500	0.0113	<0.00500
	08/19/10	285	<0.100	<1.00	111	1,350	0.0152	0.0456	0.376	0.244	<0.00200	<0.00500	<0.00500	<0.00500	1.86	<0.00500	6.61	<0.000200	<0.00500	0.00766	<0.00500	<0.00500	0.00785	<0.00500
	03/01/11	282	<0.100	0.750	80.7	1,340	<0.0100	0.0390	0.404	0.271	<0.00200	<0.00500	<0.00500	<0.00500	0.711	<0.00500	5.58	<0.000200	<0.00500	0.00896	<0.00500	<0.00500	0.00659	<0.00500
	07/20/11	174	<0.500	<0.500	114	970	<0.0100	0.0336	0.220	0.223	<0.00200	0.00972	<0.00500	<0.00500	1.57	<0.00500	4.51	<0.000200	<0.00500	0.00576	<0.00500	<0.00500	<0.00500	0.0176
	02/02/12	58.4	0.313	<1.00	88.0	398	<0.0100	<0.00500	0.0827	0.190	<0.00200	<0.00500	<0.00500	<0.00500	0.488	<0.00500	1.25	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00599	0.00858
	07/24/12	77.7	0.217	<2.00	80.1	690	<0.0100	0.0128	0.143	0.265	<0.00200	<0.00500	<0.00500	<0.00500	1.28	<0.00500	2.53	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.0102	0.0194
	02/27/13	65.4	0.368	<2.00	77.1	542	<0.0100	0.0126	0.154	0.214	<0.00200	<0.00500	<0.00500	<0.00500	1.31	<0.00500	1.97	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00789	0.0123
02/27/13	65.7	0.37	<2.00	77.6	556	<0.0100	0.0124	0.158	0.216	<0.00200	<0.00500	<0.00500	<0.00500	1.33	<0.00500	2.02	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00833	0.0106	
08/21/13	43.3	0.441	<0.200	76.6	502	0.0244	<0.00500	0.129	0.198	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.68	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00606	<0.00500	
MW-7	06/19/09	30.6	1.12	1.66	67.2	384	<0.0100	0.00923	0.169	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.127	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0137
	02/02/10	28.0	0.854	1.72	62.2	350	<0.0200	0.00869	0.199	0.169	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.125	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	08/18/10	27.2	0.570	1.12	60.2	370	0.0223	0.00532	0.252	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.343	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	03/01/11	26.5	0.599	1.91	58.2	376	<0.0100	0.00525	0.237	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.441	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00593
	07/20/11	23.3	0.626	1.35	56.8	396	<0.0100	0.00669	0.246	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.617	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/02/12	25.5	0.633	1.66	61.5	356	<0.0100	<0.00500	0.229	0.166	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.550	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00746
	07/27/12	23.6	0.796	2.01	55.2	342	0.0727	<0.00500	0.234	0.196	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.642	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0114
	02/27/13	25.8	0.709	<2.00	67.3	286	<0.0100	<0.00500	0.227	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.3	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00844
	08/21/13	26.9	0.748	1.62	60.8	290	< 0.0100	<0.00500	0.22	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.365	<0.000200	<0.00500	<0.00500	0.006	<0.00500	<0.00500	<0.00500
MW-8	06/18/09	219	0.730	3.46	73.3	798	<0.0100	0.00501	0.181	0.228	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00919	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0458
	01/18/10	151	0.493	3.80	67.6	742	<0.0100	0.00726	0.157	0.215	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00545
	08/18/10	279	0.560	7.08	65.3	1,260	0.0377	0.00676	0.204	0.170	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00501	0.00760
	02/25/11	144	0.820	<0.500	87.5	694	<0.0100	<0.00500	0.106	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.281	<0.000200	<0.00500	0.00620	<0.00500	<0.00500	<0.00500	0.0316
	07/19/11	313	0.522	4.49	72.4	1,460	<0.0100	<0.00500	0.229	0.278	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00928	0.0213
	02/01/12	376	0.498	8.21	102	1,530	<0.0100	<0.00500	0.221	0.219	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00636	<0.000200	<0.00500	0.0119	<0.00500	<0.00500	0.00745	0.0339
	07/27/12	224	0.490	8.55	122	1,080	<0.0100	<0.00500	0.160	0.294	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00523	<0.00500	<0.00500	0.00714	0.00888
	02/26/13	246	0.371	11.1	118	1,080	<0.0100	0.00627	0.17	0.38	<0.00200	<0.00500	<0.00500	<0.00500	<0									

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-11	06/18/09	204	0.579	1.23	43.1	994	<0.0100	<0.00500	0.194	0.199	<0.00200	<0.00500	<0.00500	<0.00500	0.571	<0.00500	0.387	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0212
	01/18/10	164	0.527	1.37	71.4	842	<0.0100	<0.00500	0.147	0.238	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0559	<0.000200	<0.00500	0.0126	<0.00500	<0.00500	0.00635	<0.00500
	08/18/10	146	0.616	2.38	50.6	802	0.0125	<0.00500	0.471	0.255	<0.00200	<0.00500	<0.00500	<0.00500	0.347	<0.00500	0.571	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00718	<0.00500
	02/25/11	415	0.549	<0.500	82.3	1,510	<0.0100	<0.00500	0.241	0.244	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0101	<0.000200	<0.00500	0.00856	<0.00500	<0.00500	0.00878	0.0982
	07/19/11	134	0.575	0.778	57.0	894	<0.0100	<0.00500	0.150	0.232	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0301	<0.000200	<0.00500	0.00846	<0.00500	<0.00500	0.00616	0.0265
	02/01/12	175	0.749	<0.500	4.96	966	<0.0100	0.0176	1.40	0.288	<0.00200	<0.00500	<0.00500	<0.00500	1.77	<0.00500	1.05	<0.000200	<0.00500	0.0169	<0.00500	<0.00500	0.0138	0.0189
	07/27/12	133	0.708	<2.00	59.7	784	<0.0100	0.0128	0.827	0.374	<0.00200	<0.00500	<0.00500	<0.00500	2.02	<0.00500	2.54	<0.000200	<0.00500	0.0351	<0.00500	<0.00500	0.0330	<0.00500
	02/27/13	140	0.576	3.11	32.6	908	<0.0100	0.00802	0.561	0.349	<0.00200	<0.00500	0.00604	<0.00500	<0.200	<0.00500	5.24	<0.000200	0.00631	0.0861	<0.00500	<0.00500	0.0127	0.0226
	02/27/13	143	0.585	3.23	32	908	<0.0100	0.00787	0.574	0.349	<0.00200	<0.00500	0.00574	<0.00500	<0.200	<0.00500	5.47	<0.000200	0.00619	0.0811	<0.00500	<0.00500	0.0125	0.0199
	08/21/13	182	0.668	4.04	75.3	854	<0.0100	<0.00500	0.195	0.283	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.62	<0.000200	<0.00500	0.00869	<0.00500	<0.00500	0.00723	0.00547
(duplicate)	08/21/13	172	0.673	4.19	76.2	868	<0.0100	<0.00500	0.198	0.29	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.92	<0.000200	<0.00500	0.00906	<0.00500	<0.00500	0.00714	0.00592
MW-12	06/16/09	23.0	1.16	1.98	49.6	354	<0.0200	0.00516	0.0775	0.200	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	<0.0100
	01/18/10	26.1	1.05	2.31	49.8	398	<0.0100	<0.00500	0.0755	0.235	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0219	<0.000200	<0.00500	0.0182	<0.00500	<0.00500	<0.00500	<0.00500
	08/20/10	25.8	1.22	2.00	50.3	340	0.115	0.00550	0.0756	0.176	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/25/11	28.5	1.14	<0.500	50.8	402	<0.0100	0.00504	0.076	0.198	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0185
	07/19/11	26.8	0.856	2.91	51.2	410	<0.0100	<0.00500	0.0828	0.215	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00976	<0.000200	0.00575	0.00684	<0.00500	<0.00500	<0.00500	<0.00500
	--	DAMAGED WELL - NO SAMPLES COLLECTED																						
MW-12R	08/21/13	31.2	1.4	8.14	71.1	404	<0.0100	<0.00500	0.0937	0.194	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0129	<0.000200	0.00647	0.0103	<0.00500	<0.00500	<0.00500	0.00956
MW-13	06/16/09	425	0.220	2.65	138	1,790	<0.0200	<0.00500	0.0692	0.253	<0.00200	<0.00500	0.0285	<0.00500	<0.200	<0.00500	0.0176	<0.000200	<0.00500	0.0126	<0.00500	<0.00500	--	0.0269
	01/18/10	604	0.170	1.08	79.8	2,210	<0.0100	<0.00500	0.111	0.231	<0.00200	0.00728	0.00624	<0.00500	<0.200	<0.00500	0.0591	<0.000200	<0.00500	0.0110	<0.00500	<0.00500	0.0119	0.00769
	08/18/10	390	0.278	<1.00	144	1,720	0.0196	<0.00500	0.106	0.221	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.256	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.0128	0.00618
	02/25/11	340	0.281	<0.500	235	1,540	<0.0100	<0.00500	0.0692	0.242	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.225	<0.000200	<0.00500	0.0144	<0.00500	<0.00500	0.0170	0.0744
	07/19/11	351	0.327	<0.500	244	1,960	<0.0100	<0.00500	0.0800	0.249	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.302	<0.000200	<0.00500	0.0121	<0.00500	<0.00500	0.0188	0.00785
	02/01/12	418	0.322	<0.500	122	1,590	<0.0100	<0.00500	0.0752	0.228	<0.00200	<0.00500	0.00663	<0.00500	<0.200	<0.00500	0.341	<0.000200	<0.00500	0.0136	<0.00500	<0.00500	0.0128	0.0553
	07/26/12	462	0.422	<2.00	123	2,150	<0.0100	<0.00500	0.112	0.284	<0.00200	<0.00500	0.00644	<0.00500	<0.200	<0.00500	0.459	<0.000200	<0.00500	0.0108	<0.00500	<0.00500	0.0158	0.0361
	02/26/13	430	0.366	<2.00	135	1,610	0.0139	<0.00500	0.129	0.27	<0.00200	<0.00500	0.00657	<0.00500	<0.200	<0.00500	0.571	<0.000200	0.00568	0.082	<0.00500	<0.00500	0.0123	0.0359
	08/21/13	548	0.389	<1.00	108	2,000	<0.0100	0.0059	0.159	0.265	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.705	<0.000200	<0.00500	0.0209	<0.00500	<0.00500	0.0153	0.00931
MW-14	06/16/09	93.0	0.851	5.16	60.9	540	<0.0200	<0.00500	0.0770	0.132	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0199	&						

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)	
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0	
MW-17	08/20/10	426	0.517	4.27	72.6	1,650	0.146	<0.00500	0.180	0.157	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0142	
	02/24/11	412	0.435	5.33	80.0	1,634	<0.0100	<0.00500	0.152	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0478	
	07/18/11	336	0.753	4.07	82.7	1,850	<0.0100	<0.00500	0.141	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0126	
	--	DAMAGED WELL - NO SAMPLES COLLECTED																							
MW-17R	08/22/13	246	0.602	3.44	81.7	1,190	0.0302	<0.00500	0.154	0.188	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0819	<0.000200	0.00531	0.0189	<0.00500	<0.00500	<0.00500	<0.00500	
MW-18	08/23/10	176	0.456	0.733	287	1,080	0.0787	<0.00500	0.0575	0.334	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.314	<0.000200	0.00561	0.0298	0.00548	<0.00500	0.0123	0.0772	
	02/24/11	286	0.514	4.14	298	1,240	0.0157	<0.00500	0.0766	0.330	<0.00200	0.0186	<0.00500	<0.00500	<0.200	<0.00500	0.00536	<0.000200	<0.00500	0.0144	0.00501	<0.00500	0.00883	0.0439	
	07/18/11	218	0.800	5.74	234	1,290	0.0244	<0.00500	0.05636	0.396	<0.00200	0.0111	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.0129	<0.00500	<0.00500	0.00666	0.0661	
	01/31/12	106	0.722	3.89	94.3	584	0.0113	<0.00500	0.0645	0.133	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0191	
	07/25/12	103	0.753	2.01	63.4	562	0.0110	<0.00500	0.0780	0.230	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00684	
	02/22/13	181	0.564	4.02	116	782	0.0742	<0.00500	0.105	0.249	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0129	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0138	0.0187
	08/22/13	197	0.531	5.59	130	1,100	< 0.0100	<0.00500	0.11	0.243	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00509	<0.00500	<0.00500	<0.00500	<0.00500	
MW-19	08/23/10	469	0.536	2.94	178	1,650	0.101	0.0476	0.229	<0.0200	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00666	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0227	
	02/24/11	235	0.713	2.87	90.7	828	<0.0100	<0.00500	0.0764	0.180	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0318	
	07/18/11	688	0.734	3.66	142	2,880	<0.0100	<0.00500	0.092	0.266	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00781	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0553	
	01/31/12	610	0.568	4.12	121	1,770	<0.0100	<0.00500	0.0688	0.350	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00553	<0.000200	<0.00500	0.00525	<0.00500	<0.00500	<0.00500	0.0345	
	07/25/12	1,130	0.450	5.11	117	3,570	0.0114	<0.00500	0.106	0.535	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00593	<0.000200	<0.00500	0.00664	<0.00500	<0.00500	<0.00500	0.0714	
	02/26/13	540	0.519	4.21	115	1,650	<0.0100	<0.00500	0.087	0.3	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00566	<0.00500	<0.00500	<0.00500	0.0629	
	08/22/13	487	0.645	3.43	92.6	1,430	< 0.0100	<0.00500	0.0857	0.241	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00512	
	(duplicate) 08/22/13	475	0.672	3.38	95.7	1,670	0.0182	<0.00500	0.0864	0.237	<0.00200	0.0143	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.009	<0.00500	<0.00500	<0.00500	<0.00500	
	MW-20	08/23/10	169	0.570	1.74	65.1	868	0.0891	<0.00500	0.122	0.143	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00970
02/25/11		187	0.603	2.58	66.3	840	<0.0100	<0.00500	0.120	0.150	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0643	
07/18/11		148	0.765	2.06	51.3	1,020	<0.0100	<0.00500	0.134	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0278	
01/31/12		174	0.641	2.51	61.4	726	<0.0100	<0.00500	0.114	0.149	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0171	
07/25/12		189	0.742	2.24	56.0	848	<0.0100	<0.00500	0.107	0.217	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0187	
02/22/13		155	0.57	2.26	55.8	600	0.0294	<0.00500	0.102	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0165	
08/20/13		180	0.755	2.4	60.4	736	0.0104	<0.00500	0.102	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00966	<0.000200	<0.00500	0.0112	<0.00500	<0.00500	<0.00500	0.0242	
MW-21		08/23/10	115	0.250	2.12	52.7	966	0.195	<0.00500	0.232	0.208	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0567	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00898
	(duplicate) 02/28/11	182	0.257	3.02	56.7	1,050	<0.0100	<0.00500	0.258	0.257	<0.00200	0.00620	<0.00500	<0.00500	<0.200	<0.00500	0.102	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0101	0.0184
	02/28/11	183	0.249	2.99	56.3	1,000	<0.0100	<0.00500	0.256	0.252	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.101	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00975	0.0213
	07/19/11	191	0.163	2.62	57.0	1,250	<0.0100	<0.00500	0.242	0.225	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500									

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-24 (duplicate)	08/24/10	34.6	2.31	2.40	53.9	422	0.187	<0.00500	0.0867	0.140	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00922
	02/28/11	39.6	2.16	2.94	55.3	414	<0.0100	<0.00500	0.0878	0.154	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00634	<0.00500	<0.00500	<0.00500	0.0245
	07/14/11	43.1	1.55	2.38	48.1	504	<0.0100	<0.00500	0.0932	0.173	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00543	<0.00500	<0.00500	<0.00500	0.0249
	02/01/12	50.6	2.42	2.32	62.3	418	<0.0100	<0.00500	0.0946	0.127	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00760	<0.000200	<0.00500	0.00725	<0.00500	<0.00500	<0.00500	0.0101
	07/30/12	51.8	2.42	2.39	55.1	420	<0.0100	<0.00500	0.0889	0.179	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00508	<0.000200	<0.00500	0.00758	<0.00500	<0.00500	<0.00500	0.0127
	07/30/12	55.5	2.34	2.34	58.8	446	<0.0100	<0.00500	0.0851	0.160	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00731	<0.00500	<0.00500	<0.00500	0.0155
	02/26/13	46.6	2.39	2.05	68.6	442	<0.0100	<0.00500	0.0913	0.187	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0106	<0.000200	<0.00500	0.0165	<0.00500	<0.00500	<0.00500	0.0151
	08/21/13	56.5	2.77	2.04	55.6	426	< 0.0100	<0.00500	0.0856	0.183	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0146	<0.000200	<0.00500	0.0157	<0.00500	<0.00500	<0.00500	0.00684
MW-25 (duplicate)	08/23/10	178	0.871	2.42	182	946	0.244	<0.00500	0.246	0.174	<0.00200	0.0476	<0.00500	<0.00500	<0.200	<0.00500	0.0109	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0194
	02/28/11	256	0.729	2.83	93.9	998	<0.0100	<0.00500	0.205	0.198	<0.00200	0.0537	<0.00500	<0.00500	<0.200	<0.00500	0.00715	<0.000200	<0.00500	0.00516	<0.00500	<0.00500	0.00535	0.0424
	07/18/11	77.8	1.12	3.64	96.2	634	0.0444	<0.00500	0.186	0.173	<0.00200	0.00732	<0.00500	<0.00500	<0.200	<0.00500	0.00608	<0.000200	<0.00500	0.00832	<0.00500	<0.00500	<0.00500	0.00556
	02/01/12	175	0.813	4.56	84.4	820	<0.0100	<0.00500	0.228	0.175	<0.00200	0.00744	<0.00500	<0.00500	<0.200	<0.00500	0.00804	<0.000200	<0.00500	0.00708	<0.00500	<0.00500	0.00602	0.00582
	07/26/12	133	0.892	37.1	144	1,110	<0.0100	<0.00500	0.178	0.220	<0.00200	0.00961	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0102
	02/26/13	109	0.71	19.4	113	788	<0.0100	<0.00500	0.149	0.241	<0.00200	0.00822	<0.00500	<0.00500	<0.200	<0.00500	0.0104	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00807	0.0148
	08/22/13	314	0.696	3.36	74.7	1,350	< 0.0100	<0.00500	0.224	0.262	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0122	<0.000200	<0.00500	0.021	<0.00500	<0.00500	0.00862	<0.00500
	08/22/13	310	0.684	3.42	74.3	1,350	< 0.0100	<0.00500	0.226	0.263	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0127	<0.000200	<0.00500	0.021	<0.00500	<0.00500	0.0086	0.00607
MW-26	08/24/10	217	0.484	2.88	98.5	958	0.115	<0.00500	0.131	0.169	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0156	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0161
	02/28/11	202	0.517	3.86	125	940	<0.0100	<0.00500	0.110	0.187	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00890	<0.000200	<0.00500	0.00734	<0.00500	<0.00500	0.00602	0.0254
	07/14/11	184	<0.500	3.95	128	1,030	<0.0100	<0.00500	0.0994	0.192	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00679	<0.000200	<0.00500	0.00792	<0.00500	<0.00500	0.00546	0.0328
	02/01/12	196	0.568	3.68	131	952	<0.0100	<0.00500	0.0854	0.163	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0122	<0.000200	<0.00500	0.0133	<0.00500	<0.00500	<0.00500	0.00949
	07/26/12	179	0.647	3.11	121	940	0.0121	<0.00500	0.0966	0.214	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00694	<0.000200	<0.00500	0.00568	<0.00500	<0.00500	0.00559	0.0117
	02/26/13	144	0.64	4.78	138	760	0.0134	<0.00500	0.103	0.189	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0635	<0.000200	<0.00500	0.0558	<0.00500	<0.00500	<0.00500	0.0233
	08/22/13	222	0.611	5.55	133	1,170	0.0319	<0.00500	0.091	0.209	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0174	<0.000200	<0.00500	0.00539	<0.00500	<0.00500	0.00577	0.00877
MW-27	08/18/10	115	0.644	5.10	118	752	0.218	<0.00500	0.100	0.152	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0534	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00544	0.0213
	02/25/11	144	0.595	<0.500	78.5	746	<0.0100	<0.00500	0.0985	0.139	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0336	<0.000200	<0.00500	0.00769	<0.00500	<0.00500	0.00625	0.0453
	07/20/11	150	0.510	1.69	73.2	812	0.0378	<0.00500	0.112	0.165	<0.00200	0.0353	<0.00500	<0.00500	0.393	<0.00500	0.0179	<0.000200	<0.00500	0.0415	<0.00500	<0.00500	0.00571	0.0294
	02/01/12	164	0.691	2.43	99.8	676	<0.0100	<0.00500	0.0902	0.126	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00556	<0.008000	<0.00500	0.00533	<0.00500	<0.00500	<0.00500	0.0121
	07/26/12	164	0.680	2.95	65.3	754	0.0155	<0.00500	0.118	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00587	<0.000200	<0.00500	0.00737	<0.00500	<0.00500	<0.00500	0.0117
	02/26/13	199	0.647	2.77	70.7	756	<0.0100	<0.00500	0.12	0.184	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0586	<0.000200	0.00513	0.0593	<0.00500	<0.00500	<0.00500	0.0104
	08/20/13	315	0.562	7.12	75.5	1,180	0.044	<0.00500	0.162	0.222	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0239	<0.000200	<0.00500	0.0189	<0.00500	<0.00500	0.00899	<0.00500
MW-28	08/24/10	71.2	1.66	1.70	60.3	440	0.129	<0.00500	0.0846	0.153	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/23/11	106	1.57	<0.500	67.4	540	<0.0100	<0.00500	0.0923	0.147	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	07/14/11	106	1.28	2.40	67.8	732	<0.0100	<0.00500	0.103	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00658	<0.000200	<0.00500	0.00696	<0.00500	<0.00500	<0.00500	0.0190
	01/30/12	80.6	1.68	2.53	81.1	572	<0.0100	<0.00500	0.0746	0.152	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0113
	07/24/12	74.9	1.79	2.33	81.6	500	<0.0100	<0.00500	0.0830	0.204	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00812
	02/19/13	65.5	1.61	2.57	88.4	468	<0.0100	<0.00500	0.0883	0.174	<0.00200	<0.00500	<0.00500	0.203	<0.200	<0.00500	0.0275	<0.000200	0.01	<0.00500	<0.00500	<0.00500	<0.00500	

Table 3. Inorganic Constituent Concentrations in Groundwater, Navajo Refining Company, Lea Refinery, Lovington, NM

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
RW-1	06/19/09	34.8	1.21	--	70.8	398	<0.0100	0.010	0.160	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0380	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.00548
	02/02/10	34.2	0.913	1.52	66.0	388	<0.0200	0.00857	0.190	0.166	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0467	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	08/19/10	27.8	0.991	1.42	72.3	380	0.0202	0.0104	0.162	0.154	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	03/01/11	28.9	1.03	1.74	74.3	380	<0.0100	0.0121	0.148	0.153	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00933	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00854
	07/20/11	26.4	0.883	1.36	72.5	484	<0.0100	0.0108	0.158	0.156	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/02/12	29.6	1.11	1.44	79.9	384	<0.0100	0.0106	0.139	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00771	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00526
	07/27/12	27.3	1.18	<2.00	68.9	344	0.0532	0.0103	0.163	0.177	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0182	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00764
	02/27/13	28	1.09	<2.00	80.2	378	<0.0100	0.0103	0.132	0.159	<0.00200	<0.00500	<0.00500	<0.00500	0.655	<0.00500	0.00656	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00801
	08/21/13	32.3	1.28	1.5	86.9	392	<0.0100	0.0101	0.153	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.027	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
North Well	06/18/09	140	0.933	2.72	80.6	664	<0.0100	0.00536	0.0997	0.151	<0.00200	0.0104	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	<0.00500
	01/14/10	143	0.793	2.90	74.2	638	<0.0100	<0.00500	0.107	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00134	<0.00500
	08/24/10	127	0.932	1.81	80.4	594	<0.0100	0.00552	0.100	0.147	<0.00200	<0.00500	<0.00500	0.00856	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.0161	<0.00500	<0.00500	<0.00500	0.00920
	03/03/11	137	0.932	2.76	75.2	804	<0.0100	0.00503	0.0968	0.159	<0.00200	0.0199	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	07/20/11	124	0.803	2.07	76.5	628	<0.0100	<0.00500	0.106	0.142	<0.00200	0.0140	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0695
	02/02/12	149	0.977	2.54	82.1	656	0.0126	<0.00500	0.0944	0.132	<0.00200	0.0145	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	07/30/12	121	0.986	2.63	72.7	528	<0.0100	0.00523	0.106	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0178
	02/19/13	105	1.02	2.54	83.3	496	<0.0100	0.00693	0.0998	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00537	<0.00500	<0.00500	<0.00500	0.00873
South Well	06/22/09	497	0.665	3.02	106	1,450	<0.0100	<0.00500	0.154	0.189	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0195
	01/14/10	498	0.686	3.27	113	1,520	0.0176	<0.00500	0.138	0.229	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0224	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00236	<0.00500
	08/24/10	477	0.651	2.18	101	1,760	<0.0100	<0.00500	0.172	0.186	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00576	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0207
	03/03/11	549	0.647	3.24	122	1,840	<0.0100	<0.00500	0.147	0.261	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0226	<0.000200	<0.00500	<0.00500	0.00500	<0.00500	<0.00500	0.0329
	07/20/11	420	0.687	2.48	103	1,600	<0.0100	<0.00500	0.157	0.195	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/12/12	368	0.756	3.02	89.0	1,210	<0.0100	<0.00500	0.117	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00777
	07/30/12	135	1.01	2.53	73.3	582	<0.0100	<0.00500	0.103	0.160	<0.00200	0.0111	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0401
	02/19/13	359	0.743	2.88	99.2	1,170	<0.0100	0.00576	0.149	0.197	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0172
East Well	06/18/09	107	0.980	2.59	84.0	554	0.0131	<0.00500	0.0820	0.143	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.0172
	01/14/10	138	0.991	2.70	72.7	676	<0.0100	<0.00500	0.0941	0.154	<0.00200	0.0119	<0.00500	0.00953	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00111	0.0291
	08/25/10	106	1.00	0.523	74.5	522	<0.0100	<0.00500	0.0873	0.136	<0.00200	0.0145	<0.00500	0.00745	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0146
	03/03/11	135	0.905	2.68	75.6	644	<0.0100	<0.00500	0.0970	0.152	<0.00200	0.0189	<0.00500	<0.00500	<0.200	0.00662	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0347
	07/20/11	124	0.810	1.83	73.8	596	<0.0100	<0.00500	0.1040	0.142	<0.00200	0.0200	<0.00500	<0.00500	<0.200	0.0116	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00936
	02/02/12	150	0.967	2.56	81.4	664	0.0150	<0.00500	0.0993	0.145	<0.00200	0.0166	<0.00500	<0.00500	<0.200	0.00988	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0937
	07/30/12	144	0.962	2.40	80.9	636	<0.0100	<0.00500	0.0922	0.136	<0.00200	0.0157	<0.00500	0.00774	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0166

Notes:

Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard

mg/L = milligrams per liter

< = Not reported above laboratory reporting limit

-- = Not Analyzed

Samples collected for metals analysis (except for Total Mercury) were field filtered with 0.45 micron filter

Analyses performed by ALS Laboratory Group, Houston, Texas

Table 4. Skinner List Constituent Concentrations in WW-East and Tank 1210, Navajo Refining Company, Lea Refinery, Lovington, NM

[illegible]

Notes:

Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard

J = analyte was detected below the laboratory reporting limit, reported value is estimated

mg/L = milligrams per liter

< = Not reported above laboratory reporting limit

-- = No Water Quality Standard Available

Development of Risked-Based Remediation Goals presented in December 2013 *Refinery Investigation Report*.

Samples collected for metals analysis (except for Mercury) were field filtered with 0.45 micron filter

*Total Naphthalene plus monomethlynaphthalates

Analyses performed by ALS Laboratory Group, Houston, Texas

APPENDIX A

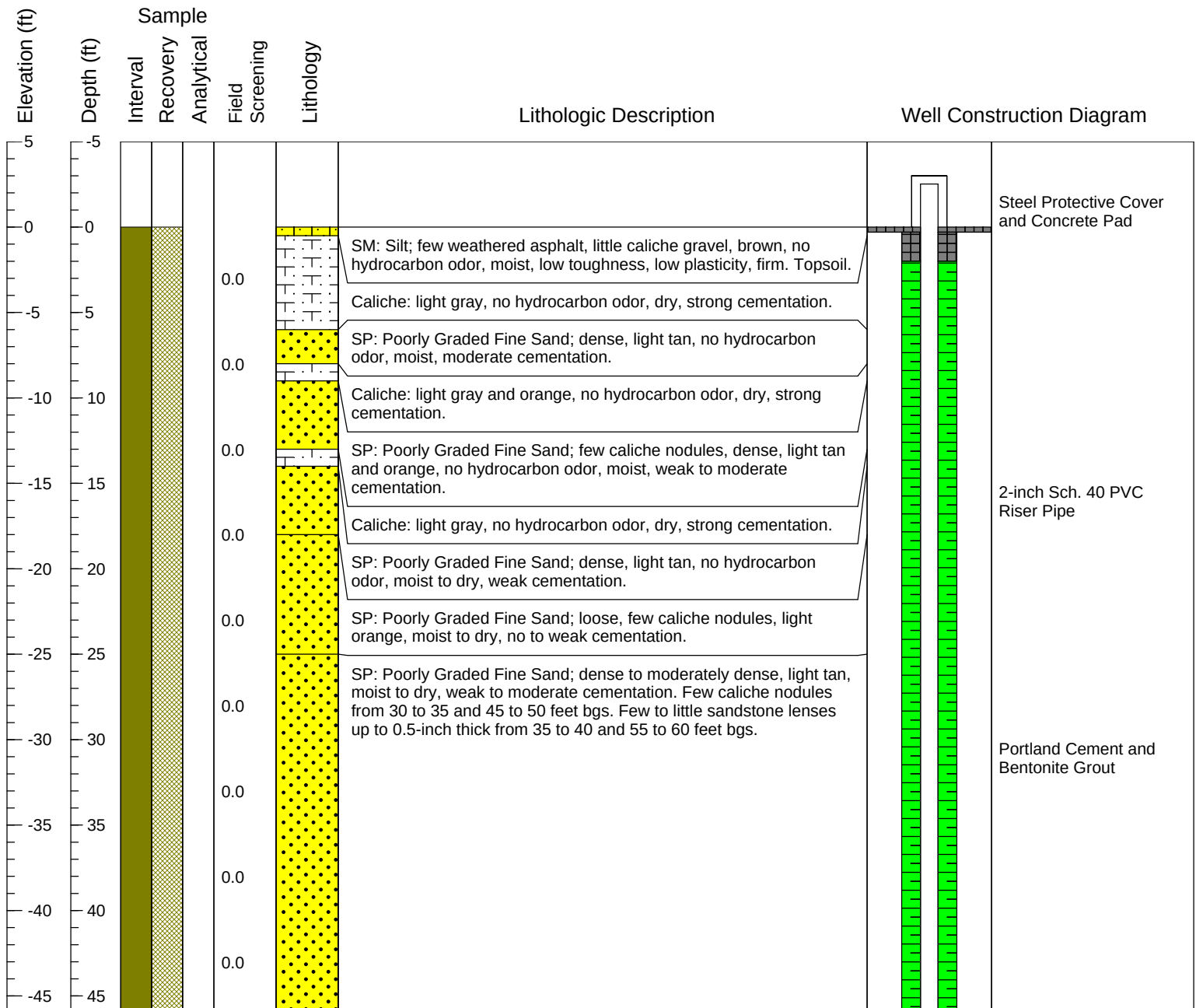
SOIL BORING/WELL CONSTRUCTION LOGS



BORING LOG and WELL CONSTRUCTION

MW-12R

Client: Navajo Refining Company		TRC Project #: 196364.4000.0000
Site: Lea Refinery		Start Date: 6/19/2013
Address: 7406 South Main St, Lovington, New Mexico		Finish Date: 6/19/2013
Project: Groundwater Investigation		Permit #: L-13332
Drilling Company: Talon Drilling	Drilling Crew: Gabe Perez and crew	TRC Site Rep.: J. Ward
Drilling Method: Air Rotary		TRC Reviewer: B. Gilbert
Boring Diameter (in): 6.25	Boring Depth (ft bgs): 120	Coord. System: NM State Plane East Zone
Sampling Method: Air Rotary Return Cuttings		Northing: 683363.811
Blow Count Method: NA		Easting: 858986.246
Field Screening Parameter: Volatile Organic Compounds		Elevation Datum: NAVD1988
Meter: MiniRAE PID	Units: ppm	Ground Elevation (ft): 3,820.77
Well Depth (ft bgs): 105.82	Well Depth (ft toc): 108.34	Well Elevation (ft): 3,823.29
Casing Length (ft): 87.84	Screen Length (ft): 20	Well Measuring Point: Top of Casing
Surface Completion: Aboveground Steel Protective Cover and Concrete Pad		Depth to Water (ft toc): 99.95
Well Development: Pump and Surge		Date/Time: 6/21/2013, 1900





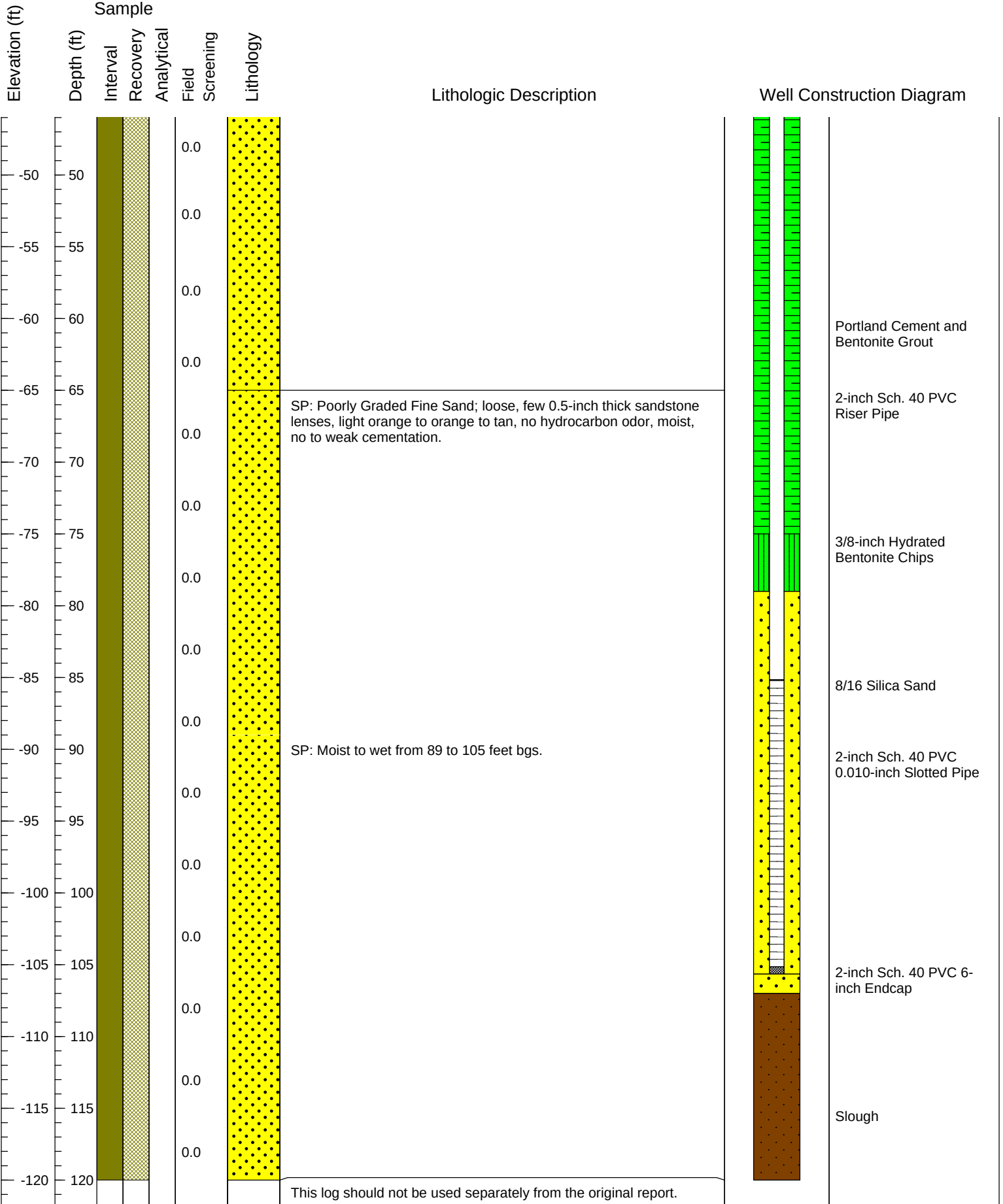
BORING LOG and WELL CONSTRUCTION

MW-12R

Client: Navajo Refining Company

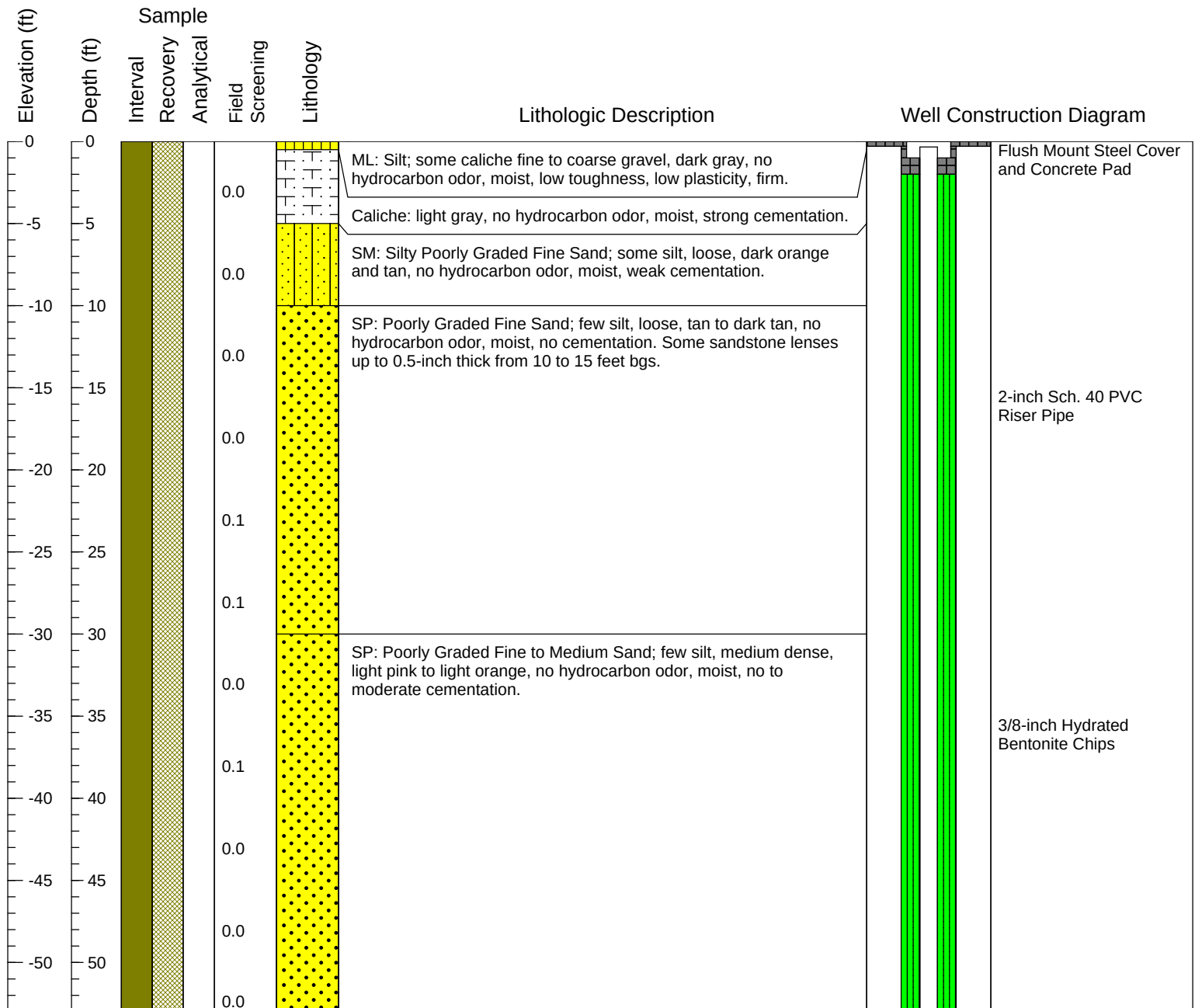
Site: Lea Refinery

Page 2 of 2



**BORING LOG and
WELL CONSTRUCTION****MW-17R**

Client: Navajo Refining Company		TRC Project #: 196364.4000.0000
Site: Lea Refinery		Start Date: 6/18/2013
Address: 7406 South Main St, Lovington, New Mexico		Finish Date: 6/18/2013
Project: Groundwater Investigation		Permit #: L-13332
Drilling Company: Talon Drilling	Drilling Crew: Gabe Perez and crew	TRC Site Rep.: J. Ward
Drilling Method: Air Rotary		TRC Reviewer: B. Gilbert
Boring Diameter (in): 6.25	Boring Depth (ft bgs): 130	Coord. System: NM State Plane East Zone
Sampling Method: Air Rotary Return Cuttings		Northing: 684982.118
Blow Count Method: NA		Easting: 857414.817
Field Screening Parameter: Volatile Organic Compounds		Elevation Datum: NAVD1988
Meter: MiniRAE PID	Units: ppm	Ground Elevation (ft): 3,831.48
Well Depth (ft bgs): 120.29	Well Depth (ft toc): 120.04	Well Elevation (ft): 3,831.14
Casing Length (ft): 99.45	Screen Length (ft): 20	Well Measuring Point: Top of Casing
Surface Completion: Flush Mount Steel Cover and Concrete Pad		Depth to Water (ft toc): 104.39
Well Development: Pump and Surge		Date/Time: 6/21/2013, 1900





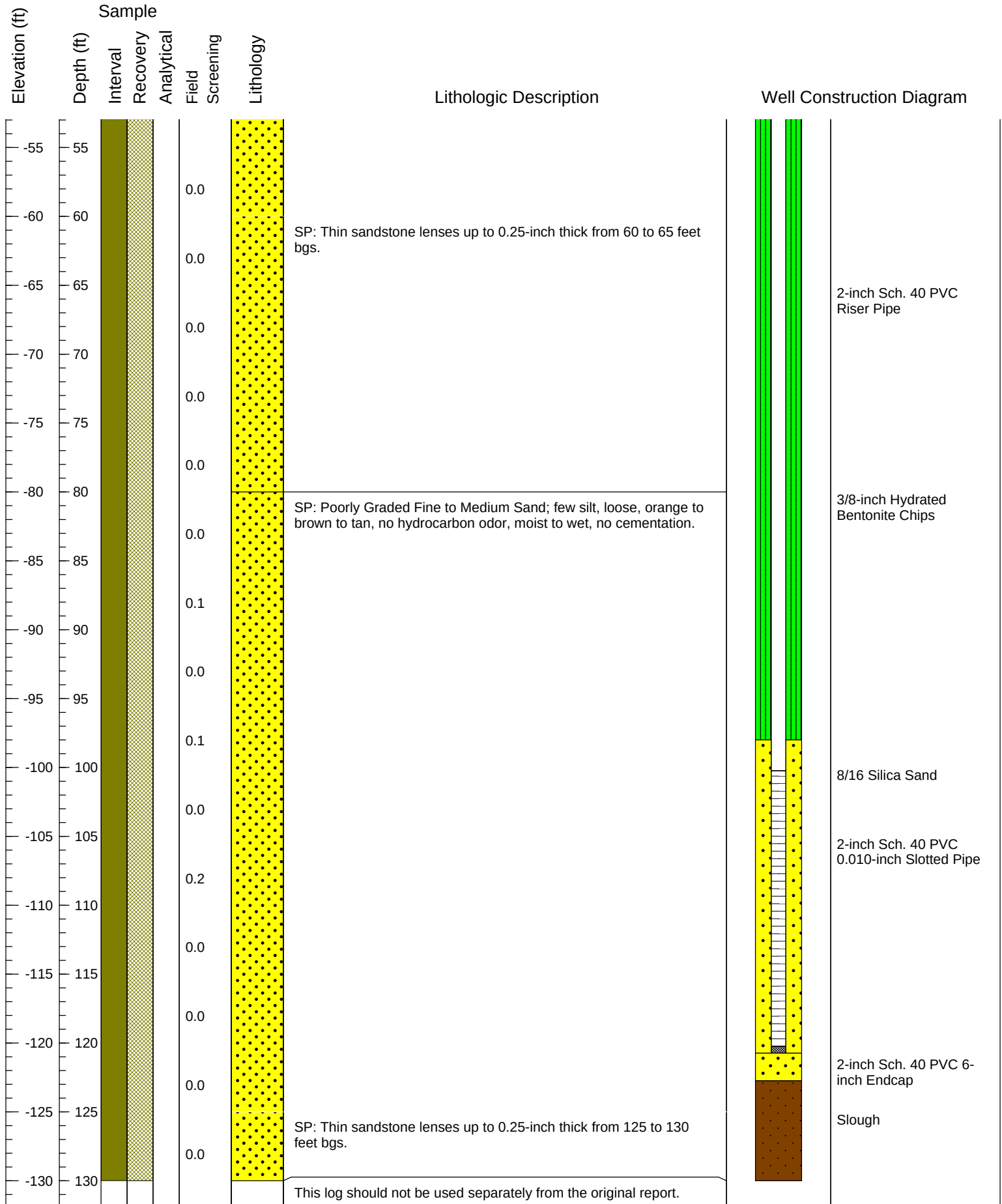
BORING LOG and WELL CONSTRUCTION

MW-17R

Client: Navajo Refining Company

Site: Lea Refinery

Page 2 of 2

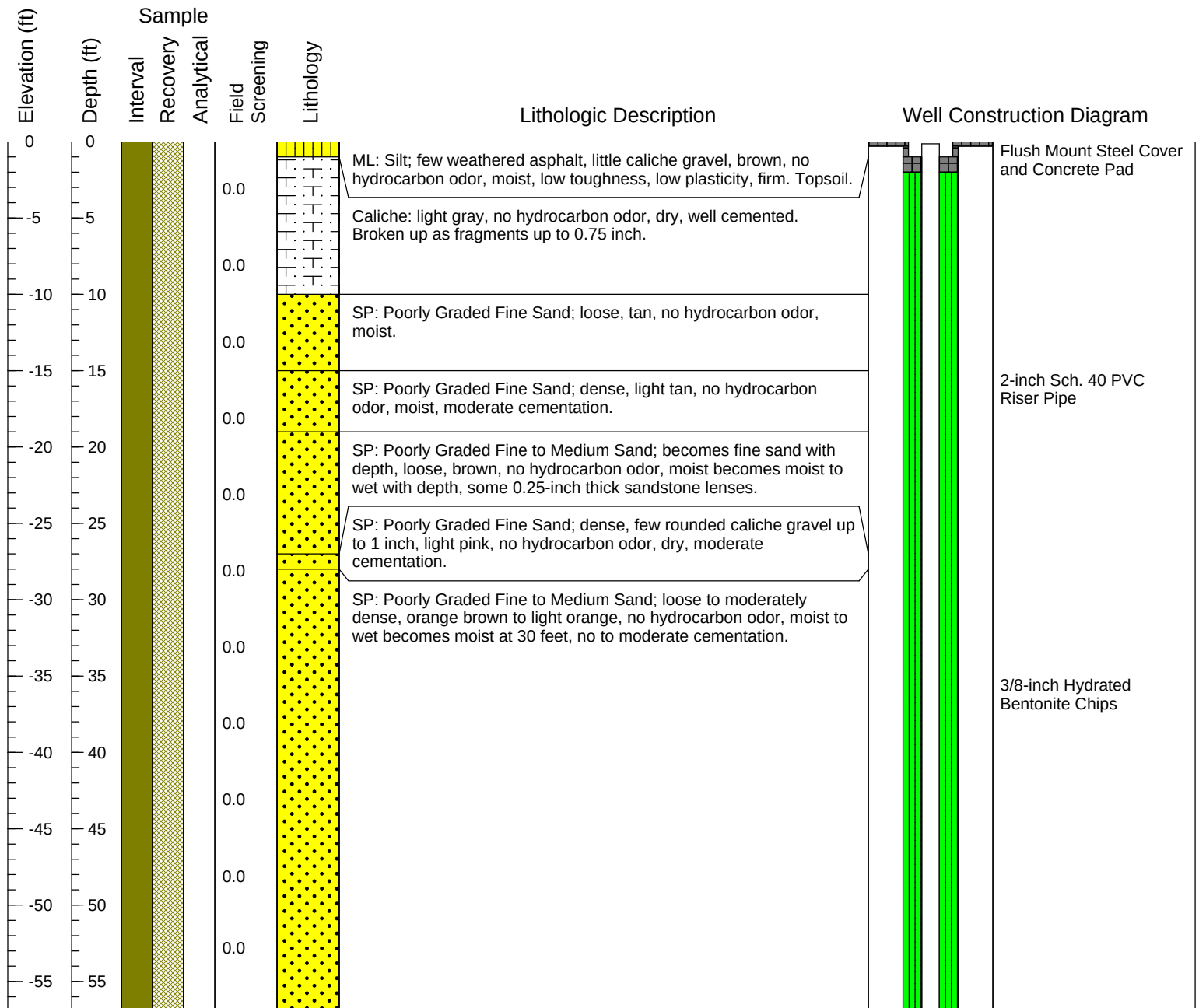




BORING LOG and WELL CONSTRUCTION

MW-30

Client: Navajo Refining Company			TRC Project #: 196364.0001.0000		
Site: Lea Refinery			Start Date: 6/18/2013		
Address: 7406 South Main St, Lovington, New Mexico			Finish Date: 6/20/2013		
Project: Groundwater Investigation			Permit #: L-13332		
Drilling Company: Talon Drilling		Drilling Crew: Gabe Perez and crew		TRC Site Rep.: J. Ward	
Drilling Method: Air Rotary				TRC Reviewer: B. Gilbert	
Boring Diameter (in): 6.25		Boring Depth (ft bgs): 140		Coord. System: NM State Plane East Zone	
Sampling Method: Air Rotary Return Cuttings				Northing: 685753.992	
Blow Count Method: NA				Easting: 857380.835	
Field Screening Parameter: Volatile Organic Compounds				Elevation Datum: NAVD1988	
Meter: MiniRAE PID		Units: ppm		Ground Elevation (ft): 3,839.39	
Well Depth (ft bgs): 128		Well Depth (ft toc): 127.91		Well Elevation (ft): 3,839.25	
Casing Length (ft): 107.41		Screen Length (ft): 20		Well Measuring Point: Top of Casing	
Surface Completion: Flush Mount Steel Cover and Concrete Pad				Depth to Water (ft toc): 110.49	
Well Development: Pump and Surge - 20 gallons removed				Date/Time: 6/21/2013, 1900	





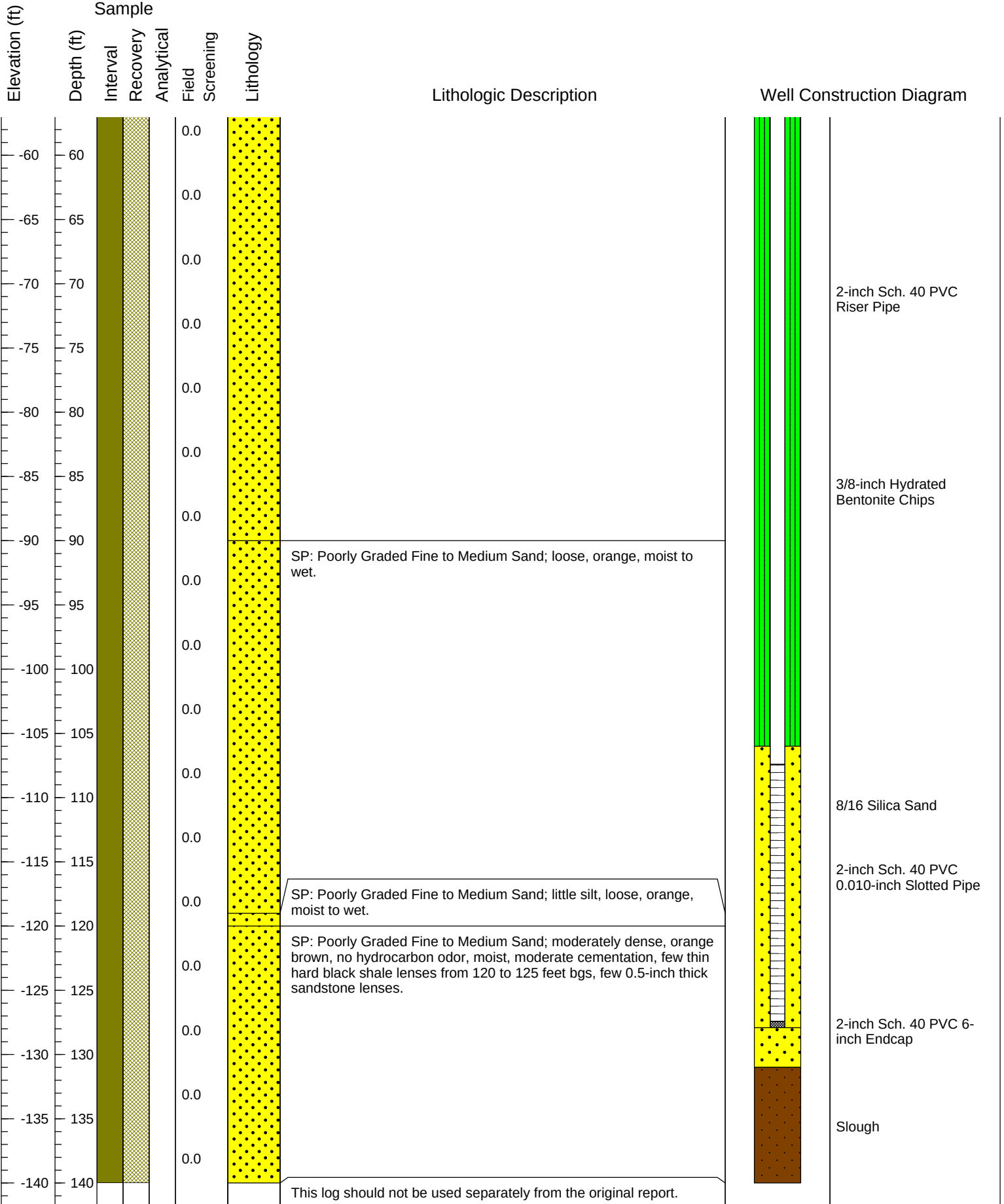
BORING LOG and WELL CONSTRUCTION

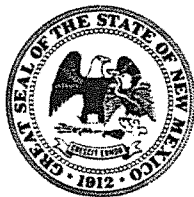
MW-30

Client: Navajo Refining Company

Site: Lea Refinery

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WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) MW-12R				OSE FILE NUMBER(S) L-13332					
	WELL OWNER NAME(S) Navajo Refining Company				PHONE (OPTIONAL)					
	WELL OWNER MAILING ADDRESS P.O. Box 159				CITY Artesia		STATE NM			
					ZIP 88211					
	WELL LOCATION (FROM GPS)		DEGREES LATITUDE 32		MINUTES 52		SECONDS 27.46			
		LONGITUDE 103		17		55.31		N W		
* ACCURACY REQUIRED: ONE TENTH OF A SECOND										
* DATUM REQUIRED: WGS 84										
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE										
2. DRILLING & CASING INFORMATION	LICENSE NUMBER 1575		NAME OF LICENSED DRILLER Shane Currie			NAME OF WELL DRILLING COMPANY Talon/LPE				
	DRILLING STARTED June 19, 2013		DRILLING ENDED June 19, 2013		DEPTH OF COMPLETED WELL (FT) 120'		BORE HOLE DEPTH (FT) 120'		DEPTH WATER FIRST ENCOUNTERED (FT) 99.95'	
	COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☒ SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)			
	DRILLING FLUID: ☐ AIR ☒ MUD						ADDITIVES - SPECIFY:			
	DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY:									
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)		
	FROM	TO								
	0	88	2	Sch. 40 PVC	Flush Joint	2.375	0.154			
	88	107	2	Sch. 40 PVC	Flush Joint	2.375	0.154	0.010		
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT				
	FROM	TO								
	2	79	6 1/4	Portland/Bentonite	14.79	Tremie				
	79	107	6 1/4	Filter Sand	5.38	Tremie				

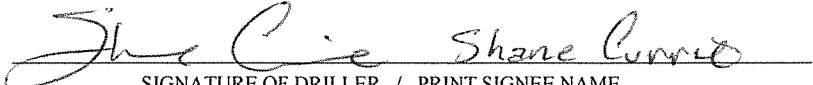
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WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	5	5	Top Soil, Silt 10%, Weathered Asphalt, 25% Caliche Shell, Caliche	☐ Y ☐ N	
	5	10	5	Caliche Broken as Fragments up to 1/2", Sands, Fine Grained	☐ Y ☐ N	
	10	15	5	Caliche Broken as Fragments up to 1/2", 10% Caliche Nodules	☐ Y ☐ N	
	15	20	5	Caliche Broken as Fragments up to 1/2", 10% Caliche Nodules	☐ Y ☐ N	
	20	25	5	Caliche Broken as Fragments up to 1/2", 10% Caliche Nodules	☐ Y ☐ N	
	25	30	5	Sand, Fine Grained, Poorly Graded, Dense	☐ Y ☐ N	
	30	35	5	Sand, Fine Grained, Poorly Graded, 5% Caliche Nodules up to	☐ Y ☐ N	
	35	45	10	Sand, Fine Grained, Few Thin Sandstone Layers up to 1/2" Thick	☐ Y ☐ N	
	45	55	10	Sand, 5% Caliche Modules up to 3/4", Fine Grained, Few Thin	☐ Y ☐ N	
	55	60	5	Sand, 5% Caliche Modules up to 3/4", Fine Grained, Little Sand	☐ Y ☐ N	
	60	65	5	Sand, Fine Grained, Little Sandstone Layers, Moderate Dense	☐ Y ☐ N	
	65	85	20	Sand, Fine Grained, Poorly Graded, Loose, Sandstone Layers	☐ Y ☐ N	
	85	120	35	Sand, Fine Grained, Poorly Graded, Loose, Sandstone Layers	☐ Y ☐ N	
					☐ Y ☐ N	
					☐ Y ☐ N	
					☐ Y ☐ N	
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☐ PUMP					TOTAL ESTIMATED WELL YIELD (gpm):	
☐ AIR LIFT ☐ BAILER ☐ OTHER - SPECIFY:						

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	July 8, 2013 DATE

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WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION		PAGE 2 OF 2



WELL RECORD & LOG

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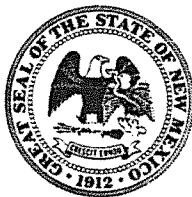
1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) MW-17R				OSE FILE NUMBER(S) L-13332			
	WELL OWNER NAME(S) Navajo Refining Company				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS P.O. Box 159				CITY STATE ZIP Artesia NM 88211			
	WELL LOCATION (FROM GPS)	DEGREES		MINUTES		SECONDS		* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84
		LATITUDE	32	52	43.63	N		
	LONGITUDE	103	18	13.64	W			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE								
2. DRILLING & CASING INFORMATION	LICENSE NUMBER 1575		NAME OF LICENSED DRILLER Shane Currie			NAME OF WELL DRILLING COMPANY Talon/LPE		
	DRILLING STARTED June 18, 2013		DRILLING ENDED June 18, 2013		DEPTH OF COMPLETED WELL (FT) 120'		BORE HOLE DEPTH (FT) 120'	
					DEPTH WATER FIRST ENCOUNTERED (FT) 104.39'			
	COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☒ SHALLOW (UNCONFINED)						STATIC WATER LEVEL IN COMPLETED WELL (FT)	
	DRILLING FLUID: ☒ AIR ☐ MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	100	2	Sch. 40 PVC	Flush Joint	2.375	0.154	
	100	120	2	Sch. 40 PVC	Flush Joint	2.375	0.154	0.010
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						
	2	100	6 1/4	Bentonite	19.21	Tremie		
	100	120	6 1/4	Filter Sand	3.84	Tremie		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
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FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 2 OF 2	



WELL RECORD & LOG

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1. GENERAL AND WELL LOCATION	OSE POD NUMBER (WELL NUMBER) MW-30				OSE FILE NUMBER(S) L-13332							
	WELL OWNER NAME(S) Navajo Refining Company				PHONE (OPTIONAL)							
	WELL OWNER MAILING ADDRESS P.O. Box 159				CITY Artesia							
					STATE NM							
					ZIP 88211							
1. GENERAL AND WELL LOCATION	WELL LOCATION (FROM GPS)		DEGREES 32		MINUTES 52		SECONDS 51.22		N		* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
			LONGITUDE		103		18		13.96		W	
											* DATUM REQUIRED: WGS 84	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE												
2. DRILLING & CASING INFORMATION	LICENSE NUMBER 1575		NAME OF LICENSED DRILLER Shane Currie				NAME OF WELL DRILLING COMPANY Talon/LPE					
	DRILLING STARTED June 18, 2013		DRILLING ENDED June 18, 2013		DEPTH OF COMPLETED WELL (FT) 131'		BORE HOLE DEPTH (FT) 131'		DEPTH WATER FIRST ENCOUNTERED (FT) 110.49'			
	COMPLETED WELL IS: ☐ ARTESIAN ☐ DRY HOLE ☒ SHALLOW (UNCONFINED)								STATIC WATER LEVEL IN COMPLETED WELL (FT)			
	DRILLING FLUID: ☒ AIR ☐ MUD ADDITIVES - SPECIFY:											
	DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☐ OTHER - SPECIFY:											
	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)				
	FROM	TO										
	0	108	2	Sch. 40 PVC	Flush Joint	2.375	0.154					
	108	128	2	Sch. 40 PVC	Flush Joint	2.375	0.154	0.010				
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT						
	FROM	TO										
	2	106	6 1/4	Bentonite	20.37	Tremie						
	106	128	6 1/4	Filter Sand	4.23	Tremie						

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	FROM	TO				
	0	1	1	Top Soil, Silt 10%, Weathered Asphalt, 25% Caliche Shell	☐ Y ☐ N	
	1	10	9	Caliche Broken as Angular Fragments up to 3/4"	☐ Y ☐ N	
	10	15	5	Sand, Fine Grained, Poorly Graded, Loose	☐ Y ☐ N	
	15	19	4	Sand, Fine Grained, Poorly Graded, Dense, w/Thin Sandstone	☐ Y ☐ N	
	19	20	1	Sand, Fine to Medium Grained, Poorly Graded, Loose	☐ Y ☐ N	
	20	27	7	Sand, Fine Grained, Poorly Graded, Loose, Thin Sandstone Layer	☐ Y ☐ N	
	27	28	1	Sand, Fine Grained, Poorly Graded, Dense, 10% Rounded Caliche	☐ Y ☐ N	
	28	40	12	Sand, Fine to Medium Grained, Poorly Graded, Loose, 10% Rounded Caliche	☐ Y ☐ N	
	40	60	20	Sand, Fine to Medium Grained, Poorly Graded, More Dense, 10% Rounded Caliche	☐ Y ☐ N	
	60	75	15	Sand, Fine to Medium Grained, Poorly Graded, Loose, 10% Rounded Caliche	☐ Y ☐ N	
	75	85	10	Sand, Fine to Medium Grained, Poorly Graded, Loose, w/Thin Sandstone	☐ Y ☐ N	
	85	90	5	Sand, Fine to Medium Grained, Poorly Graded, Moderately Dense, Thin Sandstone	☐ Y ☐ N	
	90	120	30	Sand, Fine to Medium Grained, Poorly Graded, Loose, w/Thin Sandstone	☐ Y ☐ N	
	120	125	5	Fine to Medium Sand, Poorly Graded, Moderately Dense, Thin Sandstone	☐ Y ☐ N	
	125	140	15	Fine to Medium Sand, Poorly Graded, Moderately Dense, Black Sand	☐ Y ☐ N	
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
				☐ Y ☐ N		
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: ☐ PUMP					TOTAL ESTIMATED	
☐ AIR LIFT ☐ BAILER ☐ OTHER - SPECIFY:					WELL YIELD (gpm):	

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	

6. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING: SIGNATURE OF DRILLER / PRINT SIGNEE NAME <u>July 8, 2013</u> DATE

FOR USE INTERNAL USE

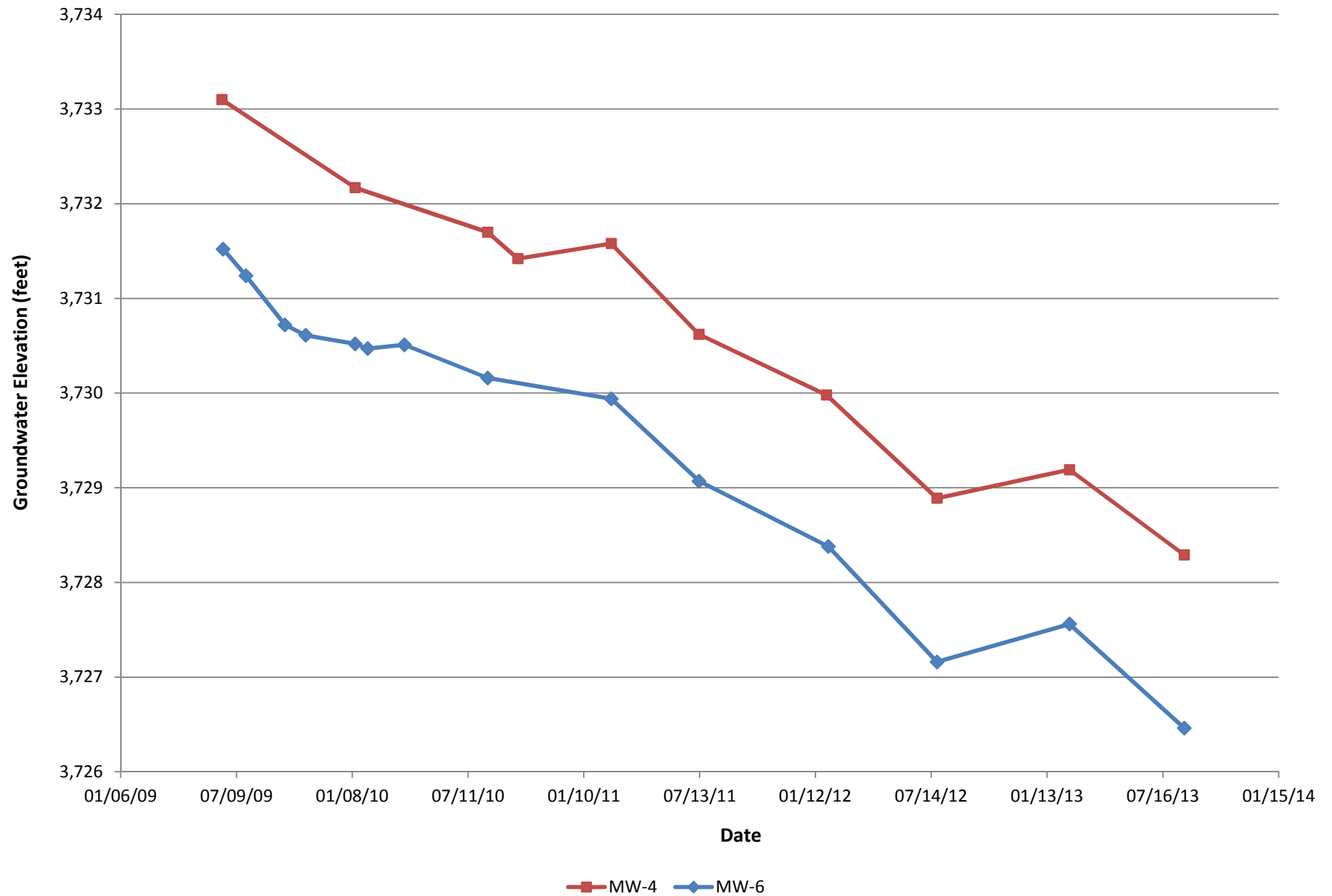
WR-20 WELL RECORD & LOG (Version 06/08/2012)

FILE NUMBER	POD NUMBER	TRN NUMBER
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APPENDIX B

PLOT OF GROUNDWATER ELEVATIONS OVER TIME

APPENDIX B - GROUNDWATER ELEVATIONS OVER TIME
Navajo Refining Company
Lea Refinery, Lovington, New Mexico



APPENDIX C

LABORATORY ANALYTICAL REPORTS



28-Feb-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Navajo Lea Refinery Semi-Annual

Work Order: **1302675**

Dear Robert,

ALS Environmental received 6 samples on 21-Feb-2013 09:15 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 61.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Jumoke M. Lawal

Sonia West
Project Manager



Certificate No: T104704231-12-10

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#T UR X S#K VD /#R US#Sdu#h i#kch#DOV#T ur xs##D q#DOV#Dp l#hg#F rp s dq |

Environmental

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1302675

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1302675-01	South Well	Water		2/19/2013 16:09	2/21/2013 09:15	☐
1302675-02	North Well	Water		2/19/2013 17:05	2/21/2013 09:15	☐
1302675-03	MW-28	Water		2/19/2013 10:59	2/21/2013 09:15	☐
1302675-04	MW-2	Water		2/19/2013 11:45	2/21/2013 09:15	☐
1302675-05	MW-15	Water		2/19/2013 14:02	2/21/2013 09:15	☐
1302675-06	TB-02-20-13	Water		2/20/2013	2/21/2013 09:15	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1302675

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 68057, Dissolved Metals 6020, Sample 1302744-01A: MS/MSD is for an unrelated sample.

Batch 68003, Semivolatile Organics 8270: Insufficient sample volume was received for MS/MSD.

Batch R143203, Volatile Organics 8260, ICV Sample VSTD050: Hexachlorobuadiene was above the QC limits. The CCV and LCS recoveries are within the QC limits. Your samples are Non Detect for this compound.

Batch R143203, Volatile Organics 8260, Sample VLCSW-130222: Bromomethane %Difference was above the QC limits for the CCV. Also, the LCS recovery is above the QC limits. All samples are Non Detect for this compound.

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: South Well
Collection Date: 2/19/2013 04:09 PM

Work Order: 1302675
Lab ID: 1302675-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/21/2013 1	Analyst: OFO 2/21/2013 05:01 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:08 AM
Arsenic	0.00576		0.00500	mg/L	1	2/27/2013 03:08 AM
Barium	0.149		0.00500	mg/L	1	2/27/2013 03:08 AM
Boron	0.197		0.0200	mg/L	1	2/27/2013 03:08 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:08 AM
Calcium	166		5.00	mg/L	10	2/27/2013 02:55 PM
Chromium	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Iron	ND		0.200	mg/L	1	2/27/2013 03:08 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Magnesium	22.8		0.200	mg/L	1	2/27/2013 03:08 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Potassium	3.19		0.200	mg/L	1	2/27/2013 03:08 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Sodium	125		0.200	mg/L	1	2/27/2013 03:08 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:08 AM
Zinc	0.0172		0.00500	mg/L	1	2/27/2013 03:08 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/22/2013 1	Analyst: LG 2/23/2013 01:49 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/23/2013 01:49 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2-Methylphenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 01:49 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: South Well
Collection Date: 2/19/2013 04:09 PM

Work Order: 1302675
Lab ID: 1302675-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/23/2013 01:49 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 01:49 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/23/2013 01:49 AM
Acenaphthene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Acenaphthylene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Acetophenone	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Anthracene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Atrazine	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benzaldehyde	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Caprolactam	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Carbazole	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Chrysene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Dibenzofuran	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Fluoranthene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Fluorene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/23/2013 01:49 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: South Well
Collection Date: 2/19/2013 04:09 PM

Work Order: 1302675
Lab ID: 1302675-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Hexachloroethane	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Isophorone	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Naphthalene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Nitrobenzene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/23/2013 01:49 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Phenanthrene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Phenol	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Pyrene	ND		0.20	µg/L	1	2/23/2013 01:49 AM
Surr: 2,4,6-Tribromophenol	77.8		34-129	%REC	1	2/23/2013 01:49 AM
Surr: 2-Fluorobiphenyl	75.2		40-125	%REC	1	2/23/2013 01:49 AM
Surr: 2-Fluorophenol	62.6		20-120	%REC	1	2/23/2013 01:49 AM
Surr: 4-Terphenyl-d14	94.1		40-135	%REC	1	2/23/2013 01:49 AM
Surr: Nitrobenzene-d5	66.6		41-120	%REC	1	2/23/2013 01:49 AM
Surr: Phenol-d6	59.5		20-120	%REC	1	2/23/2013 01:49 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 12:21 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 12:21 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 12:21 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 12:21 PM
Benzene	0.0052		0.0050	mg/L	1	2/22/2013 12:21 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 12:21 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 12:21 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: South Well
Collection Date: 2/19/2013 04:09 PM

Work Order: 1302675
Lab ID: 1302675-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 12:21 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 12:21 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:21 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 12:21 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 12:21 PM
Surr: 1,2-Dichloroethane-d4	103		70-125	%REC	1	2/22/2013 12:21 PM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	2/22/2013 12:21 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/22/2013 12:21 PM
Surr: Toluene-d8	97.5		75-125	%REC	1	2/22/2013 12:21 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	359		2.50	mg/L	5	2/27/2013 01:40 PM
Fluoride	0.743		0.100	mg/L	1	2/27/2013 01:55 AM
Sulfate	99.2		2.50	mg/L	5	2/27/2013 01:40 PM
Nitrate/Nitrite (as N)	2.88		2.00	mg/L	10	2/27/2013 05:34 PM
Surr: Selenate (surr)	110		85-115	%REC	5	2/27/2013 01:40 PM
Surr: Selenate (surr)	104		85-115	%REC	1	2/27/2013 01:55 AM
Surr: Selenate (surr)	86.8		85-115	%REC	10	2/27/2013 05:34 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	195		6.00	mg/L	1	2/23/2013 09:43 AM

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

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Date: 28-Feb-13

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Project: Navajo Lea Refinery Semi-Annual
Sample ID: South Well
Collection Date: 2/19/2013 04:09 PM

Work Order: 1302675
Lab ID: 1302675-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	195		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,580		1.00	µmhos/cm	1	2/21/2013 04:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.53	H	0.100	pH Units	1	2/27/2013 01:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,170		10.0	mg/L	1	2/25/2013 09:30 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: North Well
Collection Date: 2/19/2013 05:05 PM

Work Order: 1302675
Lab ID: 1302675-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/21/2013 1	Analyst: OFO 2/21/2013 05:03 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:13 AM
Arsenic	0.00693		0.00500	mg/L	1	2/27/2013 03:13 AM
Barium	0.0998		0.00500	mg/L	1	2/27/2013 03:13 AM
Boron	0.162		0.0200	mg/L	1	2/27/2013 03:13 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:13 AM
Calcium	96.4		0.500	mg/L	1	2/27/2013 03:13 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Iron	ND		0.200	mg/L	1	2/27/2013 03:13 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Magnesium	10.8		0.200	mg/L	1	2/27/2013 03:13 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Nickel	0.00537		0.00500	mg/L	1	2/27/2013 03:13 AM
Potassium	2.28		0.200	mg/L	1	2/27/2013 03:13 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Sodium	65.2		0.200	mg/L	1	2/27/2013 03:13 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:13 AM
Zinc	0.00873		0.00500	mg/L	1	2/27/2013 03:13 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/22/2013 1	Analyst: LG 2/23/2013 02:09 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/23/2013 02:09 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2-Methylphenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:09 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: North Well
Collection Date: 2/19/2013 05:05 PM

Work Order: 1302675
Lab ID: 1302675-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/23/2013 02:09 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:09 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/23/2013 02:09 AM
Acenaphthene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Acenaphthylene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Acetophenone	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Anthracene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Atrazine	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benzaldehyde	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Caprolactam	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Carbazole	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Chrysene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Dibenzofuran	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Fluorene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/23/2013 02:09 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: North Well
Collection Date: 2/19/2013 05:05 PM

Work Order: 1302675
Lab ID: 1302675-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Hexachloroethane	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Isophorone	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Naphthalene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Nitrobenzene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/23/2013 02:09 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Phenanthrene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Phenol	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Pyrene	ND		0.20	µg/L	1	2/23/2013 02:09 AM
Surr: 2,4,6-Tribromophenol	35.1		34-129	%REC	1	2/23/2013 02:09 AM
Surr: 2-Fluorobiphenyl	76.5		40-125	%REC	1	2/23/2013 02:09 AM
Surr: 2-Fluorophenol	62.0		20-120	%REC	1	2/23/2013 02:09 AM
Surr: 4-Terphenyl-d14	87.6		40-135	%REC	1	2/23/2013 02:09 AM
Surr: Nitrobenzene-d5	66.9		41-120	%REC	1	2/23/2013 02:09 AM
Surr: Phenol-d6	60.5		20-120	%REC	1	2/23/2013 02:09 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 12:46 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 12:46 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 12:46 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 12:46 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 12:46 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 12:46 PM

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Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: North Well
Collection Date: 2/19/2013 05:05 PM

Work Order: 1302675
Lab ID: 1302675-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 12:46 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 12:46 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 12:46 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 12:46 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 12:46 PM
Surr: 1,2-Dichloroethane-d4	96.6		70-125	%REC	1	2/22/2013 12:46 PM
Surr: 4-Bromofluorobenzene	98.6		72-125	%REC	1	2/22/2013 12:46 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	2/22/2013 12:46 PM
Surr: Toluene-d8	90.1		75-125	%REC	1	2/22/2013 12:46 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	105		0.500	mg/L	1	2/27/2013 02:16 AM
Fluoride	1.02		0.100	mg/L	1	2/27/2013 02:16 AM
Sulfate	83.3		0.500	mg/L	1	2/27/2013 02:16 AM
Nitrate/Nitrite (as N)	2.54		2.00	mg/L	10	2/27/2013 05:48 PM
Surr: Selenate (surr)	111		85-115	%REC	1	2/27/2013 02:16 AM
Surr: Selenate (surr)	86.5		85-115	%REC	10	2/27/2013 05:48 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	184		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: North Well
Collection Date: 2/19/2013 05:05 PM

Work Order: 1302675
Lab ID: 1302675-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	184		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	827		1.00	µmhos/cm	1	2/21/2013 04:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.79	H	0.100	pH Units	1	2/27/2013 01:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	496		10.0	mg/L	1	2/25/2013 06:15 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 2/19/2013 10:59 AM

Work Order: 1302675
Lab ID: 1302675-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/21/2013 1	Analyst: OFO 2/21/2013 05:05 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:18 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Barium	0.0883		0.00500	mg/L	1	2/27/2013 03:18 AM
Boron	0.174		0.0200	mg/L	1	2/27/2013 03:18 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:18 AM
Calcium	105		0.500	mg/L	1	2/27/2013 03:18 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Copper	0.203		0.00500	mg/L	1	2/27/2013 03:18 AM
Iron	ND		0.200	mg/L	1	2/27/2013 03:18 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Magnesium	13.2		0.200	mg/L	1	2/27/2013 03:18 AM
Manganese	0.0275		0.00500	mg/L	1	2/27/2013 03:18 AM
Molybdenum	0.0100		0.00500	mg/L	1	2/27/2013 03:18 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Potassium	2.15		0.200	mg/L	1	2/27/2013 03:18 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Sodium	41.5		0.200	mg/L	1	2/27/2013 03:18 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:18 AM
Zinc	0.0466		0.00500	mg/L	1	2/27/2013 03:18 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/22/2013 1	Analyst: LG 2/23/2013 02:29 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2,4-Dimethylphenol	1.5		0.20	µg/L	1	2/23/2013 02:29 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/23/2013 02:29 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
2-Methylphenol	2.2		0.20	µg/L	1	2/23/2013 02:29 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:29 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 2/19/2013 10:59 AM

Work Order: 1302675
Lab ID: 1302675-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
3&4-Methylphenol	1.0		0.20	µg/L	1	2/23/2013 02:29 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/23/2013 02:29 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:29 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/23/2013 02:29 AM
Acenaphthene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Acenaphthylene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Acetophenone	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Anthracene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Atrazine	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benzaldehyde	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Caprolactam	0.39		0.20	µg/L	1	2/23/2013 02:29 AM
Carbazole	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Chrysene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Dibenzofuran	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Fluorene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/23/2013 02:29 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 2/19/2013 10:59 AM

Work Order: 1302675
Lab ID: 1302675-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Hexachloroethane	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Isophorone	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Naphthalene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Nitrobenzene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/23/2013 02:29 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Phenanthrene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Phenol	0.86		0.20	µg/L	1	2/23/2013 02:29 AM
Pyrene	ND		0.20	µg/L	1	2/23/2013 02:29 AM
Surr: 2,4,6-Tribromophenol	81.7		34-129	%REC	1	2/23/2013 02:29 AM
Surr: 2-Fluorobiphenyl	76.2		40-125	%REC	1	2/23/2013 02:29 AM
Surr: 2-Fluorophenol	61.8		20-120	%REC	1	2/23/2013 02:29 AM
Surr: 4-Terphenyl-d14	95.8		40-135	%REC	1	2/23/2013 02:29 AM
Surr: Nitrobenzene-d5	67.2		41-120	%REC	1	2/23/2013 02:29 AM
Surr: Phenol-d6	64.2		20-120	%REC	1	2/23/2013 02:29 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 07:22 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 07:22 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 07:22 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 07:22 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 07:22 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 07:22 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 2/19/2013 10:59 AM

Work Order: 1302675
Lab ID: 1302675-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 07:22 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 07:22 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:22 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 07:22 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 07:22 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	2/22/2013 07:22 PM
Surr: 4-Bromofluorobenzene	103		72-125	%REC	1	2/22/2013 07:22 PM
Surr: Dibromofluoromethane	109		71-125	%REC	1	2/22/2013 07:22 PM
Surr: Toluene-d8	99.6		75-125	%REC	1	2/22/2013 07:22 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	65.5		0.500	mg/L	1	2/27/2013 02:38 AM
Fluoride	1.61		0.100	mg/L	1	2/27/2013 02:38 AM
Sulfate	88.4		0.500	mg/L	1	2/27/2013 02:38 AM
Nitrate/Nitrite (as N)	2.57		2.00	mg/L	10	2/27/2013 06:03 PM
Surr: Selenate (surr)	110		85-115	%REC	1	2/27/2013 02:38 AM
Surr: Selenate (surr)	88.4		85-115	%REC	10	2/27/2013 06:03 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	203		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 2/19/2013 10:59 AM

Work Order: 1302675
Lab ID: 1302675-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	206		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	745		1.00	µmhos/cm	1	2/21/2013 04:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.46	H	0.100	pH Units	1	2/27/2013 01:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	468		10.0	mg/L	1	2/25/2013 09:30 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 2/19/2013 11:45 AM

Work Order: 1302675
Lab ID: 1302675-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/21/2013 1	Analyst: OFO 2/21/2013 05:07 PM
DISSOLVED METALS						
Aluminum	0.0102		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:23 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Barium	0.141		0.00500	mg/L	1	2/27/2013 03:23 AM
Boron	0.197		0.0200	mg/L	1	2/27/2013 03:23 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:23 AM
Calcium	156		0.500	mg/L	1	2/27/2013 03:23 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Iron	ND		0.200	mg/L	1	2/27/2013 03:23 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Magnesium	18.7		0.200	mg/L	1	2/27/2013 03:23 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Potassium	2.66		0.200	mg/L	1	2/27/2013 03:23 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Sodium	78.0		0.200	mg/L	1	2/27/2013 03:23 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:23 AM
Zinc	0.0436		0.00500	mg/L	1	2/27/2013 03:23 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/22/2013 1	Analyst: LG 2/23/2013 02:48 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/23/2013 02:48 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2-Methylphenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:48 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 2/19/2013 11:45 AM

Work Order: 1302675
Lab ID: 1302675-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/23/2013 02:48 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 02:48 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/23/2013 02:48 AM
Acenaphthene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Acenaphthylene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Acetophenone	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Anthracene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Atrazine	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benzaldehyde	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Bis(2-ethylhexyl)phthalate	4.3		0.20	µg/L	1	2/23/2013 02:48 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Caprolactam	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Carbazole	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Chrysene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Dibenzofuran	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Fluoranthene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Fluorene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/23/2013 02:48 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 2/19/2013 11:45 AM

Work Order: 1302675
Lab ID: 1302675-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Hexachloroethane	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Isophorone	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Naphthalene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Nitrobenzene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/23/2013 02:48 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Phenanthrene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Phenol	0.22		0.20	µg/L	1	2/23/2013 02:48 AM
Pyrene	ND		0.20	µg/L	1	2/23/2013 02:48 AM
Surr: 2,4,6-Tribromophenol	52.1		34-129	%REC	1	2/23/2013 02:48 AM
Surr: 2-Fluorobiphenyl	72.2		40-125	%REC	1	2/23/2013 02:48 AM
Surr: 2-Fluorophenol	57.4		20-120	%REC	1	2/23/2013 02:48 AM
Surr: 4-Terphenyl-d14	98.9		40-135	%REC	1	2/23/2013 02:48 AM
Surr: Nitrobenzene-d5	63.0		41-120	%REC	1	2/23/2013 02:48 AM
Surr: Phenol-d6	59.5		20-120	%REC	1	2/23/2013 02:48 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 07:47 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 07:47 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 07:47 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 07:47 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 07:47 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 07:47 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 2/19/2013 11:45 AM

Work Order: 1302675
Lab ID: 1302675-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 07:47 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 07:47 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 07:47 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 07:47 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 07:47 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	2/22/2013 07:47 PM
Surr: 4-Bromofluorobenzene	98.5		72-125	%REC	1	2/22/2013 07:47 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/22/2013 07:47 PM
Surr: Toluene-d8	96.2		75-125	%REC	1	2/22/2013 07:47 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	213		2.50	mg/L	5	2/27/2013 02:02 PM
Fluoride	0.810		0.100	mg/L	1	2/27/2013 03:00 AM
Sulfate	86.6		0.500	mg/L	1	2/27/2013 03:00 AM
Nitrate/Nitrite (as N)	3.90		2.00	mg/L	10	2/27/2013 06:17 PM
Surr: Selenate (surr)	108		85-115	%REC	5	2/27/2013 02:02 PM
Surr: Selenate (surr)	107		85-115	%REC	1	2/27/2013 03:00 AM
Surr: Selenate (surr)	85.3		85-115	%REC	10	2/27/2013 06:17 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	211		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 2/19/2013 11:45 AM

Work Order: 1302675
Lab ID: 1302675-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	211		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,210		1.00	µmhos/cm	1	2/21/2013 04:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.81	H	0.100	pH Units	1	2/27/2013 01:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	834		10.0	mg/L	1	2/25/2013 09:30 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 2/19/2013 02:02 PM

Work Order: 1302675
Lab ID: 1302675-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/21/2013 1	Analyst: OFO 2/21/2013 05:09 PM
DISSOLVED METALS						
Aluminum	0.0682		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:28 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Barium	0.178		0.00500	mg/L	1	2/27/2013 03:28 AM
Boron	0.191		0.0200	mg/L	1	2/27/2013 03:28 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:28 AM
Calcium	144		0.500	mg/L	1	2/27/2013 03:28 AM
Chromium	0.129		0.00500	mg/L	1	2/27/2013 03:28 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Iron	0.610		0.200	mg/L	1	2/27/2013 03:28 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Magnesium	19.1		0.200	mg/L	1	2/27/2013 03:28 AM
Manganese	0.0198		0.00500	mg/L	1	2/27/2013 03:28 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Nickel	0.0704		0.00500	mg/L	1	2/27/2013 03:28 AM
Potassium	3.49		0.200	mg/L	1	2/27/2013 03:28 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Sodium	102		0.200	mg/L	1	2/27/2013 03:28 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:28 AM
Zinc	0.0160		0.00500	mg/L	1	2/27/2013 03:28 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/22/2013 1	Analyst: LG 2/23/2013 03:08 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/23/2013 03:08 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2-Methylphenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 03:08 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 2/19/2013 02:02 PM

Work Order: 1302675
Lab ID: 1302675-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/23/2013 03:08 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/23/2013 03:08 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/23/2013 03:08 AM
Acenaphthene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Acenaphthylene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Acetophenone	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Anthracene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Atrazine	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benzaldehyde	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Caprolactam	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Carbazole	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Chrysene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Dibenzofuran	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Fluoranthene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Fluorene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/23/2013 03:08 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 2/19/2013 02:02 PM

Work Order: 1302675
Lab ID: 1302675-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Hexachloroethane	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Isophorone	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Naphthalene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Nitrobenzene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/23/2013 03:08 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Phenanthrene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Phenol	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Pyrene	ND		0.20	µg/L	1	2/23/2013 03:08 AM
Surr: 2,4,6-Tribromophenol	58.8		34-129	%REC	1	2/23/2013 03:08 AM
Surr: 2-Fluorobiphenyl	69.6		40-125	%REC	1	2/23/2013 03:08 AM
Surr: 2-Fluorophenol	55.6		20-120	%REC	1	2/23/2013 03:08 AM
Surr: 4-Terphenyl-d14	90.8		40-135	%REC	1	2/23/2013 03:08 AM
Surr: Nitrobenzene-d5	62.8		41-120	%REC	1	2/23/2013 03:08 AM
Surr: Phenol-d6	56.0		20-120	%REC	1	2/23/2013 03:08 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 08:12 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 08:12 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 08:12 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 08:12 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Bromodichloromethane	0.0058		0.0050	mg/L	1	2/22/2013 08:12 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 08:12 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 08:12 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 2/19/2013 02:02 PM

Work Order: 1302675
Lab ID: 1302675-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Chloroform	0.030		0.0050	mg/L	1	2/22/2013 08:12 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 08:12 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 08:12 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:12 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 08:12 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 08:12 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	2/22/2013 08:12 PM
Surr: 4-Bromofluorobenzene	99.6		72-125	%REC	1	2/22/2013 08:12 PM
Surr: Dibromofluoromethane	107		71-125	%REC	1	2/22/2013 08:12 PM
Surr: Toluene-d8	101		75-125	%REC	1	2/22/2013 08:12 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	254		2.50	mg/L	5	2/27/2013 02:24 PM
Fluoride	0.819		0.100	mg/L	1	2/27/2013 03:21 AM
Sulfate	76.0		0.500	mg/L	1	2/27/2013 03:21 AM
Nitrate/Nitrite (as N)	5.12		2.00	mg/L	10	2/27/2013 06:32 PM
Surr: Selenate (surr)	108		85-115	%REC	5	2/27/2013 02:24 PM
Surr: Selenate (surr)	110		85-115	%REC	1	2/27/2013 03:21 AM
Surr: Selenate (surr)	89.1		85-115	%REC	10	2/27/2013 06:32 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	183		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 2/19/2013 02:02 PM

Work Order: 1302675
Lab ID: 1302675-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	187		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,290		1.00	µmhos/cm	1	2/21/2013 04:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.63	H	0.100	pH Units	1	2/27/2013 01:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	882		10.0	mg/L	1	2/25/2013 09:30 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-02-20-13
Collection Date: 2/20/2013

Work Order: 1302675
Lab ID: 1302675-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 06:58 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 06:58 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 06:58 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 06:58 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 06:58 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 06:58 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 06:58 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-02-20-13
Collection Date: 2/20/2013

Work Order: 1302675
Lab ID: 1302675-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 06:58 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 06:58 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 06:58 PM
Surr: 1,2-Dichloroethane-d4	98.8		70-125	%REC	1	2/22/2013 06:58 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	2/22/2013 06:58 PM
Surr: Dibromofluoromethane	107		71-125	%REC	1	2/22/2013 06:58 PM
Surr: Toluene-d8	100		75-125	%REC	1	2/22/2013 06:58 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **67988** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-022113-67988				Units: mg/L		Analysis Date: 2/21/2013 04:33 PM			
Client ID:	Run ID: MERCURY_130221A				SeqNo: 3120680		Prep Date: 2/21/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-022113-67988				Units: mg/L		Analysis Date: 2/21/2013 04:35 PM			
Client ID:	Run ID: MERCURY_130221A				SeqNo: 3120681		Prep Date: 2/21/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00507	0.00020	0.005	0	101	85-115	0			

MS	Sample ID: 1302664-03DMS				Units: mg/L		Analysis Date: 2/21/2013 04:41 PM			
Client ID:	Run ID: MERCURY_130221A				SeqNo: 3120684		Prep Date: 2/21/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.00020	0.005	-0.000003	97.1	85-115	0			

MSD	Sample ID: 1302664-03DMSD				Units: mg/L		Analysis Date: 2/21/2013 04:43 PM			
Client ID:	Run ID: MERCURY_130221A				SeqNo: 3120685		Prep Date: 2/21/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00483	0.00020	0.005	-0.000003	96.7	85-115	0.00485	0.413	20	

DUP	Sample ID: 1302664-03DDUP				Units: mg/L		Analysis Date: 2/21/2013 04:39 PM			
Client ID:	Run ID: MERCURY_130221A				SeqNo: 3120683		Prep Date: 2/21/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000003	0	20	

The following samples were analyzed in this batch:

1302675-01C	1302675-02C	1302675-03C
1302675-04C	1302675-05C	

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

QC Page: 1 of 27

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68057** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW5-022513-68057** Units: **mg/L** Analysis Date: **2/26/2013 11:11 PM**

Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125199** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Uranium	ND	0.0050								
Zinc	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68057** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW5-022513-68057** Units: **mg/L** Analysis Date: **2/26/2013 11:16 PM**

Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125202** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1086	0.010	0.1	0	109	80-120	0			
Arsenic	0.05001	0.0050	0.05	0	100	80-120	0			
Barium	0.0508	0.0050	0.05	0	102	80-120	0			
Boron	0.5	0.050	0.5	0	100	80-120	0			
Cadmium	0.0499	0.0020	0.05	0	99.8	80-120	0			
Calcium	5.001	0.50	5	0	100	80-120	0			
Chromium	0.04837	0.0050	0.05	0	96.7	80-120	0			
Cobalt	0.04986	0.0050	0.05	0	99.7	80-120	0			
Copper	0.05056	0.0050	0.05	0	101	80-120	0			
Iron	4.908	0.20	5	0	98.2	80-120	0			
Lead	0.05024	0.0050	0.05	0	100	80-120	0			
Magnesium	5.068	0.20	5	0	101	80-120	0			
Manganese	0.0488	0.0050	0.05	0	97.6	80-120	0			
Molybdenum	0.04936	0.0050	0.05	0	98.7	80-120	0			
Nickel	0.05027	0.0050	0.05	0	101	80-120	0			
Potassium	5.087	0.20	5	0	102	80-120	0			
Selenium	0.05114	0.0050	0.05	0	102	80-120	0			
Silver	0.05259	0.0050	0.05	0	105	80-120	0			
Sodium	5.109	0.20	5	0	102	80-120	0			
Uranium	0.0946	0.0050	0.1	0	94.6	80-120	0			
Zinc	0.05098	0.0050	0.05	0	102	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68057** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

MS		Sample ID: 1302744-01AMS				Units: mg/L		Analysis Date: 2/26/2013 11:36 PM		
Client ID:		Run ID: ICP7500_130226A				SeqNo: 3125210		Prep Date: 2/25/2013		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1187	0.020	0.1	0.00591	113	75-125	0			
Arsenic	0.05986	0.010	0.05	0.007358	105	75-125	0			
Barium	0.09956	0.010	0.05	0.03894	121	75-125	0			
Cadmium	0.05472	0.0040	0.05	0.0006098	108	75-125	0			
Calcium	175.6	1.0	5	171.9	72.4	75-125	0			SO
Chromium	0.04898	0.010	0.05	0.000625	96.7	75-125	0			
Cobalt	0.04926	0.010	0.05	0.00102	96.5	75-125	0			
Copper	0.04898	0.010	0.05	0.000648	96.7	75-125	0			
Iron	4.912	0.40	5	0.04022	97.4	75-125	0			
Magnesium	57.82	0.40	5	48.22	192	75-125	0			SO
Manganese	0.0694	0.010	0.05	0.02204	94.7	75-125	0			
Molybdenum	0.05592	0.010	0.05	0.00241	107	75-125	0			
Nickel	0.04964	0.010	0.05	0.002666	93.9	75-125	0			
Potassium	44.66	0.40	5	36.76	158	75-125	0			SO
Selenium	0.0636	0.010	0.05	0.009984	107	75-125	0			
Silver	0.05304	0.010	0.05	-0.001075	108	75-125	0			
Sodium	971.8	0.40	5	875.8	1920	75-125	0			SEO
Zinc	0.0561	0.010	0.05	0.006402	99.4	75-125	0			

MS		Sample ID: 1302744-01AMS				Units: mg/L		Analysis Date: 2/27/2013 02:20 PM		
Client ID:		Run ID: ICP7500_130227A				SeqNo: 3125880		Prep Date: 2/25/2013		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.05108	0.010	0.05	0	102	75-125	0			
Uranium	0.1104	0.010	0.1	0.01146	99	75-125	0			

MS		Sample ID: 1302744-01AMS				Units: mg/L		Analysis Date: 2/27/2013 07:49 PM		
Client ID:		Run ID: ICP7500_130227A				SeqNo: 3126441		Prep Date: 2/25/2013		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	1.26	0.10	0.5	0.6956	113	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68057** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 1302744-01AMSD				Units: mg/L		Analysis Date: 2/26/2013 11:42 PM		
Client ID:		Run ID: ICP7500_130226A				SeqNo: 3125211		Prep Date: 2/25/2013		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1063	0.020	0.1	0.00591	100	75-125	0.1187	11.1	25	
Arsenic	0.05754	0.010	0.05	0.007358	100	75-125	0.05986	3.95	25	
Barium	0.0928	0.010	0.05	0.03894	108	75-125	0.09956	7.03	25	
Boron	1.234	0.10	0.5	0.6956	108	75-125	1.312	6.11	25	
Cadmium	0.0492	0.0040	0.05	0.0006098	97.2	75-125	0.05472	10.6	25	
Calcium	179.6	1.0	5	171.9	154	75-125	175.6	2.3	25	SO
Chromium	0.04836	0.010	0.05	0.000625	95.5	75-125	0.04898	1.27	25	
Cobalt	0.04884	0.010	0.05	0.00102	95.6	75-125	0.04926	0.856	25	
Copper	0.04882	0.010	0.05	0.000648	96.3	75-125	0.04898	0.327	25	
Iron	4.89	0.40	5	0.04022	97	75-125	4.912	0.449	25	
Lead	0.04908	0.010	0.05	-0.00005092	98.3	75-125	0.05476	10.9	25	
Magnesium	53.06	0.40	5	48.22	96.8	75-125	57.82	8.59	25	O
Manganese	0.06942	0.010	0.05	0.02204	94.8	75-125	0.0694	0.0288	25	
Molybdenum	0.05254	0.010	0.05	0.00241	100	75-125	0.05592	6.23	25	
Nickel	0.0503	0.010	0.05	0.002666	95.3	75-125	0.04964	1.32	25	
Potassium	41.34	0.40	5	36.76	91.6	75-125	44.66	7.72	25	O
Selenium	0.06064	0.010	0.05	0.009984	101	75-125	0.0636	4.76	25	
Silver	0.04868	0.010	0.05	-0.001075	99.5	75-125	0.05304	8.57	25	
Sodium	888.6	0.40	5	875.8	256	75-125	971.8	8.94	25	SEO
Uranium	0.1076	0.010	0.1	0.01146	96.2	75-125	0.1185	9.59	25	
Zinc	0.05696	0.010	0.05	0.006402	101	75-125	0.0561	1.52	25	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68057** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP		Sample ID: 1302744-01ADUP				Units: mg/L		Analysis Date: 2/26/2013 11:26 PM		
Client ID:		Run ID: ICP7500_130226A				SeqNo: 3125206		Prep Date: 2/25/2013		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.020	0	0	0	0-0	0.00591	0	25	
Arsenic	ND	0.010	0	0	0	0-0	0.007358	0	25	
Barium	0.0391	0.010	0	0	0	0-0	0.03894	0.41	25	
Boron	0.6806	0.10	0	0	0	0-0	0.6956	2.18	25	
Cadmium	ND	0.0040	0	0	0	0-0	0.0006098	0	25	
Calcium	172.8	1.0	0	0	0	0-0	171.9	0.511	25	
Chromium	ND	0.010	0	0	0	0-0	0.000625	0	25	
Cobalt	ND	0.010	0	0	0	0-0	0.00102	0	25	
Copper	ND	0.010	0	0	0	0-0	0.000648	0	25	
Iron	ND	0.40	0	0	0	0-0	0.04022	0	25	
Lead	ND	0.010	0	0	0	0-0	-0.00005092	0	25	
Magnesium	47.34	0.40	0	0	0	0-0	48.22	1.84	25	
Manganese	0.02152	0.010	0	0	0	0-0	0.02204	2.39	25	
Molybdenum	ND	0.010	0	0	0	0-0	0.00241	0	25	
Nickel	ND	0.010	0	0	0	0-0	0.002666	0	25	
Potassium	36.08	0.40	0	0	0	0-0	36.76	1.87	25	
Selenium	0.01077	0.010	0	0	0	0-0	0.009984	7.57	25	
Silver	ND	0.010	0	0	0	0-0	-0.001075	0	25	
Uranium	0.01126	0.010	0	0	0		0.01146	1.69	25	
Zinc	ND	0.010	0	0	0	0-0	0.006402	0	25	

DUP		Sample ID: 1302744-01ADUP				Units: mg/L		Analysis Date: 2/27/2013 02:40 PM		
Client ID:		Run ID: ICP7500_130227A				SeqNo: 3125884		Prep Date: 2/25/2013		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	886.2	2.0	0	0	0	0-0	876.5	1.1	25	

The following samples were analyzed in this batch:

1302675-01D	1302675-02D	1302675-03D
1302675-04D	1302675-05D	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68003** Instrument ID **SV-6** Method: **SW8270**

MBLK Sample ID: **SBLKW2-130222-68003** Units: **µg/L** Analysis Date: **2/22/2013 08:56 PM**
 Client ID: Run ID: **SV-6_130222A** SeqNo: **3122821** Prep Date: **2/22/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68003		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	4.359	0.20	5	0	87.2	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.084	0.20	5	0	81.7	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.496	0.20	5	0	69.9	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.83	0.20	5	0	96.6	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.458	0.20	5	0	69.2	41-120	0	
<i>Surr: Phenol-d6</i>	3.492	0.20	5	0	69.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68003** Instrument ID **SV-6** Method: **SW8270**

LCS		Sample ID: SLCSW2-130222-68003				Units: µg/L		Analysis Date: 2/22/2013 09:16 PM		
Client ID:		Run ID: SV-6_130222A				SeqNo: 3122822		Prep Date: 2/22/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.159	0.20	5	0	83.2	45-125	0			
1-Methylnaphthalene	4.312	0.20	5	0	86.2	45-120	0			
2,4,5-Trichlorophenol	4.53	0.20	5	0	90.6	46-120	0			
2,4,6-Trichlorophenol	4.539	0.20	5	0	90.8	42-120	0			
2,4-Dichlorophenol	4.61	0.20	5	0	92.2	49-120	0			
2,4-Dimethylphenol	4.317	0.20	5	0	86.3	35-120	0			
2,4-Dinitrophenol	4.641	1.0	5	0	92.8	15-120	0			
2,4-Dinitrotoluene	4.688	0.20	5	0	93.8	50-122	0			
2,6-Dinitrotoluene	4.712	0.20	5	0	94.2	50-120	0			
2-Chloronaphthalene	4.128	0.20	5	0	82.6	50-120	0			
2-Chlorophenol	4.243	0.20	5	0	84.9	40-120	0			
2-Methylnaphthalene	4.408	0.20	5	0	88.2	50-120	0			
2-Methylphenol	4.185	0.20	5	0	83.7	45-120	0			
2-Nitroaniline	4.317	0.20	5	0	86.3	28-139	0			
2-Nitrophenol	3.929	0.20	5	0	78.6	40-120	0			
3&4-Methylphenol	4.169	0.20	5	0	83.4	35-120	0			
3,3'-Dichlorobenzidine	4.774	0.20	5	0	95.5	15-120	0			
3-Nitroaniline	4.379	0.20	5	0	87.6	30-120	0			
4,6-Dinitro-2-methylphenol	4.503	0.20	5	0	90.1	25-121	0			
4-Bromophenyl phenyl ether	4.705	0.20	5	0	94.1	45-120	0			
4-Chloro-3-methylphenol	4.253	0.20	5	0	85.1	47-120	0			
4-Chloroaniline	4.385	0.20	5	0	87.7	20-120	0			
4-Chlorophenyl phenyl ether	4.572	0.20	5	0	91.4	50-120	0			
4-Nitroaniline	4.283	0.20	5	0	85.7	30-133	0			
4-Nitrophenol	4.134	1.0	5	0	82.7	30-130	0			
Acenaphthene	4.552	0.20	5	0	91	45-120	0			
Acenaphthylene	4.328	0.20	5	0	86.6	47-120	0			
Acetophenone	2.944	0.20	5	0	58.9	40-120	0			
Anthracene	4.449	0.20	5	0	89	45-120	0			
Atrazine	4.138	0.20	5	0	82.8	40-130	0			
Benz(a)anthracene	4.534	0.20	5	0	90.7	40-120	0			
Benzaldehyde	0.7977	0.20	5	0	16	15-120	0			
Benzo(a)pyrene	4.643	0.20	5	0	92.9	45-120	0			
Benzo(b)fluoranthene	4.838	0.20	5	0	96.8	50-120	0			
Benzo(g,h,i)perylene	4.696	0.20	5	0	93.9	42-127	0			
Benzo(k)fluoranthene	4.892	0.20	5	0	97.8	45-127	0			
Bis(2-chloroethoxy)methane	4.06	0.20	5	0	81.2	45-120	0			
Bis(2-chloroethyl)ether	4.06	0.20	5	0	81.2	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68003		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	4.029	0.20	5	0	80.6	40-120	0	
Bis(2-ethylhexyl)phthalate	4.451	0.20	5	0	89	40-139	0	
Butyl benzyl phthalate	4.459	0.20	5	0	89.2	47-123	0	
Caprolactam	4.526	0.20	5	0	90.5	35-134	0	
Carbazole	4.458	0.20	5	0	89.2	42-128	0	
Chrysene	4.494	0.20	5	0	89.9	43-120	0	
Dibenz(a,h)anthracene	4.906	0.20	5	0	98.1	45-125	0	
Dibenzofuran	4.394	0.20	5	0	87.9	50-120	0	
Diethyl phthalate	4.307	0.20	5	0	86.1	41-120	0	
Dimethyl phthalate	4.338	0.20	5	0	86.8	40-122	0	
Di-n-butyl phthalate	4.399	0.20	5	0	88	45-123	0	
Di-n-octyl phthalate	4.353	0.20	5	0	87.1	45-129	0	
Fluoranthene	4.612	0.20	5	0	92.2	45-125	0	
Fluorene	4.397	0.20	5	0	87.9	49-120	0	
Hexachlorobenzene	4.721	0.20	5	0	94.4	48-120	0	
Hexachlorobutadiene	4.607	0.20	5	0	92.1	40-120	0	
Hexachlorocyclopentadiene	4.292	0.20	5	0	85.8	34-136	0	
Hexachloroethane	3.976	0.20	5	0	79.5	40-120	0	
Indeno(1,2,3-cd)pyrene	4.523	0.20	5	0	90.5	41-128	0	
Isophorone	3.63	0.20	5	0	72.6	40-121	0	
Naphthalene	4.297	0.20	5	0	85.9	45-120	0	
Nitrobenzene	3.811	0.20	5	0	76.2	44-120	0	
N-Nitrosodi-n-propylamine	3.825	0.20	5	0	76.5	40-120	0	
N-Nitrosodiphenylamine	4.311	0.20	5	0	86.2	40-125	0	
Pentachlorophenol	5.002	0.20	5	0	100	19-121	0	
Phenanthrene	4.353	0.20	5	0	87.1	45-121	0	
Phenol	4.001	0.20	5	0	80	20-124	0	
Pyrene	4.532	0.20	5	0	90.6	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	4.828	0.20	5	0	96.6	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.062	0.20	5	0	81.2	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.779	0.20	5	0	75.6	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.945	0.20	5	0	98.9	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.637	0.20	5	0	72.7	41-120	0	
<i>Surr: Phenol-d6</i>	3.725	0.20	5	0	74.5	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68003** Instrument ID **SV-6** Method: **SW8270**

LCSD		Sample ID: SLCSDW2-130222-68003				Units: µg/L		Analysis Date: 2/22/2013 09:35 PM		
Client ID:		Run ID: SV-6_130222A				SeqNo: 3122823		Prep Date: 2/22/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.232	0.20	5	0	84.6	45-125	4.159	1.74	20	
1-Methylnaphthalene	4.361	0.20	5	0	87.2	45-120	4.312	1.14	20	
2,4,5-Trichlorophenol	4.553	0.20	5	0	91.1	46-120	4.53	0.508	20	
2,4,6-Trichlorophenol	4.489	0.20	5	0	89.8	42-120	4.539	1.09	20	
2,4-Dichlorophenol	4.559	0.20	5	0	91.2	49-120	4.61	1.12	20	
2,4-Dimethylphenol	4.291	0.20	5	0	85.8	35-120	4.317	0.596	20	
2,4-Dinitrophenol	4.609	1.0	5	0	92.2	15-120	4.641	0.693	50	
2,4-Dinitrotoluene	4.679	0.20	5	0	93.6	50-122	4.688	0.206	20	
2,6-Dinitrotoluene	4.734	0.20	5	0	94.7	50-120	4.712	0.466	20	
2-Chloronaphthalene	4.272	0.20	5	0	85.4	50-120	4.128	3.44	20	
2-Chlorophenol	4.151	0.20	5	0	83	40-120	4.243	2.19	20	
2-Methylnaphthalene	4.428	0.20	5	0	88.6	50-120	4.408	0.447	20	
2-Methylphenol	4.043	0.20	5	0	80.9	45-120	4.185	3.46	20	
2-Nitroaniline	4.37	0.20	5	0	87.4	28-139	4.317	1.21	20	
2-Nitrophenol	4.042	0.20	5	0	80.8	40-120	3.929	2.84	20	
3&4-Methylphenol	4.095	0.20	5	0	81.9	35-120	4.169	1.79	20	
3,3'-Dichlorobenzidine	4.76	0.20	5	0	95.2	15-120	4.774	0.285	20	
3-Nitroaniline	4.358	0.20	5	0	87.2	30-120	4.379	0.495	20	
4,6-Dinitro-2-methylphenol	4.575	0.20	5	0	91.5	25-121	4.503	1.58	30	
4-Bromophenyl phenyl ether	4.685	0.20	5	0	93.7	45-120	4.705	0.43	20	
4-Chloro-3-methylphenol	4.175	0.20	5	0	83.5	47-120	4.253	1.85	20	
4-Chloroaniline	4.459	0.20	5	0	89.2	20-120	4.385	1.67	20	
4-Chlorophenyl phenyl ether	4.616	0.20	5	0	92.3	50-120	4.572	0.958	20	
4-Nitroaniline	4.207	0.20	5	0	84.1	30-133	4.283	1.79	20	
4-Nitrophenol	3.946	1.0	5	0	78.9	30-130	4.134	4.64	20	
Acenaphthene	4.615	0.20	5	0	92.3	45-120	4.552	1.38	20	
Acenaphthylene	4.359	0.20	5	0	87.2	47-120	4.328	0.692	20	
Acetophenone	2.947	0.20	5	0	58.9	40-120	2.944	0.107	20	
Anthracene	4.452	0.20	5	0	89	45-120	4.449	0.0655	20	
Atrazine	4.137	0.20	5	0	82.7	40-130	4.138	0.0356	20	
Benz(a)anthracene	4.625	0.20	5	0	92.5	40-120	4.534	1.98	20	
Benzaldehyde	0.8009	0.20	5	0	16	15-120	0.7977	0.401	30	
Benzo(a)pyrene	4.667	0.20	5	0	93.3	45-120	4.643	0.506	20	
Benzo(b)fluoranthene	4.782	0.20	5	0	95.6	50-120	4.838	1.16	20	
Benzo(g,h,i)perylene	4.686	0.20	5	0	93.7	42-127	4.696	0.203	20	
Benzo(k)fluoranthene	4.363	0.20	5	0	87.3	45-127	4.892	11.4	20	
Bis(2-chloroethoxy)methane	4.019	0.20	5	0	80.4	45-120	4.06	1.02	20	
Bis(2-chloroethyl)ether	4.016	0.20	5	0	80.3	37-121	4.06	1.07	20	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68003		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.988	0.20	5	0	79.8	40-120	4.029	1.02	20
Bis(2-ethylhexyl)phthalate	4.461	0.20	5	0	89.2	40-139	4.451	0.246	20
Butyl benzyl phthalate	4.423	0.20	5	0	88.5	47-123	4.459	0.813	20
Caprolactam	4.494	0.20	5	0	89.9	35-134	4.526	0.702	20
Carbazole	4.469	0.20	5	0	89.4	42-128	4.458	0.247	20
Chrysene	4.531	0.20	5	0	90.6	43-120	4.494	0.814	20
Dibenz(a,h)anthracene	4.953	0.20	5	0	99.1	45-125	4.906	0.946	20
Dibenzofuran	4.438	0.20	5	0	88.8	50-120	4.394	0.991	20
Diethyl phthalate	4.282	0.20	5	0	85.6	41-120	4.307	0.576	20
Dimethyl phthalate	4.36	0.20	5	0	87.2	40-122	4.338	0.51	20
Di-n-butyl phthalate	4.522	0.20	5	0	90.4	45-123	4.399	2.76	20
Di-n-octyl phthalate	4.367	0.20	5	0	87.3	45-129	4.353	0.324	20
Fluoranthene	4.688	0.20	5	0	93.8	45-125	4.612	1.64	20
Fluorene	4.394	0.20	5	0	87.9	49-120	4.397	0.0514	20
Hexachlorobenzene	4.842	0.20	5	0	96.8	48-120	4.721	2.53	20
Hexachlorobutadiene	4.683	0.20	5	0	93.7	40-120	4.607	1.65	20
Hexachlorocyclopentadiene	4.415	0.20	5	0	88.3	34-136	4.292	2.83	20
Hexachloroethane	3.918	0.20	5	0	78.4	40-120	3.976	1.47	20
Indeno(1,2,3-cd)pyrene	4.52	0.20	5	0	90.4	41-128	4.523	0.0682	20
Isophorone	3.625	0.20	5	0	72.5	40-121	3.63	0.153	20
Naphthalene	4.311	0.20	5	0	86.2	45-120	4.297	0.32	20
Nitrobenzene	3.794	0.20	5	0	75.9	44-120	3.811	0.444	20
N-Nitrosodi-n-propylamine	3.746	0.20	5	0	74.9	40-120	3.825	2.08	20
N-Nitrosodiphenylamine	4.385	0.20	5	0	87.7	40-125	4.311	1.7	20
Pentachlorophenol	5.139	0.20	5	0	103	19-121	5.002	2.7	20
Phenanthrene	4.4	0.20	5	0	88	45-121	4.353	1.08	20
Phenol	3.998	0.20	5	0	80	20-124	4.001	0.0846	20
Pyrene	4.513	0.20	5	0	90.3	40-130	4.532	0.431	20
<i>Surr: 2,4,6-Tribromophenol</i>	4.826	0.20	5	0	96.5	34-129	4.828	0.044	0
<i>Surr: 2-Fluorobiphenyl</i>	4.197	0.20	5	0	83.9	40-125	4.062	3.26	0
<i>Surr: 2-Fluorophenol</i>	3.768	0.20	5	0	75.4	20-120	3.779	0.286	0
<i>Surr: 4-Terphenyl-d14</i>	4.962	0.20	5	0	99.2	40-135	4.945	0.356	0
<i>Surr: Nitrobenzene-d5</i>	3.728	0.20	5	0	74.6	41-120	3.637	2.46	0
<i>Surr: Phenol-d6</i>	3.667	0.20	5	0	73.3	20-120	3.725	1.58	0

The following samples were analyzed in this batch:

1302675-01B	1302675-02B	1302675-03B
1302675-04B	1302675-05B	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130222-R143203** Units: **µg/L** Analysis Date: **2/22/2013 11:56 AM**
 Client ID: Run ID: **VOA1_130222A** SeqNo: **3122607** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203	Instrument ID VOA1	Method: SW8260						
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	50.58	5.0	50	0	101	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.23	5.0	50	0	98.5	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.94	5.0	50	0	104	71-125	0	
<i>Surr: Toluene-d8</i>	48.39	5.0	50	0	96.8	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130222-R143203				Units: µg/L		Analysis Date: 2/22/2013 10:42 AM		
Client ID:		Run ID: VOA1_130222A				SeqNo: 3122606		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	56.21	5.0	50	0	112	80-120	0			
1,1,2,2-Tetrachloroethane	50.01	5.0	50	0	100	72-120	0			
1,1,2-Trichloroethane	52.17	5.0	50	0	104	80-120	0			
1,1-Dichloroethane	54.18	5.0	50	0	108	76-120	0			
1,1-Dichloroethene	55.72	5.0	50	0	111	73-124	0			
1,2,4-Trimethylbenzene	49.05	5.0	50	0	98.1	68-123	0			
1,2-Dibromoethane	50.14	5.0	50	0	100	80-120	0			
1,2-Dichloroethane	50.76	5.0	50	0	102	78-120	0			
1,2-Dichloropropane	52.57	5.0	50	0	105	80-120	0			
1,3,5-Trimethylbenzene	51.48	5.0	50	0	103	80-120	0			
2-Butanone	105.8	10	100	0	106	58-132	0			
2-Hexanone	95.99	10	100	0	96	61-130	0			
4-Isopropyltoluene	47.9	5.0	50	0	95.8	79-120	0			
4-Methyl-2-pentanone	99.85	10	100	0	99.8	65-127	0			
Acetone	110	10	100	0	110	59-137	0			
Benzene	51.71	5.0	50	0	103	73-121	0			
Bromodichloromethane	53.05	5.0	50	0	106	80-120	0			
Bromoform	50.66	5.0	50	0	101	79-120	0			
Bromomethane	73.26	5.0	50	0	147	66-137	0			S
Carbon disulfide	112.8	10	100	0	113	68-141	0			
Carbon tetrachloride	52.87	5.0	50	0	106	75-124	0			
Chlorobenzene	51.43	5.0	50	0	103	80-120	0			
Chloroethane	58.28	5.0	50	0	117	76-121	0			
Chloroform	55.61	5.0	50	0	111	80-120	0			
Chloromethane	59.77	5.0	50	0	120	67-123	0			
cis-1,2-Dichloroethene	57.26	5.0	50	0	115	78-120	0			
cis-1,3-Dichloropropene	50.44	5.0	50	0	101	80-120	0			
Dibromochloromethane	50.63	5.0	50	0	101	80-120	0			
Ethylbenzene	49.74	5.0	50	0	99.5	80-120	0			
Isopropylbenzene	48.46	5.0	50	0	96.9	80-120	0			
m,p-Xylene	103.9	10	100	0	104	78-121	0			
Methyl tert-butyl ether	54.14	5.0	50	0	108	73-121	0			
Methylene chloride	55.13	10	50	0	110	65-133	0			
Naphthalene	51.53	5.0	50	0	103	65-135	0			
n-Butylbenzene	45.44	5.0	50	0	90.9	77-120	0			
n-Propylbenzene	48.09	5.0	50	0	96.2	78-120	0			
o-Xylene	54.97	5.0	50	0	110	80-120	0			
sec-Butylbenzene	50.11	5.0	50	0	100	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203		Instrument ID VOA1		Method: SW8260				
Styrene	54.65	5.0	50	0	109	80-120	0	
Tetrachloroethene	52.32	5.0	50	0	105	79-120	0	
Toluene	51.83	5.0	50	0	104	80-120	0	
trans-1,2-Dichloroethene	57.38	5.0	50	0	115	78-120	0	
trans-1,3-Dichloropropene	50.95	5.0	50	0	102	80-120	0	
Trichloroethene	52.65	5.0	50	0	105	80-120	0	
Vinyl chloride	53.14	2.0	50	0	106	70-127	0	
Xylenes, Total	158.9	15	150	0	106	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	52.31	5.0	50	0	105	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	50.94	5.0	50	0	102	72-125	0	
<i>Surr: Dibromofluoromethane</i>	55.14	5.0	50	0	110	71-125	0	
<i>Surr: Toluene-d8</i>	49.2	5.0	50	0	98.4	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MS				Sample ID: 1302675-01AMS			Units: µg/L		Analysis Date: 2/22/2013 04:04 PM		
Client ID: South Well		Run ID: VOA1_130222A			SeqNo: 3122611		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	51.14	5.0	50	0	102	80-120	0				
1,1,2,2-Tetrachloroethane	47.72	5.0	50	0	95.4	72-120	0				
1,1,2-Trichloroethane	48.88	5.0	50	0	97.8	80-120	0				
1,1-Dichloroethane	52.47	5.0	50	0	105	76-120	0				
1,1-Dichloroethene	51.18	5.0	50	0	102	73-124	0				
1,2,4-Trimethylbenzene	44.83	5.0	50	0	89.7	68-123	0				
1,2-Dibromoethane	50.15	5.0	50	0	100	80-120	0				
1,2-Dichloroethane	48.3	5.0	50	0	96.6	78-120	0				
1,2-Dichloropropane	46.98	5.0	50	0	94	80-120	0				
1,3,5-Trimethylbenzene	45.02	5.0	50	0	90	80-120	0				
2-Butanone	102.4	10	100	0	102	58-132	0				
2-Hexanone	102.3	10	100	0	102	61-130	0				
4-Isopropyltoluene	42.71	5.0	50	0	85.4	79-120	0				
4-Methyl-2-pentanone	112.2	10	100	0	112	65-127	0				
Acetone	108.9	10	100	0	109	59-137	0				
Benzene	53.62	5.0	50	5.229	96.8	73-121	0				
Bromodichloromethane	47.58	5.0	50	0	95.2	80-120	0				
Bromoform	50.83	5.0	50	0	102	79-120	0				
Bromomethane	61.22	5.0	50	0	122	66-137	0				
Carbon disulfide	97.42	10	100	0	97.4	68-141	0				
Carbon tetrachloride	45.94	5.0	50	0	91.9	75-124	0				
Chlorobenzene	49.56	5.0	50	0	99.1	80-120	0				
Chloroethane	46.52	5.0	50	0	93	76-121	0				
Chloroform	52.88	5.0	50	0	106	80-120	0				
Chloromethane	49.34	5.0	50	0	98.7	67-123	0				
cis-1,2-Dichloroethene	52.36	5.0	50	0	105	78-120	0				
cis-1,3-Dichloropropene	51.45	5.0	50	0	103	80-120	0				
Dibromochloromethane	47.95	5.0	50	0	95.9	80-120	0				
Ethylbenzene	47.92	5.0	50	0	95.8	80-120	0				
Isopropylbenzene	44.86	5.0	50	0	89.7	80-120	0				
m,p-Xylene	96.88	10	100	0	96.9	78-121	0				
Methyl tert-butyl ether	54.84	5.0	50	0	110	73-121	0				
Methylene chloride	54.7	10	50	0	109	65-133	0				
Naphthalene	46.98	5.0	50	0	94	65-135	0				
n-Butylbenzene	40.17	5.0	50	0	80.3	77-120	0				
n-Propylbenzene	43.17	5.0	50	0	86.3	78-120	0				
o-Xylene	50.92	5.0	50	0	102	80-120	0				
sec-Butylbenzene	43.76	5.0	50	0	87.5	78-120	0				

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203		Instrument ID VOA1		Method: SW8260				
Styrene	49.58	5.0	50	0	99.2	80-120	0	
Tetrachloroethene	47.08	5.0	50	0	94.2	79-120	0	
Toluene	50.27	5.0	50	0	101	80-120	0	
trans-1,2-Dichloroethene	53.63	5.0	50	0	107	78-120	0	
trans-1,3-Dichloropropene	50.38	5.0	50	0	101	80-120	0	
Trichloroethene	47.84	5.0	50	0	95.7	80-120	0	
Vinyl chloride	45.86	2.0	50	0	91.7	70-127	0	
Xylenes, Total	147.8	15	150	0	98.5	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	49.87	5.0	50	0	99.7	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	47.88	5.0	50	0	95.8	72-125	0	
<i>Surr: Dibromofluoromethane</i>	52.9	5.0	50	0	106	71-125	0	
<i>Surr: Toluene-d8</i>	52.95	5.0	50	0	106	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1302675-01AMSD				Units: µg/L		Analysis Date: 2/22/2013 04:29 PM		
Client ID: South Well		Run ID: VOA1_130222A				SeqNo: 3122612		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	49.23	5.0	50	0	98.5	80-120	51.14	3.8	20	
1,1,2,2-Tetrachloroethane	50.94	5.0	50	0	102	72-120	47.72	6.53	20	
1,1,2-Trichloroethane	52.09	5.0	50	0	104	80-120	48.88	6.35	20	
1,1-Dichloroethane	53.19	5.0	50	0	106	76-120	52.47	1.36	20	
1,1-Dichloroethene	49.85	5.0	50	0	99.7	73-124	51.18	2.63	20	
1,2,4-Trimethylbenzene	46.38	5.0	50	0	92.8	68-123	44.83	3.39	20	
1,2-Dibromoethane	51.39	5.0	50	0	103	80-120	50.15	2.46	20	
1,2-Dichloroethane	52.62	5.0	50	0	105	78-120	48.3	8.55	20	
1,2-Dichloropropane	54.44	5.0	50	0	109	80-120	46.98	14.7	20	
1,3,5-Trimethylbenzene	47.67	5.0	50	0	95.3	80-120	45.02	5.71	20	
2-Butanone	106	10	100	0	106	58-132	102.4	3.45	20	
2-Hexanone	106.7	10	100	0	107	61-130	102.3	4.28	20	
4-Isopropyltoluene	44.3	5.0	50	0	88.6	79-120	42.71	3.65	20	
4-Methyl-2-pentanone	103.7	10	100	0	104	65-127	112.2	7.9	20	
Acetone	112.3	10	100	0	112	59-137	108.9	3.09	20	
Benzene	58.79	5.0	50	5.229	107	73-121	53.62	9.21	20	
Bromodichloromethane	54.35	5.0	50	0	109	80-120	47.58	13.3	20	
Bromoform	51.55	5.0	50	0	103	79-120	50.83	1.41	20	
Bromomethane	61.95	5.0	50	0	124	66-137	61.22	1.18	20	
Carbon disulfide	100.8	10	100	0	101	68-141	97.42	3.45	20	
Carbon tetrachloride	49.62	5.0	50	0	99.2	75-124	45.94	7.69	20	
Chlorobenzene	48.68	5.0	50	0	97.4	80-120	49.56	1.8	20	
Chloroethane	46.76	5.0	50	0	93.5	76-121	46.52	0.515	20	
Chloroform	51.82	5.0	50	0	104	80-120	52.88	2.04	20	
Chloromethane	45.9	5.0	50	0	91.8	67-123	49.34	7.22	20	
cis-1,2-Dichloroethene	51.85	5.0	50	0	104	78-120	52.36	0.966	20	
cis-1,3-Dichloropropene	53.52	5.0	50	0	107	80-120	51.45	3.95	20	
Dibromochloromethane	49.52	5.0	50	0	99	80-120	47.95	3.23	20	
Ethylbenzene	47.88	5.0	50	0	95.8	80-120	47.92	0.087	20	
Isopropylbenzene	48.69	5.0	50	0	97.4	80-120	44.86	8.19	20	
m,p-Xylene	94.09	10	100	0	94.1	78-121	96.88	2.92	20	
Methyl tert-butyl ether	49.1	5.0	50	0	98.2	73-121	54.84	11	20	
Methylene chloride	49.44	10	50	0	98.9	65-133	54.7	10.1	20	
Naphthalene	50.25	5.0	50	0	101	65-135	46.98	6.74	20	
n-Butylbenzene	42.32	5.0	50	0	84.6	77-120	40.17	5.2	20	
n-Propylbenzene	45.64	5.0	50	0	91.3	78-120	43.17	5.55	20	
o-Xylene	51.13	5.0	50	0	102	80-120	50.92	0.405	20	
sec-Butylbenzene	44.17	5.0	50	0	88.3	78-120	43.76	0.927	20	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203		Instrument ID VOA1			Method: SW8260				
Styrene	50.78	5.0	50	0	102	80-120	49.58	2.4	20
Tetrachloroethene	48.78	5.0	50	0	97.6	79-120	47.08	3.55	20
Toluene	48.32	5.0	50	0	96.6	80-120	50.27	3.95	20
trans-1,2-Dichloroethene	51.07	5.0	50	0	102	78-120	53.63	4.89	20
trans-1,3-Dichloropropene	50.84	5.0	50	0	102	80-120	50.38	0.91	20
Trichloroethene	55.05	5.0	50	0	110	80-120	47.84	14	20
Vinyl chloride	46.11	2.0	50	0	92.2	70-127	45.86	0.527	20
Xylenes, Total	145.2	15	150	0	96.8	80-120	147.8	1.76	20
<i>Surr: 1,2-Dichloroethane-d4</i>	48.2	5.0	50	0	96.4	70-125	49.87	3.42	20
<i>Surr: 4-Bromofluorobenzene</i>	49.17	5.0	50	0	98.3	72-125	47.88	2.66	20
<i>Surr: Dibromofluoromethane</i>	48.85	5.0	50	0	97.7	71-125	52.9	7.96	20
<i>Surr: Toluene-d8</i>	48.48	5.0	50	0	97	75-125	52.95	8.81	20

The following samples were analyzed in this batch:

1302675-01A	1302675-02A	1302675-03A
1302675-04A	1302675-05A	1302675-06A

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143105** Instrument ID **WetChem** Method: **M2510 B (Dissolve)**

MBLK Sample ID: **WBLKW1-022113-R143105** Units: **µmhos/cm** Analysis Date: **2/21/2013 04:10 PM**

Client ID: Run ID: **WETCHEM_130221C** SeqNo: **3120441** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

LCS Sample ID: **WLCSW1-022113-R143105** Units: **µmhos/cm** Analysis Date: **2/21/2013 04:10 PM**

Client ID: Run ID: **WETCHEM_130221C** SeqNo: **3120442** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1350	1.0	1413		0	95.5	80-120	0		

DUP Sample ID: **1302675-05FDUP** Units: **µmhos/cm** Analysis Date: **2/21/2013 04:10 PM**

Client ID: **MW-15** Run ID: **WETCHEM_130221C** SeqNo: **3120448** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1290	1.0	0		0	0	1290	0	20	

The following samples were analyzed in this batch:

1302675-01F	1302675-02F	1302675-03F
1302675-04F	1302675-05F	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143175** Instrument ID **WetChem** Method: **SM2320B (Dissolve)**

MBLK Sample ID: **WBLKW1-022313-R143175** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122124** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS Sample ID: **WLCSW1-022313-R143175** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122125** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1133	6.0	1000	0	113	80-120	0			

DUP Sample ID: **1302741-01CDUP** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122140** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	452.3	6.0	0	0	0	0-0	442.7	2.16	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	13.56	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	458	6.0	0	0	0	0-0	456.2	0.385	20	

The following samples were analyzed in this batch:

1302675-01F	1302675-02F	1302675-03F
1302675-04F	1302675-05F	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143273** Instrument ID **BALANCE1** Method: **M2540C** **(Dissolve)**

MBLK Sample ID: **WBLK-022513-R143273** Units: **mg/L** Analysis Date: **2/25/2013 09:30 AM**

Client ID: Run ID: **BALANCE1_130225C** SeqNo: **3124160** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS Sample ID: **WLCS-022513-R143273** Units: **mg/L** Analysis Date: **2/25/2013 09:30 AM**

Client ID: Run ID: **BALANCE1_130225C** SeqNo: **3124161** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	980	10	1000	0	98	85-115	0			

DUP Sample ID: **1302642-01FDUP** Units: **mg/L** Analysis Date: **2/25/2013 09:30 AM**

Client ID: Run ID: **BALANCE1_130225C** SeqNo: **3124139** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	982	10	0	0	0	0-0	984	0.203	20	

DUP Sample ID: **1302675-01FDUP** Units: **mg/L** Analysis Date: **2/25/2013 09:30 AM**

Client ID: **South Well** Run ID: **BALANCE1_130225C** SeqNo: **3124154** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1196	10	0	0	0	0-0	1170	2.2	20	

The following samples were analyzed in this batch:

1302675-01F	1302675-03F	1302675-04F
1302675-05F		

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143338** Instrument ID **WetChem** Method: **SM4500H+ B (Dissolve)**

LCS Sample ID: **WLCSW1-130227-R143338** Units: **pH Units** Analysis Date: **2/27/2013 01:00 PM**

Client ID: Run ID: **WETCHEM_130227B** SeqNo: **3125814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.04	0.10	6	0	101	90-110	0			

DUP Sample ID: **1302866-01ADUP** Units: **pH Units** Analysis Date: **2/27/2013 01:00 PM**

Client ID: Run ID: **WETCHEM_130227B** SeqNo: **3125831** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	8.04	0.10	0	0	0	0-0	8.05	0.124	20	H

The following samples were analyzed in this batch:

1302675-01F	1302675-02F	1302675-03F
1302675-04F	1302675-05F	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143359** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK Sample ID: **WBLK-025113-R143359** Units: **mg/L** Analysis Date: **2/25/2013 06:15 PM**

Client ID: Run ID: **BALANCE1_130225D** SeqNo: **3127326** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS Sample ID: **WLCS-025113-R143359** Units: **mg/L** Analysis Date: **2/25/2013 06:15 PM**

Client ID: Run ID: **BALANCE1_130225D** SeqNo: **3127327** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1030	10	1000		0	103	85-115	0		

DUP Sample ID: **1302675-02FDUP** Units: **mg/L** Analysis Date: **2/25/2013 06:15 PM**

Client ID: **North Well** Run ID: **BALANCE1_130225D** SeqNo: **3127325** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	496	10	0		0	0	0-0	496	0	20

The following samples were analyzed in this batch:

1302675-02F

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143369** Instrument ID **ICS3K2** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW2-R143369				Units: mg/L			Analysis Date: 2/27/2013 01:11 AM		
Client ID:	Run ID: ICS3K2_130226B				SeqNo: 3126365			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Fluoride	ND	0.10								
Sulfate	ND	0.50								
Surr: Selenate (surr)	5.566	0.10	5	0	111	85-115	0			

LCS	Sample ID: WLCSW2-R143369				Units: mg/L			Analysis Date: 2/27/2013 01:33 AM		
Client ID:	Run ID: ICS3K2_130226B				SeqNo: 3126366			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.53	0.50	20	0	97.7	90-110	0			
Fluoride	4.002	0.10	4	0	100	90-110	0			
Sulfate	20.61	0.50	20	0	103	90-110	0			
Surr: Selenate (surr)	5.459	0.10	5	0	109	85-115	0			

MS	Sample ID: 1302744-16BMS				Units: mg/L			Analysis Date: 2/27/2013 10:57 AM		
Client ID:	Run ID: ICS3K2_130226B				SeqNo: 3126392			Prep Date: DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	540.1	5.0	100	453.7	86.4	80-120	0	0	0	O
Fluoride	22.47	1.0	20	1.258	106	80-120	0	0	0	
Sulfate	175.8	5.0	100	66.72	109	80-120	0	0	0	
Surr: Selenate (surr)	54.79	1.0	50	0	110	85-115	0	0		

MSD	Sample ID: 1302744-16BMSD				Units: mg/L			Analysis Date: 2/27/2013 11:19 AM		
Client ID:	Run ID: ICS3K2_130226B				SeqNo: 3126393			Prep Date: DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	539.6	5.0	100	453.7	85.9	80-120	540.1	0.0937	20	O
Fluoride	22.41	1.0	20	1.258	106	80-120	22.47	0.267	20	
Sulfate	175.4	5.0	100	66.72	109	80-120	175.8	0.241	20	
Surr: Selenate (surr)	54.83	1.0	50	0	110	85-115	54.79	0.0639	20	

The following samples were analyzed in this batch:

1302675-01F	1302675-02F	1302675-03F
1302675-04F	1302675-05F	

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

Client: Navajo Refining Company
Work Order: 1302675
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143374** Instrument ID **ICS2100** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW4-R143374				Units: mg/L		Analysis Date: 2/27/2013 01:37 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126503		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.20								
Surr: Selenate (surr)	4.501	0.10	5	0	90	85-115	0			

LCS	Sample ID: WLCSW4-R143374				Units: mg/L		Analysis Date: 2/27/2013 02:48 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126504		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	7.97	0.20	8	0	99.6	90-110	0			
Surr: Selenate (surr)	4.309	0.10	5	0	86.2	85-115	0			

MS	Sample ID: 1302683-12BMS				Units: mg/L		Analysis Date: 2/27/2013 09:12 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126520		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	34.32	2.0	40	0	85.8	80-120	0			
Surr: Selenate (surr)	44.32	1.0	50	0	88.6	85-115	0			

MSD	Sample ID: 1302683-12BMSD				Units: mg/L		Analysis Date: 2/27/2013 09:27 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126521		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	35.48	2.0	40	0	88.7	80-120	34.32	3.3	20	
Surr: Selenate (surr)	46.81	1.0	50	0	93.6	85-115	44.32	5.47	20	

The following samples were analyzed in this batch:

1302675-01E	1302675-02E	1302675-03E
1302675-04E	1302675-05E	

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

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
WorkOrder: 1302675

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **21-Feb-13 09:15**

Work Order: **1302675**

Received by: **JBA**

Checklist completed by Johanna B. Allen
eSignature

21-Feb-13
Date

Reviewed by: Sonia West
eSignature

22-Feb-13
Date

Matrices: **water**

Carrier name: **FedEx Priority Overnight**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.1 C, 1.9 C/uc</u> <u>IR 1</u>		
Cooler(s)/Kit(s):	<u>3605/4985</u>		
Date/Time sample(s) sent to storage:	<u>2/21/13 11:59</u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u>-</u>		
Login Notes:	<u>Custody Seal was not present on cooler #3605</u>		

Client Contacted:

Date Contacted:

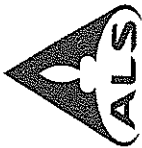
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



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

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

Chain of Custody Form

Page 1 of 1

COC ID: 72644

1302675

NAVAJO REFINING: Navajo Refining Company
Project: Navajo Lovington Lea Refinery Semi-Annual



Environmental

Customer Information

Purchase Order	Project Name		Project Information	
Work Order	Lovington Lea Refining - SA		VOC	
Company Name	Navajo Refining Company	Project Number	A	B
Send Report To	Robert Combs	Bill To Company	C	D
Address	505 E. Highland Dr. Ste 250	Invoice Attn	E	F
City/State/Zip	Artesia, NM 86211	Address	G	H
Phone	(575) 769-6867	City/State/Zip	I	J
Fax	(575) 746-5421	Phone	K	L
e-Mail Address	asthine@trc-solutions.com	Fax	M	N
	schmiller@trc-solutions.com	e-Mail Address	O	P

Project Information

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	South Well	2.19.13	1609	W	12,38	9	X	X	X	X	X	X	X	X	X	X	X
2	North Well	2.19.13	1705	W	12,38	9	X	X	X	X	X	X	X	X	X	X	X
3	MW-28	2.20.13	1059	W	"	9	X	X	X	X	X	X	X	X	X	X	X
4	MW-2	2.20.13	1145	W	"	9	X	X	X	X	X	X	X	X	X	X	X
5	MW-15	2.20.13	1402	W	"	9	X	X	X	X	X	X	X	X	X	X	X
6	TB-02-20-13	—	—	W	18	2	X	X	X	X	X	X	X	X	X	X	X

Shipment Method

Relinquished by	Date	Time	Relinquished by	Date	Time	Relinquished by	Date	Time	Relinquished by	Date	Time
Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445
Relinquished by	Date	Time	Relinquished by	Date	Time	Relinquished by	Date	Time	Relinquished by	Date	Time
Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445	Dan Clark	2.20.13	1445
Logged by (Laboratory):	Date	Time	Logged by (Laboratory):	Date	Time	Logged by (Laboratory):	Date	Time	Logged by (Laboratory):	Date	Time
Preservative Key:	1-HCl	2-HNO ₃	3-H ₂ SO ₄	4-NaOH	5-Na ₂ S ₂ O ₃	6-NaHSO ₄	7-Other	8-4°C	9-5035		

QC Package: (Check One Box Below)

☒ Level II Std QC	☐ TRRP Checklist
☐ Level III Std QC/Raw Data	☐ TRRP Level IV
☐ Level IV SW846/CLP	☐ Other / ECD

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

FedEx Package Express US Airbill

1 From **8013 8012 6 279**
 Date **2.20.13**
 Sender's Name **D. Clark**
 Company **TRE** Phone **512 329 6 280**
 Address **505. E. Huntland Dr. Ste 250**
 City **Austin** State **TX** ZIP **78752**

2 Your Internal Billing Reference
 3 To Recipient's Name **CLIENT SERVICES** Phone **281 530-5636**
 Company **ALS LABORATORY GROUP**
 Address **10450 STANCLIFF RD STE 210**
 We cannot deliver to P.O. boxes or P.D. ZIP codes.
 Address **HOUSTON** State **TX** ZIP **77099-4338**
 Use this line for the HOLD location address or for continuation of your shipping address.
 City **HOUSTON** State **TX** ZIP **77099-4338**



8013 8012 6279

0455550776

Form ID No. **0215**
 4 Express Package Service
 NOTE: Service order has changed. Please

Next Business Day
☐ FedEx First Overnight
☒ FedEx Priority Overnight
☐ FedEx Standard Overnight

5 Packaging
☐ FedEx Envelope*
☐ Fed

6 Special Handling and Delivery Signat
☐ SATURDAY Delivery
☐ No Signature Required

Does this shipment contain dangerous goods?
☒ No
☐ Yes
 One box must be checked.
 Shipper's Declaration not required.

7 Payment Bill to:
☐ Sender
☒ Recipient
☐ Third Party
☐ Credit Card
☐ Cash

1 of 2
 TRK# **0215 8013 801**
 ## MASTER ##
AB SG



RT **254**
 ST **7**

Dry Ice
 Dry Ice 9 UN 1845
 Cargo Aircraft

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611



ALS Environmental

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

CUSTODY SEAL

Date: **2.20.13** Time: **1445**
 Name: **D. Clark**
 Company: **TRE**

Signature: **[Signature]**
 Date: **2/25/13**



28-Feb-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Navajo Lea Refinery Semi-Annual

Work Order: **1302746**

Dear Robert,

ALS Environmental received 4 samples on 22-Feb-2013 09:15 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 60.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Jumoke M. Lawal

Sonia West
Project Manager



Certificate No: T104704231-12-10

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#J UR X S#K VD /#R U S#Sdu#h i#hch#DOV#J ur xs##D q#DOV#Dp i#hg#F rp s dq |

Environmental

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1302746

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1302746-01	MW-16	Water		2/20/2013 16:43	2/22/2013 09:15	☐
1302746-02	MW-4	Water		2/21/2013 08:28	2/22/2013 09:15	☐
1302746-03	MW-5	Water		2/21/2013 15:19	2/22/2013 09:15	☐
1302746-04	Trip Blank	Water		2/21/2013	2/22/2013 09:15	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1302746

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 68070, Dissolved Metals 6020, Sample 1302789-03C: MS/MSD is for an unrelated sample.

Batch 68043, Semivolatile Organics 8270, Sample 1302789-03F: MS/MSD is for an unrelated sample

Batch 68043, Semivolatile Organics 8270, Sample SLCSDW2-130225: The LCSD %RPDs were outside of the QC limits for several compounds. All target compounds in the LCS and LCSD recoveries were within the QC limits.

Batch R143203, Volatile Organics 8260, ICV Sample VSTD050: Hexachlorobuadiene was above the QC limits. The CCV and LCS recoveries are within the QC limits. Your samples are Non Detect for this compound.

Batch R143203, Volatile Organics 8260, Sample VLCSW-130222: Bromomethane %Difference was above the QC limits for the CCV. Also, the LCS recovery is above the QC limits. All samples are Non Detect for this compound.

Batch R143267, Volatile Organics 8260, ICV Sample VSTD050: Hexachlorobuadiene was above the QC limits. The CCV and LCS recoveries are within the QC limits. Your samples are Non Detect for this compound.

Batch R143267, Volatile Organics 8260, Sample VLCSW-130222: Bromomethane %Difference was above the QC limits for the CCV. Also, the LCS recovery is above the QC limits. All samples are Non Detect for this compound.

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 2/20/2013 04:43 PM

Work Order: 1302746
Lab ID: 1302746-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:59 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 06:15 AM
Arsenic	0.00547		0.00500	mg/L	1	2/27/2013 06:15 AM
Barium	0.0968		0.00500	mg/L	1	2/27/2013 06:15 AM
Boron	0.172		0.0200	mg/L	1	2/27/2013 06:15 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 06:15 AM
Calcium	81.8		0.500	mg/L	1	2/27/2013 06:15 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Iron	ND		0.200	mg/L	1	2/27/2013 06:15 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Magnesium	9.11		0.200	mg/L	1	2/27/2013 06:15 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Potassium	2.07		0.200	mg/L	1	2/27/2013 06:15 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Sodium	37.0		0.200	mg/L	1	2/27/2013 06:15 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 06:15 AM
Zinc	0.00693		0.00500	mg/L	1	2/27/2013 06:15 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/25/2013 08:42 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/25/2013 08:42 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2-Chlorophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2-Methylphenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
2-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 08:42 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 2/20/2013 04:43 PM

Work Order: 1302746
Lab ID: 1302746-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
3&4-Methylphenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/25/2013 08:42 PM
3-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Chloroaniline	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 08:42 PM
4-Nitrophenol	ND		1.0	µg/L	1	2/25/2013 08:42 PM
Acenaphthene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Acenaphthylene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Acetophenone	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Anthracene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Atrazine	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benz(a)anthracene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benzaldehyde	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Bis(2-ethylhexyl)phthalate	0.26		0.20	µg/L	1	2/25/2013 08:42 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Caprolactam	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Carbazole	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Chrysene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Dibenzofuran	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Diethyl phthalate	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Dimethyl phthalate	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Di-n-octyl phthalate	0.28		0.20	µg/L	1	2/25/2013 08:42 PM
Fluoranthene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Fluorene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Hexachlorobenzene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/25/2013 08:42 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 2/20/2013 04:43 PM

Work Order: 1302746
Lab ID: 1302746-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Hexachloroethane	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Isophorone	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Naphthalene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Nitrobenzene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/25/2013 08:42 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Pentachlorophenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Phenanthrene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Phenol	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Pyrene	ND		0.20	µg/L	1	2/25/2013 08:42 PM
Surr: 2,4,6-Tribromophenol	99.6		34-129	%REC	1	2/25/2013 08:42 PM
Surr: 2-Fluorobiphenyl	85.3		40-125	%REC	1	2/25/2013 08:42 PM
Surr: 2-Fluorophenol	71.0		20-120	%REC	1	2/25/2013 08:42 PM
Surr: 4-Terphenyl-d14	99.0		40-135	%REC	1	2/25/2013 08:42 PM
Surr: Nitrobenzene-d5	75.7		41-120	%REC	1	2/25/2013 08:42 PM
Surr: Phenol-d6	73.0		20-120	%REC	1	2/25/2013 08:42 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 08:36 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 08:36 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 08:36 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 08:36 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 08:36 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 08:36 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 2/20/2013 04:43 PM

Work Order: 1302746
Lab ID: 1302746-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 08:36 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 08:36 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 08:36 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 08:36 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 08:36 PM
Surr: 1,2-Dichloroethane-d4	100		70-125	%REC	1	2/22/2013 08:36 PM
Surr: 4-Bromofluorobenzene	94.0		72-125	%REC	1	2/22/2013 08:36 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/22/2013 08:36 PM
Surr: Toluene-d8	94.2		75-125	%REC	1	2/22/2013 08:36 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	24.0		0.500	mg/L	1	2/28/2013 01:02 AM
Fluoride	0.966		0.100	mg/L	1	2/28/2013 01:02 AM
Sulfate	68.1		0.500	mg/L	1	2/28/2013 01:02 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	2/27/2013 10:54 PM
Surr: Selenate (surr)	111		85-115	%REC	1	2/28/2013 01:02 AM
Surr: Selenate (surr)	90.2		85-115	%REC	10	2/27/2013 10:54 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	216		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 2/20/2013 04:43 PM

Work Order: 1302746
Lab ID: 1302746-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	220		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	623		1.00	µmhos/cm	1	2/23/2013 11:38 AM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.29	H	0.100	pH Units	1	2/26/2013 05:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	316		10.0	mg/L	1	2/26/2013 04:30 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 2/21/2013 08:28 AM

Work Order: 1302746
Lab ID: 1302746-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 08:01 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 06:20 AM
Arsenic	0.00525		0.00500	mg/L	1	2/27/2013 06:20 AM
Barium	0.0841		0.00500	mg/L	1	2/27/2013 06:20 AM
Boron	0.157		0.0200	mg/L	1	2/27/2013 06:20 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 06:20 AM
Calcium	78.4		0.500	mg/L	1	2/27/2013 06:20 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Iron	ND		0.200	mg/L	1	2/27/2013 06:20 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Magnesium	9.48		0.200	mg/L	1	2/27/2013 06:20 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Potassium	2.33		0.200	mg/L	1	2/27/2013 06:20 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Sodium	37.6		0.200	mg/L	1	2/27/2013 06:20 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 06:20 AM
Zinc	0.0116		0.00500	mg/L	1	2/27/2013 06:20 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/25/2013 09:01 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/25/2013 09:01 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2-Chlorophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2-Methylphenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
2-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 09:01 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 2/21/2013 08:28 AM

Work Order: 1302746
Lab ID: 1302746-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
3&4-Methylphenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/25/2013 09:01 PM
3-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Chloroaniline	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 09:01 PM
4-Nitrophenol	ND		1.0	µg/L	1	2/25/2013 09:01 PM
Acenaphthene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Acenaphthylene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Acetophenone	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Anthracene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Atrazine	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benz(a)anthracene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benzaldehyde	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Bis(2-ethylhexyl)phthalate	2.9		0.20	µg/L	1	2/25/2013 09:01 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Caprolactam	0.25		0.20	µg/L	1	2/25/2013 09:01 PM
Carbazole	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Chrysene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Dibenzofuran	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Diethyl phthalate	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Dimethyl phthalate	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Fluoranthene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Fluorene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Hexachlorobenzene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/25/2013 09:01 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 2/21/2013 08:28 AM

Work Order: 1302746
Lab ID: 1302746-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Hexachloroethane	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Isophorone	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Naphthalene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Nitrobenzene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/25/2013 09:01 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Pentachlorophenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Phenanthrene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Phenol	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Pyrene	ND		0.20	µg/L	1	2/25/2013 09:01 PM
Surr: 2,4,6-Tribromophenol	96.4		34-129	%REC	1	2/25/2013 09:01 PM
Surr: 2-Fluorobiphenyl	77.4		40-125	%REC	1	2/25/2013 09:01 PM
Surr: 2-Fluorophenol	65.4		20-120	%REC	1	2/25/2013 09:01 PM
Surr: 4-Terphenyl-d14	96.6		40-135	%REC	1	2/25/2013 09:01 PM
Surr: Nitrobenzene-d5	68.6		41-120	%REC	1	2/25/2013 09:01 PM
Surr: Phenol-d6	71.3		20-120	%REC	1	2/25/2013 09:01 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
2-Butanone	ND		0.010	mg/L	1	2/22/2013 09:01 PM
2-Hexanone	ND		0.010	mg/L	1	2/22/2013 09:01 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/22/2013 09:01 PM
Acetone	ND		0.010	mg/L	1	2/22/2013 09:01 PM
Benzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Bromoform	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Bromomethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Carbon disulfide	ND		0.010	mg/L	1	2/22/2013 09:01 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/22/2013 09:01 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 2/21/2013 08:28 AM

Work Order: 1302746
Lab ID: 1302746-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Chloroethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Chloroform	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Chloromethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
m,p-Xylene	ND		0.010	mg/L	1	2/22/2013 09:01 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Methylene chloride	ND		0.010	mg/L	1	2/22/2013 09:01 PM
Naphthalene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
o-Xylene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Styrene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Toluene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Trichloroethene	ND		0.0050	mg/L	1	2/22/2013 09:01 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/22/2013 09:01 PM
Xylenes, Total	ND		0.015	mg/L	1	2/22/2013 09:01 PM
Surr: 1,2-Dichloroethane-d4	99.6		70-125	%REC	1	2/22/2013 09:01 PM
Surr: 4-Bromofluorobenzene	95.9		72-125	%REC	1	2/22/2013 09:01 PM
Surr: Dibromofluoromethane	106		71-125	%REC	1	2/22/2013 09:01 PM
Surr: Toluene-d8	91.2		75-125	%REC	1	2/22/2013 09:01 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	26.6		0.500	mg/L	1	2/28/2013 01:24 AM
Fluoride	1.05		0.100	mg/L	1	2/28/2013 01:24 AM
Sulfate	75.5		0.500	mg/L	1	2/28/2013 01:24 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	2/27/2013 11:08 PM
Surr: Selenate (surr)	110		85-115	%REC	1	2/28/2013 01:24 AM
Surr: Selenate (surr)	85.6		85-115	%REC	10	2/27/2013 11:08 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	186		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 2/21/2013 08:28 AM

Work Order: 1302746
Lab ID: 1302746-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO ₃)	191		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	614		1.00	µmhos/cm	1	2/23/2013 11:45 AM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.34	H	0.100	pH Units	1	2/26/2013 05:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	360		10.0	mg/L	1	2/26/2013 04:30 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 2/21/2013 03:19 PM

Work Order: 1302746
Lab ID: 1302746-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 08:03 PM
DISSOLVED METALS						
Aluminum	0.0487		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 06:26 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Barium	0.104		0.00500	mg/L	1	2/27/2013 06:26 AM
Boron	0.0997		0.0200	mg/L	1	2/27/2013 06:26 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 06:26 AM
Calcium	96.4		0.500	mg/L	1	2/27/2013 06:26 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Copper	0.0434		0.00500	mg/L	1	2/27/2013 06:26 AM
Iron	ND		0.200	mg/L	1	2/27/2013 06:26 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Magnesium	11.3		0.200	mg/L	1	2/27/2013 06:26 AM
Manganese	0.0158		0.00500	mg/L	1	2/27/2013 06:26 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Potassium	2.56		0.200	mg/L	1	2/27/2013 06:26 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 06:26 AM
Sodium	56.7		0.200	mg/L	1	2/27/2013 06:26 AM
Uranium	0.00582		0.00500	mg/L	1	2/27/2013 06:26 AM
Zinc	0.0289		0.00500	mg/L	1	2/27/2013 06:26 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/27/2013 03:15 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2,4-Dimethylphenol	0.61		0.20	µg/L	1	2/27/2013 03:15 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/27/2013 03:15 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2-Methylphenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 03:15 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 2/21/2013 03:19 PM

Work Order: 1302746
Lab ID: 1302746-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/27/2013 03:15 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 03:15 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/27/2013 03:15 AM
Acenaphthene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Acenaphthylene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Acetophenone	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Anthracene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Atrazine	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benzaldehyde	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Bis(2-ethylhexyl)phthalate	12		1.0	µg/L	5	2/27/2013 03:35 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Caprolactam	0.20		0.20	µg/L	1	2/27/2013 03:15 AM
Carbazole	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Chrysene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Dibenzofuran	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Fluoranthene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Fluorene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/27/2013 03:15 AM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 2/21/2013 03:19 PM

Work Order: 1302746
Lab ID: 1302746-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Hexachloroethane	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Isophorone	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Naphthalene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Nitrobenzene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/27/2013 03:15 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Phenanthrene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Phenol	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Pyrene	ND		0.20	µg/L	1	2/27/2013 03:15 AM
Surr: 2,4,6-Tribromophenol	79.6		34-129	%REC	5	2/27/2013 03:35 AM
Surr: 2,4,6-Tribromophenol	88.2		34-129	%REC	1	2/27/2013 03:15 AM
Surr: 2-Fluorobiphenyl	82.9		40-125	%REC	1	2/27/2013 03:15 AM
Surr: 2-Fluorobiphenyl	76.4		40-125	%REC	5	2/27/2013 03:35 AM
Surr: 2-Fluorophenol	69.8		20-120	%REC	1	2/27/2013 03:15 AM
Surr: 2-Fluorophenol	66.5		20-120	%REC	5	2/27/2013 03:35 AM
Surr: 4-Terphenyl-d14	99.1		40-135	%REC	1	2/27/2013 03:15 AM
Surr: 4-Terphenyl-d14	91.0		40-135	%REC	5	2/27/2013 03:35 AM
Surr: Nitrobenzene-d5	66.5		41-120	%REC	5	2/27/2013 03:35 AM
Surr: Nitrobenzene-d5	73.0		41-120	%REC	1	2/27/2013 03:15 AM
Surr: Phenol-d6	71.4		20-120	%REC	1	2/27/2013 03:15 AM
Surr: Phenol-d6	64.4		20-120	%REC	5	2/27/2013 03:35 AM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 04:32 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 04:32 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 04:32 PM
Acetone	0.015		0.010	mg/L	1	2/25/2013 04:32 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 2/21/2013 03:19 PM

Work Order: 1302746
Lab ID: 1302746-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 04:32 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 04:32 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 04:32 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:32 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 04:32 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 04:32 PM
Surr: 1,2-Dichloroethane-d4	97.0		70-125	%REC	1	2/25/2013 04:32 PM
Surr: 4-Bromofluorobenzene	95.3		72-125	%REC	1	2/25/2013 04:32 PM
Surr: Dibromofluoromethane	104		71-125	%REC	1	2/25/2013 04:32 PM
Surr: Toluene-d8	98.8		75-125	%REC	1	2/25/2013 04:32 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	10.9		0.500	mg/L	1	2/28/2013 01:46 AM
Fluoride	1.04		0.100	mg/L	1	2/28/2013 01:46 AM
Sulfate	40.8		0.500	mg/L	1	2/28/2013 01:46 AM
Nitrate/Nitrite (as N)	2.01		2.00	mg/L	10	2/27/2013 11:23 PM

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

ALS Environmental

Date: 28-Feb-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 2/21/2013 03:19 PM

Work Order: 1302746
Lab ID: 1302746-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Selenate (surr)	88.0		85-115	%REC	10	2/27/2013 11:23 PM
Surr: Selenate (surr)	114		85-115	%REC	1	2/28/2013 01:46 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	330		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	2/23/2013 09:43 AM
Alkalinity, Total (As CaCO3)	333		6.00	mg/L	1	2/23/2013 09:43 AM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	745		1.00	µmhos/cm	1	2/23/2013 11:50 AM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.18	H	0.100	pH Units	1	2/26/2013 05:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	412		10.0	mg/L	1	2/26/2013 04:30 PM

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW7-022513-68070** Units: **mg/L** Analysis Date: **2/27/2013 06:53 PM**

Client ID: Run ID: **ICP7500_130227A** SeqNo: **3126430** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Uranium	ND	0.0050								
Zinc	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW7-022513-68070** Units: **mg/L** Analysis Date: **2/27/2013 03:48 AM**

Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125306** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1054	0.010	0.1	0	105	80-120	0			
Arsenic	0.04833	0.0050	0.05	0	96.7	80-120	0			
Barium	0.05032	0.0050	0.05	0	101	80-120	0			
Boron	0.4742	0.050	0.5	0	94.8	80-120	0			
Cadmium	0.0493	0.0020	0.05	0	98.6	80-120	0			
Calcium	5.102	0.50	5	0	102	80-120	0			
Chromium	0.05051	0.0050	0.05	0	101	80-120	0			
Cobalt	0.05007	0.0050	0.05	0	100	80-120	0			
Copper	0.05103	0.0050	0.05	0	102	80-120	0			
Iron	5.08	0.20	5	0	102	80-120	0			
Lead	0.04858	0.0050	0.05	0	97.2	80-120	0			
Magnesium	5.082	0.20	5	0	102	80-120	0			
Manganese	0.05078	0.0050	0.05	0	102	80-120	0			
Molybdenum	0.04869	0.0050	0.05	0	97.4	80-120	0			
Nickel	0.0499	0.0050	0.05	0	99.8	80-120	0			
Potassium	5.025	0.20	5	0	100	80-120	0			
Selenium	0.05091	0.0050	0.05	0	102	80-120	0			
Silver	0.04983	0.0050	0.05	0	99.7	80-120	0			
Sodium	5.067	0.20	5	0	101	80-120	0			
Uranium	0.09013	0.0050	0.1	0	90.1	80-120	0			
Zinc	0.0528	0.0050	0.05	0	106	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **1302789-03CMS** Units: **mg/L** Analysis Date: **2/27/2013 04:09 AM**
 Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125310** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1354	0.010	0.1	0.02935	106	75-125	0			
Arsenic	0.05386	0.0050	0.05	0.003659	100	75-125	0			
Barium	0.1585	0.0050	0.05	0.1021	113	75-125	0			
Boron	0.662	0.050	0.5	0.1643	99.5	75-125	0			
Cadmium	0.05068	0.0020	0.05	0.0006292	100	75-125	0			
Calcium	142	0.50	5	131.3	214	75-125	0			SO
Chromium	0.05559	0.0050	0.05	0.003784	104	75-125	0			
Cobalt	0.05133	0.0050	0.05	0.0001388	102	75-125	0			
Copper	0.05182	0.0050	0.05	0.0008573	102	75-125	0			
Iron	5.169	0.20	5	0.03457	103	75-125	0			
Lead	0.05049	0.0050	0.05	0.0002839	100	75-125	0			
Magnesium	20.24	0.20	5	14.8	109	75-125	0			
Manganese	0.05207	0.0050	0.05	0.001853	100	75-125	0			
Molybdenum	0.05169	0.0050	0.05	0.002428	98.5	75-125	0			
Nickel	0.05258	0.0050	0.05	0.00215	101	75-125	0			
Potassium	7.248	0.20	5	1.992	105	75-125	0			
Selenium	0.0531	0.0050	0.05	0.001676	103	75-125	0			
Silver	0.04907	0.0050	0.05	-0.00008708	98.3	75-125	0			
Sodium	45.26	0.20	5	39.18	122	75-125	0			O
Uranium	0.1002	0.0050	0.1	0.003432	96.8	75-125	0			
Zinc	0.06718	0.0050	0.05	0.01653	101	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD Sample ID: **1302789-03CMSD** Units: **mg/L** Analysis Date: **2/27/2013 04:14 AM**
 Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125311** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1377	0.010	0.1	0.02935	108	75-125	0.1354	1.68	25	
Arsenic	0.05463	0.0050	0.05	0.003659	102	75-125	0.05386	1.42	25	
Barium	0.1547	0.0050	0.05	0.1021	105	75-125	0.1585	2.43	25	
Boron	0.6564	0.050	0.5	0.1643	98.4	75-125	0.662	0.85	25	
Cadmium	0.05017	0.0020	0.05	0	100	75-125	0.05068	1.01	25	
Calcium	141	0.50	5	131.3	194	75-125	142	0.707	25	SO
Chromium	0.0559	0.0050	0.05	0.003784	104	75-125	0.05559	0.556	25	
Cobalt	0.05087	0.0050	0.05	0	102	75-125	0.05133	0.9	25	
Copper	0.05167	0.0050	0.05	0	103	75-125	0.05182	0.29	25	
Iron	5.159	0.20	5	0	103	75-125	5.169	0.194	25	
Lead	0.0499	0.0050	0.05	0	99.8	75-125	0.05049	1.18	25	
Magnesium	20.42	0.20	5	14.8	112	75-125	20.24	0.885	25	
Manganese	0.05256	0.0050	0.05	0	105	75-125	0.05207	0.937	25	
Molybdenum	0.05175	0.0050	0.05	0.002428	98.6	75-125	0.05169	0.116	25	
Nickel	0.05144	0.0050	0.05	0.00215	98.6	75-125	0.05258	2.19	25	
Potassium	7.272	0.20	5	1.992	106	75-125	7.248	0.331	25	
Selenium	0.05153	0.0050	0.05	0.001676	99.7	75-125	0.0531	3	25	
Silver	0.04907	0.0050	0.05	0	98.1	75-125	0.04907	0	25	
Sodium	45.63	0.20	5	39.18	129	75-125	45.26	0.814	25	SO
Uranium	0.1007	0.0050	0.1	0	101	75-125	0.1002	0.498	25	
Zinc	0.06856	0.0050	0.05	0.01653	104	75-125	0.06718	2.03	25	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP		Sample ID: 1302789-03CDUP				Units: mg/L		Analysis Date: 2/27/2013 03:59 AM		
Client ID:		Run ID: ICP7500_130226A				SeqNo: 3125308		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.02978	0.010	0	0	0	0-0	0.02935	1.45	25	
Arsenic	ND	0.0050	0	0	0	0-0	0.003659	0	25	
Barium	0.1068	0.0050	0	0	0	0-0	0.1021	4.5	25	
Boron	0.1683	0.050	0	0	0	0-0	0.1643	2.41	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.0006292	0	25	
Calcium	133.4	0.50	0	0	0	0-0	131.3	1.59	25	
Chromium	ND	0.0050	0	0	0	0-0	0.003784	0	25	
Cobalt	ND	0.0050	0	0	0	0-0	0.0001388	0	25	
Copper	ND	0.0050	0	0	0	0-0	0.0008573	0	25	
Iron	ND	0.20	0	0	0	0-0	0.03457	0	25	
Lead	ND	0.0050	0	0	0	0-0	0.0002839	0	25	
Magnesium	15	0.20	0	0	0	0-0	14.8	1.34	25	
Manganese	ND	0.0050	0	0	0	0-0	0.001853	0	25	
Molybdenum	ND	0.0050	0	0	0	0-0	0.002428	0	25	
Nickel	ND	0.0050	0	0	0	0-0	0.00215	0	25	
Potassium	2.062	0.20	0	0	0	0-0	1.992	3.45	25	
Selenium	ND	0.0050	0	0	0	0-0	0.001676	0	25	
Silver	ND	0.0050	0	0	0	0-0	-0.00008708	0	25	
Sodium	39.77	0.20	0	0	0	0-0	39.18	1.49	25	
Uranium	ND	0.0050	0	0	0		0.003432	0	25	
Zinc	0.01535	0.0050	0	0	0	0-0	0.01653	7.4	25	

The following samples were analyzed in this batch:

1302746-01C	1302746-02C	1302746-03C

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68104** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-022613-68104				Units: mg/L		Analysis Date: 2/26/2013 07:33 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124931		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-022613-68104				Units: mg/L		Analysis Date: 2/26/2013 07:35 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124932		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00509	0.00020	0.005	0	102	85-115	0			

MS	Sample ID: 1302789-03DMS				Units: mg/L		Analysis Date: 2/26/2013 07:43 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124935		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00494	0.00020	0.005	-0.000013	99.1	85-115	0			

MSD	Sample ID: 1302789-03DMSD				Units: mg/L		Analysis Date: 2/26/2013 07:45 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124936		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00489	0.00020	0.005	-0.000013	98.1	85-115	0.00494	1.02	20	

DUP	Sample ID: 1302789-03DDUP				Units: mg/L		Analysis Date: 2/26/2013 07:41 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124934		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000013	0	20	

The following samples were analyzed in this batch:

1302746-01D	1302746-02D	1302746-03D

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MBLK Sample ID: **SBLKW2-130225-68043** Units: **µg/L** Analysis Date: **2/25/2013 06:05 PM**
 Client ID: Run ID: **SV-6_130225B** SeqNo: **3125684** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	5.403	0.20	5	0	108	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.442	0.20	5	0	88.8	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.833	0.20	5	0	76.7	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	5.57	0.20	5	0	111	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.774	0.20	5	0	75.5	41-120	0	
<i>Surr: Phenol-d6</i>	3.913	0.20	5	0	78.3	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

LCS		Sample ID: SLCSW2-130225-68043				Units: µg/L		Analysis Date: 2/25/2013 05:45 PM		
Client ID:		Run ID: SV-6_130225B				SeqNo: 3125682		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.52	0.20	5	0	90.4	45-125	0			
1-Methylnaphthalene	4.702	0.20	5	0	94	45-120	0			
2,4,5-Trichlorophenol	5.858	0.20	5	0	117	46-120	0			
2,4,6-Trichlorophenol	5.609	0.20	5	0	112	42-120	0			
2,4-Dichlorophenol	4.985	0.20	5	0	99.7	49-120	0			
2,4-Dimethylphenol	4.508	0.20	5	0	90.2	35-120	0			
2,4-Dinitrophenol	5.194	1.0	5	0	104	15-120	0			
2,4-Dinitrotoluene	5.875	0.20	5	0	118	50-122	0			
2,6-Dinitrotoluene	5.992	0.20	5	0	120	50-120	0			
2-Chloronaphthalene	5.608	0.20	5	0	112	50-120	0			
2-Chlorophenol	4.446	0.20	5	0	88.9	40-120	0			
2-Methylnaphthalene	4.727	0.20	5	0	94.5	50-120	0			
2-Methylphenol	4.395	0.20	5	0	87.9	45-120	0			
2-Nitroaniline	4.575	0.20	5	0	91.5	28-139	0			
2-Nitrophenol	5.063	0.20	5	0	101	40-120	0			
3&4-Methylphenol	4.364	0.20	5	0	87.3	35-120	0			
3,3'-Dichlorobenzidine	5.099	0.20	5	0	102	15-120	0			
3-Nitroaniline	4.759	0.20	5	0	95.2	30-120	0			
4,6-Dinitro-2-methylphenol	4.836	0.20	5	0	96.7	25-121	0			
4-Bromophenyl phenyl ether	5.392	0.20	5	0	108	45-120	0			
4-Chloro-3-methylphenol	4.479	0.20	5	0	89.6	47-120	0			
4-Chloroaniline	4.744	0.20	5	0	94.9	20-120	0			
4-Chlorophenyl phenyl ether	5.683	0.20	5	0	114	50-120	0			
4-Nitroaniline	5.439	0.20	5	0	109	30-133	0			
4-Nitrophenol	4.499	1.0	5	0	90	30-130	0			
Acenaphthene	4.522	0.20	5	0	90.4	45-120	0			
Acenaphthylene	5.133	0.20	5	0	103	47-120	0			
Acetophenone	3.237	0.20	5	0	64.7	40-120	0			
Anthracene	5.526	0.20	5	0	111	45-120	0			
Atrazine	4.509	0.20	5	0	90.2	40-130	0			
Benz(a)anthracene	4.784	0.20	5	0	95.7	40-120	0			
Benzaldehyde	1.797	0.20	5	0	35.9	15-120	0			
Benzo(a)pyrene	4.988	0.20	5	0	99.8	45-120	0			
Benzo(b)fluoranthene	5.322	0.20	5	0	106	50-120	0			
Benzo(g,h,i)perylene	4.937	0.20	5	0	98.7	42-127	0			
Benzo(k)fluoranthene	4.817	0.20	5	0	96.3	45-127	0			
Bis(2-chloroethoxy)methane	4.276	0.20	5	0	85.5	45-120	0			
Bis(2-chloroethyl)ether	4.146	0.20	5	0	82.9	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	4.161	0.20	5	0	83.2	40-120	0	
Bis(2-ethylhexyl)phthalate	4.728	0.20	5	0	94.6	40-139	0	
Butyl benzyl phthalate	5.108	0.20	5	0	102	47-123	0	
Caprolactam	4.734	0.20	5	0	94.7	35-134	0	
Carbazole	5.745	0.20	5	0	115	42-128	0	
Chrysene	4.876	0.20	5	0	97.5	43-120	0	
Dibenz(a,h)anthracene	4.92	0.20	5	0	98.4	45-125	0	
Dibenzofuran	5.367	0.20	5	0	107	50-120	0	
Diethyl phthalate	5.381	0.20	5	0	108	41-120	0	
Dimethyl phthalate	4.788	0.20	5	0	95.8	40-122	0	
Di-n-butyl phthalate	5.29	0.20	5	0	106	45-123	0	
Di-n-octyl phthalate	5.174	0.20	5	0	103	45-129	0	
Fluoranthene	5.89	0.20	5	0	118	45-125	0	
Fluorene	5.594	0.20	5	0	112	49-120	0	
Hexachlorobenzene	5.502	0.20	5	0	110	48-120	0	
Hexachlorobutadiene	5.095	0.20	5	0	102	40-120	0	
Hexachlorocyclopentadiene	4.933	0.20	5	0	98.7	34-136	0	
Hexachloroethane	4.178	0.20	5	0	83.6	40-120	0	
Indeno(1,2,3-cd)pyrene	4.91	0.20	5	0	98.2	41-128	0	
Isophorone	3.883	0.20	5	0	77.7	40-121	0	
Naphthalene	4.598	0.20	5	0	92	45-120	0	
Nitrobenzene	4.104	0.20	5	0	82.1	44-120	0	
N-Nitrosodi-n-propylamine	3.95	0.20	5	0	79	40-120	0	
N-Nitrosodiphenylamine	5.419	0.20	5	0	108	40-125	0	
Pentachlorophenol	5.455	0.20	5	0	109	19-121	0	
Phenanthrene	4.442	0.20	5	0	88.8	45-121	0	
Phenol	4.225	0.20	5	0	84.5	20-124	0	
Pyrene	4.847	0.20	5	0	96.9	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	5.657	0.20	5	0	113	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.526	0.20	5	0	90.5	40-125	0	
<i>Surr: 2-Fluorophenol</i>	4.101	0.20	5	0	82	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	5.328	0.20	5	0	107	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.993	0.20	5	0	79.9	41-120	0	
<i>Surr: Phenol-d6</i>	3.939	0.20	5	0	78.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

LCSD		Sample ID: SLCSDW2-130225-68043				Units: µg/L		Analysis Date: 2/25/2013 06:24 PM		
Client ID:		Run ID: SV-6_130225B				SeqNo: 3125686		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.492	0.20	5	0	89.8	45-125	4.52	0.633	20	
1-Methylnaphthalene	3.923	0.20	5	0	78.5	45-120	4.702	18.1	20	
2,4,5-Trichlorophenol	4.977	0.20	5	0	99.5	46-120	5.858	16.3	20	
2,4,6-Trichlorophenol	5.006	0.20	5	0	100	42-120	5.609	11.4	20	
2,4-Dichlorophenol	4.093	0.20	5	0	81.9	49-120	4.985	19.7	20	
2,4-Dimethylphenol	3.778	0.20	5	0	75.6	35-120	4.508	17.6	20	
2,4-Dinitrophenol	5.233	1.0	5	0	105	15-120	5.194	0.756	50	
2,4-Dinitrotoluene	5.012	0.20	5	0	100	50-122	5.875	15.9	20	
2,6-Dinitrotoluene	5.134	0.20	5	0	103	50-120	5.992	15.4	20	
2-Chloronaphthalene	4.479	0.20	5	0	89.6	50-120	5.608	22.4	20	R
2-Chlorophenol	4.511	0.20	5	0	90.2	40-120	4.446	1.45	20	
2-Methylnaphthalene	4.013	0.20	5	0	80.3	50-120	4.727	16.3	20	
2-Methylphenol	4.39	0.20	5	0	87.8	45-120	4.395	0.113	20	
2-Nitroaniline	4.614	0.20	5	0	92.3	28-139	4.575	0.84	20	
2-Nitrophenol	4.143	0.20	5	0	82.9	40-120	5.063	20	20	
3&4-Methylphenol	4.408	0.20	5	0	88.2	35-120	4.364	1	20	
3,3'-Dichlorobenzidine	5.182	0.20	5	0	104	15-120	5.099	1.62	20	
3-Nitroaniline	5.031	0.20	5	0	101	30-120	4.759	5.56	20	
4,6-Dinitro-2-methylphenol	4.941	0.20	5	0	98.8	25-121	4.836	2.14	30	
4-Bromophenyl phenyl ether	5.014	0.20	5	0	100	45-120	5.392	7.27	20	
4-Chloro-3-methylphenol	3.789	0.20	5	0	75.8	47-120	4.479	16.7	20	
4-Chloroaniline	4.733	0.20	5	0	94.7	20-120	4.744	0.219	20	
4-Chlorophenyl phenyl ether	4.912	0.20	5	0	98.2	50-120	5.683	14.5	20	
4-Nitroaniline	4.589	0.20	5	0	91.8	30-133	5.439	17	20	
4-Nitrophenol	4.218	1.0	5	0	84.4	30-130	4.499	6.46	20	
Acenaphthene	5.015	0.20	5	0	100	45-120	4.522	10.3	20	
Acenaphthylene	5.475	0.20	5	0	109	47-120	5.133	6.44	20	
Acetophenone	2.703	0.20	5	0	54.1	40-120	3.237	18	20	
Anthracene	4.655	0.20	5	0	93.1	45-120	5.526	17.1	20	
Atrazine	5.025	0.20	5	0	100	40-130	4.509	10.8	20	
Benz(a)anthracene	4.799	0.20	5	0	96	40-120	4.784	0.325	20	
Benzaldehyde	1.643	0.20	5	0	32.9	15-120	1.797	8.99	30	
Benzo(a)pyrene	4.838	0.20	5	0	96.8	45-120	4.988	3.05	20	
Benzo(b)fluoranthene	4.962	0.20	5	0	99.2	50-120	5.322	7	20	
Benzo(g,h,i)perylene	5.25	0.20	5	0	105	42-127	4.937	6.15	20	
Benzo(k)fluoranthene	4.896	0.20	5	0	97.9	45-127	4.817	1.61	20	
Bis(2-chloroethoxy)methane	3.641	0.20	5	0	72.8	45-120	4.276	16	20	
Bis(2-chloroethyl)ether	4.191	0.20	5	0	83.8	37-121	4.146	1.07	20	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	4.261	0.20	5	0	85.2	40-120	4.161	2.36	20
Bis(2-ethylhexyl)phthalate	4.093	0.20	5	0	81.9	40-139	4.728	14.4	20
Butyl benzyl phthalate	5.081	0.20	5	0	102	47-123	5.108	0.539	20
Caprolactam	3.908	0.20	5	0	78.2	35-134	4.734	19.1	20
Carbazole	4.559	0.20	5	0	91.2	42-128	5.745	23	20 R
Chrysene	4.342	0.20	5	0	86.8	43-120	4.876	11.6	20
Dibenz(a,h)anthracene	4.603	0.20	5	0	92.1	45-125	4.92	6.67	20
Dibenzofuran	4.78	0.20	5	0	95.6	50-120	5.367	11.6	20
Diethyl phthalate	4.572	0.20	5	0	91.4	41-120	5.381	16.2	20
Dimethyl phthalate	4.713	0.20	5	0	94.3	40-122	4.788	1.57	20
Di-n-butyl phthalate	4.585	0.20	5	0	91.7	45-123	5.29	14.3	20
Di-n-octyl phthalate	4.446	0.20	5	0	88.9	45-129	5.174	15.1	20
Fluoranthene	4.819	0.20	5	0	96.4	45-125	5.89	20	20 R
Fluorene	4.719	0.20	5	0	94.4	49-120	5.594	17	20
Hexachlorobenzene	5.076	0.20	5	0	102	48-120	5.502	8.05	20
Hexachlorobutadiene	4.28	0.20	5	0	85.6	40-120	5.095	17.4	20
Hexachlorocyclopentadiene	4.974	0.20	5	0	99.5	34-136	4.933	0.832	20
Hexachloroethane	4.178	0.20	5	0	83.6	40-120	4.178	0.0114	20
Indeno(1,2,3-cd)pyrene	4.774	0.20	5	0	95.5	41-128	4.91	2.8	20
Isophorone	3.248	0.20	5	0	65	40-121	3.883	17.8	20
Naphthalene	4.709	0.20	5	0	94.2	45-120	4.598	2.38	20
Nitrobenzene	3.448	0.20	5	0	69	44-120	4.104	17.4	20
N-Nitrosodi-n-propylamine	3.982	0.20	5	0	79.6	40-120	3.95	0.802	20
N-Nitrosodiphenylamine	4.626	0.20	5	0	92.5	40-125	5.419	15.8	20
Pentachlorophenol	5.996	0.20	5	0	120	19-121	5.455	9.46	20
Phenanthrene	4.568	0.20	5	0	91.4	45-121	4.442	2.79	20
Phenol	4.214	0.20	5	0	84.3	20-124	4.225	0.257	20
Pyrene	4.112	0.20	5	0	82.2	40-130	4.847	16.4	20
<i>Surr: 2,4,6-Tribromophenol</i>	5.364	0.20	5	0	107	34-129	5.657	5.31	0
<i>Surr: 2-Fluorobiphenyl</i>	4.552	0.20	5	0	91	40-125	4.526	0.571	0
<i>Surr: 2-Fluorophenol</i>	4.162	0.20	5	0	83.2	20-120	4.101	1.49	0
<i>Surr: 4-Terphenyl-d14</i>	4.839	0.20	5	0	96.8	40-135	5.328	9.63	0
<i>Surr: Nitrobenzene-d5</i>	3.347	0.20	5	0	66.9	41-120	3.993	17.6	0
<i>Surr: Phenol-d6</i>	4.003	0.20	5	0	80.1	20-120	3.939	1.61	0

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MS		Sample ID: 1302789-03FMS				Units: µg/L		Analysis Date: 2/27/2013 12:55 AM		
Client ID:		Run ID: SV-6_130225B				SeqNo: 3125736		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.115	0.20	5	0	82.3	45-125	0			
1-Methylnaphthalene	4.261	0.20	5	0	85.2	45-120	0			
2,4,5-Trichlorophenol	4.798	0.20	5	0	96	46-120	0			
2,4,6-Trichlorophenol	4.486	0.20	5	0	89.7	42-120	0			
2,4-Dichlorophenol	4.523	0.20	5	0	90.5	49-120	0			
2,4-Dimethylphenol	4.101	0.20	5	0	82	35-120	0			
2,4-Dinitrophenol	4.691	1.0	5	0	93.8	15-120	0			
2,4-Dinitrotoluene	4.794	0.20	5	0	95.9	50-122	0			
2,6-Dinitrotoluene	6.479	0.20	5	0	130	50-120	0			S
2-Chloronaphthalene	4.079	0.20	5	0	81.6	50-120	0			
2-Chlorophenol	4.011	0.20	5	0	80.2	40-120	0			
2-Methylnaphthalene	4.336	0.20	5	0	86.7	50-120	0			
2-Methylphenol	4.112	0.20	5	0	82.2	45-120	0			
2-Nitroaniline	4.264	0.20	5	0	85.3	28-139	0			
2-Nitrophenol	3.82	0.20	5	0	76.4	40-120	0			
3&4-Methylphenol	4.155	0.20	5	0	83.1	35-120	0			
3,3'-Dichlorobenzidine	4.271	0.20	5	0	85.4	15-120	0			
3-Nitroaniline	4.579	0.20	5	0	91.6	30-120	0			
4,6-Dinitro-2-methylphenol	4.556	0.20	5	0	91.1	25-121	0			
4-Bromophenyl phenyl ether	4.641	0.20	5	0	92.8	45-120	0			
4-Chloro-3-methylphenol	4.373	0.20	5	0	87.5	47-120	0			
4-Chloroaniline	4.379	0.20	5	0	87.6	20-120	0			
4-Chlorophenyl phenyl ether	4.53	0.20	5	0	90.6	50-120	0			
4-Nitroaniline	4.414	0.20	5	0	88.3	30-133	0			
4-Nitrophenol	4.417	1.0	5	0	88.3	30-130	0			
Acenaphthene	4.16	0.20	5	0	83.2	45-120	0			
Acenaphthylene	4.343	0.20	5	0	86.9	47-120	0			
Acetophenone	2.852	0.20	5	0	57	40-120	0			
Anthracene	4.454	0.20	5	0	89.1	45-120	0			
Atrazine	3.98	0.20	5	0	79.6	40-130	0			
Benz(a)anthracene	4.495	0.20	5	0	89.9	40-120	0			
Benzaldehyde	0.2136	0.20	5	0	4.27	15-120	0			S
Benzo(a)pyrene	4.638	0.20	5	0	92.8	45-120	0			
Benzo(b)fluoranthene	5.009	0.20	5	0	100	50-120	0			
Benzo(g,h,i)perylene	4.526	0.20	5	0	90.5	42-127	0			
Benzo(k)fluoranthene	4.22	0.20	5	0	84.4	45-127	0			
Bis(2-chloroethoxy)methane	4.035	0.20	5	0	80.7	45-120	0			
Bis(2-chloroethyl)ether	3.936	0.20	5	0	78.7	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	3.975	0.20	5	0	79.5	40-120	0	
Bis(2-ethylhexyl)phthalate	4.797	0.20	5	0.1311	93.3	40-139	0	
Butyl benzyl phthalate	4.718	0.20	5	0	94.4	47-123	0	
Caprolactam	4.768	0.20	5	0	95.4	35-134	0	
Carbazole	4.707	0.20	5	0	94.1	42-128	0	
Chrysene	4.544	0.20	5	0	90.9	43-120	0	
Dibenz(a,h)anthracene	4.663	0.20	5	0	93.3	45-125	0	
Dibenzofuran	4.384	0.20	5	0	87.7	50-120	0	
Diethyl phthalate	4.397	0.20	5	0	87.9	41-120	0	
Dimethyl phthalate	4.393	0.20	5	0	87.9	40-122	0	
Di-n-butyl phthalate	4.621	0.20	5	0	92.4	45-123	0	
Di-n-octyl phthalate	4.763	0.20	5	0	95.3	45-129	0	
Fluoranthene	4.694	0.20	5	0	93.9	45-125	0	
Fluorene	4.367	0.20	5	0	87.3	49-120	0	
Hexachlorobenzene	4.685	0.20	5	0	93.7	48-120	0	
Hexachlorobutadiene	4.432	0.20	5	0	88.6	40-120	0	
Hexachlorocyclopentadiene	4.333	0.20	5	0	86.7	34-136	0	
Hexachloroethane	3.811	0.20	5	0	76.2	40-120	0	
Indeno(1,2,3-cd)pyrene	4.617	0.20	5	0	92.3	41-128	0	
Isophorone	3.585	0.20	5	0	71.7	40-121	0	
Naphthalene	4.191	0.20	5	0.03839	83.1	45-120	0	
Nitrobenzene	3.68	0.20	5	0	73.6	44-120	0	
N-Nitrosodi-n-propylamine	3.748	0.20	5	0	75	40-120	0	
N-Nitrosodiphenylamine	4.359	0.20	5	0	87.2	40-125	0	
Pentachlorophenol	4.888	0.20	5	0	97.8	19-121	0	
Phenanthrene	4.384	0.20	5	0	87.7	45-121	0	
Phenol	3.878	0.20	5	0.06349	76.3	20-124	0	
Pyrene	4.479	0.20	5	0	89.6	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	4.775	0.20	5	0	95.5	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.016	0.20	5	0	80.3	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.524	0.20	5	0	70.5	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.853	0.20	5	0	97.1	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.533	0.20	5	0	70.7	41-120	0	
<i>Surr: Phenol-d6</i>	3.515	0.20	5	0	70.3	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MSD		Sample ID: 1302789-03FMSD				Units: µg/L		Analysis Date: 2/27/2013 01:15 AM		
Client ID:		Run ID: SV-6_130225B				SeqNo: 3125738		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.02	0.20	5	0	80.4	45-125	4.115	2.34	20	
1-Methylnaphthalene	4.254	0.20	5	0	85.1	45-120	4.261	0.157	20	
2,4,5-Trichlorophenol	4.287	0.20	5	0	85.7	46-120	4.798	11.3	20	
2,4,6-Trichlorophenol	4.53	0.20	5	0	90.6	42-120	4.486	0.982	20	
2,4-Dichlorophenol	4.348	0.20	5	0	87	49-120	4.523	3.93	20	
2,4-Dimethylphenol	3.971	0.20	5	0	79.4	35-120	4.101	3.23	20	
2,4-Dinitrophenol	4.509	1.0	5	0	90.2	15-120	4.691	3.96	50	
2,4-Dinitrotoluene	4.583	0.20	5	0	91.7	50-122	4.794	4.5	20	
2,6-Dinitrotoluene	6.119	0.20	5	0	122	50-120	6.479	5.7	20	S
2-Chloronaphthalene	4.481	0.20	5	0	89.6	50-120	4.079	9.39	20	
2-Chlorophenol	3.899	0.20	5	0	78	40-120	4.011	2.84	20	
2-Methylnaphthalene	4.3	0.20	5	0	86	50-120	4.336	0.822	20	
2-Methylphenol	3.921	0.20	5	0	78.4	45-120	4.112	4.76	20	
2-Nitroaniline	4.177	0.20	5	0	83.5	28-139	4.264	2.06	20	
2-Nitrophenol	3.792	0.20	5	0	75.8	40-120	3.82	0.746	20	
3&4-Methylphenol	3.974	0.20	5	0	79.5	35-120	4.155	4.44	20	
3,3'-Dichlorobenzidine	4.239	0.20	5	0	84.8	15-120	4.271	0.755	20	
3-Nitroaniline	4.36	0.20	5	0	87.2	30-120	4.579	4.9	20	
4,6-Dinitro-2-methylphenol	4.415	0.20	5	0	88.3	25-121	4.556	3.14	20	
4-Bromophenyl phenyl ether	4.471	0.20	5	0	89.4	45-120	4.641	3.72	20	
4-Chloro-3-methylphenol	4.241	0.20	5	0	84.8	47-120	4.373	3.08	20	
4-Chloroaniline	4.293	0.20	5	0	85.9	20-120	4.379	2	20	
4-Chlorophenyl phenyl ether	4.383	0.20	5	0	87.7	50-120	4.53	3.3	20	
4-Nitroaniline	4.293	0.20	5	0	85.9	30-133	4.414	2.77	20	
4-Nitrophenol	3.672	1.0	5	0	73.4	30-130	4.417	18.4	20	
Acenaphthene	4.032	0.20	5	0	80.6	45-120	4.16	3.14	20	
Acenaphthylene	4.176	0.20	5	0	83.5	47-120	4.343	3.92	20	
Acetophenone	2.86	0.20	5	0	57.2	40-120	2.852	0.267	20	
Anthracene	4.334	0.20	5	0	86.7	45-120	4.454	2.73	20	
Atrazine	3.94	0.20	5	0	78.8	40-130	3.98	1	20	
Benz(a)anthracene	4.404	0.20	5	0	88.1	40-120	4.495	2.03	20	
Benzaldehyde	0.2044	0.20	5	0	4.09	15-120	0.2136	4.4	30	S
Benzo(a)pyrene	4.392	0.20	5	0	87.8	45-120	4.638	5.44	20	
Benzo(b)fluoranthene	4.677	0.20	5	0	93.5	50-120	5.009	6.85	20	
Benzo(g,h,i)perylene	4.364	0.20	5	0	87.3	42-127	4.526	3.63	20	
Benzo(k)fluoranthene	4.077	0.20	5	0	81.5	45-127	4.22	3.46	20	
Bis(2-chloroethoxy)methane	3.931	0.20	5	0	78.6	45-120	4.035	2.61	20	
Bis(2-chloroethyl)ether	3.817	0.20	5	0	76.3	37-121	3.936	3.05	20	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.807	0.20	5	0	76.1	40-120	3.975	4.3	20
Bis(2-ethylhexyl)phthalate	4.606	0.20	5	0.1311	89.5	40-139	4.797	4.06	20
Butyl benzyl phthalate	4.513	0.20	5	0	90.3	47-123	4.718	4.44	20
Caprolactam	4.735	0.20	5	0	94.7	35-134	4.768	0.682	20
Carbazole	4.497	0.20	5	0	89.9	42-128	4.707	4.57	20
Chrysene	4.313	0.20	5	0	86.3	43-120	4.544	5.22	20
Dibenz(a,h)anthracene	4.479	0.20	5	0	89.6	45-125	4.663	4.03	20
Dibenzofuran	4.253	0.20	5	0	85.1	50-120	4.384	3.04	20
Diethyl phthalate	4.268	0.20	5	0	85.4	41-120	4.397	2.97	20
Dimethyl phthalate	4.242	0.20	5	0	84.8	40-122	4.393	3.5	20
Di-n-butyl phthalate	4.501	0.20	5	0	90	45-123	4.621	2.63	20
Di-n-octyl phthalate	4.525	0.20	5	0	90.5	45-129	4.763	5.13	20
Fluoranthene	4.579	0.20	5	0	91.6	45-125	4.694	2.49	20
Fluorene	4.247	0.20	5	0	84.9	49-120	4.367	2.8	20
Hexachlorobenzene	4.557	0.20	5	0	91.1	48-120	4.685	2.77	20
Hexachlorobutadiene	4.382	0.20	5	0	87.6	40-120	4.432	1.12	20
Hexachlorocyclopentadiene	4.282	0.20	5	0	85.6	34-136	4.333	1.19	20
Hexachloroethane	3.703	0.20	5	0	74.1	40-120	3.811	2.88	20
Indeno(1,2,3-cd)pyrene	4.356	0.20	5	0	87.1	41-128	4.617	5.82	20
Isophorone	3.555	0.20	5	0	71.1	40-121	3.585	0.851	20
Naphthalene	4.16	0.20	5	0.03839	82.4	45-120	4.191	0.734	20
Nitrobenzene	3.673	0.20	5	0	73.5	44-120	3.68	0.172	20
N-Nitrosodi-n-propylamine	3.617	0.20	5	0	72.3	40-120	3.748	3.56	20
N-Nitrosodiphenylamine	4.286	0.20	5	0	85.7	40-125	4.359	1.69	20
Pentachlorophenol	4.696	0.20	5	0	93.9	19-121	4.888	3.99	20
Phenanthrene	4.252	0.20	5	0	85	45-121	4.384	3.06	20
Phenol	3.742	0.20	5	0.06349	73.6	20-124	3.878	3.56	20
Pyrene	4.319	0.20	5	0	86.4	40-130	4.479	3.63	20
<i>Surr: 2,4,6-Tribromophenol</i>	4.587	0.20	5	0	91.7	34-129	4.775	4.01	0
<i>Surr: 2-Fluorobiphenyl</i>	3.878	0.20	5	0	77.6	40-125	4.016	3.49	0
<i>Surr: 2-Fluorophenol</i>	3.348	0.20	5	0	67	20-120	3.524	5.14	0
<i>Surr: 4-Terphenyl-d14</i>	4.613	0.20	5	0	92.3	40-135	4.853	5.07	0
<i>Surr: Nitrobenzene-d5</i>	3.488	0.20	5	0	69.8	41-120	3.533	1.28	0
<i>Surr: Phenol-d6</i>	3.381	0.20	5	0	67.6	20-120	3.515	3.89	0

The following samples were analyzed in this batch:

1302746-01F	1302746-02F	1302746-03F

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130222-R143203** Units: **µg/L** Analysis Date: **2/22/2013 11:56 AM**
 Client ID: Run ID: **VOA1_130222A** SeqNo: **3122607** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203	Instrument ID VOA1	Method: SW8260						
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	50.58	5.0	50	0	101	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.23	5.0	50	0	98.5	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.94	5.0	50	0	104	71-125	0	
<i>Surr: Toluene-d8</i>	48.39	5.0	50	0	96.8	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130222-R143203				Units: µg/L		Analysis Date: 2/22/2013 10:42 AM		
Client ID:		Run ID: VOA1_130222A				SeqNo: 3122606		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	56.21	5.0	50	0	112	80-120	0			
1,1,2,2-Tetrachloroethane	50.01	5.0	50	0	100	72-120	0			
1,1,2-Trichloroethane	52.17	5.0	50	0	104	80-120	0			
1,1-Dichloroethane	54.18	5.0	50	0	108	76-120	0			
1,1-Dichloroethene	55.72	5.0	50	0	111	73-124	0			
1,2,4-Trimethylbenzene	49.05	5.0	50	0	98.1	68-123	0			
1,2-Dibromoethane	50.14	5.0	50	0	100	80-120	0			
1,2-Dichloroethane	50.76	5.0	50	0	102	78-120	0			
1,2-Dichloropropane	52.57	5.0	50	0	105	80-120	0			
1,3,5-Trimethylbenzene	51.48	5.0	50	0	103	80-120	0			
2-Butanone	105.8	10	100	0	106	58-132	0			
2-Hexanone	95.99	10	100	0	96	61-130	0			
4-Isopropyltoluene	47.9	5.0	50	0	95.8	79-120	0			
4-Methyl-2-pentanone	99.85	10	100	0	99.8	65-127	0			
Acetone	110	10	100	0	110	59-137	0			
Benzene	51.71	5.0	50	0	103	73-121	0			
Bromodichloromethane	53.05	5.0	50	0	106	80-120	0			
Bromoform	50.66	5.0	50	0	101	79-120	0			
Bromomethane	73.26	5.0	50	0	147	66-137	0			S
Carbon disulfide	112.8	10	100	0	113	68-141	0			
Carbon tetrachloride	52.87	5.0	50	0	106	75-124	0			
Chlorobenzene	51.43	5.0	50	0	103	80-120	0			
Chloroethane	58.28	5.0	50	0	117	76-121	0			
Chloroform	55.61	5.0	50	0	111	80-120	0			
Chloromethane	59.77	5.0	50	0	120	67-123	0			
cis-1,2-Dichloroethene	57.26	5.0	50	0	115	78-120	0			
cis-1,3-Dichloropropene	50.44	5.0	50	0	101	80-120	0			
Dibromochloromethane	50.63	5.0	50	0	101	80-120	0			
Ethylbenzene	49.74	5.0	50	0	99.5	80-120	0			
Isopropylbenzene	48.46	5.0	50	0	96.9	80-120	0			
m,p-Xylene	103.9	10	100	0	104	78-121	0			
Methyl tert-butyl ether	54.14	5.0	50	0	108	73-121	0			
Methylene chloride	55.13	10	50	0	110	65-133	0			
Naphthalene	51.53	5.0	50	0	103	65-135	0			
n-Butylbenzene	45.44	5.0	50	0	90.9	77-120	0			
n-Propylbenzene	48.09	5.0	50	0	96.2	78-120	0			
o-Xylene	54.97	5.0	50	0	110	80-120	0			
sec-Butylbenzene	50.11	5.0	50	0	100	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203		Instrument ID VOA1		Method: SW8260				
Styrene	54.65	5.0	50	0	109	80-120	0	
Tetrachloroethene	52.32	5.0	50	0	105	79-120	0	
Toluene	51.83	5.0	50	0	104	80-120	0	
trans-1,2-Dichloroethene	57.38	5.0	50	0	115	78-120	0	
trans-1,3-Dichloropropene	50.95	5.0	50	0	102	80-120	0	
Trichloroethene	52.65	5.0	50	0	105	80-120	0	
Vinyl chloride	53.14	2.0	50	0	106	70-127	0	
Xylenes, Total	158.9	15	150	0	106	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	52.31	5.0	50	0	105	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	50.94	5.0	50	0	102	72-125	0	
<i>Surr: Dibromofluoromethane</i>	55.14	5.0	50	0	110	71-125	0	
<i>Surr: Toluene-d8</i>	49.2	5.0	50	0	98.4	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MS				Sample ID: 1302675-01AMS		Units: µg/L		Analysis Date: 2/22/2013 04:04 PM		
Client ID:		Run ID: VOA1_130222A			SeqNo: 3122611		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.14	5.0	50	0	102	80-120	0			
1,1,2,2-Tetrachloroethane	47.72	5.0	50	0	95.4	72-120	0			
1,1,2-Trichloroethane	48.88	5.0	50	0	97.8	80-120	0			
1,1-Dichloroethane	52.47	5.0	50	0	105	76-120	0			
1,1-Dichloroethene	51.18	5.0	50	0	102	73-124	0			
1,2,4-Trimethylbenzene	44.83	5.0	50	0	89.7	68-123	0			
1,2-Dibromoethane	50.15	5.0	50	0	100	80-120	0			
1,2-Dichloroethane	48.3	5.0	50	0	96.6	78-120	0			
1,2-Dichloropropane	46.98	5.0	50	0	94	80-120	0			
1,3,5-Trimethylbenzene	45.02	5.0	50	0	90	80-120	0			
2-Butanone	102.4	10	100	0	102	58-132	0			
2-Hexanone	102.3	10	100	0	102	61-130	0			
4-Isopropyltoluene	42.71	5.0	50	0	85.4	79-120	0			
4-Methyl-2-pentanone	112.2	10	100	0	112	65-127	0			
Acetone	108.9	10	100	0	109	59-137	0			
Benzene	53.62	5.0	50	5.229	96.8	73-121	0			
Bromodichloromethane	47.58	5.0	50	0	95.2	80-120	0			
Bromoform	50.83	5.0	50	0	102	79-120	0			
Bromomethane	61.22	5.0	50	0	122	66-137	0			
Carbon disulfide	97.42	10	100	0	97.4	68-141	0			
Carbon tetrachloride	45.94	5.0	50	0	91.9	75-124	0			
Chlorobenzene	49.56	5.0	50	0	99.1	80-120	0			
Chloroethane	46.52	5.0	50	0	93	76-121	0			
Chloroform	52.88	5.0	50	0	106	80-120	0			
Chloromethane	49.34	5.0	50	0	98.7	67-123	0			
cis-1,2-Dichloroethene	52.36	5.0	50	0	105	78-120	0			
cis-1,3-Dichloropropene	51.45	5.0	50	0	103	80-120	0			
Dibromochloromethane	47.95	5.0	50	0	95.9	80-120	0			
Ethylbenzene	47.92	5.0	50	0	95.8	80-120	0			
Isopropylbenzene	44.86	5.0	50	0	89.7	80-120	0			
m,p-Xylene	96.88	10	100	0	96.9	78-121	0			
Methyl tert-butyl ether	54.84	5.0	50	0	110	73-121	0			
Methylene chloride	54.7	10	50	0	109	65-133	0			
Naphthalene	46.98	5.0	50	0	94	65-135	0			
n-Butylbenzene	40.17	5.0	50	0	80.3	77-120	0			
n-Propylbenzene	43.17	5.0	50	0	86.3	78-120	0			
o-Xylene	50.92	5.0	50	0	102	80-120	0			
sec-Butylbenzene	43.76	5.0	50	0	87.5	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203		Instrument ID VOA1		Method: SW8260			
Styrene	49.58	5.0	50	0	99.2	80-120	0
Tetrachloroethene	47.08	5.0	50	0	94.2	79-120	0
Toluene	50.27	5.0	50	0	101	80-120	0
trans-1,2-Dichloroethene	53.63	5.0	50	0	107	78-120	0
trans-1,3-Dichloropropene	50.38	5.0	50	0	101	80-120	0
Trichloroethene	47.84	5.0	50	0	95.7	80-120	0
Vinyl chloride	45.86	2.0	50	0	91.7	70-127	0
Xylenes, Total	147.8	15	150	0	98.5	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	49.87	5.0	50	0	99.7	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	47.88	5.0	50	0	95.8	72-125	0
<i>Surr: Dibromofluoromethane</i>	52.9	5.0	50	0	106	71-125	0
<i>Surr: Toluene-d8</i>	52.95	5.0	50	0	106	75-125	0

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143203** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1302675-01AMSD				Units: µg/L		Analysis Date: 2/22/2013 04:29 PM		
Client ID:		Run ID: VOA1_130222A				SeqNo: 3122612		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	49.23	5.0	50	0	98.5	80-120	51.14	3.8	20	
1,1,2,2-Tetrachloroethane	50.94	5.0	50	0	102	72-120	47.72	6.53	20	
1,1,2-Trichloroethane	52.09	5.0	50	0	104	80-120	48.88	6.35	20	
1,1-Dichloroethane	53.19	5.0	50	0	106	76-120	52.47	1.36	20	
1,1-Dichloroethene	49.85	5.0	50	0	99.7	73-124	51.18	2.63	20	
1,2,4-Trimethylbenzene	46.38	5.0	50	0	92.8	68-123	44.83	3.39	20	
1,2-Dibromoethane	51.39	5.0	50	0	103	80-120	50.15	2.46	20	
1,2-Dichloroethane	52.62	5.0	50	0	105	78-120	48.3	8.55	20	
1,2-Dichloropropane	54.44	5.0	50	0	109	80-120	46.98	14.7	20	
1,3,5-Trimethylbenzene	47.67	5.0	50	0	95.3	80-120	45.02	5.71	20	
2-Butanone	106	10	100	0	106	58-132	102.4	3.45	20	
2-Hexanone	106.7	10	100	0	107	61-130	102.3	4.28	20	
4-Isopropyltoluene	44.3	5.0	50	0	88.6	79-120	42.71	3.65	20	
4-Methyl-2-pentanone	103.7	10	100	0	104	65-127	112.2	7.9	20	
Acetone	112.3	10	100	0	112	59-137	108.9	3.09	20	
Benzene	58.79	5.0	50	5.229	107	73-121	53.62	9.21	20	
Bromodichloromethane	54.35	5.0	50	0	109	80-120	47.58	13.3	20	
Bromoform	51.55	5.0	50	0	103	79-120	50.83	1.41	20	
Bromomethane	61.95	5.0	50	0	124	66-137	61.22	1.18	20	
Carbon disulfide	100.8	10	100	0	101	68-141	97.42	3.45	20	
Carbon tetrachloride	49.62	5.0	50	0	99.2	75-124	45.94	7.69	20	
Chlorobenzene	48.68	5.0	50	0	97.4	80-120	49.56	1.8	20	
Chloroethane	46.76	5.0	50	0	93.5	76-121	46.52	0.515	20	
Chloroform	51.82	5.0	50	0	104	80-120	52.88	2.04	20	
Chloromethane	45.9	5.0	50	0	91.8	67-123	49.34	7.22	20	
cis-1,2-Dichloroethene	51.85	5.0	50	0	104	78-120	52.36	0.966	20	
cis-1,3-Dichloropropene	53.52	5.0	50	0	107	80-120	51.45	3.95	20	
Dibromochloromethane	49.52	5.0	50	0	99	80-120	47.95	3.23	20	
Ethylbenzene	47.88	5.0	50	0	95.8	80-120	47.92	0.087	20	
Isopropylbenzene	48.69	5.0	50	0	97.4	80-120	44.86	8.19	20	
m,p-Xylene	94.09	10	100	0	94.1	78-121	96.88	2.92	20	
Methyl tert-butyl ether	49.1	5.0	50	0	98.2	73-121	54.84	11	20	
Methylene chloride	49.44	10	50	0	98.9	65-133	54.7	10.1	20	
Naphthalene	50.25	5.0	50	0	101	65-135	46.98	6.74	20	
n-Butylbenzene	42.32	5.0	50	0	84.6	77-120	40.17	5.2	20	
n-Propylbenzene	45.64	5.0	50	0	91.3	78-120	43.17	5.55	20	
o-Xylene	51.13	5.0	50	0	102	80-120	50.92	0.405	20	
sec-Butylbenzene	44.17	5.0	50	0	88.3	78-120	43.76	0.927	20	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143203	Instrument ID VOA1			Method: SW8260					
Styrene	50.78	5.0	50	0	102	80-120	49.58	2.4	20
Tetrachloroethene	48.78	5.0	50	0	97.6	79-120	47.08	3.55	20
Toluene	48.32	5.0	50	0	96.6	80-120	50.27	3.95	20
trans-1,2-Dichloroethene	51.07	5.0	50	0	102	78-120	53.63	4.89	20
trans-1,3-Dichloropropene	50.84	5.0	50	0	102	80-120	50.38	0.91	20
Trichloroethene	55.05	5.0	50	0	110	80-120	47.84	14	20
Vinyl chloride	46.11	2.0	50	0	92.2	70-127	45.86	0.527	20
Xylenes, Total	145.2	15	150	0	96.8	80-120	147.8	1.76	20
<i>Surr: 1,2-Dichloroethane-d4</i>	48.2	5.0	50	0	96.4	70-125	49.87	3.42	20
<i>Surr: 4-Bromofluorobenzene</i>	49.17	5.0	50	0	98.3	72-125	47.88	2.66	20
<i>Surr: Dibromofluoromethane</i>	48.85	5.0	50	0	97.7	71-125	52.9	7.96	20
<i>Surr: Toluene-d8</i>	48.48	5.0	50	0	97	75-125	52.95	8.81	20

The following samples were analyzed in this batch:

1302746-01A	1302746-02A

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130225-R143267** Units: **µg/L** Analysis Date: **2/25/2013 11:09 AM**

Client ID: Run ID: **VOA1_130225B** SeqNo: **3123934** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	51.54	5.0	50	0	103	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.78	5.0	50	0	99.6	72-125	0	
<i>Surr: Dibromofluoromethane</i>	53.04	5.0	50	0	106	71-125	0	
<i>Surr: Toluene-d8</i>	49.08	5.0	50	0	98.2	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

LCS				Sample ID: VLCSW-130225-R143267			Units: µg/L		Analysis Date: 2/25/2013 09:55 AM		
Client ID:		Run ID: VOA1_130225B			SeqNo: 3123933		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	55.63	5.0	50	0	111	80-120	0				
1,1,2,2-Tetrachloroethane	45.92	5.0	50	0	91.8	72-120	0				
1,1,2-Trichloroethane	49.53	5.0	50	0	99.1	80-120	0				
1,1-Dichloroethane	57.18	5.0	50	0	114	76-120	0				
1,1-Dichloroethene	57.18	5.0	50	0	114	73-124	0				
1,2,4-Trimethylbenzene	47.07	5.0	50	0	94.1	68-123	0				
1,2-Dibromoethane	47.25	5.0	50	0	94.5	80-120	0				
1,2-Dichloroethane	51.04	5.0	50	0	102	78-120	0				
1,2-Dichloropropane	51.6	5.0	50	0	103	80-120	0				
1,3,5-Trimethylbenzene	46.19	5.0	50	0	92.4	80-120	0				
2-Butanone	105.1	10	100	0	105	58-132	0				
2-Hexanone	93.1	10	100	0	93.1	61-130	0				
4-Isopropyltoluene	47.56	5.0	50	0	95.1	79-120	0				
4-Methyl-2-pentanone	94.95	10	100	0	95	65-127	0				
Acetone	107.4	10	100	0	107	59-137	0				
Benzene	51.7	5.0	50	0	103	73-121	0				
Bromodichloromethane	50.14	5.0	50	0	100	80-120	0				
Bromoform	48.84	5.0	50	0	97.7	79-120	0				
Bromomethane	67.18	5.0	50	0	134	66-137	0				
Carbon disulfide	102.4	10	100	0	102	68-141	0				
Carbon tetrachloride	49.97	5.0	50	0	99.9	75-124	0				
Chlorobenzene	48.45	5.0	50	0	96.9	80-120	0				
Chloroethane	53.38	5.0	50	0	107	76-121	0				
Chloroform	54.41	5.0	50	0	109	80-120	0				
Chloromethane	54.61	5.0	50	0	109	67-123	0				
cis-1,2-Dichloroethene	55.25	5.0	50	0	110	78-120	0				
cis-1,3-Dichloropropene	54.02	5.0	50	0	108	80-120	0				
Dibromochloromethane	49.08	5.0	50	0	98.2	80-120	0				
Ethylbenzene	48.8	5.0	50	0	97.6	80-120	0				
Isopropylbenzene	48	5.0	50	0	96	80-120	0				
m,p-Xylene	100.9	10	100	0	101	78-121	0				
Methyl tert-butyl ether	55.62	5.0	50	0	111	73-121	0				
Methylene chloride	54.33	10	50	0	109	65-133	0				
Naphthalene	49.88	5.0	50	0	99.8	65-135	0				
n-Butylbenzene	46.81	5.0	50	0	93.6	77-120	0				
n-Propylbenzene	46.5	5.0	50	0	93	78-120	0				
o-Xylene	46.72	5.0	50	0	93.4	80-120	0				
sec-Butylbenzene	48.01	5.0	50	0	96	78-120	0				

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260				
Styrene	45.68	5.0	50	0	91.4	80-120	0	
Tetrachloroethene	47.56	5.0	50	0	95.1	79-120	0	
Toluene	46.55	5.0	50	0	93.1	80-120	0	
trans-1,2-Dichloroethene	56.28	5.0	50	0	113	78-120	0	
trans-1,3-Dichloropropene	48.82	5.0	50	0	97.6	80-120	0	
Trichloroethene	52.54	5.0	50	0	105	80-120	0	
Vinyl chloride	53.85	2.0	50	0	108	70-127	0	
Xylenes, Total	147.6	15	150	0	98.4	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.55	5.0	50	0	97.1	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.64	5.0	50	0	99.3	72-125	0	
<i>Surr: Dibromofluoromethane</i>	53.74	5.0	50	0	107	71-125	0	
<i>Surr: Toluene-d8</i>	47.96	5.0	50	0	95.9	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 1302789-03AMS				Units: µg/L		Analysis Date: 2/25/2013 01:38 PM		
Client ID:		Run ID: VOA1_130225B				SeqNo: 3123940		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.42	5.0	50	0	101	80-120	0			
1,1,2,2-Tetrachloroethane	48	5.0	50	0	96	72-120	0			
1,1,2-Trichloroethane	50.79	5.0	50	0	102	80-120	0			
1,1-Dichloroethane	53.71	5.0	50	0	107	76-120	0			
1,1-Dichloroethene	53.35	5.0	50	0	107	73-124	0			
1,2,4-Trimethylbenzene	45.92	5.0	50	0	91.8	68-123	0			
1,2-Dibromoethane	49.53	5.0	50	0	99.1	80-120	0			
1,2-Dichloroethane	51.31	5.0	50	0	103	78-120	0			
1,2-Dichloropropane	52.78	5.0	50	0	106	80-120	0			
1,3,5-Trimethylbenzene	47.36	5.0	50	0	94.7	80-120	0			
2-Butanone	108.4	10	100	0	108	58-132	0			
2-Hexanone	105.8	10	100	0	106	61-130	0			
4-Isopropyltoluene	48.92	5.0	50	0	97.8	79-120	0			
4-Methyl-2-pentanone	118.4	10	100	0	118	65-127	0			
Acetone	115.3	10	100	15.78	99.5	59-137	0			
Benzene	51.28	5.0	50	0	103	73-121	0			
Bromodichloromethane	48.02	5.0	50	0	96	80-120	0			
Bromoform	49.3	5.0	50	0	98.6	79-120	0			
Bromomethane	66.24	5.0	50	0	132	66-137	0			
Carbon disulfide	101.3	10	100	0	101	68-141	0			
Carbon tetrachloride	48.93	5.0	50	0	97.9	75-124	0			
Chlorobenzene	49.85	5.0	50	0	99.7	80-120	0			
Chloroethane	51.59	5.0	50	0	103	76-121	0			
Chloroform	52.6	5.0	50	0	105	80-120	0			
Chloromethane	49.08	5.0	50	0	98.2	67-123	0			
cis-1,2-Dichloroethene	52.4	5.0	50	0	105	78-120	0			
cis-1,3-Dichloropropene	52.59	5.0	50	0	105	80-120	0			
Dibromochloromethane	50.28	5.0	50	0	101	80-120	0			
Ethylbenzene	50.96	5.0	50	0	102	80-120	0			
Isopropylbenzene	49.59	5.0	50	0	99.2	80-120	0			
m,p-Xylene	100.1	10	100	0	100	78-121	0			
Methyl tert-butyl ether	53.73	5.0	50	0	107	73-121	0			
Methylene chloride	52.65	10	50	0	105	65-133	0			
Naphthalene	49.76	5.0	50	0	99.5	65-135	0			
n-Butylbenzene	52.4	5.0	50	0	105	77-120	0			
n-Propylbenzene	48.29	5.0	50	0	96.6	78-120	0			
o-Xylene	52.14	5.0	50	0	104	80-120	0			
sec-Butylbenzene	51.94	5.0	50	0	104	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260			
Styrene	52.3	5.0	50	0	105	80-120	0
Tetrachloroethene	48.14	5.0	50	0	96.3	79-120	0
Toluene	45.45	5.0	50	0	90.9	80-120	0
trans-1,2-Dichloroethene	52.3	5.0	50	0	105	78-120	0
trans-1,3-Dichloropropene	50.58	5.0	50	0	101	80-120	0
Trichloroethene	48.48	5.0	50	0	97	80-120	0
Vinyl chloride	54.27	2.0	50	0	109	70-127	0
Xylenes, Total	152.2	15	150	0	101	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	47.83	5.0	50	0	95.7	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	53.76	5.0	50	0	108	72-125	0
<i>Surr: Dibromofluoromethane</i>	50.22	5.0	50	0	100	71-125	0
<i>Surr: Toluene-d8</i>	53.13	5.0	50	0	106	75-125	0

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1302789-03AMSD				Units: µg/L		Analysis Date: 2/25/2013 02:03 PM		
Client ID:		Run ID: VOA1_130225B				SeqNo: 3123941		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.23	5.0	50	0	102	80-120	50.42	1.6	20	
1,1,2,2-Tetrachloroethane	50.97	5.0	50	0	102	72-120	48	6	20	
1,1,2-Trichloroethane	49.02	5.0	50	0	98	80-120	50.79	3.55	20	
1,1-Dichloroethane	53.83	5.0	50	0	108	76-120	53.71	0.218	20	
1,1-Dichloroethene	52.89	5.0	50	0	106	73-124	53.35	0.857	20	
1,2,4-Trimethylbenzene	48.21	5.0	50	0	96.4	68-123	45.92	4.86	20	
1,2-Dibromoethane	47.34	5.0	50	0	94.7	80-120	49.53	4.52	20	
1,2-Dichloroethane	50.08	5.0	50	0	100	78-120	51.31	2.41	20	
1,2-Dichloropropane	52.6	5.0	50	0	105	80-120	52.78	0.353	20	
1,3,5-Trimethylbenzene	48.95	5.0	50	0	97.9	80-120	47.36	3.3	20	
2-Butanone	110.2	10	100	0	110	58-132	108.4	1.68	20	
2-Hexanone	105.6	10	100	0	106	61-130	105.8	0.189	20	
4-Isopropyltoluene	44.97	5.0	50	0	89.9	79-120	48.92	8.43	20	
4-Methyl-2-pentanone	117.9	10	100	0	118	65-127	118.4	0.378	20	
Acetone	122.6	10	100	15.78	107	59-137	115.3	6.15	20	
Benzene	50.53	5.0	50	0	101	73-121	51.28	1.47	20	
Bromodichloromethane	47.27	5.0	50	0	94.5	80-120	48.02	1.56	20	
Bromoform	48.66	5.0	50	0	97.3	79-120	49.3	1.31	20	
Bromomethane	67.55	5.0	50	0	135	66-137	66.24	1.97	20	
Carbon disulfide	106	10	100	0	106	68-141	101.3	4.61	20	
Carbon tetrachloride	46.39	5.0	50	0	92.8	75-124	48.93	5.34	20	
Chlorobenzene	48.71	5.0	50	0	97.4	80-120	49.85	2.31	20	
Chloroethane	52.98	5.0	50	0	106	76-121	51.59	2.66	20	
Chloroform	54.72	5.0	50	0	109	80-120	52.6	3.94	20	
Chloromethane	49.73	5.0	50	0	99.5	67-123	49.08	1.32	20	
cis-1,2-Dichloroethene	53.39	5.0	50	0	107	78-120	52.4	1.87	20	
cis-1,3-Dichloropropene	49.66	5.0	50	0	99.3	80-120	52.59	5.73	20	
Dibromochloromethane	47.21	5.0	50	0	94.4	80-120	50.28	6.31	20	
Ethylbenzene	46.43	5.0	50	0	92.9	80-120	50.96	9.31	20	
Isopropylbenzene	47.46	5.0	50	0	94.9	80-120	49.59	4.38	20	
m,p-Xylene	92.24	10	100	0	92.2	78-121	100.1	8.14	20	
Methyl tert-butyl ether	54.06	5.0	50	0	108	73-121	53.73	0.603	20	
Methylene chloride	54.63	10	50	0	109	65-133	52.65	3.69	20	
Naphthalene	52.06	5.0	50	0	104	65-135	49.76	4.53	20	
n-Butylbenzene	47.07	5.0	50	0	94.1	77-120	52.4	10.7	20	
n-Propylbenzene	46.69	5.0	50	0	93.4	78-120	48.29	3.36	20	
o-Xylene	47.59	5.0	50	0	95.2	80-120	52.14	9.13	20	
sec-Butylbenzene	46.43	5.0	50	0	92.9	78-120	51.94	11.2	20	

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1			Method: SW8260				
Styrene	48.35	5.0	50	0	96.7	80-120	52.3	7.85	20
Tetrachloroethene	46.88	5.0	50	0	93.8	79-120	48.14	2.66	20
Toluene	46.62	5.0	50	0	93.2	80-120	45.45	2.53	20
trans-1,2-Dichloroethene	52.44	5.0	50	0	105	78-120	52.3	0.276	20
trans-1,3-Dichloropropene	53.28	5.0	50	0	107	80-120	50.58	5.21	20
Trichloroethene	50.16	5.0	50	0	100	80-120	48.48	3.39	20
Vinyl chloride	54.17	2.0	50	0	108	70-127	54.27	0.169	20
Xylenes, Total	139.8	15	150	0	93.2	80-120	152.2	8.48	20
<i>Surr: 1,2-Dichloroethane-d4</i>	49.89	5.0	50	0	99.8	70-125	47.83	4.21	20
<i>Surr: 4-Bromofluorobenzene</i>	50.59	5.0	50	0	101	72-125	53.76	6.07	20
<i>Surr: Dibromofluoromethane</i>	51.42	5.0	50	0	103	71-125	50.22	2.37	20
<i>Surr: Toluene-d8</i>	49.71	5.0	50	0	99.4	75-125	53.13	6.64	20

The following samples were analyzed in this batch:

1302746-03A

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143168** Instrument ID **ManTech01** Method: **M2510 B** **(Dissolve)**

MBLK	Sample ID: WBLKW1-130223-R143168				Units: µmhos/cm		Analysis Date: 2/23/2013 10:00 AM			
Client ID:	Run ID: MANTECH01_130223A				SeqNo: 3124526		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

LCS	Sample ID: LCS-COND-R143168				Units: µmhos/cm		Analysis Date: 2/23/2013 10:12 AM			
Client ID:	Run ID: MANTECH01_130223A				SeqNo: 3124537		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1521	1.0	1413		0	108	80-120	0		

DUP	Sample ID: 1302741-01CDUP				Units: µmhos/cm		Analysis Date: 2/23/2013 10:25 AM			
Client ID:	Run ID: MANTECH01_130223A				SeqNo: 3124551		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	979.8	1.0	0		0	0		984.2	0.457	20

The following samples were analyzed in this batch:

1302746-01E	1302746-02E	1302746-03E

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143175** Instrument ID **WetChem** Method: **SM2320B** (Dissolve)

MBLK Sample ID: **WBLKW1-022313-R143175** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122124** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS Sample ID: **WLCSW1-022313-R143175** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122125** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1133	6.0	1000	0	113	80-120	0			

DUP Sample ID: **1302741-01CDUP** Units: **mg/L** Analysis Date: **2/23/2013 09:43 AM**

Client ID: Run ID: **WETCHEM_130223I** SeqNo: **3122140** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	452.3	6.0	0	0	0	0-0	442.7	2.16	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	13.56	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	458	6.0	0	0	0	0-0	456.2	0.385	20	

The following samples were analyzed in this batch:

1302746-01E	1302746-02E	1302746-03E

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143304** Instrument ID **WetChem** Method: **SM4500H+ B (Dissolve)**

LCS Sample ID: **WLCSW1-130226-R143304** Units: **pH Units** Analysis Date: **2/26/2013 05:00 PM**

Client ID: Run ID: **WETCHEM_130226G** SeqNo: **3124765** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.10	6	0	100	90-110	0			

DUP Sample ID: **1302746-03EDUP** Units: **pH Units** Analysis Date: **2/26/2013 05:00 PM**

Client ID: **MW-5** Run ID: **WETCHEM_130226G** SeqNo: **3124770** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.18	0.10	0	0	0	0-0	7.18	0	20	H

The following samples were analyzed in this batch:

1302746-01E	1302746-02E	1302746-03E

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143370** Instrument ID **BALANCE1** Method: **M2540C** **(Dissolve)**

MBLK Sample ID: **WBLK-026113-R143370** Units: **mg/L** Analysis Date: **2/26/2013 04:30 PM**

Client ID: Run ID: **BALANCE1_130226E** SeqNo: **3126421** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS Sample ID: **WLCS-026113-R143370** Units: **mg/L** Analysis Date: **2/26/2013 04:30 PM**

Client ID: Run ID: **BALANCE1_130226E** SeqNo: **3126422** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	944	10	1000	0	94.4	85-115	0			

DUP Sample ID: **1302744-11BDUP** Units: **mg/L** Analysis Date: **2/26/2013 04:30 PM**

Client ID: Run ID: **BALANCE1_130226E** SeqNo: **3126411** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	7648	10	0	0	0	0-0	7100	7.43	20	

DUP Sample ID: **1302771-01FDUP** Units: **mg/L** Analysis Date: **2/26/2013 04:30 PM**

Client ID: Run ID: **BALANCE1_130226E** SeqNo: **3127093** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1436	10	0	0	0	0-0	1432	0.279	20	

The following samples were analyzed in this batch:

1302746-01E	1302746-02E	1302746-03E

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143374** Instrument ID **ICS2100** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW4-R143374				Units: mg/L		Analysis Date: 2/27/2013 01:37 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126503		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.20								
Surr: Selenate (surr)	4.501	0.10	5	0	90	85-115	0			

LCS	Sample ID: WLCSW4-R143374				Units: mg/L		Analysis Date: 2/27/2013 02:48 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126504		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	7.97	0.20	8	0	99.6	90-110	0			
Surr: Selenate (surr)	4.309	0.10	5	0	86.2	85-115	0			

MS	Sample ID: 1302683-12BMS				Units: mg/L		Analysis Date: 2/27/2013 09:12 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126520		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	34.32	2.0	40	0	85.8	80-120	0			
Surr: Selenate (surr)	44.32	1.0	50	0	88.6	85-115	0			

MSD	Sample ID: 1302683-12BMSD				Units: mg/L		Analysis Date: 2/27/2013 09:27 PM			
Client ID:	Run ID: ICS2100_130227B				SeqNo: 3126521		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	35.48	2.0	40	0	88.7	80-120	34.32	3.3	20	
Surr: Selenate (surr)	46.81	1.0	50	0	93.6	85-115	44.32	5.47	20	

The following samples were analyzed in this batch:

1302746-01B	1302746-02B	1302746-03B

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

Client: Navajo Refining Company
Work Order: 1302746
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143390** Instrument ID **ICS3K2** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW2-R143390				Units: mg/L		Analysis Date: 2/28/2013 12:09 AM			
Client ID:	Run ID: ICS3K2_130227B				SeqNo: 3126901		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Fluoride	ND	0.10								
Sulfate	ND	0.50								
<i>Surr: Selenate (surr)</i>	5.164	0.10	5	0	103	85-115	0			

LCS	Sample ID: WLCSW2-R143390				Units: mg/L		Analysis Date: 2/28/2013 12:31 AM			
Client ID:	Run ID: ICS3K2_130227B				SeqNo: 3126902		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.62	0.50	20	0	98.1	90-110	0			
Fluoride	3.949	0.10	4	0	98.7	90-110	0			
Sulfate	20.25	0.50	20	0	101	90-110	0			
<i>Surr: Selenate (surr)</i>	5.364	0.10	5	0	107	85-115	0			

MS	Sample ID: 1302781-04BMS				Units: mg/L		Analysis Date: 2/28/2013 06:06 AM			
Client ID:	Run ID: ICS3K2_130227B				SeqNo: 3126923		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	37.49	0.50	10	27.66	98.3	80-120	0			
Fluoride	2.465	0.10	2	0.452	101	80-120	0			
<i>Surr: Selenate (surr)</i>	5.51	0.10	5	0	110	85-115	0			

MSD	Sample ID: 1302781-04BMSD				Units: mg/L		Analysis Date: 2/28/2013 06:28 AM			
Client ID:	Run ID: ICS3K2_130227B				SeqNo: 3126924		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	37.84	0.50	10	27.66	102	80-120	37.49	0.919	20	
Fluoride	2.49	0.10	2	0.452	102	80-120	2.465	1.01	20	
Sulfate	48.22	0.50	10	37.62	106	80-120	47.7	1.08	20	
<i>Surr: Selenate (surr)</i>	5.593	0.10	5	0	112	85-115	5.51	1.5	20	

The following samples were analyzed in this batch:

1302746-01E	1302746-02E	1302746-03E

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

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
WorkOrder: 1302746

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **22-Feb-13 09:15**

Work Order: **1302746**

Received by: **PMG**

Checklist completed by Rishel D. Naran
eSignature

22-Feb-13
Date

Reviewed by: Sonia West
eSignature

25-Feb-13
Date

Matrices: **water**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>1.7c u/c</u> <u>005</u>		
Cooler(s)/Kit(s):	<u>3974</u>		
Date/Time sample(s) sent to storage:	<u>2/22/13 12:58</u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u>-</u>		
Login Notes:			

Client Contacted:

Date Contacted:

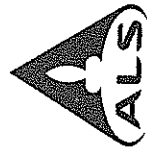
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Cincinnati, OH
+1 513 733 5336
Everett, WA
+1 425 336 2600

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

Chain of Custody Form

Page 1 of 1

COC ID: 72641

Environmental



ALS Project Manager:

Customer Information				Project Information													
Purchase Order	Project Name	Project Number	Project Name	Project Name	Project Number	Project Name	Project Number										
Work Order	Lovington Lea Refining - SA		Lovington Lea Refining - SA	Lovington Lea Refining - SA		Lovington Lea Refining - SA											
Company Name	Navajo Refining Company		Navajo Refining Company	Navajo Refining Company		Navajo Refining Company											
Send Report To	Robert Combs		Robert Combs	Robert Combs		Robert Combs											
Address	501 East Main		501 East Main	501 East Main		501 East Main											
City/State/Zip	Artesia, NM 88211		Artesia, NM 88211	Artesia, NM 88211		Artesia, NM 88211											
Phone	(575) 703-5057		(575) 703-5057	(575) 703-5057		(575) 703-5057											
Fax	(575) 746-5421		(575) 746-5421	(575) 746-5421		(575) 746-5421											
e-Mail Address	schiller@trc-solutions.com		schiller@trc-solutions.com	schiller@trc-solutions.com		schiller@trc-solutions.com											
	dist@trc-solutions.com		dist@trc-solutions.com	dist@trc-solutions.com		dist@trc-solutions.com											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-16	2-20-13	1643	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
2	MW-4	2-21-13	828	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
3	MW-14	2-21-13	1205	W	1,3,8	4	X	X	X	X	X	X	X	X	X	X	X
4	MW-5	2-21-13	1519	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: David Clark David Clark David Clark
 Relinquished by: David Clark David Clark David Clark
 Relinquished by: David Clark David Clark David Clark
 Logged by (Laboratory): David Clark David Clark David Clark
 Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035
 Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

**ALS Environmental**

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

3974.

Name
Company

CUSTODY SEAL

Date: 2.21.13 Time: 1645
Signature: D. Clark
any: APC

Seal Broken By:

Date:

2-22-13

130 2746

FedEx Package
Express US Airbill

FedEx
Tracking
Number

8013 8012 6350

1 From

Date

2.21.13

Sender's
Name

D. Clark

Phone

512 329-6080

Company

TRC

Address

505 E. Huntland Dr. Ste 250

City

Austin

State

TX

ZIP

78751

Dept./Floor/Suite/Room

2 Your Internal Billing Reference**3 To**



04-Mar-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Lovington Lea Refinery Semi-Annual

Work Order: **1302789**

Dear Robert,

ALS Environmental received 8 samples on 23-Feb-2013 09:20 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 71.

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

Sincerely,

A handwritten signature in cursive script that reads "Sonia West".

Electronically approved by: Luke F. Hernandez

Sonia West
Project Manager



Certificate No: T104704231-12-10

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#T UR X S#K VD /#R U S#S d u#h i#kch#DOV#T ur xs##D q#DOV#Dp l#hg#F r p s dq |

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Work Order: 1302789

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1302789-01	MW-22	Water		2/21/2013 17:15	2/23/2013 09:20	☐
1302789-02	MW-14	Water		2/21/2013 12:50	2/23/2013 09:20	☐
1302789-03	MW-20	Water		2/22/2013 10:27	2/23/2013 09:20	☐
1302789-04	MW-18	Water		2/22/2013 14:20	2/23/2013 09:20	☐
1302789-05	MW-14 07:40	Water		2/22/2013 07:40	2/23/2013 09:20	☐
1302789-06	EB-02-22-13	Water		2/22/2013 09:15	2/23/2013 09:20	☐
1302789-07	MW-21	Water		2/22/2013 11:45	2/23/2013 09:20	☐
1302789-08	TB-02-22-13	Water		2/22/2013	2/23/2013 09:20	☐

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Work Order: 1302789

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 68070, Metals, Sample MW-20: MS/MSD recoveries were outside the control limits for various analytes. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Batch 68043, Semivolatile Organics Method SW8270: LCSD RPD was outside the control limits for various analytes. All target compounds meet %R limits in both LCS/LCSD. The individual recoveries were in control.

Batch 68043, Semivolatile Organics Method SW8270, Sample MW-20: MS/MSD recoveries were outside the control limits for 2, 6-Dinitrotoluene and Benzaldehyde due to sample matrix. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Semivolatile Organics: All Internal Standard recoveries were below the control limits for Sample 1302789-05. Low Internal Standard not associated with compounds reported in this sample.

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 2/21/2013 05:15 PM

Work Order: 1302789
Lab ID: 1302789-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:47 PM
DISSOLVED METALS						
Aluminum	0.0231		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 04:49 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Barium	0.145		0.00500	mg/L	1	2/27/2013 04:49 AM
Boron	0.180		0.0200	mg/L	1	2/27/2013 04:49 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 04:49 AM
Calcium	165		5.00	mg/L	10	2/27/2013 08:09 PM
Chromium	0.0305		0.00500	mg/L	1	2/27/2013 04:49 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Iron	0.269		0.200	mg/L	1	2/27/2013 04:49 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Magnesium	20.7		0.200	mg/L	1	2/27/2013 04:49 AM
Manganese	0.0386		0.00500	mg/L	1	2/27/2013 04:49 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Nickel	0.0520		0.00500	mg/L	1	2/27/2013 04:49 AM
Potassium	3.28		0.200	mg/L	1	2/27/2013 04:49 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 04:49 AM
Sodium	65.6		0.200	mg/L	1	2/27/2013 04:49 AM
Uranium	0.00590		0.00500	mg/L	1	2/27/2013 04:49 AM
Zinc	0.0208		0.00500	mg/L	1	2/27/2013 04:49 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/27/2013 12:35 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/27/2013 12:35 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2-Methylphenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 12:35 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 2/21/2013 05:15 PM

Work Order: 1302789
Lab ID: 1302789-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/27/2013 12:35 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 12:35 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/27/2013 12:35 AM
Acenaphthene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Acenaphthylene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Acetophenone	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Anthracene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Atrazine	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benzaldehyde	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Bis(2-ethylhexyl)phthalate	0.38		0.20	µg/L	1	2/27/2013 12:35 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Caprolactam	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Carbazole	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Chrysene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Dibenzofuran	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Fluoranthene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Fluorene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/27/2013 12:35 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 2/21/2013 05:15 PM

Work Order: 1302789
Lab ID: 1302789-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Hexachloroethane	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Isophorone	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Naphthalene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Nitrobenzene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/27/2013 12:35 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Phenanthrene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Phenol	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Pyrene	ND		0.20	µg/L	1	2/27/2013 12:35 AM
Surr: 2,4,6-Tribromophenol	87.6		34-129	%REC	1	2/27/2013 12:35 AM
Surr: 2-Fluorobiphenyl	76.5		40-125	%REC	1	2/27/2013 12:35 AM
Surr: 2-Fluorophenol	68.2		20-120	%REC	1	2/27/2013 12:35 AM
Surr: 4-Terphenyl-d14	91.9		40-135	%REC	1	2/27/2013 12:35 AM
Surr: Nitrobenzene-d5	68.0		41-120	%REC	1	2/27/2013 12:35 AM
Surr: Phenol-d6	66.4		20-120	%REC	1	2/27/2013 12:35 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 04:56 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 04:56 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 04:56 PM
Acetone	0.032		0.010	mg/L	1	2/25/2013 04:56 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 04:56 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 04:56 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 2/21/2013 05:15 PM

Work Order: 1302789
Lab ID: 1302789-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 04:56 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 04:56 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 04:56 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 04:56 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 04:56 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	2/25/2013 04:56 PM
Surr: 4-Bromofluorobenzene	94.2		72-125	%REC	1	2/25/2013 04:56 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	2/25/2013 04:56 PM
Surr: Toluene-d8	95.1		75-125	%REC	1	2/25/2013 04:56 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	178		2.50	mg/L	5	3/1/2013 10:26 AM
Fluoride	0.500		0.100	mg/L	1	2/28/2013 08:25 PM
Sulfate	80.4		0.500	mg/L	1	2/28/2013 08:25 PM
Nitrate/Nitrite (as N)	2.30		2.00	mg/L	10	2/28/2013 06:25 PM
Surr: Selenate (surr)	106		85-115	%REC	10	2/28/2013 06:25 PM
Surr: Selenate (surr)	89.3		85-115	%REC	5	3/1/2013 10:26 AM
Surr: Selenate (surr)	89.4		85-115	%REC	1	2/28/2013 08:25 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	324		6.00	mg/L	1	3/1/2013 02:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 2/21/2013 05:15 PM

Work Order: 1302789
Lab ID: 1302789-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO ₃)	324		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,300		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.21	H	0.100	pH Units	1	3/1/2013 03:05 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	798		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-14
Collection Date: 2/21/2013 12:50 PM

Work Order: 1302789
Lab ID: 1302789-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 05:21 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 05:21 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 05:21 PM
Acetone	0.088		0.010	mg/L	1	2/25/2013 05:21 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 05:21 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 05:21 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 05:21 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-14
Collection Date: 2/21/2013 12:50 PM

Work Order: 1302789
Lab ID: 1302789-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:21 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 05:21 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 05:21 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	2/25/2013 05:21 PM
Surr: 4-Bromofluorobenzene	97.0		72-125	%REC	1	2/25/2013 05:21 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/25/2013 05:21 PM
Surr: Toluene-d8	100		75-125	%REC	1	2/25/2013 05:21 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	2/28/2013 06:47 PM
Surr: Selenate (surr)	108		85-115	%REC	10	2/28/2013 06:47 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 2/22/2013 10:27 AM

Work Order: 1302789
Lab ID: 1302789-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:39 PM
DISSOLVED METALS						
Aluminum	0.0294		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 03:54 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Barium	0.102		0.00500	mg/L	1	2/27/2013 03:54 AM
Boron	0.164		0.0200	mg/L	1	2/27/2013 03:54 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 03:54 AM
Calcium	131		0.500	mg/L	1	2/27/2013 03:54 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Iron	ND		0.200	mg/L	1	2/27/2013 03:54 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Magnesium	14.8		0.200	mg/L	1	2/27/2013 03:54 AM
Manganese	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Potassium	1.99		0.200	mg/L	1	2/27/2013 03:54 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Sodium	39.2		0.200	mg/L	1	2/27/2013 03:54 AM
Uranium	ND		0.00500	mg/L	1	2/27/2013 03:54 AM
Zinc	0.0165		0.00500	mg/L	1	2/27/2013 03:54 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/25/2013 10:00 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/25/2013 10:00 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2-Chlorophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2-Methylphenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
2-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 2/22/2013 10:27 AM

Work Order: 1302789
Lab ID: 1302789-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
3&4-Methylphenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/25/2013 10:00 PM
3-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Chloroaniline	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:00 PM
4-Nitrophenol	ND		1.0	µg/L	1	2/25/2013 10:00 PM
Acenaphthene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Acenaphthylene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Acetophenone	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Anthracene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Atrazine	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benz(a)anthracene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benzaldehyde	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Caprolactam	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Carbazole	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Chrysene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Dibenzofuran	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Diethyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Dimethyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Fluorene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Hexachlorobenzene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/25/2013 10:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company

Project: Lovington Lea Refinery Semi-Annual

Work Order: 1302789

Sample ID: MW-20

Lab ID: 1302789-03

Collection Date: 2/22/2013 10:27 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Hexachloroethane	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Isophorone	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Naphthalene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Nitrobenzene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/25/2013 10:00 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Pentachlorophenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Phenanthrene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Phenol	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Pyrene	ND		0.20	µg/L	1	2/25/2013 10:00 PM
Surr: 2,4,6-Tribromophenol	93.3		34-129	%REC	1	2/25/2013 10:00 PM
Surr: 2-Fluorobiphenyl	78.5		40-125	%REC	1	2/25/2013 10:00 PM
Surr: 2-Fluorophenol	68.1		20-120	%REC	1	2/25/2013 10:00 PM
Surr: 4-Terphenyl-d14	97.9		40-135	%REC	1	2/25/2013 10:00 PM
Surr: Nitrobenzene-d5	69.5		41-120	%REC	1	2/25/2013 10:00 PM
Surr: Phenol-d6	71.0		20-120	%REC	1	2/25/2013 10:00 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 01:13 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 01:13 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 01:13 PM
Acetone	0.016		0.010	mg/L	1	2/25/2013 01:13 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 01:13 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 01:13 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 2/22/2013 10:27 AM

Work Order: 1302789
Lab ID: 1302789-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 01:13 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 01:13 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 01:13 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 01:13 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 01:13 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	2/25/2013 01:13 PM
Surr: 4-Bromofluorobenzene	96.9		72-125	%REC	1	2/25/2013 01:13 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/25/2013 01:13 PM
Surr: Toluene-d8	98.1		75-125	%REC	1	2/25/2013 01:13 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	155		2.50	mg/L	5	3/1/2013 10:41 AM
Fluoride	0.570		0.100	mg/L	1	2/28/2013 07:41 PM
Sulfate	55.8		0.500	mg/L	1	2/28/2013 07:41 PM
Nitrate/Nitrite (as N)	2.26		2.00	mg/L	10	2/28/2013 07:09 PM
Surr: Selenate (surr)	107		85-115	%REC	10	2/28/2013 07:09 PM
Surr: Selenate (surr)	86.8		85-115	%REC	5	3/1/2013 10:41 AM
Surr: Selenate (surr)	96.0		85-115	%REC	1	2/28/2013 07:41 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	197		6.00	mg/L	1	3/1/2013 02:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 2/22/2013 10:27 AM

Work Order: 1302789
Lab ID: 1302789-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO ₃)	197		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	985		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.54	H	0.100	pH Units	1	3/1/2013 03:07 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	600		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 2/22/2013 02:20 PM

Work Order: 1302789
Lab ID: 1302789-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:49 PM
DISSOLVED METALS						
Aluminum	0.0742		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 04:34 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Barium	0.105		0.00500	mg/L	1	2/27/2013 04:34 AM
Boron	0.249		0.0200	mg/L	1	2/27/2013 04:34 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 04:34 AM
Calcium	140		0.500	mg/L	1	2/27/2013 04:34 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Iron	ND		0.200	mg/L	1	2/27/2013 04:34 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Magnesium	13.0		0.200	mg/L	1	2/27/2013 04:34 AM
Manganese	0.0129		0.00500	mg/L	1	2/27/2013 04:34 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Nickel	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Potassium	3.04		0.200	mg/L	1	2/27/2013 04:34 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 04:34 AM
Sodium	133		0.200	mg/L	1	2/27/2013 04:34 AM
Uranium	0.0138		0.00500	mg/L	1	2/27/2013 04:34 AM
Zinc	0.0187		0.00500	mg/L	1	2/27/2013 04:34 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/25/2013 10:58 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/25/2013 10:58 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2-Chlorophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2-Methylphenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
2-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:58 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 2/22/2013 02:20 PM

Work Order: 1302789
Lab ID: 1302789-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
3&4-Methylphenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/25/2013 10:58 PM
3-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Chloroaniline	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 10:58 PM
4-Nitrophenol	ND		1.0	µg/L	1	2/25/2013 10:58 PM
Acenaphthene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Acenaphthylene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Acetophenone	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Anthracene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Atrazine	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benz(a)anthracene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benzaldehyde	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Bis(2-ethylhexyl)phthalate	1.1		0.20	µg/L	1	2/25/2013 10:58 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Caprolactam	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Carbazole	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Chrysene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Dibenzofuran	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Diethyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Dimethyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Fluoranthene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Fluorene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Hexachlorobenzene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/25/2013 10:58 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 2/22/2013 02:20 PM

Work Order: 1302789
Lab ID: 1302789-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Hexachloroethane	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Isophorone	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Naphthalene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Nitrobenzene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/25/2013 10:58 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Pentachlorophenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Phenanthrene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Phenol	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Pyrene	ND		0.20	µg/L	1	2/25/2013 10:58 PM
Surr: 2,4,6-Tribromophenol	80.1		34-129	%REC	1	2/25/2013 10:58 PM
Surr: 2-Fluorobiphenyl	69.4		40-125	%REC	1	2/25/2013 10:58 PM
Surr: 2-Fluorophenol	60.4		20-120	%REC	1	2/25/2013 10:58 PM
Surr: 4-Terphenyl-d14	86.0		40-135	%REC	1	2/25/2013 10:58 PM
Surr: Nitrobenzene-d5	62.9		41-120	%REC	1	2/25/2013 10:58 PM
Surr: Phenol-d6	63.6		20-120	%REC	1	2/25/2013 10:58 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 05:46 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 05:46 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 05:46 PM
Acetone	ND		0.010	mg/L	1	2/25/2013 05:46 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 05:46 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 05:46 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 2/22/2013 02:20 PM

Work Order: 1302789
Lab ID: 1302789-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 05:46 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 05:46 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 05:46 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 05:46 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 05:46 PM
Surr: 1,2-Dichloroethane-d4	99.6		70-125	%REC	1	2/25/2013 05:46 PM
Surr: 4-Bromofluorobenzene	97.7		72-125	%REC	1	2/25/2013 05:46 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	2/25/2013 05:46 PM
Surr: Toluene-d8	93.5		75-125	%REC	1	2/25/2013 05:46 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	181		2.50	mg/L	5	3/1/2013 10:56 AM
Fluoride	0.564		0.100	mg/L	1	2/28/2013 08:39 PM
Sulfate	116		2.50	mg/L	5	3/1/2013 10:56 AM
Nitrate/Nitrite (as N)	4.02		2.00	mg/L	10	2/28/2013 08:14 PM
Surr: Selenate (surr)	89.0		85-115	%REC	5	3/1/2013 10:56 AM
Surr: Selenate (surr)	95.9		85-115	%REC	1	2/28/2013 08:39 PM
Surr: Selenate (surr)	108		85-115	%REC	10	2/28/2013 08:14 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	307		6.00	mg/L	1	3/1/2013 02:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 2/22/2013 02:20 PM

Work Order: 1302789
Lab ID: 1302789-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO ₃)	307		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,380		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.49	H	0.100	pH Units	1	3/1/2013 03:11 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	782		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-14 07:40
Collection Date: 2/22/2013 07:40 AM

Work Order: 1302789
Lab ID: 1302789-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:51 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 04:39 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Barium	0.0900		0.00500	mg/L	1	2/27/2013 04:39 AM
Boron	0.174		0.0200	mg/L	1	2/27/2013 04:39 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 04:39 AM
Calcium	112		0.500	mg/L	1	2/27/2013 04:39 AM
Chromium	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Copper	0.0705		0.00500	mg/L	1	2/27/2013 04:39 AM
Iron	ND		0.200	mg/L	1	2/27/2013 04:39 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Magnesium	12.8		0.200	mg/L	1	2/27/2013 04:39 AM
Manganese	0.0349		0.00500	mg/L	1	2/27/2013 04:39 AM
Molybdenum	0.0121		0.00500	mg/L	1	2/27/2013 04:39 AM
Nickel	0.0106		0.00500	mg/L	1	2/27/2013 04:39 AM
Potassium	3.29		0.200	mg/L	1	2/27/2013 04:39 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 04:39 AM
Sodium	31.6		0.200	mg/L	1	2/27/2013 04:39 AM
Uranium	0.00591		0.00500	mg/L	1	2/27/2013 04:39 AM
Zinc	0.148		0.00500	mg/L	1	2/27/2013 04:39 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.25	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/27/2013 01:35 AM
1-Methylnaphthalene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,4,5-Trichlorophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,4,6-Trichlorophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,4-Dichlorophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,4-Dimethylphenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,4-Dinitrophenol	ND		1.2	µg/L	1	2/27/2013 01:35 AM
2,4-Dinitrotoluene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2,6-Dinitrotoluene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2-Chloronaphthalene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2-Chlorophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2-Methylnaphthalene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2-Methylphenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
2-Nitroaniline	ND		0.25	µg/L	1	2/27/2013 01:35 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-14 07:40
Collection Date: 2/22/2013 07:40 AM

Work Order: 1302789
Lab ID: 1302789-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
3&4-Methylphenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
3,3'-Dichlorobenzidine	ND		0.25	µg/L	1	2/27/2013 01:35 AM
3-Nitroaniline	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4,6-Dinitro-2-methylphenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Bromophenyl phenyl ether	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Chloro-3-methylphenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Chloroaniline	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Chlorophenyl phenyl ether	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Nitroaniline	ND		0.25	µg/L	1	2/27/2013 01:35 AM
4-Nitrophenol	ND		1.2	µg/L	1	2/27/2013 01:35 AM
Acenaphthene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Acenaphthylene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Acetophenone	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Anthracene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Atrazine	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benz(a)anthracene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benzaldehyde	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benzo(a)pyrene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benzo(b)fluoranthene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benzo(g,h,i)perylene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Benzo(k)fluoranthene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Bis(2-chloroethoxy)methane	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Bis(2-chloroethyl)ether	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Bis(2-chloroisopropyl)ether	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Bis(2-ethylhexyl)phthalate	44		2.5	µg/L	10	2/27/2013 09:03 PM
Butyl benzyl phthalate	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Caprolactam	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Carbazole	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Chrysene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Dibenz(a,h)anthracene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Dibenzofuran	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Diethyl phthalate	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Dimethyl phthalate	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Di-n-butyl phthalate	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Di-n-octyl phthalate	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Fluoranthene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Fluorene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Hexachlorobenzene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Hexachlorobutadiene	ND		0.25	µg/L	1	2/27/2013 01:35 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-14 07:40
Collection Date: 2/22/2013 07:40 AM

Work Order: 1302789
Lab ID: 1302789-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Hexachloroethane	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Indeno(1,2,3-cd)pyrene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Isophorone	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Naphthalene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Nitrobenzene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
N-Nitrosodi-n-propylamine	ND		0.25	µg/L	1	2/27/2013 01:35 AM
N-Nitrosodiphenylamine	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Pentachlorophenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Phenanthrene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Phenol	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Pyrene	ND		0.25	µg/L	1	2/27/2013 01:35 AM
Surr: 2,4,6-Tribromophenol	83.9		34-129	%REC	1	2/27/2013 01:35 AM
Surr: 2,4,6-Tribromophenol	55.7		34-129	%REC	10	2/27/2013 09:03 PM
Surr: 2-Fluorobiphenyl	50.6		40-125	%REC	10	2/27/2013 09:03 PM
Surr: 2-Fluorobiphenyl	51.3		40-125	%REC	1	2/27/2013 01:35 AM
Surr: 2-Fluorophenol	41.7		20-120	%REC	10	2/27/2013 09:03 PM
Surr: 2-Fluorophenol	42.7		20-120	%REC	1	2/27/2013 01:35 AM
Surr: 4-Terphenyl-d14	89.8		40-135	%REC	1	2/27/2013 01:35 AM
Surr: 4-Terphenyl-d14	70.3		40-135	%REC	10	2/27/2013 09:03 PM
Surr: Nitrobenzene-d5	42.9		41-120	%REC	1	2/27/2013 01:35 AM
Surr: Nitrobenzene-d5	47.7		41-120	%REC	10	2/27/2013 09:03 PM
Surr: Phenol-d6	51.3		20-120	%REC	10	2/27/2013 09:03 PM
Surr: Phenol-d6	43.0		20-120	%REC	1	2/27/2013 01:35 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	71.9		0.500	mg/L	1	2/28/2013 08:54 PM
Fluoride	0.795		0.100	mg/L	1	2/28/2013 08:54 PM
Sulfate	52.9		0.500	mg/L	1	2/28/2013 08:54 PM
Surr: Selenate (surr)	96.1		85-115	%REC	1	2/28/2013 08:54 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	233		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO3)	233		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B		Analyst: VAN	
Specific Conductivity	751		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B		Analyst: KL	
pH	7.64	H	0.100	pH Units	1	3/1/2013 03:18 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company

Project: Lovington Lea Refinery Semi-Annual

Sample ID: MW-14 07:40

Collection Date: 2/22/2013 07:40 AM

Work Order: 1302789

Lab ID: 1302789-05

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	428		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: EB-02-22-13
Collection Date: 2/22/2013 09:15 AM

Work Order: 1302789
Lab ID: 1302789-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/26/2013 1	Analyst: OFO 2/26/2013 07:53 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/25/2013 11:37 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/25/2013 11:37 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Chlorophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Methylphenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 11:37 PM
2-Nitrophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
3&4-Methylphenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/25/2013 11:37 PM
3-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Chloroaniline	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Nitroaniline	ND		0.20	µg/L	1	2/25/2013 11:37 PM
4-Nitrophenol	ND		1.0	µg/L	1	2/25/2013 11:37 PM
Acenaphthene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Acenaphthylene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Acetophenone	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Anthracene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Atrazine	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Benz(a)anthracene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Benzaldehyde	0.33		0.20	µg/L	1	2/25/2013 11:37 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/25/2013 11:37 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: EB-02-22-13
Collection Date: 2/22/2013 09:15 AM

Work Order: 1302789
Lab ID: 1302789-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Bis(2-ethylhexyl)phthalate	0.71		0.20	µg/L	1	2/25/2013 11:37 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Caprolactam	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Carbazole	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Chrysene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Dibenzofuran	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Diethyl phthalate	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Dimethyl phthalate	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Fluoranthene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Fluorene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Hexachlorobenzene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Hexachloroethane	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Isophorone	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Naphthalene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Nitrobenzene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/25/2013 11:37 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Pentachlorophenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Phenanthrene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Phenol	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Pyrene	ND		0.20	µg/L	1	2/25/2013 11:37 PM
Surr: 2,4,6-Tribromophenol	79.6		34-129	%REC	1	2/25/2013 11:37 PM
Surr: 2-Fluorobiphenyl	56.6		40-125	%REC	1	2/25/2013 11:37 PM
Surr: 2-Fluorophenol	46.7		20-120	%REC	1	2/25/2013 11:37 PM
Surr: 4-Terphenyl-d14	95.1		40-135	%REC	1	2/25/2013 11:37 PM
Surr: Nitrobenzene-d5	50.5		41-120	%REC	1	2/25/2013 11:37 PM
Surr: Phenol-d6	51.3		20-120	%REC	1	2/25/2013 11:37 PM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: EB-02-22-13
Collection Date: 2/22/2013 09:15 AM

Work Order: 1302789
Lab ID: 1302789-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 03:42 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 03:42 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 03:42 PM
Acetone	ND		0.010	mg/L	1	2/25/2013 03:42 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 03:42 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 03:42 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 03:42 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: EB-02-22-13
Collection Date: 2/22/2013 09:15 AM

Work Order: 1302789
Lab ID: 1302789-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:42 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 03:42 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 03:42 PM
Surr: 1,2-Dichloroethane-d4	97.5		70-125	%REC	1	2/25/2013 03:42 PM
Surr: 4-Bromofluorobenzene	104		72-125	%REC	1	2/25/2013 03:42 PM
Surr: Dibromofluoromethane	107		71-125	%REC	1	2/25/2013 03:42 PM
Surr: Toluene-d8	91.7		75-125	%REC	1	2/25/2013 03:42 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	ND		0.500	mg/L	1	2/28/2013 09:08 PM
Fluoride	ND		0.100	mg/L	1	2/28/2013 09:08 PM
Sulfate	ND		0.500	mg/L	1	2/28/2013 09:08 PM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	2/28/2013 08:35 PM
Surr: Selenate (surr)	108		85-115	%REC	10	2/28/2013 08:35 PM
Surr: Selenate (surr)	98.6		85-115	%REC	1	2/28/2013 09:08 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO3)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B		Analyst: VAN	
Specific Conductivity	1,900		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B		Analyst: KL	
pH	6.68	H	0.100	pH Units	1	3/1/2013 03:20 PM
TOTAL DISSOLVED SOLIDS			M2540C		Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	ND		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 2/22/2013 11:45 AM

Work Order: 1302789
Lab ID: 1302789-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 2/28/2013 1	Analyst: OFO 2/28/2013 02:07 PM
DISSOLVED METALS						
Aluminum	0.0818		SW6020 0.0100	mg/L	Prep Date: 2/25/2013 1	Analyst: ALR 2/27/2013 04:44 AM
Arsenic	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Barium	0.224		0.00500	mg/L	1	2/27/2013 04:44 AM
Boron	0.286		0.0200	mg/L	1	2/27/2013 04:44 AM
Cadmium	ND		0.00200	mg/L	1	2/27/2013 04:44 AM
Calcium	236		5.00	mg/L	10	2/27/2013 08:14 PM
Chromium	0.0364		0.00500	mg/L	1	2/27/2013 04:44 AM
Cobalt	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Copper	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Iron	0.403		0.200	mg/L	1	2/27/2013 04:44 AM
Lead	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Magnesium	24.2		0.200	mg/L	1	2/27/2013 04:44 AM
Manganese	0.0467		0.00500	mg/L	1	2/27/2013 04:44 AM
Molybdenum	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Nickel	0.0409		0.00500	mg/L	1	2/27/2013 04:44 AM
Potassium	3.07		0.200	mg/L	1	2/27/2013 04:44 AM
Selenium	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Silver	ND		0.00500	mg/L	1	2/27/2013 04:44 AM
Sodium	61.6		0.200	mg/L	1	2/27/2013 04:44 AM
Uranium	0.00962		0.00500	mg/L	1	2/27/2013 04:44 AM
Zinc	0.0319		0.00500	mg/L	1	2/27/2013 04:44 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 2/25/2013 1	Analyst: ACN 2/27/2013 01:55 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	2/27/2013 01:55 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2-Chlorophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2-Methylnaphthalene	0.31		0.20	µg/L	1	2/27/2013 01:55 AM
2-Methylphenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
2-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 01:55 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 2/22/2013 11:45 AM

Work Order: 1302789
Lab ID: 1302789-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
3&4-Methylphenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	2/27/2013 01:55 AM
3-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Chloroaniline	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Nitroaniline	ND		0.20	µg/L	1	2/27/2013 01:55 AM
4-Nitrophenol	ND		1.0	µg/L	1	2/27/2013 01:55 AM
Acenaphthene	0.31		0.20	µg/L	1	2/27/2013 01:55 AM
Acenaphthylene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Acetophenone	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Anthracene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Atrazine	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benz(a)anthracene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benzaldehyde	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Bis(2-ethylhexyl)phthalate	0.33		0.20	µg/L	1	2/27/2013 01:55 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Caprolactam	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Carbazole	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Chrysene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Dibenzofuran	0.39		0.20	µg/L	1	2/27/2013 01:55 AM
Diethyl phthalate	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Dimethyl phthalate	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Fluoranthene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Fluorene	0.32		0.20	µg/L	1	2/27/2013 01:55 AM
Hexachlorobenzene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	2/27/2013 01:55 AM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 2/22/2013 11:45 AM

Work Order: 1302789
Lab ID: 1302789-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Hexachloroethane	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Isophorone	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Naphthalene	1.0		0.20	µg/L	1	2/27/2013 01:55 AM
Nitrobenzene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	2/27/2013 01:55 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Pentachlorophenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Phenanthrene	0.92		0.20	µg/L	1	2/27/2013 01:55 AM
Phenol	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Pyrene	ND		0.20	µg/L	1	2/27/2013 01:55 AM
Surr: 2,4,6-Tribromophenol	98.1		34-129	%REC	1	2/27/2013 01:55 AM
Surr: 2-Fluorobiphenyl	84.4		40-125	%REC	1	2/27/2013 01:55 AM
Surr: 2-Fluorophenol	70.4		20-120	%REC	1	2/27/2013 01:55 AM
Surr: 4-Terphenyl-d14	93.4		40-135	%REC	1	2/27/2013 01:55 AM
Surr: Nitrobenzene-d5	73.0		41-120	%REC	1	2/27/2013 01:55 AM
Surr: Phenol-d6	70.9		20-120	%REC	1	2/27/2013 01:55 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 06:10 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 06:10 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 06:10 PM
Acetone	0.026		0.010	mg/L	1	2/25/2013 06:10 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 06:10 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 06:10 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 2/22/2013 11:45 AM

Work Order: 1302789
Lab ID: 1302789-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 06:10 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 06:10 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 06:10 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 06:10 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 06:10 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	2/25/2013 06:10 PM
Surr: 4-Bromofluorobenzene	98.6		72-125	%REC	1	2/25/2013 06:10 PM
Surr: Dibromofluoromethane	106		71-125	%REC	1	2/25/2013 06:10 PM
Surr: Toluene-d8	95.0		75-125	%REC	1	2/25/2013 06:10 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	160		2.50	mg/L	5	3/1/2013 11:10 AM
Fluoride	0.246		0.100	mg/L	1	2/28/2013 09:23 PM
Sulfate	78.3		0.500	mg/L	1	2/28/2013 09:23 PM
Nitrate/Nitrite (as N)	2.86		2.00	mg/L	10	3/1/2013 02:27 PM
Surr: Selenate (surr)	89.4		85-115	%REC	5	3/1/2013 11:10 AM
Surr: Selenate (surr)	93.1		85-115	%REC	1	2/28/2013 09:23 PM
Surr: Selenate (surr)	109		85-115	%REC	10	3/1/2013 02:27 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	513		6.00	mg/L	1	3/1/2013 02:00 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 2/22/2013 11:45 AM

Work Order: 1302789
Lab ID: 1302789-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/1/2013 02:00 PM
Alkalinity, Total (As CaCO ₃)	513		6.00	mg/L	1	3/1/2013 02:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: VAN
Specific Conductivity	1,530		1.00	µmhos/cm	1	2/28/2013 08:00 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.05	H	0.100	pH Units	1	3/1/2013 03:23 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	968		10.0	mg/L	1	2/18/2013 05:40 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: TB-02-22-13
Collection Date: 2/22/2013

Work Order: 1302789
Lab ID: 1302789-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
2-Butanone	ND		0.010	mg/L	1	2/25/2013 03:17 PM
2-Hexanone	ND		0.010	mg/L	1	2/25/2013 03:17 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/25/2013 03:17 PM
Acetone	ND		0.010	mg/L	1	2/25/2013 03:17 PM
Benzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Bromoform	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Bromomethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Carbon disulfide	ND		0.010	mg/L	1	2/25/2013 03:17 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Chlorobenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Chloroethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Chloroform	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Chloromethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Isopropylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
m,p-Xylene	ND		0.010	mg/L	1	2/25/2013 03:17 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Methylene chloride	ND		0.010	mg/L	1	2/25/2013 03:17 PM
Naphthalene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
n-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
n-Propylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
o-Xylene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Styrene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
Sample ID: TB-02-22-13
Collection Date: 2/22/2013

Work Order: 1302789
Lab ID: 1302789-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Toluene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Trichloroethene	ND		0.0050	mg/L	1	2/25/2013 03:17 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/25/2013 03:17 PM
Xylenes, Total	ND		0.015	mg/L	1	2/25/2013 03:17 PM
Surr: 1,2-Dichloroethane-d4	99.7		70-125	%REC	1	2/25/2013 03:17 PM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	2/25/2013 03:17 PM
Surr: Dibromofluoromethane	105		71-125	%REC	1	2/25/2013 03:17 PM
Surr: Toluene-d8	98.6		75-125	%REC	1	2/25/2013 03:17 PM

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

ALS Environmental

Date: 04-Mar-13

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK	Sample ID: MBLKW7-022513-68070				Units: mg/L		Analysis Date: 2/27/2013 06:53 PM			
Client ID:	Run ID: ICP7500_130227A				SeqNo: 3126430		Prep Date: 2/25/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Uranium	ND	0.0050								
Zinc	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW7-022513-68070** Units: **mg/L** Analysis Date: **2/27/2013 03:48 AM**

Client ID: Run ID: **ICP7500_130226A** SeqNo: **3125306** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1054	0.010	0.1	0	105	80-120	0			
Arsenic	0.04833	0.0050	0.05	0	96.7	80-120	0			
Barium	0.05032	0.0050	0.05	0	101	80-120	0			
Boron	0.4742	0.050	0.5	0	94.8	80-120	0			
Cadmium	0.0493	0.0020	0.05	0	98.6	80-120	0			
Calcium	5.102	0.50	5	0	102	80-120	0			
Chromium	0.05051	0.0050	0.05	0	101	80-120	0			
Cobalt	0.05007	0.0050	0.05	0	100	80-120	0			
Copper	0.05103	0.0050	0.05	0	102	80-120	0			
Iron	5.08	0.20	5	0	102	80-120	0			
Lead	0.04858	0.0050	0.05	0	97.2	80-120	0			
Magnesium	5.082	0.20	5	0	102	80-120	0			
Manganese	0.05078	0.0050	0.05	0	102	80-120	0			
Molybdenum	0.04869	0.0050	0.05	0	97.4	80-120	0			
Nickel	0.0499	0.0050	0.05	0	99.8	80-120	0			
Potassium	5.025	0.20	5	0	100	80-120	0			
Selenium	0.05091	0.0050	0.05	0	102	80-120	0			
Silver	0.04983	0.0050	0.05	0	99.7	80-120	0			
Sodium	5.067	0.20	5	0	101	80-120	0			
Uranium	0.09013	0.0050	0.1	0	90.1	80-120	0			
Zinc	0.0528	0.0050	0.05	0	106	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **1302789-03CMS** Units: **mg/L** Analysis Date: **2/27/2013 04:09 AM**
 Client ID: **MW-20** Run ID: **ICP7500_130226A** SeqNo: **3125310** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1354	0.010	0.1	0.02935	106	75-125	0			
Arsenic	0.05386	0.0050	0.05	0.003659	100	75-125	0			
Barium	0.1585	0.0050	0.05	0.1021	113	75-125	0			
Boron	0.662	0.050	0.5	0.1643	99.5	75-125	0			
Cadmium	0.05068	0.0020	0.05	0.0006292	100	75-125	0			
Calcium	142	0.50	5	131.3	214	75-125	0			SO
Chromium	0.05559	0.0050	0.05	0.003784	104	75-125	0			
Cobalt	0.05133	0.0050	0.05	0.0001388	102	75-125	0			
Copper	0.05182	0.0050	0.05	0.0008573	102	75-125	0			
Iron	5.169	0.20	5	0.03457	103	75-125	0			
Lead	0.05049	0.0050	0.05	0.0002839	100	75-125	0			
Magnesium	20.24	0.20	5	14.8	109	75-125	0			
Manganese	0.05207	0.0050	0.05	0.001853	100	75-125	0			
Molybdenum	0.05169	0.0050	0.05	0.002428	98.5	75-125	0			
Nickel	0.05258	0.0050	0.05	0.00215	101	75-125	0			
Potassium	7.248	0.20	5	1.992	105	75-125	0			
Selenium	0.0531	0.0050	0.05	0.001676	103	75-125	0			
Silver	0.04907	0.0050	0.05	-0.00008708	98.3	75-125	0			
Sodium	45.26	0.20	5	39.18	122	75-125	0			O
Uranium	0.1002	0.0050	0.1	0.003432	96.8	75-125	0			
Zinc	0.06718	0.0050	0.05	0.01653	101	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD Sample ID: **1302789-03CMSD** Units: **mg/L** Analysis Date: **2/27/2013 04:14 AM**
 Client ID: **MW-20** Run ID: **ICP7500_130226A** SeqNo: **3125311** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1377	0.010	0.1	0.02935	108	75-125	0.1354	1.68	25	
Arsenic	0.05463	0.0050	0.05	0.003659	102	75-125	0.05386	1.42	25	
Barium	0.1547	0.0050	0.05	0.1021	105	75-125	0.1585	2.43	25	
Boron	0.6564	0.050	0.5	0.1643	98.4	75-125	0.662	0.85	25	
Cadmium	0.05017	0.0020	0.05	0	100	75-125	0.05068	1.01	25	
Calcium	141	0.50	5	131.3	194	75-125	142	0.707	25	SO
Chromium	0.0559	0.0050	0.05	0.003784	104	75-125	0.05559	0.556	25	
Cobalt	0.05087	0.0050	0.05	0	102	75-125	0.05133	0.9	25	
Copper	0.05167	0.0050	0.05	0	103	75-125	0.05182	0.29	25	
Iron	5.159	0.20	5	0	103	75-125	5.169	0.194	25	
Lead	0.0499	0.0050	0.05	0	99.8	75-125	0.05049	1.18	25	
Magnesium	20.42	0.20	5	14.8	112	75-125	20.24	0.885	25	
Manganese	0.05256	0.0050	0.05	0	105	75-125	0.05207	0.937	25	
Molybdenum	0.05175	0.0050	0.05	0.002428	98.6	75-125	0.05169	0.116	25	
Nickel	0.05144	0.0050	0.05	0.00215	98.6	75-125	0.05258	2.19	25	
Potassium	7.272	0.20	5	1.992	106	75-125	7.248	0.331	25	
Selenium	0.05153	0.0050	0.05	0.001676	99.7	75-125	0.0531	3	25	
Silver	0.04907	0.0050	0.05	0	98.1	75-125	0.04907	0	25	
Sodium	45.63	0.20	5	39.18	129	75-125	45.26	0.814	25	SO
Uranium	0.1007	0.0050	0.1	0	101	75-125	0.1002	0.498	25	
Zinc	0.06856	0.0050	0.05	0.01653	104	75-125	0.06718	2.03	25	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68070** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **1302789-03CDUP** Units: **mg/L** Analysis Date: **2/27/2013 03:59 AM**
 Client ID: **MW-20** Run ID: **ICP7500_130226A** SeqNo: **3125308** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.02978	0.010	0	0	0	0-0	0.02935	1.45	25	
Arsenic	ND	0.0050	0	0	0	0-0	0.003659	0	25	
Barium	0.1068	0.0050	0	0	0	0-0	0.1021	4.5	25	
Boron	0.1683	0.050	0	0	0	0-0	0.1643	2.41	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.0006292	0	25	
Calcium	133.4	0.50	0	0	0	0-0	131.3	1.59	25	
Chromium	ND	0.0050	0	0	0	0-0	0.003784	0	25	
Cobalt	ND	0.0050	0	0	0	0-0	0.0001388	0	25	
Copper	ND	0.0050	0	0	0	0-0	0.0008573	0	25	
Iron	ND	0.20	0	0	0	0-0	0.03457	0	25	
Lead	ND	0.0050	0	0	0	0-0	0.0002839	0	25	
Magnesium	15	0.20	0	0	0	0-0	14.8	1.34	25	
Manganese	ND	0.0050	0	0	0	0-0	0.001853	0	25	
Molybdenum	ND	0.0050	0	0	0	0-0	0.002428	0	25	
Nickel	ND	0.0050	0	0	0	0-0	0.00215	0	25	
Potassium	2.062	0.20	0	0	0	0-0	1.992	3.45	25	
Selenium	ND	0.0050	0	0	0	0-0	0.001676	0	25	
Silver	ND	0.0050	0	0	0	0-0	-0.00008708	0	25	
Sodium	39.77	0.20	0	0	0	0-0	39.18	1.49	25	
Uranium	ND	0.0050	0	0	0		0.003432	0	25	
Zinc	0.01535	0.0050	0	0	0	0-0	0.01653	7.4	25	

The following samples were analyzed in this batch:

1302789-01C	1302789-03C	1302789-04C
1302789-05C	1302789-07C	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68104** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-022613-68104				Units: mg/L		Analysis Date: 2/26/2013 07:33 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124931		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-022613-68104				Units: mg/L		Analysis Date: 2/26/2013 07:35 PM			
Client ID:	Run ID: MERCURY_130225A				SeqNo: 3124932		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00509	0.00020	0.005	0	102	85-115	0			

MS	Sample ID: 1302789-03DMS				Units: mg/L		Analysis Date: 2/26/2013 07:43 PM			
Client ID: MW-20	Run ID: MERCURY_130225A				SeqNo: 3124935		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00494	0.00020	0.005	-0.000013	99.1	85-115	0			

MSD	Sample ID: 1302789-03DMSD				Units: mg/L		Analysis Date: 2/26/2013 07:45 PM			
Client ID: MW-20	Run ID: MERCURY_130225A				SeqNo: 3124936		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00489	0.00020	0.005	-0.000013	98.1	85-115	0.00494	1.02	20	

DUP	Sample ID: 1302789-03DDUP				Units: mg/L		Analysis Date: 2/26/2013 07:41 PM			
Client ID: MW-20	Run ID: MERCURY_130225A				SeqNo: 3124934		Prep Date: 2/26/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000013	0	20	

The following samples were analyzed in this batch:

1302789-01D	1302789-03D	1302789-04D
1302789-05D	1302789-06D	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68137** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-022813-68137				Units: mg/L		Analysis Date: 2/28/2013 01:24 PM			
Client ID:	Run ID: MERCURY_130227A				SeqNo: 3127488		Prep Date: 2/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-022813-68137				Units: mg/L		Analysis Date: 2/28/2013 01:27 PM			
Client ID:	Run ID: MERCURY_130227A				SeqNo: 3127489		Prep Date: 2/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00495	0.00020	0.005	0	99	85-115	0			

MS	Sample ID: 1302894-02BMS				Units: mg/L		Analysis Date: 2/28/2013 01:36 PM			
Client ID:	Run ID: MERCURY_130227A				SeqNo: 3127492		Prep Date: 2/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00471	0.00020	0.005	0.000057	93.1	85-115	0			

MSD	Sample ID: 1302894-02BMSD				Units: mg/L		Analysis Date: 2/28/2013 01:38 PM			
Client ID:	Run ID: MERCURY_130227A				SeqNo: 3127493		Prep Date: 2/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0047	0.00020	0.005	0.000057	92.9	85-115	0.00471	0.213	20	

DUP	Sample ID: 1302894-02BDUP				Units: mg/L		Analysis Date: 2/28/2013 01:31 PM			
Client ID:	Run ID: MERCURY_130227A				SeqNo: 3127491		Prep Date: 2/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0.000057	0	20	

The following samples were analyzed in this batch:

1302789-07D

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MBLK Sample ID: **SBLKW2-130225-68043** Units: **µg/L** Analysis Date: **2/25/2013 06:05 PM**
 Client ID: Run ID: **SV-6_130225B** SeqNo: **3125684** Prep Date: **2/25/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	5.403	0.20	5	0	108	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.442	0.20	5	0	88.8	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.833	0.20	5	0	76.7	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	5.57	0.20	5	0	111	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.774	0.20	5	0	75.5	41-120	0	
<i>Surr: Phenol-d6</i>	3.913	0.20	5	0	78.3	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

LCS				Sample ID: SLCSW2-130225-68043			Units: µg/L		Analysis Date: 2/25/2013 05:45 PM		
Client ID:		Run ID: SV-6_130225B			SeqNo: 3125682		Prep Date: 2/25/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1'-Biphenyl	4.52	0.20	5	0	90.4	45-125	0				
1-Methylnaphthalene	4.702	0.20	5	0	94	45-120	0				
2,4,5-Trichlorophenol	5.858	0.20	5	0	117	46-120	0				
2,4,6-Trichlorophenol	5.609	0.20	5	0	112	42-120	0				
2,4-Dichlorophenol	4.985	0.20	5	0	99.7	49-120	0				
2,4-Dimethylphenol	4.508	0.20	5	0	90.2	35-120	0				
2,4-Dinitrophenol	5.194	1.0	5	0	104	15-120	0				
2,4-Dinitrotoluene	5.875	0.20	5	0	118	50-122	0				
2,6-Dinitrotoluene	5.992	0.20	5	0	120	50-120	0				
2-Chloronaphthalene	5.608	0.20	5	0	112	50-120	0				
2-Chlorophenol	4.446	0.20	5	0	88.9	40-120	0				
2-Methylnaphthalene	4.727	0.20	5	0	94.5	50-120	0				
2-Methylphenol	4.395	0.20	5	0	87.9	45-120	0				
2-Nitroaniline	4.575	0.20	5	0	91.5	28-139	0				
2-Nitrophenol	5.063	0.20	5	0	101	40-120	0				
3&4-Methylphenol	4.364	0.20	5	0	87.3	35-120	0				
3,3'-Dichlorobenzidine	5.099	0.20	5	0	102	15-120	0				
3-Nitroaniline	4.759	0.20	5	0	95.2	30-120	0				
4,6-Dinitro-2-methylphenol	4.836	0.20	5	0	96.7	25-121	0				
4-Bromophenyl phenyl ether	5.392	0.20	5	0	108	45-120	0				
4-Chloro-3-methylphenol	4.479	0.20	5	0	89.6	47-120	0				
4-Chloroaniline	4.744	0.20	5	0	94.9	20-120	0				
4-Chlorophenyl phenyl ether	5.683	0.20	5	0	114	50-120	0				
4-Nitroaniline	5.439	0.20	5	0	109	30-133	0				
4-Nitrophenol	4.499	1.0	5	0	90	30-130	0				
Acenaphthene	4.522	0.20	5	0	90.4	45-120	0				
Acenaphthylene	5.133	0.20	5	0	103	47-120	0				
Acetophenone	3.237	0.20	5	0	64.7	40-120	0				
Anthracene	5.526	0.20	5	0	111	45-120	0				
Atrazine	4.509	0.20	5	0	90.2	40-130	0				
Benz(a)anthracene	4.784	0.20	5	0	95.7	40-120	0				
Benzaldehyde	1.797	0.20	5	0	35.9	15-120	0				
Benzo(a)pyrene	4.988	0.20	5	0	99.8	45-120	0				
Benzo(b)fluoranthene	5.322	0.20	5	0	106	50-120	0				
Benzo(g,h,i)perylene	4.937	0.20	5	0	98.7	42-127	0				
Benzo(k)fluoranthene	4.817	0.20	5	0	96.3	45-127	0				
Bis(2-chloroethoxy)methane	4.276	0.20	5	0	85.5	45-120	0				
Bis(2-chloroethyl)ether	4.146	0.20	5	0	82.9	37-121	0				

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270			
Bis(2-chloroisopropyl)ether	4.161	0.20	5	0	83.2	40-120	0
Bis(2-ethylhexyl)phthalate	4.728	0.20	5	0	94.6	40-139	0
Butyl benzyl phthalate	5.108	0.20	5	0	102	47-123	0
Caprolactam	4.734	0.20	5	0	94.7	35-134	0
Carbazole	5.745	0.20	5	0	115	42-128	0
Chrysene	4.876	0.20	5	0	97.5	43-120	0
Dibenz(a,h)anthracene	4.92	0.20	5	0	98.4	45-125	0
Dibenzofuran	5.367	0.20	5	0	107	50-120	0
Diethyl phthalate	5.381	0.20	5	0	108	41-120	0
Dimethyl phthalate	4.788	0.20	5	0	95.8	40-122	0
Di-n-butyl phthalate	5.29	0.20	5	0	106	45-123	0
Di-n-octyl phthalate	5.174	0.20	5	0	103	45-129	0
Fluoranthene	5.89	0.20	5	0	118	45-125	0
Fluorene	5.594	0.20	5	0	112	49-120	0
Hexachlorobenzene	5.502	0.20	5	0	110	48-120	0
Hexachlorobutadiene	5.095	0.20	5	0	102	40-120	0
Hexachlorocyclopentadiene	4.933	0.20	5	0	98.7	34-136	0
Hexachloroethane	4.178	0.20	5	0	83.6	40-120	0
Indeno(1,2,3-cd)pyrene	4.91	0.20	5	0	98.2	41-128	0
Isophorone	3.883	0.20	5	0	77.7	40-121	0
Naphthalene	4.598	0.20	5	0	92	45-120	0
Nitrobenzene	4.104	0.20	5	0	82.1	44-120	0
N-Nitrosodi-n-propylamine	3.95	0.20	5	0	79	40-120	0
N-Nitrosodiphenylamine	5.419	0.20	5	0	108	40-125	0
Pentachlorophenol	5.455	0.20	5	0	109	19-121	0
Phenanthrene	4.442	0.20	5	0	88.8	45-121	0
Phenol	4.225	0.20	5	0	84.5	20-124	0
Pyrene	4.847	0.20	5	0	96.9	40-130	0
<i>Surr: 2,4,6-Tribromophenol</i>	5.657	0.20	5	0	113	34-129	0
<i>Surr: 2-Fluorobiphenyl</i>	4.526	0.20	5	0	90.5	40-125	0
<i>Surr: 2-Fluorophenol</i>	4.101	0.20	5	0	82	20-120	0
<i>Surr: 4-Terphenyl-d14</i>	5.328	0.20	5	0	107	40-135	0
<i>Surr: Nitrobenzene-d5</i>	3.993	0.20	5	0	79.9	41-120	0
<i>Surr: Phenol-d6</i>	3.939	0.20	5	0	78.8	20-120	0

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

LCSD		Sample ID: SLCSDW2-130225-68043				Units: µg/L		Analysis Date: 2/25/2013 06:24 PM		
Client ID:		Run ID: SV-6_130225B				SeqNo: 3125686		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.492	0.20	5	0	89.8	45-125	4.52	0.633	20	
1-Methylnaphthalene	3.923	0.20	5	0	78.5	45-120	4.702	18.1	20	
2,4,5-Trichlorophenol	4.977	0.20	5	0	99.5	46-120	5.858	16.3	20	
2,4,6-Trichlorophenol	5.006	0.20	5	0	100	42-120	5.609	11.4	20	
2,4-Dichlorophenol	4.093	0.20	5	0	81.9	49-120	4.985	19.7	20	
2,4-Dimethylphenol	3.778	0.20	5	0	75.6	35-120	4.508	17.6	20	
2,4-Dinitrophenol	5.233	1.0	5	0	105	15-120	5.194	0.756	50	
2,4-Dinitrotoluene	5.012	0.20	5	0	100	50-122	5.875	15.9	20	
2,6-Dinitrotoluene	5.134	0.20	5	0	103	50-120	5.992	15.4	20	
2-Chloronaphthalene	4.479	0.20	5	0	89.6	50-120	5.608	22.4	20	R
2-Chlorophenol	4.511	0.20	5	0	90.2	40-120	4.446	1.45	20	
2-Methylnaphthalene	4.013	0.20	5	0	80.3	50-120	4.727	16.3	20	
2-Methylphenol	4.39	0.20	5	0	87.8	45-120	4.395	0.113	20	
2-Nitroaniline	4.614	0.20	5	0	92.3	28-139	4.575	0.84	20	
2-Nitrophenol	4.143	0.20	5	0	82.9	40-120	5.063	20	20	
3&4-Methylphenol	4.408	0.20	5	0	88.2	35-120	4.364	1	20	
3,3'-Dichlorobenzidine	5.182	0.20	5	0	104	15-120	5.099	1.62	20	
3-Nitroaniline	5.031	0.20	5	0	101	30-120	4.759	5.56	20	
4,6-Dinitro-2-methylphenol	4.941	0.20	5	0	98.8	25-121	4.836	2.14	30	
4-Bromophenyl phenyl ether	5.014	0.20	5	0	100	45-120	5.392	7.27	20	
4-Chloro-3-methylphenol	3.789	0.20	5	0	75.8	47-120	4.479	16.7	20	
4-Chloroaniline	4.733	0.20	5	0	94.7	20-120	4.744	0.219	20	
4-Chlorophenyl phenyl ether	4.912	0.20	5	0	98.2	50-120	5.683	14.5	20	
4-Nitroaniline	4.589	0.20	5	0	91.8	30-133	5.439	17	20	
4-Nitrophenol	4.218	1.0	5	0	84.4	30-130	4.499	6.46	20	
Acenaphthene	5.015	0.20	5	0	100	45-120	4.522	10.3	20	
Acenaphthylene	5.475	0.20	5	0	109	47-120	5.133	6.44	20	
Acetophenone	2.703	0.20	5	0	54.1	40-120	3.237	18	20	
Anthracene	4.655	0.20	5	0	93.1	45-120	5.526	17.1	20	
Atrazine	5.025	0.20	5	0	100	40-130	4.509	10.8	20	
Benz(a)anthracene	4.799	0.20	5	0	96	40-120	4.784	0.325	20	
Benzaldehyde	1.643	0.20	5	0	32.9	15-120	1.797	8.99	30	
Benzo(a)pyrene	4.838	0.20	5	0	96.8	45-120	4.988	3.05	20	
Benzo(b)fluoranthene	4.962	0.20	5	0	99.2	50-120	5.322	7	20	
Benzo(g,h,i)perylene	5.25	0.20	5	0	105	42-127	4.937	6.15	20	
Benzo(k)fluoranthene	4.896	0.20	5	0	97.9	45-127	4.817	1.61	20	
Bis(2-chloroethoxy)methane	3.641	0.20	5	0	72.8	45-120	4.276	16	20	
Bis(2-chloroethyl)ether	4.191	0.20	5	0	83.8	37-121	4.146	1.07	20	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	4.261	0.20	5	0	85.2	40-120	4.161	2.36	20
Bis(2-ethylhexyl)phthalate	4.093	0.20	5	0	81.9	40-139	4.728	14.4	20
Butyl benzyl phthalate	5.081	0.20	5	0	102	47-123	5.108	0.539	20
Caprolactam	3.908	0.20	5	0	78.2	35-134	4.734	19.1	20
Carbazole	4.559	0.20	5	0	91.2	42-128	5.745	23	20 R
Chrysene	4.342	0.20	5	0	86.8	43-120	4.876	11.6	20
Dibenz(a,h)anthracene	4.603	0.20	5	0	92.1	45-125	4.92	6.67	20
Dibenzofuran	4.78	0.20	5	0	95.6	50-120	5.367	11.6	20
Diethyl phthalate	4.572	0.20	5	0	91.4	41-120	5.381	16.2	20
Dimethyl phthalate	4.713	0.20	5	0	94.3	40-122	4.788	1.57	20
Di-n-butyl phthalate	4.585	0.20	5	0	91.7	45-123	5.29	14.3	20
Di-n-octyl phthalate	4.446	0.20	5	0	88.9	45-129	5.174	15.1	20
Fluoranthene	4.819	0.20	5	0	96.4	45-125	5.89	20	20 R
Fluorene	4.719	0.20	5	0	94.4	49-120	5.594	17	20
Hexachlorobenzene	5.076	0.20	5	0	102	48-120	5.502	8.05	20
Hexachlorobutadiene	4.28	0.20	5	0	85.6	40-120	5.095	17.4	20
Hexachlorocyclopentadiene	4.974	0.20	5	0	99.5	34-136	4.933	0.832	20
Hexachloroethane	4.178	0.20	5	0	83.6	40-120	4.178	0.0114	20
Indeno(1,2,3-cd)pyrene	4.774	0.20	5	0	95.5	41-128	4.91	2.8	20
Isophorone	3.248	0.20	5	0	65	40-121	3.883	17.8	20
Naphthalene	4.709	0.20	5	0	94.2	45-120	4.598	2.38	20
Nitrobenzene	3.448	0.20	5	0	69	44-120	4.104	17.4	20
N-Nitrosodi-n-propylamine	3.982	0.20	5	0	79.6	40-120	3.95	0.802	20
N-Nitrosodiphenylamine	4.626	0.20	5	0	92.5	40-125	5.419	15.8	20
Pentachlorophenol	5.996	0.20	5	0	120	19-121	5.455	9.46	20
Phenanthrene	4.568	0.20	5	0	91.4	45-121	4.442	2.79	20
Phenol	4.214	0.20	5	0	84.3	20-124	4.225	0.257	20
Pyrene	4.112	0.20	5	0	82.2	40-130	4.847	16.4	20
<i>Surr: 2,4,6-Tribromophenol</i>	5.364	0.20	5	0	107	34-129	5.657	5.31	0
<i>Surr: 2-Fluorobiphenyl</i>	4.552	0.20	5	0	91	40-125	4.526	0.571	0
<i>Surr: 2-Fluorophenol</i>	4.162	0.20	5	0	83.2	20-120	4.101	1.49	0
<i>Surr: 4-Terphenyl-d14</i>	4.839	0.20	5	0	96.8	40-135	5.328	9.63	0
<i>Surr: Nitrobenzene-d5</i>	3.347	0.20	5	0	66.9	41-120	3.993	17.6	0
<i>Surr: Phenol-d6</i>	4.003	0.20	5	0	80.1	20-120	3.939	1.61	0

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MS		Sample ID: 1302789-03FMS				Units: µg/L		Analysis Date: 2/27/2013 12:55 AM		
Client ID: MW-20		Run ID: SV-6_130225B				SeqNo: 3125736		Prep Date: 2/25/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.115	0.20	5	0	82.3	45-125	0			
1-Methylnaphthalene	4.261	0.20	5	0	85.2	45-120	0			
2,4,5-Trichlorophenol	4.798	0.20	5	0	96	46-120	0			
2,4,6-Trichlorophenol	4.486	0.20	5	0	89.7	42-120	0			
2,4-Dichlorophenol	4.523	0.20	5	0	90.5	49-120	0			
2,4-Dimethylphenol	4.101	0.20	5	0	82	35-120	0			
2,4-Dinitrophenol	4.691	1.0	5	0	93.8	15-120	0			
2,4-Dinitrotoluene	4.794	0.20	5	0	95.9	50-122	0			
2,6-Dinitrotoluene	6.479	0.20	5	0	130	50-120	0			S
2-Chloronaphthalene	4.079	0.20	5	0	81.6	50-120	0			
2-Chlorophenol	4.011	0.20	5	0	80.2	40-120	0			
2-Methylnaphthalene	4.336	0.20	5	0	86.7	50-120	0			
2-Methylphenol	4.112	0.20	5	0	82.2	45-120	0			
2-Nitroaniline	4.264	0.20	5	0	85.3	28-139	0			
2-Nitrophenol	3.82	0.20	5	0	76.4	40-120	0			
3&4-Methylphenol	4.155	0.20	5	0	83.1	35-120	0			
3,3'-Dichlorobenzidine	4.271	0.20	5	0	85.4	15-120	0			
3-Nitroaniline	4.579	0.20	5	0	91.6	30-120	0			
4,6-Dinitro-2-methylphenol	4.556	0.20	5	0	91.1	25-121	0			
4-Bromophenyl phenyl ether	4.641	0.20	5	0	92.8	45-120	0			
4-Chloro-3-methylphenol	4.373	0.20	5	0	87.5	47-120	0			
4-Chloroaniline	4.379	0.20	5	0	87.6	20-120	0			
4-Chlorophenyl phenyl ether	4.53	0.20	5	0	90.6	50-120	0			
4-Nitroaniline	4.414	0.20	5	0	88.3	30-133	0			
4-Nitrophenol	4.417	1.0	5	0	88.3	30-130	0			
Acenaphthene	4.16	0.20	5	0	83.2	45-120	0			
Acenaphthylene	4.343	0.20	5	0	86.9	47-120	0			
Acetophenone	2.852	0.20	5	0	57	40-120	0			
Anthracene	4.454	0.20	5	0	89.1	45-120	0			
Atrazine	3.98	0.20	5	0	79.6	40-130	0			
Benz(a)anthracene	4.495	0.20	5	0	89.9	40-120	0			
Benzaldehyde	0.2136	0.20	5	0	4.27	15-120	0			S
Benzo(a)pyrene	4.638	0.20	5	0	92.8	45-120	0			
Benzo(b)fluoranthene	5.009	0.20	5	0	100	50-120	0			
Benzo(g,h,i)perylene	4.526	0.20	5	0	90.5	42-127	0			
Benzo(k)fluoranthene	4.22	0.20	5	0	84.4	45-127	0			
Bis(2-chloroethoxy)methane	4.035	0.20	5	0	80.7	45-120	0			
Bis(2-chloroethyl)ether	3.936	0.20	5	0	78.7	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	3.975	0.20	5	0	79.5	40-120	0	
Bis(2-ethylhexyl)phthalate	4.797	0.20	5	0.1311	93.3	40-139	0	
Butyl benzyl phthalate	4.718	0.20	5	0	94.4	47-123	0	
Caprolactam	4.768	0.20	5	0	95.4	35-134	0	
Carbazole	4.707	0.20	5	0	94.1	42-128	0	
Chrysene	4.544	0.20	5	0	90.9	43-120	0	
Dibenz(a,h)anthracene	4.663	0.20	5	0	93.3	45-125	0	
Dibenzofuran	4.384	0.20	5	0	87.7	50-120	0	
Diethyl phthalate	4.397	0.20	5	0	87.9	41-120	0	
Dimethyl phthalate	4.393	0.20	5	0	87.9	40-122	0	
Di-n-butyl phthalate	4.621	0.20	5	0	92.4	45-123	0	
Di-n-octyl phthalate	4.763	0.20	5	0	95.3	45-129	0	
Fluoranthene	4.694	0.20	5	0	93.9	45-125	0	
Fluorene	4.367	0.20	5	0	87.3	49-120	0	
Hexachlorobenzene	4.685	0.20	5	0	93.7	48-120	0	
Hexachlorobutadiene	4.432	0.20	5	0	88.6	40-120	0	
Hexachlorocyclopentadiene	4.333	0.20	5	0	86.7	34-136	0	
Hexachloroethane	3.811	0.20	5	0	76.2	40-120	0	
Indeno(1,2,3-cd)pyrene	4.617	0.20	5	0	92.3	41-128	0	
Isophorone	3.585	0.20	5	0	71.7	40-121	0	
Naphthalene	4.191	0.20	5	0.03839	83.1	45-120	0	
Nitrobenzene	3.68	0.20	5	0	73.6	44-120	0	
N-Nitrosodi-n-propylamine	3.748	0.20	5	0	75	40-120	0	
N-Nitrosodiphenylamine	4.359	0.20	5	0	87.2	40-125	0	
Pentachlorophenol	4.888	0.20	5	0	97.8	19-121	0	
Phenanthrene	4.384	0.20	5	0	87.7	45-121	0	
Phenol	3.878	0.20	5	0.06349	76.3	20-124	0	
Pyrene	4.479	0.20	5	0	89.6	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	4.775	0.20	5	0	95.5	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.016	0.20	5	0	80.3	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.524	0.20	5	0	70.5	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.853	0.20	5	0	97.1	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.533	0.20	5	0	70.7	41-120	0	
<i>Surr: Phenol-d6</i>	3.515	0.20	5	0	70.3	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68043** Instrument ID **SV-6** Method: **SW8270**

MSD	Sample ID: 1302789-03FMSD					Units: µg/L		Analysis Date: 2/27/2013 01:15 AM		
Client ID: MW-20		Run ID: SV-6_130225B			SeqNo: 3125738		Prep Date: 2/25/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.02	0.20	5	0	80.4	45-125	4.115	2.34	20	
1-Methylnaphthalene	4.254	0.20	5	0	85.1	45-120	4.261	0.157	20	
2,4,5-Trichlorophenol	4.287	0.20	5	0	85.7	46-120	4.798	11.3	20	
2,4,6-Trichlorophenol	4.53	0.20	5	0	90.6	42-120	4.486	0.982	20	
2,4-Dichlorophenol	4.348	0.20	5	0	87	49-120	4.523	3.93	20	
2,4-Dimethylphenol	3.971	0.20	5	0	79.4	35-120	4.101	3.23	20	
2,4-Dinitrophenol	4.509	1.0	5	0	90.2	15-120	4.691	3.96	50	
2,4-Dinitrotoluene	4.583	0.20	5	0	91.7	50-122	4.794	4.5	20	
2,6-Dinitrotoluene	6.119	0.20	5	0	122	50-120	6.479	5.7	20	S
2-Chloronaphthalene	4.481	0.20	5	0	89.6	50-120	4.079	9.39	20	
2-Chlorophenol	3.899	0.20	5	0	78	40-120	4.011	2.84	20	
2-Methylnaphthalene	4.3	0.20	5	0	86	50-120	4.336	0.822	20	
2-Methylphenol	3.921	0.20	5	0	78.4	45-120	4.112	4.76	20	
2-Nitroaniline	4.177	0.20	5	0	83.5	28-139	4.264	2.06	20	
2-Nitrophenol	3.792	0.20	5	0	75.8	40-120	3.82	0.746	20	
3&4-Methylphenol	3.974	0.20	5	0	79.5	35-120	4.155	4.44	20	
3,3'-Dichlorobenzidine	4.239	0.20	5	0	84.8	15-120	4.271	0.755	20	
3-Nitroaniline	4.36	0.20	5	0	87.2	30-120	4.579	4.9	20	
4,6-Dinitro-2-methylphenol	4.415	0.20	5	0	88.3	25-121	4.556	3.14	20	
4-Bromophenyl phenyl ether	4.471	0.20	5	0	89.4	45-120	4.641	3.72	20	
4-Chloro-3-methylphenol	4.241	0.20	5	0	84.8	47-120	4.373	3.08	20	
4-Chloroaniline	4.293	0.20	5	0	85.9	20-120	4.379	2	20	
4-Chlorophenyl phenyl ether	4.383	0.20	5	0	87.7	50-120	4.53	3.3	20	
4-Nitroaniline	4.293	0.20	5	0	85.9	30-133	4.414	2.77	20	
4-Nitrophenol	3.672	1.0	5	0	73.4	30-130	4.417	18.4	20	
Acenaphthene	4.032	0.20	5	0	80.6	45-120	4.16	3.14	20	
Acenaphthylene	4.176	0.20	5	0	83.5	47-120	4.343	3.92	20	
Acetophenone	2.86	0.20	5	0	57.2	40-120	2.852	0.267	20	
Anthracene	4.334	0.20	5	0	86.7	45-120	4.454	2.73	20	
Atrazine	3.94	0.20	5	0	78.8	40-130	3.98	1	20	
Benz(a)anthracene	4.404	0.20	5	0	88.1	40-120	4.495	2.03	20	
Benzaldehyde	0.2044	0.20	5	0	4.09	15-120	0.2136	4.4	30	S
Benzo(a)pyrene	4.392	0.20	5	0	87.8	45-120	4.638	5.44	20	
Benzo(b)fluoranthene	4.677	0.20	5	0	93.5	50-120	5.009	6.85	20	
Benzo(g,h,i)perylene	4.364	0.20	5	0	87.3	42-127	4.526	3.63	20	
Benzo(k)fluoranthene	4.077	0.20	5	0	81.5	45-127	4.22	3.46	20	
Bis(2-chloroethoxy)methane	3.931	0.20	5	0	78.6	45-120	4.035	2.61	20	
Bis(2-chloroethyl)ether	3.817	0.20	5	0	76.3	37-121	3.936	3.05	20	

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Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68043		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.807	0.20	5	0	76.1	40-120	3.975	4.3	20
Bis(2-ethylhexyl)phthalate	4.606	0.20	5	0.1311	89.5	40-139	4.797	4.06	20
Butyl benzyl phthalate	4.513	0.20	5	0	90.3	47-123	4.718	4.44	20
Caprolactam	4.735	0.20	5	0	94.7	35-134	4.768	0.682	20
Carbazole	4.497	0.20	5	0	89.9	42-128	4.707	4.57	20
Chrysene	4.313	0.20	5	0	86.3	43-120	4.544	5.22	20
Dibenz(a,h)anthracene	4.479	0.20	5	0	89.6	45-125	4.663	4.03	20
Dibenzofuran	4.253	0.20	5	0	85.1	50-120	4.384	3.04	20
Diethyl phthalate	4.268	0.20	5	0	85.4	41-120	4.397	2.97	20
Dimethyl phthalate	4.242	0.20	5	0	84.8	40-122	4.393	3.5	20
Di-n-butyl phthalate	4.501	0.20	5	0	90	45-123	4.621	2.63	20
Di-n-octyl phthalate	4.525	0.20	5	0	90.5	45-129	4.763	5.13	20
Fluoranthene	4.579	0.20	5	0	91.6	45-125	4.694	2.49	20
Fluorene	4.247	0.20	5	0	84.9	49-120	4.367	2.8	20
Hexachlorobenzene	4.557	0.20	5	0	91.1	48-120	4.685	2.77	20
Hexachlorobutadiene	4.382	0.20	5	0	87.6	40-120	4.432	1.12	20
Hexachlorocyclopentadiene	4.282	0.20	5	0	85.6	34-136	4.333	1.19	20
Hexachloroethane	3.703	0.20	5	0	74.1	40-120	3.811	2.88	20
Indeno(1,2,3-cd)pyrene	4.356	0.20	5	0	87.1	41-128	4.617	5.82	20
Isophorone	3.555	0.20	5	0	71.1	40-121	3.585	0.851	20
Naphthalene	4.16	0.20	5	0.03839	82.4	45-120	4.191	0.734	20
Nitrobenzene	3.673	0.20	5	0	73.5	44-120	3.68	0.172	20
N-Nitrosodi-n-propylamine	3.617	0.20	5	0	72.3	40-120	3.748	3.56	20
N-Nitrosodiphenylamine	4.286	0.20	5	0	85.7	40-125	4.359	1.69	20
Pentachlorophenol	4.696	0.20	5	0	93.9	19-121	4.888	3.99	20
Phenanthrene	4.252	0.20	5	0	85	45-121	4.384	3.06	20
Phenol	3.742	0.20	5	0.06349	73.6	20-124	3.878	3.56	20
Pyrene	4.319	0.20	5	0	86.4	40-130	4.479	3.63	20
<i>Surr: 2,4,6-Tribromophenol</i>	4.587	0.20	5	0	91.7	34-129	4.775	4.01	0
<i>Surr: 2-Fluorobiphenyl</i>	3.878	0.20	5	0	77.6	40-125	4.016	3.49	0
<i>Surr: 2-Fluorophenol</i>	3.348	0.20	5	0	67	20-120	3.524	5.14	0
<i>Surr: 4-Terphenyl-d14</i>	4.613	0.20	5	0	92.3	40-135	4.853	5.07	0
<i>Surr: Nitrobenzene-d5</i>	3.488	0.20	5	0	69.8	41-120	3.533	1.28	0
<i>Surr: Phenol-d6</i>	3.381	0.20	5	0	67.6	20-120	3.515	3.89	0

The following samples were analyzed in this batch:

1302789-01F	1302789-03F	1302789-04F
1302789-05F	1302789-06F	1302789-07F

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130225-R143267** Units: **µg/L** Analysis Date: **2/25/2013 11:09 AM**
 Client ID: Run ID: **VOA1_130225B** SeqNo: **3123934** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	51.54	5.0	50	0	103	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.78	5.0	50	0	99.6	72-125	0	
<i>Surr: Dibromofluoromethane</i>	53.04	5.0	50	0	106	71-125	0	
<i>Surr: Toluene-d8</i>	49.08	5.0	50	0	98.2	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

LCS				Sample ID: VLCSW-130225-R143267			Units: µg/L		Analysis Date: 2/25/2013 09:55 AM		
Client ID:		Run ID: VOA1_130225B			SeqNo: 3123933		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	55.63	5.0	50	0	111	80-120	0				
1,1,2,2-Tetrachloroethane	45.92	5.0	50	0	91.8	72-120	0				
1,1,2-Trichloroethane	49.53	5.0	50	0	99.1	80-120	0				
1,1-Dichloroethane	57.18	5.0	50	0	114	76-120	0				
1,1-Dichloroethene	57.18	5.0	50	0	114	73-124	0				
1,2,4-Trimethylbenzene	47.07	5.0	50	0	94.1	68-123	0				
1,2-Dibromoethane	47.25	5.0	50	0	94.5	80-120	0				
1,2-Dichloroethane	51.04	5.0	50	0	102	78-120	0				
1,2-Dichloropropane	51.6	5.0	50	0	103	80-120	0				
1,3,5-Trimethylbenzene	46.19	5.0	50	0	92.4	80-120	0				
2-Butanone	105.1	10	100	0	105	58-132	0				
2-Hexanone	93.1	10	100	0	93.1	61-130	0				
4-Isopropyltoluene	47.56	5.0	50	0	95.1	79-120	0				
4-Methyl-2-pentanone	94.95	10	100	0	95	65-127	0				
Acetone	107.4	10	100	0	107	59-137	0				
Benzene	51.7	5.0	50	0	103	73-121	0				
Bromodichloromethane	50.14	5.0	50	0	100	80-120	0				
Bromoform	48.84	5.0	50	0	97.7	79-120	0				
Bromomethane	67.18	5.0	50	0	134	66-137	0				
Carbon disulfide	102.4	10	100	0	102	68-141	0				
Carbon tetrachloride	49.97	5.0	50	0	99.9	75-124	0				
Chlorobenzene	48.45	5.0	50	0	96.9	80-120	0				
Chloroethane	53.38	5.0	50	0	107	76-121	0				
Chloroform	54.41	5.0	50	0	109	80-120	0				
Chloromethane	54.61	5.0	50	0	109	67-123	0				
cis-1,2-Dichloroethene	55.25	5.0	50	0	110	78-120	0				
cis-1,3-Dichloropropene	54.02	5.0	50	0	108	80-120	0				
Dibromochloromethane	49.08	5.0	50	0	98.2	80-120	0				
Ethylbenzene	48.8	5.0	50	0	97.6	80-120	0				
Isopropylbenzene	48	5.0	50	0	96	80-120	0				
m,p-Xylene	100.9	10	100	0	101	78-121	0				
Methyl tert-butyl ether	55.62	5.0	50	0	111	73-121	0				
Methylene chloride	54.33	10	50	0	109	65-133	0				
Naphthalene	49.88	5.0	50	0	99.8	65-135	0				
n-Butylbenzene	46.81	5.0	50	0	93.6	77-120	0				
n-Propylbenzene	46.5	5.0	50	0	93	78-120	0				
o-Xylene	46.72	5.0	50	0	93.4	80-120	0				
sec-Butylbenzene	48.01	5.0	50	0	96	78-120	0				

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260			
Styrene	45.68	5.0	50	0	91.4	80-120	0
Tetrachloroethene	47.56	5.0	50	0	95.1	79-120	0
Toluene	46.55	5.0	50	0	93.1	80-120	0
trans-1,2-Dichloroethene	56.28	5.0	50	0	113	78-120	0
trans-1,3-Dichloropropene	48.82	5.0	50	0	97.6	80-120	0
Trichloroethene	52.54	5.0	50	0	105	80-120	0
Vinyl chloride	53.85	2.0	50	0	108	70-127	0
Xylenes, Total	147.6	15	150	0	98.4	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	48.55	5.0	50	0	97.1	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	49.64	5.0	50	0	99.3	72-125	0
<i>Surr: Dibromofluoromethane</i>	53.74	5.0	50	0	107	71-125	0
<i>Surr: Toluene-d8</i>	47.96	5.0	50	0	95.9	75-125	0

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 1302789-03AMS				Units: µg/L		Analysis Date: 2/25/2013 01:38 PM		
Client ID: MW-20		Run ID: VOA1_130225B				SeqNo: 3123940		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.42	5.0	50	0	101	80-120	0			
1,1,2,2-Tetrachloroethane	48	5.0	50	0	96	72-120	0			
1,1,2-Trichloroethane	50.79	5.0	50	0	102	80-120	0			
1,1-Dichloroethane	53.71	5.0	50	0	107	76-120	0			
1,1-Dichloroethene	53.35	5.0	50	0	107	73-124	0			
1,2,4-Trimethylbenzene	45.92	5.0	50	0	91.8	68-123	0			
1,2-Dibromoethane	49.53	5.0	50	0	99.1	80-120	0			
1,2-Dichloroethane	51.31	5.0	50	0	103	78-120	0			
1,2-Dichloropropane	52.78	5.0	50	0	106	80-120	0			
1,3,5-Trimethylbenzene	47.36	5.0	50	0	94.7	80-120	0			
2-Butanone	108.4	10	100	0	108	58-132	0			
2-Hexanone	105.8	10	100	0	106	61-130	0			
4-Isopropyltoluene	48.92	5.0	50	0	97.8	79-120	0			
4-Methyl-2-pentanone	118.4	10	100	0	118	65-127	0			
Acetone	115.3	10	100	15.78	99.5	59-137	0			
Benzene	51.28	5.0	50	0	103	73-121	0			
Bromodichloromethane	48.02	5.0	50	0	96	80-120	0			
Bromoform	49.3	5.0	50	0	98.6	79-120	0			
Bromomethane	66.24	5.0	50	0	132	66-137	0			
Carbon disulfide	101.3	10	100	0	101	68-141	0			
Carbon tetrachloride	48.93	5.0	50	0	97.9	75-124	0			
Chlorobenzene	49.85	5.0	50	0	99.7	80-120	0			
Chloroethane	51.59	5.0	50	0	103	76-121	0			
Chloroform	52.6	5.0	50	0	105	80-120	0			
Chloromethane	49.08	5.0	50	0	98.2	67-123	0			
cis-1,2-Dichloroethene	52.4	5.0	50	0	105	78-120	0			
cis-1,3-Dichloropropene	52.59	5.0	50	0	105	80-120	0			
Dibromochloromethane	50.28	5.0	50	0	101	80-120	0			
Ethylbenzene	50.96	5.0	50	0	102	80-120	0			
Isopropylbenzene	49.59	5.0	50	0	99.2	80-120	0			
m,p-Xylene	100.1	10	100	0	100	78-121	0			
Methyl tert-butyl ether	53.73	5.0	50	0	107	73-121	0			
Methylene chloride	52.65	10	50	0	105	65-133	0			
Naphthalene	49.76	5.0	50	0	99.5	65-135	0			
n-Butylbenzene	52.4	5.0	50	0	105	77-120	0			
n-Propylbenzene	48.29	5.0	50	0	96.6	78-120	0			
o-Xylene	52.14	5.0	50	0	104	80-120	0			
sec-Butylbenzene	51.94	5.0	50	0	104	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267	Instrument ID VOA1	Method: SW8260					
Styrene	52.3	5.0	50	0	105	80-120	0
Tetrachloroethene	48.14	5.0	50	0	96.3	79-120	0
Toluene	45.45	5.0	50	0	90.9	80-120	0
trans-1,2-Dichloroethene	52.3	5.0	50	0	105	78-120	0
trans-1,3-Dichloropropene	50.58	5.0	50	0	101	80-120	0
Trichloroethene	48.48	5.0	50	0	97	80-120	0
Vinyl chloride	54.27	2.0	50	0	109	70-127	0
Xylenes, Total	152.2	15	150	0	101	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	47.83	5.0	50	0	95.7	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	53.76	5.0	50	0	108	72-125	0
<i>Surr: Dibromofluoromethane</i>	50.22	5.0	50	0	100	71-125	0
<i>Surr: Toluene-d8</i>	53.13	5.0	50	0	106	75-125	0

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143267** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1302789-03AMSD				Units: µg/L		Analysis Date: 2/25/2013 02:03 PM		
Client ID: MW-20		Run ID: VOA1_130225B				SeqNo: 3123941		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.23	5.0	50	0	102	80-120	50.42	1.6	20	
1,1,2,2-Tetrachloroethane	50.97	5.0	50	0	102	72-120	48	6	20	
1,1,2-Trichloroethane	49.02	5.0	50	0	98	80-120	50.79	3.55	20	
1,1-Dichloroethane	53.83	5.0	50	0	108	76-120	53.71	0.218	20	
1,1-Dichloroethene	52.89	5.0	50	0	106	73-124	53.35	0.857	20	
1,2,4-Trimethylbenzene	48.21	5.0	50	0	96.4	68-123	45.92	4.86	20	
1,2-Dibromoethane	47.34	5.0	50	0	94.7	80-120	49.53	4.52	20	
1,2-Dichloroethane	50.08	5.0	50	0	100	78-120	51.31	2.41	20	
1,2-Dichloropropane	52.6	5.0	50	0	105	80-120	52.78	0.353	20	
1,3,5-Trimethylbenzene	48.95	5.0	50	0	97.9	80-120	47.36	3.3	20	
2-Butanone	110.2	10	100	0	110	58-132	108.4	1.68	20	
2-Hexanone	105.6	10	100	0	106	61-130	105.8	0.189	20	
4-Isopropyltoluene	44.97	5.0	50	0	89.9	79-120	48.92	8.43	20	
4-Methyl-2-pentanone	117.9	10	100	0	118	65-127	118.4	0.378	20	
Acetone	122.6	10	100	15.78	107	59-137	115.3	6.15	20	
Benzene	50.53	5.0	50	0	101	73-121	51.28	1.47	20	
Bromodichloromethane	47.27	5.0	50	0	94.5	80-120	48.02	1.56	20	
Bromoform	48.66	5.0	50	0	97.3	79-120	49.3	1.31	20	
Bromomethane	67.55	5.0	50	0	135	66-137	66.24	1.97	20	
Carbon disulfide	106	10	100	0	106	68-141	101.3	4.61	20	
Carbon tetrachloride	46.39	5.0	50	0	92.8	75-124	48.93	5.34	20	
Chlorobenzene	48.71	5.0	50	0	97.4	80-120	49.85	2.31	20	
Chloroethane	52.98	5.0	50	0	106	76-121	51.59	2.66	20	
Chloroform	54.72	5.0	50	0	109	80-120	52.6	3.94	20	
Chloromethane	49.73	5.0	50	0	99.5	67-123	49.08	1.32	20	
cis-1,2-Dichloroethene	53.39	5.0	50	0	107	78-120	52.4	1.87	20	
cis-1,3-Dichloropropene	49.66	5.0	50	0	99.3	80-120	52.59	5.73	20	
Dibromochloromethane	47.21	5.0	50	0	94.4	80-120	50.28	6.31	20	
Ethylbenzene	46.43	5.0	50	0	92.9	80-120	50.96	9.31	20	
Isopropylbenzene	47.46	5.0	50	0	94.9	80-120	49.59	4.38	20	
m,p-Xylene	92.24	10	100	0	92.2	78-121	100.1	8.14	20	
Methyl tert-butyl ether	54.06	5.0	50	0	108	73-121	53.73	0.603	20	
Methylene chloride	54.63	10	50	0	109	65-133	52.65	3.69	20	
Naphthalene	52.06	5.0	50	0	104	65-135	49.76	4.53	20	
n-Butylbenzene	47.07	5.0	50	0	94.1	77-120	52.4	10.7	20	
n-Propylbenzene	46.69	5.0	50	0	93.4	78-120	48.29	3.36	20	
o-Xylene	47.59	5.0	50	0	95.2	80-120	52.14	9.13	20	
sec-Butylbenzene	46.43	5.0	50	0	92.9	78-120	51.94	11.2	20	

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143267		Instrument ID VOA1		Method: SW8260					
Styrene	48.35	5.0	50	0	96.7	80-120	52.3	7.85	20
Tetrachloroethene	46.88	5.0	50	0	93.8	79-120	48.14	2.66	20
Toluene	46.62	5.0	50	0	93.2	80-120	45.45	2.53	20
trans-1,2-Dichloroethene	52.44	5.0	50	0	105	78-120	52.3	0.276	20
trans-1,3-Dichloropropene	53.28	5.0	50	0	107	80-120	50.58	5.21	20
Trichloroethene	50.16	5.0	50	0	100	80-120	48.48	3.39	20
Vinyl chloride	54.17	2.0	50	0	108	70-127	54.27	0.169	20
Xylenes, Total	139.8	15	150	0	93.2	80-120	152.2	8.48	20
<i>Surr: 1,2-Dichloroethane-d4</i>	49.89	5.0	50	0	99.8	70-125	47.83	4.21	20
<i>Surr: 4-Bromofluorobenzene</i>	50.59	5.0	50	0	101	72-125	53.76	6.07	20
<i>Surr: Dibromofluoromethane</i>	51.42	5.0	50	0	103	71-125	50.22	2.37	20
<i>Surr: Toluene-d8</i>	49.71	5.0	50	0	99.4	75-125	53.13	6.64	20

The following samples were analyzed in this batch:

1302789-01A	1302789-02A	1302789-03A
1302789-04A	1302789-06A	1302789-07A
1302789-08A		

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143445** Instrument ID **WetChem** Method: **M2510 B** **(Dissolve)**

MBLK Sample ID: **WBLKW1-022813-R143445** Units: **µmhos/cm** Analysis Date: **2/28/2013 08:00 PM**

Client ID: Run ID: **WETCHEM_130228F** SeqNo: **3127789** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

LCS Sample ID: **WLCSW1-022813-R143445** Units: **µmhos/cm** Analysis Date: **2/28/2013 08:00 PM**

Client ID: Run ID: **WETCHEM_130228F** SeqNo: **3127790** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1450	1.0	1413		0	103	80-120	0		

DUP Sample ID: **1302789-03EDUP** Units: **µmhos/cm** Analysis Date: **2/28/2013 08:00 PM**

Client ID: **MW-20** Run ID: **WETCHEM_130228F** SeqNo: **3127802** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	980	1.0	0		0	0		985	0.509	20

The following samples were analyzed in this batch:

1302789-01E	1302789-03E	1302789-04E
1302789-05E	1302789-06E	1302789-07E

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143450** Instrument ID **ICS3K2** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW1-R143450				Units: mg/L		Analysis Date: 2/28/2013 05:42 PM			
Client ID:	Run ID: ICS3K2_130228A				SeqNo: 3127962		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.20								
Surr: Selenate (surr)	5.241	0.10	5	0	105	85-115	0			

LCS	Sample ID: WLCSW1-R143450				Units: mg/L		Analysis Date: 2/28/2013 06:04 PM			
Client ID:	Run ID: ICS3K2_130228A				SeqNo: 3127963		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	7.293	0.20	8	0	91.2	90-110	0			
Surr: Selenate (surr)	5.289	0.10	5	0	106	85-115	0			

MS	Sample ID: 1302789-03BMS				Units: mg/L		Analysis Date: 2/28/2013 07:30 PM			
Client ID: MW-20	Run ID: ICS3K2_130228A				SeqNo: 3127967		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	42.62	2.0	40	2.261	101	80-120	0			
Surr: Selenate (surr)	52.83	1.0	50	0	106	85-115	0			

MSD	Sample ID: 1302789-03BMSD				Units: mg/L		Analysis Date: 2/28/2013 07:52 PM			
Client ID: MW-20	Run ID: ICS3K2_130228A				SeqNo: 3127968		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	42.28	2.0	40	2.261	100	80-120	42.62	0.81	20	
Surr: Selenate (surr)	52.35	1.0	50	0	105	85-115	52.83	0.907	20	

The following samples were analyzed in this batch:

1302789-01B	1302789-02B	1302789-03B
1302789-04B	1302789-06B	1302789-07B

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143456** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK Sample ID: **WBLK-028113-R143456** Units: **mg/L** Analysis Date: **2/18/2013 05:40 PM**

Client ID: Run ID: **BALANCE1_130218C** SeqNo: **3128038** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS Sample ID: **WLCS-028113-R143456** Units: **mg/L** Analysis Date: **2/18/2013 05:40 PM**

Client ID: Run ID: **BALANCE1_130218C** SeqNo: **3128039** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	998	10	1000	0	99.8	85-115	0			

DUP Sample ID: **1302789-03EDUP** Units: **mg/L** Analysis Date: **2/18/2013 05:40 PM**

Client ID: **MW-20** Run ID: **BALANCE1_130218C** SeqNo: **3128027** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	606	10	0	0	0	0-0	600	0.995	20	

The following samples were analyzed in this batch:

1302789-01E	1302789-03E	1302789-04E
1302789-05E	1302789-06E	1302789-07E

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143459** Instrument ID **ICS2100** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW1-R143459				Units: mg/L		Analysis Date: 2/28/2013 04:49 PM			
Client ID:	Run ID: ICS2100_130228A				SeqNo: 3128073		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Fluoride	ND	0.10								
Sulfate	ND	0.50								
<i>Surr: Selenate (surr)</i>	4.613	0.10	5	0	92.3	85-115	0			

LCS	Sample ID: WLCSW1-R143459				Units: mg/L		Analysis Date: 2/28/2013 05:04 PM			
Client ID:	Run ID: ICS2100_130228A				SeqNo: 3128074		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.64	0.50	20	0	93.2	90-110	0			
Fluoride	3.62	0.10	4	0	90.5	90-110	0			
Sulfate	18.81	0.50	20	0	94	90-110	0			
<i>Surr: Selenate (surr)</i>	4.29	0.10	5	0	85.8	85-115	0			

MS	Sample ID: 1302789-03EMS				Units: mg/L		Analysis Date: 2/28/2013 07:55 PM			
Client ID: MW-20	Run ID: ICS2100_130228A				SeqNo: 3128085		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	167.7	0.50	10	158.9	88.7	80-120	0			EO
Fluoride	2.459	0.10	2	0.57	94.4	80-120	0			
Sulfate	65.52	0.50	10	55.84	96.8	80-120	0			O
<i>Surr: Selenate (surr)</i>	4.577	0.10	5	0	91.5	85-115	0			

MSD	Sample ID: 1302789-03EMSD				Units: mg/L		Analysis Date: 2/28/2013 08:10 PM			
Client ID: MW-20	Run ID: ICS2100_130228A				SeqNo: 3128086		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	169	0.50	10	158.9	101	80-120	167.7	0.757	20	EO
Fluoride	2.497	0.10	2	0.57	96.4	80-120	2.459	1.53	20	
Sulfate	66.31	0.50	10	55.84	105	80-120	65.52	1.2	20	O
<i>Surr: Selenate (surr)</i>	4.629	0.10	5	0	92.6	85-115	4.577	1.13	20	

The following samples were analyzed in this batch:

1302789-01E	1302789-03E	1302789-04E
1302789-05E	1302789-06E	1302789-07E

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143461** Instrument ID **ManTech01** Method: **SM4500H+ B (Dissolve)**

LCS	Sample ID: LCS-PH-R143461					Units: pH Units		Analysis Date: 3/1/2013 03:02 PM		
Client ID:		Run ID: MANTECH01_130301A				SeqNo: 3128145		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.03	0.10	6	0	100	90-110	0			

DUP		Sample ID: 1302789-03EDUP				Units: pH Units		Analysis Date: 3/1/2013 03:09 PM		
Client ID: MW-20		Run ID: MANTECH01_130301A				SeqNo: 3128148		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.59	0.10	0	0	0	0-0	7.54	0.661	20	H

The following samples were analyzed in this batch:

1302789-01E	1302789-03E	1302789-04E
1302789-05E	1302789-06E	1302789-07E

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

Client: Navajo Refining Company
Work Order: 1302789
Project: Lovington Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143464** Instrument ID **WetChem** Method: **SM2320B** (**Dissolve**)

MBLK Sample ID: **WBLKW1-030113-R143464** Units: **mg/L** Analysis Date: **3/1/2013 02:00 PM**

Client ID: Run ID: **WETCHEM_130301A** SeqNo: **3128183** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS Sample ID: **WLCSW1-030113-R143464** Units: **mg/L** Analysis Date: **3/1/2013 02:00 PM**

Client ID: Run ID: **WETCHEM_130301A** SeqNo: **3128184** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1121	6.0	1000	0	112	80-120	0			

DUP Sample ID: **1302789-03EDUP** Units: **mg/L** Analysis Date: **3/1/2013 02:00 PM**

Client ID: **MW-20** Run ID: **WETCHEM_130301A** SeqNo: **3128197** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	197.3	6.0	0	0	0	0-0	197.3	0	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	197.3	6.0	0	0	0	0-0	197.3	0	20	

The following samples were analyzed in this batch:

1302789-01E	1302789-03E	1302789-04E
1302789-05E	1302789-06E	1302789-07E

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

Client: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual
WorkOrder: 1302789

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **23-Feb-13 09:20**

Work Order: **1302789**

Received by: **RDN**

Checklist completed by Rishel D. Naran
eSignature

23-Feb-13
Date

Reviewed by: Sonia West
eSignature

25-Feb-13
Date

Matrices: **WATER**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	2.1C U/C 1.5C U/C 1.9C U/C 2.3C U/C		005
Cooler(s)/Kit(s):	3077,5016,3034,5015		
Date/Time sample(s) sent to storage:	2/23/13 10:41		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	-		

Login Notes: **Sample was not received for MW-14 collected on 2-21-13 at 12:05.**

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Environmental

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

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

Chain of Custody Form

Page 1 of 2

COC ID: 72654

ALS Project Manager:

Station, WV
1168
30

1302789

NAVAJO REFINING: Navajo Refining Company
Project: Lovington Lea Refinery Semi-Annual



Project Information

Purchase Order	Project Name	Lovington Lea Refining - SA
Work Order	Project Number	
Company Name	Bill To Company	Navajo Refining Company
Send Report To	Invoice Attn	Robert Combs
Address	Address	501 East Main
City/State/Zip	City/State/Zip	Artesia, NM 88211
Phone	Phone	(575) 703-5057
Fax	Fax	(575) 746-5421
e-Mail Address	e-Mail Address	

VOCs (8260) - Select List
LL SVOCs (8270) - TCL + 1-methylnaphthalene
Total Metals (7470) - Hg
Dissolved Metals (6020) - Select List
Anions (300) - Cl, F, SO4
Alkalinity
pH
Specific Conductivity
TDS
Nitrate/Nitrite (300) - H2SO4

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-22	2-21-13	1715	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
2	MW-14	2-21-13	1250	W	1,3,8	4	X	X	X	X	X	X	X	X	X	X	X
3	MW-20	2-22-13	1027	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
4	MS	2-22-13	1027	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
5	MSD	2-22-13	1027	W	1,2,3,8	8	X	X	X	X	X	X	X	X	X	X	X
6	MW-18	2-22-13	1420	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X
7	MW-14	2-22-13	0740	W	2,8	5	X	X	X	X	X	X	X	X	X	X	X
8	MW-14	2-21-13	1205	W	1,3,8	4	X	X	X	X	X	X	X	X	X	X	X
9	EB-02-22-13	2-22-13	0915	W	1,2,3,8	8	X	X	X	X	X	X	X	X	X	X	X
10	MW-21	2-22-13	1145	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X

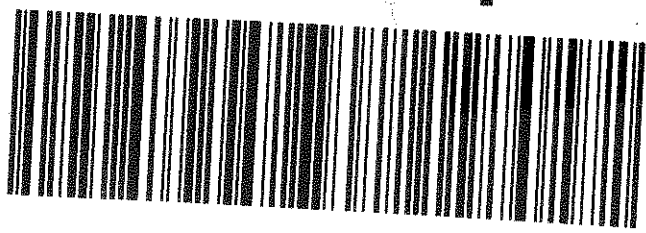
Sampler(s) Please Print & Sign		Shipment Method	
John Allen	Darje Clark	Fedex	
Relinquished by:	Date: 2-22-13	Time: 11:30am	Received by:
John Allen	Date: 2/23/13	Time: 09:20	Received by (Laboratory):
Relinquished by:	Date: 2/23/13	Time: 09:20	Checked by (Laboratory):
John Allen			
Logged by (Laboratory):			
Preservative Key:	1-HCl	2-HNO3	3-H2SO4
	4-NaOH	5-Na2S2O3	6-NaHSO4
	7-Other	8-4°C	9-5035

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

Copyright 2011 by ALS Environmental.

Align Open End of FedEx P

Align Open End of FedEx P

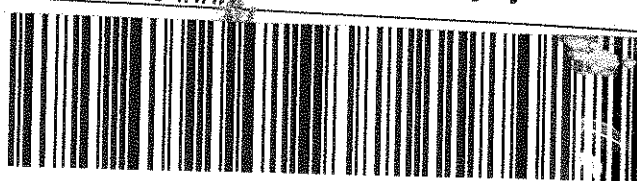


TX-US IAH
77099

XO SGRA

MPS# 7955 5133 9150
Met# 8013 8012 6408
0681

SATURDAY ### A1
PRIORITY OVERNIGHT

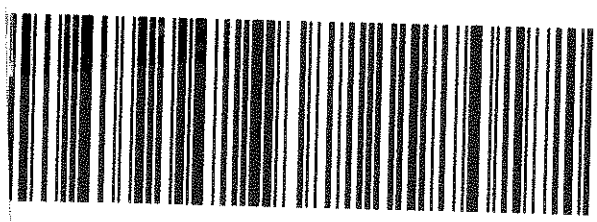


TX-US IAH
77099

XO SGRA

MPS# 7955 5133 9149
Met# 8013 8012 6408
0215

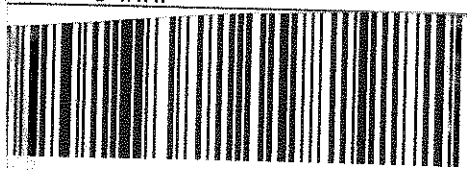
SATURDAY ### A1
PRIORITY OVERNIGHT



XO SGRA

MPS# 7955 5133 9138
Met# 8013 8012 6408
0215

SATURDAY ### A1
PRIORITY OVERNIGHT



XO SGRA

TRK# 8013 8012 6408
1 of 4
0215
MASTER

SATURDAY ### A1
PRIORITY OVERNIGHT

CUSTODY SEAL

Date: 2/23/13

Seal Broken By: [Signature]

Company: [Blank]

Name: [Blank]

Time: [Blank]

AL'S Environmental

10450 Stanchiff Rd., Suite 210
Houston, Texas 77069
Tel. +1 281 530 5555
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 2/23/13

Seal Broken By: [Signature]

Company: [Blank]

Name: [Blank]

Time: [Blank]

AL'S Environmental

10450 Stanchiff Rd., Suite 210
Houston, Texas 77069
Tel. +1 281 530 5555
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 2/23/13

Seal Broken By: [Signature]

Company: [Blank]

Name: [Blank]

Time: [Blank]

AL'S Environmental

10450 Stanchiff Rd., Suite 210
Houston, Texas 77069
Tel. +1 281 530 5555
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 2/23/13

Seal Broken By: [Signature]

Company: [Blank]

Name: [Blank]

Time: [Blank]

AL'S Environmental

10450 Stanchiff Rd., Suite 210
Houston, Texas 77069
Tel. +1 281 530 5555
Fax. +1 281 530 5887

1802789



08-Mar-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Navajo Lea Refinery Semi-Annual

Work Order: **1303029**

Dear Robert,

ALS Environmental received 21 samples on 01-Mar-2013 09:15 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 176.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Luke F. Hernandez

Sonia West
Project Manager



Certificate No: T104704231-12-10

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1303029

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303029-01	MW-29	Water		2/26/2013 09:53	3/1/2013 09:15	☐
	MW-29					
1303029-02	MW-25	Water		2/26/2013 10:00	3/1/2013 09:15	☐
1303029-03	MW-26	Water		2/26/2013 11:45	3/1/2013 09:15	☐
1303029-04	MW-24	Water		2/26/2013 12:25	3/1/2013 09:15	☐
1303029-05	MW-19	Water		2/26/2013 13:37	3/1/2013 09:15	☐
1303029-06	MW-23	Water		2/26/2013 14:35	3/1/2013 09:15	☐
1303029-07	MW-13	Water		2/26/2013 15:15	3/1/2013 09:15	☐
1303029-08	MW-27	Water		2/26/2013 17:09	3/1/2013 09:15	☐
1303029-09	MW-8	Water		2/26/2013 17:15	3/1/2013 09:15	☐
1303029-10	MW-6	Water		2/27/2013 08:25	3/1/2013 09:15	☐
1303029-11	MW-6-D	Water		2/27/2013 08:25	3/1/2013 09:15	☐
1303029-12	MW-11	Water		2/27/2013 08:40	3/1/2013 09:15	☐
1303029-13	MW-11-D	Water		2/27/2013 08:40	3/1/2013 09:15	☐
1303029-14	MW-3	Water		2/27/2013 10:43	3/1/2013 09:15	☐
1303029-15	MW-7	Water		2/27/2013 10:55	3/1/2013 09:15	☐
1303029-16	MW-1	Water		2/27/2013 12:40	3/1/2013 09:15	☐
1303029-17	MW-10	Water		2/27/2013 12:41	3/1/2013 09:15	☐
1303029-18	MW-9	Water		2/27/2013 14:28	3/1/2013 09:15	☐
1303029-19	RW-1	Water		2/27/2013 14:30	3/1/2013 09:15	☐
1303029-20	EB-02-27-13	Water		2/27/2013	3/1/2013 09:15	☐
1303029-21	TB-02-26-13	Water		2/27/2013	3/1/2013 09:15	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1303029

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 68188, Dissolved Metals, Sample MW-25: MS/MSD recoveries were outside the control limits for various analytes. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Batch 68188, Dissolved Metals, Sample MW-25: Duplicate RPD was outside the control limits for Manganese.

Batch 68249, Dissolved Metals, Sample 1303092-17: MS/MSD is for an unrelated sample.

Batch 68249, Dissolved Metals, Sample 1303092-17: Duplicate RPD is for an unrelated sample.

Batch 68214, Semivolatile Organics Method SW8270, Sample MW-25: MS/MSD RPD was above the default limits for 3, 3'-Dichlorobenzidine and Caprolactam.

Batch R143484, Volatile Organics Method SW8260, Sample 1302846-11: MS/MSD is for an unrelated sample.

Batch R143484, Volatile Organics Method SW8260, Sample 1302846-11: MS/MSD RPD is for an unrelated sample.

Batch R143485, Volatile Organics Method SW8260, Sample 1302941-02: MS/MSD is for an unrelated sample.

Batch R143562, Volatile Organics Method SW8260, Sample MW-23: MS/MSD recoveries were outside the control limits for several analytes. The associated LCS recoveries were within the control limits.

Batch R143562, Volatile Organics Method SW8260, Sample MW-23: MS/MSD RPD was outside the control limits for Chlorobenzene.

Batch R143661, Anions, Sample MW-25: MS/MSD recoveries were outside the control limits for Chloride and Sulfate due to high concentration to the background sample. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1303029

Case Narrative

Batch R143484, Volatile Organics Method SW8260: CCV %D was above the control limits for Naphthalene. The associated sample results are Non Detect.

Batch R143485, Volatile Organics: CCV %D was above the control limits for Bromomethane. The associated sample results are Non Detect.

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
 MW-29
Collection Date: 2/26/2013 09:53 AM

Work Order: 1303029
Lab ID: 1303029-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A			SW7470		Prep Date: 3/5/2013	Analyst: OFO
Mercury	ND		0.000200	mg/L	1	3/5/2013 01:46 PM
DISSOLVED METALS			SW6020		Prep Date: 3/4/2013	Analyst: ALR
Aluminum	ND		0.0100	mg/L	1	3/4/2013 11:39 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Barium	0.0857		0.00500	mg/L	1	3/4/2013 11:39 PM
Boron	0.182		0.0200	mg/L	1	3/4/2013 11:39 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 11:39 PM
Calcium	139		0.500	mg/L	1	3/4/2013 11:39 PM
Chromium	0.0690		0.00500	mg/L	1	3/4/2013 11:39 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Iron	ND		0.200	mg/L	1	3/4/2013 11:39 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Magnesium	18.6		0.200	mg/L	1	3/4/2013 11:39 PM
Manganese	0.0471		0.00500	mg/L	1	3/4/2013 11:39 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Nickel	0.0334		0.00500	mg/L	1	3/4/2013 11:39 PM
Potassium	2.59		0.200	mg/L	1	3/4/2013 11:39 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Sodium	61.3		0.200	mg/L	1	3/4/2013 11:39 PM
Uranium	ND		0.00500	mg/L	1	3/4/2013 11:39 PM
Zinc	0.0132		0.00500	mg/L	1	3/4/2013 11:39 PM
LOW-LEVEL SEMIVOLATILES			SW8270		Prep Date: 3/5/2013	Analyst: LG
1,1'-Biphenyl	ND		0.20	µg/L	1	3/5/2013 10:32 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 10:32 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:32 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
 MW-29
Collection Date: 2/26/2013 09:53 AM

Work Order: 1303029
Lab ID: 1303029-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 10:32 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:32 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 10:32 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 10:32 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
 MW-29

Work Order: 1303029
Lab ID: 1303029-01

Collection Date: 2/26/2013 09:53 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 10:32 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 10:32 PM
Surr: 2,4,6-Tribromophenol	59.0		34-129	%REC	1	3/5/2013 10:32 PM
Surr: 2-Fluorobiphenyl	58.9		40-125	%REC	1	3/5/2013 10:32 PM
Surr: 2-Fluorophenol	62.5		20-120	%REC	1	3/5/2013 10:32 PM
Surr: 4-Terphenyl-d14	65.0		40-135	%REC	1	3/5/2013 10:32 PM
Surr: Nitrobenzene-d5	61.9		41-120	%REC	1	3/5/2013 10:32 PM
Surr: Phenol-d6	61.6		20-120	%REC	1	3/5/2013 10:32 PM

VOLATILES - SW8260C

SW8260

Analyst: PC

1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 08:41 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 08:41 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 08:41 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 08:41 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 08:41 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 08:41 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
 MW-29
Collection Date: 2/26/2013 09:53 AM

Work Order: 1303029
Lab ID: 1303029-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 08:41 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 08:41 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:41 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 08:41 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 08:41 PM
Surr: 1,2-Dichloroethane-d4	98.7		70-125	%REC	1	3/1/2013 08:41 PM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	3/1/2013 08:41 PM
Surr: Dibromofluoromethane	94.8		71-125	%REC	1	3/1/2013 08:41 PM
Surr: Toluene-d8	101		75-125	%REC	1	3/1/2013 08:41 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	159		2.50	mg/L	5	3/6/2013 11:24 AM
Fluoride	0.788		0.100	mg/L	1	3/5/2013 08:07 PM
Sulfate	82.4		0.500	mg/L	1	3/5/2013 08:07 PM
Nitrate/Nitrite (as N)	2.90		2.00	mg/L	10	3/4/2013 06:02 PM
Surr: Selenate (surr)	108		85-115	%REC	5	3/6/2013 11:24 AM
Surr: Selenate (surr)	114		85-115	%REC	1	3/5/2013 08:07 PM
Surr: Selenate (surr)	88.0		85-115	%REC	10	3/4/2013 06:02 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	248		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
MW-29

Work Order: 1303029
Lab ID: 1303029-01

Collection Date: 2/26/2013 09:53 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	248		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,230		1.00	µmhos/cm	1	3/2/2013 05:17 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.38	H	0.100	pH Units	1	3/2/2013 05:17 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	722		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 2/26/2013 10:00 AM

Work Order: 1303029
Lab ID: 1303029-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 01:38 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/4/2013 10:48 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Barium	0.149		0.00500	mg/L	1	3/4/2013 10:48 PM
Boron	0.241		0.0200	mg/L	1	3/4/2013 10:48 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 10:48 PM
Calcium	162		0.500	mg/L	1	3/4/2013 10:48 PM
Chromium	0.00822		0.00500	mg/L	1	3/4/2013 10:48 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Iron	ND		0.200	mg/L	1	3/4/2013 10:48 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Magnesium	19.2		0.200	mg/L	1	3/4/2013 10:48 PM
Manganese	0.0104		0.00500	mg/L	1	3/4/2013 10:48 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Nickel	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Potassium	4.24		0.200	mg/L	1	3/4/2013 10:48 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 10:48 PM
Sodium	93.6		0.200	mg/L	1	3/4/2013 10:48 PM
Uranium	0.00807		0.00500	mg/L	1	3/4/2013 10:48 PM
Zinc	0.0148		0.00500	mg/L	1	3/4/2013 10:48 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 09:31 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 09:31 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 09:31 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 2/26/2013 10:00 AM

Work Order: 1303029
Lab ID: 1303029-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 09:31 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 09:31 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 09:31 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 09:31 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 2/26/2013 10:00 AM

Work Order: 1303029
Lab ID: 1303029-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 09:31 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 09:31 PM
Surr: 2,4,6-Tribromophenol	63.9		34-129	%REC	1	3/5/2013 09:31 PM
Surr: 2-Fluorobiphenyl	60.8		40-125	%REC	1	3/5/2013 09:31 PM
Surr: 2-Fluorophenol	68.2		20-120	%REC	1	3/5/2013 09:31 PM
Surr: 4-Terphenyl-d14	73.6		40-135	%REC	1	3/5/2013 09:31 PM
Surr: Nitrobenzene-d5	61.2		41-120	%REC	1	3/5/2013 09:31 PM
Surr: Phenol-d6	64.8		20-120	%REC	1	3/5/2013 09:31 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
2-Butanone	ND		0.010	mg/L	1	3/3/2013 05:49 PM
2-Hexanone	ND		0.010	mg/L	1	3/3/2013 05:49 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/3/2013 05:49 PM
Acetone	ND		0.010	mg/L	1	3/3/2013 05:49 PM
Benzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Bromoform	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Bromomethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Carbon disulfide	ND		0.010	mg/L	1	3/3/2013 05:49 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/3/2013 05:49 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 2/26/2013 10:00 AM

Work Order: 1303029
Lab ID: 1303029-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Chloroethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Chloroform	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Chloromethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
m,p-Xylene	ND		0.010	mg/L	1	3/3/2013 05:49 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Methylene chloride	ND		0.010	mg/L	1	3/3/2013 05:49 PM
Naphthalene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
o-Xylene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Styrene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Toluene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Trichloroethene	ND		0.0050	mg/L	1	3/3/2013 05:49 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/3/2013 05:49 PM
Xylenes, Total	ND		0.015	mg/L	1	3/3/2013 05:49 PM
Surr: 1,2-Dichloroethane-d4	99.5		70-125	%REC	1	3/3/2013 05:49 PM
Surr: 4-Bromofluorobenzene	90.7		72-125	%REC	1	3/3/2013 05:49 PM
Surr: Dibromofluoromethane	99.3		71-125	%REC	1	3/3/2013 05:49 PM
Surr: Toluene-d8	99.9		75-125	%REC	1	3/3/2013 05:49 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	109		2.50	mg/L	5	3/6/2013 11:46 AM
Fluoride	0.710		0.100	mg/L	1	3/5/2013 08:29 PM
Sulfate	113		2.50	mg/L	5	3/6/2013 11:46 AM
Nitrate/Nitrite (as N)	19.4		2.00	mg/L	10	3/4/2013 06:16 PM
Surr: Selenate (surr)	108		85-115	%REC	5	3/6/2013 11:46 AM
Surr: Selenate (surr)	114		85-115	%REC	1	3/5/2013 08:29 PM
Surr: Selenate (surr)	88.9		85-115	%REC	10	3/4/2013 06:16 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	325		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 2/26/2013 10:00 AM

Work Order: 1303029
Lab ID: 1303029-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	325		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,420		1.00	µmhos/cm	1	3/2/2013 05:22 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.32	H	0.100	pH Units	1	3/2/2013 05:22 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	788		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 2/26/2013 11:45 AM

Work Order: 1303029
Lab ID: 1303029-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 01:48 PM
DISSOLVED METALS						
Aluminum	0.0134		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/4/2013 11:44 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Barium	0.103		0.00500	mg/L	1	3/4/2013 11:44 PM
Boron	0.189		0.0200	mg/L	1	3/4/2013 11:44 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 11:44 PM
Calcium	159		0.500	mg/L	1	3/4/2013 11:44 PM
Chromium	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Iron	ND		0.200	mg/L	1	3/4/2013 11:44 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Magnesium	19.5		0.200	mg/L	1	3/4/2013 11:44 PM
Manganese	0.0635		0.00500	mg/L	1	3/4/2013 11:44 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Nickel	0.0558		0.00500	mg/L	1	3/4/2013 11:44 PM
Potassium	2.90		0.200	mg/L	1	3/4/2013 11:44 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Sodium	76.4		0.200	mg/L	1	3/4/2013 11:44 PM
Uranium	ND		0.00500	mg/L	1	3/4/2013 11:44 PM
Zinc	0.0233		0.00500	mg/L	1	3/4/2013 11:44 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 10:52 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 10:52 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:52 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 2/26/2013 11:45 AM

Work Order: 1303029
Lab ID: 1303029-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 10:52 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 10:52 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 10:52 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Bis(2-ethylhexyl)phthalate	0.32		0.20	µg/L	1	3/5/2013 10:52 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 10:52 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 2/26/2013 11:45 AM

Work Order: 1303029
Lab ID: 1303029-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 10:52 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 10:52 PM
Surr: 2,4,6-Tribromophenol	54.8		34-129	%REC	1	3/5/2013 10:52 PM
Surr: 2-Fluorobiphenyl	53.7		40-125	%REC	1	3/5/2013 10:52 PM
Surr: 2-Fluorophenol	59.1		20-120	%REC	1	3/5/2013 10:52 PM
Surr: 4-Terphenyl-d14	65.7		40-135	%REC	1	3/5/2013 10:52 PM
Surr: Nitrobenzene-d5	56.9		41-120	%REC	1	3/5/2013 10:52 PM
Surr: Phenol-d6	60.4		20-120	%REC	1	3/5/2013 10:52 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 09:07 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 09:07 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 09:07 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 09:07 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 09:07 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 09:07 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 2/26/2013 11:45 AM

Work Order: 1303029
Lab ID: 1303029-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 09:07 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 09:07 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:07 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 09:07 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 09:07 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	3/1/2013 09:07 PM
Surr: 4-Bromofluorobenzene	99.8		72-125	%REC	1	3/1/2013 09:07 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	3/1/2013 09:07 PM
Surr: Toluene-d8	101		75-125	%REC	1	3/1/2013 09:07 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	144		2.50	mg/L	5	3/6/2013 12:08 PM
Fluoride	0.640		0.100	mg/L	1	3/5/2013 09:34 PM
Sulfate	138		2.50	mg/L	5	3/6/2013 12:08 PM
Nitrate/Nitrite (as N)	4.78		2.00	mg/L	10	3/4/2013 07:00 PM
Surr: Selenate (surr)	107		85-115	%REC	5	3/6/2013 12:08 PM
Surr: Selenate (surr)	114		85-115	%REC	1	3/5/2013 09:34 PM
Surr: Selenate (surr)	90.6		85-115	%REC	10	3/4/2013 07:00 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	264		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 2/26/2013 11:45 AM

Work Order: 1303029
Lab ID: 1303029-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	264		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,340		1.00	µmhos/cm	1	3/2/2013 05:29 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.31	H	0.100	pH Units	1	3/2/2013 05:29 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	760		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 2/26/2013 12:25 PM

Work Order: 1303029
Lab ID: 1303029-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 01:50 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/4/2013 11:49 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Barium	0.0913		0.00500	mg/L	1	3/4/2013 11:49 PM
Boron	0.187		0.0200	mg/L	1	3/4/2013 11:49 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 11:49 PM
Calcium	90.6		0.500	mg/L	1	3/4/2013 11:49 PM
Chromium	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Iron	ND		0.200	mg/L	1	3/4/2013 11:49 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Magnesium	11.7		0.200	mg/L	1	3/4/2013 11:49 PM
Manganese	0.0106		0.00500	mg/L	1	3/4/2013 11:49 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Nickel	0.0165		0.00500	mg/L	1	3/4/2013 11:49 PM
Potassium	2.17		0.200	mg/L	1	3/4/2013 11:49 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Sodium	42.1		0.200	mg/L	1	3/4/2013 11:49 PM
Uranium	ND		0.00500	mg/L	1	3/4/2013 11:49 PM
Zinc	0.0151		0.00500	mg/L	1	3/4/2013 11:49 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 11:13 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 11:13 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:13 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 2/26/2013 12:25 PM

Work Order: 1303029
Lab ID: 1303029-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 11:13 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:13 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 11:13 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 11:13 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 2/26/2013 12:25 PM

Work Order: 1303029
Lab ID: 1303029-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 11:13 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 11:13 PM
Surr: 2,4,6-Tribromophenol	56.4		34-129	%REC	1	3/5/2013 11:13 PM
Surr: 2-Fluorobiphenyl	57.6		40-125	%REC	1	3/5/2013 11:13 PM
Surr: 2-Fluorophenol	64.9		20-120	%REC	1	3/5/2013 11:13 PM
Surr: 4-Terphenyl-d14	69.1		40-135	%REC	1	3/5/2013 11:13 PM
Surr: Nitrobenzene-d5	62.0		41-120	%REC	1	3/5/2013 11:13 PM
Surr: Phenol-d6	60.9		20-120	%REC	1	3/5/2013 11:13 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
2-Butanone	ND		0.010	mg/L	1	3/3/2013 08:42 PM
2-Hexanone	ND		0.010	mg/L	1	3/3/2013 08:42 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/3/2013 08:42 PM
Acetone	ND		0.010	mg/L	1	3/3/2013 08:42 PM
Benzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Bromoform	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Bromomethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Carbon disulfide	ND		0.010	mg/L	1	3/3/2013 08:42 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/3/2013 08:42 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 2/26/2013 12:25 PM

Work Order: 1303029
Lab ID: 1303029-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Chloroethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Chloroform	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Chloromethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
m,p-Xylene	ND		0.010	mg/L	1	3/3/2013 08:42 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Methylene chloride	ND		0.010	mg/L	1	3/3/2013 08:42 PM
Naphthalene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
o-Xylene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Styrene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Toluene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Trichloroethene	ND		0.0050	mg/L	1	3/3/2013 08:42 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/3/2013 08:42 PM
Xylenes, Total	ND		0.015	mg/L	1	3/3/2013 08:42 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	3/3/2013 08:42 PM
Surr: 4-Bromofluorobenzene	98.8		72-125	%REC	1	3/3/2013 08:42 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	3/3/2013 08:42 PM
Surr: Toluene-d8	97.1		75-125	%REC	1	3/3/2013 08:42 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	46.6		0.500	mg/L	1	3/5/2013 09:56 PM
Fluoride	2.39		0.100	mg/L	1	3/5/2013 09:56 PM
Sulfate	68.6		0.500	mg/L	1	3/5/2013 09:56 PM
Nitrate/Nitrite (as N)	2.05		2.00	mg/L	10	3/4/2013 07:14 PM
Surr: Selenate (surr)	115		85-115	%REC	1	3/5/2013 09:56 PM
Surr: Selenate (surr)	91.5		85-115	%REC	10	3/4/2013 07:14 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	229		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 2/26/2013 12:25 PM

Work Order: 1303029
Lab ID: 1303029-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	229		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	763		1.00	µmhos/cm	1	3/2/2013 05:34 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.58	H	0.100	pH Units	1	3/2/2013 05:34 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	442		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 2/26/2013 01:37 PM

Work Order: 1303029
Lab ID: 1303029-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 01:56 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/4/2013 11:54 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Barium	0.0870		0.00500	mg/L	1	3/4/2013 11:54 PM
Boron	0.300		0.0200	mg/L	1	3/4/2013 11:54 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 11:54 PM
Calcium	222		5.00	mg/L	10	3/5/2013 06:35 PM
Chromium	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Iron	ND		0.200	mg/L	1	3/4/2013 11:54 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Magnesium	24.7		0.200	mg/L	1	3/4/2013 11:54 PM
Manganese	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Nickel	0.00566		0.00500	mg/L	1	3/4/2013 11:54 PM
Potassium	4.68		0.200	mg/L	1	3/4/2013 11:54 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Sodium	206		2.00	mg/L	10	3/5/2013 06:35 PM
Uranium	ND		0.00500	mg/L	1	3/4/2013 11:54 PM
Zinc	0.0629		0.00500	mg/L	1	3/4/2013 11:54 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 11:33 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 11:33 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:33 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 2/26/2013 01:37 PM

Work Order: 1303029
Lab ID: 1303029-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 11:33 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:33 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 11:33 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 11:33 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 2/26/2013 01:37 PM

Work Order: 1303029
Lab ID: 1303029-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 11:33 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 11:33 PM
Surr: 2,4,6-Tribromophenol	60.0		34-129	%REC	1	3/5/2013 11:33 PM
Surr: 2-Fluorobiphenyl	57.0		40-125	%REC	1	3/5/2013 11:33 PM
Surr: 2-Fluorophenol	58.7		20-120	%REC	1	3/5/2013 11:33 PM
Surr: 4-Terphenyl-d14	65.2		40-135	%REC	1	3/5/2013 11:33 PM
Surr: Nitrobenzene-d5	61.0		41-120	%REC	1	3/5/2013 11:33 PM
Surr: Phenol-d6	51.5		20-120	%REC	1	3/5/2013 11:33 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
2-Butanone	ND		0.010	mg/L	1	3/3/2013 09:07 PM
2-Hexanone	ND		0.010	mg/L	1	3/3/2013 09:07 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/3/2013 09:07 PM
Acetone	ND		0.010	mg/L	1	3/3/2013 09:07 PM
Benzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Bromoform	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Bromomethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Carbon disulfide	ND		0.010	mg/L	1	3/3/2013 09:07 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/3/2013 09:07 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 2/26/2013 01:37 PM

Work Order: 1303029
Lab ID: 1303029-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Chloroethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Chloroform	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Chloromethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
m,p-Xylene	ND		0.010	mg/L	1	3/3/2013 09:07 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Methylene chloride	ND		0.010	mg/L	1	3/3/2013 09:07 PM
Naphthalene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
o-Xylene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Styrene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Toluene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Trichloroethene	ND		0.0050	mg/L	1	3/3/2013 09:07 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/3/2013 09:07 PM
Xylenes, Total	ND		0.015	mg/L	1	3/3/2013 09:07 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	3/3/2013 09:07 PM
Surr: 4-Bromofluorobenzene	97.3		72-125	%REC	1	3/3/2013 09:07 PM
Surr: Dibromofluoromethane	99.8		71-125	%REC	1	3/3/2013 09:07 PM
Surr: Toluene-d8	99.4		75-125	%REC	1	3/3/2013 09:07 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	540		5.00	mg/L	10	3/6/2013 12:29 PM
Fluoride	0.519		0.100	mg/L	1	3/5/2013 10:17 PM
Sulfate	115		5.00	mg/L	10	3/6/2013 12:29 PM
Nitrate/Nitrite (as N)	4.21		2.00	mg/L	10	3/4/2013 07:29 PM
Surr: Selenate (surr)	108		85-115	%REC	10	3/6/2013 12:29 PM
Surr: Selenate (surr)	113		85-115	%REC	1	3/5/2013 10:17 PM
Surr: Selenate (surr)	90.0		85-115	%REC	10	3/4/2013 07:29 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	248		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 2/26/2013 01:37 PM

Work Order: 1303029
Lab ID: 1303029-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	248		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	2,450		1.00	µmhos/cm	1	3/2/2013 05:37 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.28	H	0.100	pH Units	1	3/2/2013 05:37 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,650		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 2/26/2013 02:35 PM

Work Order: 1303029
Lab ID: 1303029-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 01:58 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/4/2013 11:59 PM
Arsenic	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Barium	0.170		0.00500	mg/L	1	3/4/2013 11:59 PM
Boron	0.196		0.0200	mg/L	1	3/4/2013 11:59 PM
Cadmium	ND		0.00200	mg/L	1	3/4/2013 11:59 PM
Calcium	320		5.00	mg/L	10	3/5/2013 06:40 PM
Chromium	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Cobalt	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Copper	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Iron	ND		0.200	mg/L	1	3/4/2013 11:59 PM
Lead	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Magnesium	39.7		0.200	mg/L	1	3/4/2013 11:59 PM
Manganese	0.00944		0.00500	mg/L	1	3/4/2013 11:59 PM
Molybdenum	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Nickel	0.0155		0.00500	mg/L	1	3/4/2013 11:59 PM
Potassium	5.29		0.200	mg/L	1	3/4/2013 11:59 PM
Selenium	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Silver	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Sodium	91.2		0.200	mg/L	1	3/4/2013 11:59 PM
Uranium	ND		0.00500	mg/L	1	3/4/2013 11:59 PM
Zinc	0.0179		0.00500	mg/L	1	3/4/2013 11:59 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 11:53 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 11:53 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:53 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 2/26/2013 02:35 PM

Work Order: 1303029
Lab ID: 1303029-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 11:53 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 11:53 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 11:53 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Di-n-octyl phthalate	7.3		0.20	µg/L	1	3/5/2013 11:53 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 11:53 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 2/26/2013 02:35 PM

Work Order: 1303029
Lab ID: 1303029-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 11:53 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 11:53 PM
Surr: 2,4,6-Tribromophenol	71.6		34-129	%REC	1	3/5/2013 11:53 PM
Surr: 2-Fluorobiphenyl	67.0		40-125	%REC	1	3/5/2013 11:53 PM
Surr: 2-Fluorophenol	66.4		20-120	%REC	1	3/5/2013 11:53 PM
Surr: 4-Terphenyl-d14	80.4		40-135	%REC	1	3/5/2013 11:53 PM
Surr: Nitrobenzene-d5	71.4		41-120	%REC	1	3/5/2013 11:53 PM
Surr: Phenol-d6	64.0		20-120	%REC	1	3/5/2013 11:53 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 03:37 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 03:37 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 03:37 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 03:37 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 03:37 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 03:37 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 2/26/2013 02:35 PM

Work Order: 1303029
Lab ID: 1303029-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 03:37 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 03:37 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 03:37 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 03:37 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 03:37 PM
Surr: 1,2-Dichloroethane-d4	99.2		70-125	%REC	1	3/4/2013 03:37 PM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	3/4/2013 03:37 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	3/4/2013 03:37 PM
Surr: Toluene-d8	102		75-125	%REC	1	3/4/2013 03:37 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	662		5.00	mg/L	10	3/6/2013 12:51 PM
Fluoride	0.690		0.100	mg/L	1	3/5/2013 10:39 PM
Sulfate	93.9		5.00	mg/L	10	3/6/2013 12:51 PM
Nitrate/Nitrite (as N)	3.46		2.00	mg/L	10	3/4/2013 07:43 PM
Surr: Selenate (surr)	107		85-115	%REC	10	3/6/2013 12:51 PM
Surr: Selenate (surr)	112		85-115	%REC	1	3/5/2013 10:39 PM
Surr: Selenate (surr)	88.2		85-115	%REC	10	3/4/2013 07:43 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	225		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 2/26/2013 02:35 PM

Work Order: 1303029
Lab ID: 1303029-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	225		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	2,720		1.00	µmhos/cm	1	3/2/2013 05:39 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.13	H	0.100	pH Units	1	3/2/2013 05:39 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	2,040		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 2/26/2013 03:15 PM

Work Order: 1303029
Lab ID: 1303029-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:00 PM
DISSOLVED METALS						
Aluminum	0.0139		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 12:29 AM
Arsenic	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Barium	0.129		0.00500	mg/L	1	3/5/2013 12:29 AM
Boron	0.270		0.0200	mg/L	1	3/5/2013 12:29 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 12:29 AM
Calcium	289		5.00	mg/L	10	3/5/2013 06:55 PM
Chromium	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Cobalt	0.00657		0.00500	mg/L	1	3/5/2013 12:29 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Iron	ND		0.200	mg/L	1	3/5/2013 12:29 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Magnesium	35.8		0.200	mg/L	1	3/5/2013 12:29 AM
Manganese	0.571		0.00500	mg/L	1	3/5/2013 12:29 AM
Molybdenum	0.00568		0.00500	mg/L	1	3/5/2013 12:29 AM
Nickel	0.0820		0.00500	mg/L	1	3/5/2013 12:29 AM
Potassium	5.72		0.200	mg/L	1	3/5/2013 12:29 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 12:29 AM
Sodium	132		0.200	mg/L	1	3/5/2013 12:29 AM
Uranium	0.0123		0.00500	mg/L	1	3/5/2013 12:29 AM
Zinc	0.0359		0.00500	mg/L	1	3/5/2013 12:29 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	1.4		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 12:13 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 12:13 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:13 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 2/26/2013 03:15 PM

Work Order: 1303029
Lab ID: 1303029-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 12:13 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:13 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 12:13 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Bis(2-ethylhexyl)phthalate	5.0		0.20	µg/L	1	3/6/2013 12:13 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Dibenzofuran	0.27		0.20	µg/L	1	3/6/2013 12:13 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 12:13 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 2/26/2013 03:15 PM

Work Order: 1303029
Lab ID: 1303029-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 12:13 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 12:13 AM
Surr: 2,4,6-Tribromophenol	70.5		34-129	%REC	1	3/6/2013 12:13 AM
Surr: 2-Fluorobiphenyl	66.9		40-125	%REC	1	3/6/2013 12:13 AM
Surr: 2-Fluorophenol	64.1		20-120	%REC	1	3/6/2013 12:13 AM
Surr: 4-Terphenyl-d14	79.1		40-135	%REC	1	3/6/2013 12:13 AM
Surr: Nitrobenzene-d5	68.3		41-120	%REC	1	3/6/2013 12:13 AM
Surr: Phenol-d6	70.2		20-120	%REC	1	3/6/2013 12:13 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 07:45 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 07:45 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 07:45 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 07:45 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 07:45 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 07:45 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 2/26/2013 03:15 PM

Work Order: 1303029
Lab ID: 1303029-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 07:45 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 07:45 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 07:45 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 07:45 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 07:45 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	3/4/2013 07:45 PM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	3/4/2013 07:45 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	3/4/2013 07:45 PM
Surr: Toluene-d8	99.1		75-125	%REC	1	3/4/2013 07:45 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	430		5.00	mg/L	10	3/6/2013 01:13 PM
Fluoride	0.366		0.100	mg/L	1	3/5/2013 11:44 PM
Sulfate	135		5.00	mg/L	10	3/6/2013 01:13 PM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 07:58 PM
Surr: Selenate (surr)	109		85-115	%REC	10	3/6/2013 01:13 PM
Surr: Selenate (surr)	110		85-115	%REC	1	3/5/2013 11:44 PM
Surr: Selenate (surr)	89.8		85-115	%REC	10	3/4/2013 07:58 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	437		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 2/26/2013 03:15 PM

Work Order: 1303029
Lab ID: 1303029-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	437		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	2,360		1.00	µmhos/cm	1	3/2/2013 05:42 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	6.93	H	0.100	pH Units	1	3/2/2013 05:42 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,610		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 2/26/2013 05:09 PM

Work Order: 1303029
Lab ID: 1303029-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:02 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 12:34 AM
Arsenic	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Barium	0.120		0.00500	mg/L	1	3/5/2013 12:34 AM
Boron	0.184		0.0200	mg/L	1	3/5/2013 12:34 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 12:34 AM
Calcium	134		0.500	mg/L	1	3/5/2013 12:34 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Iron	ND		0.200	mg/L	1	3/5/2013 12:34 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Magnesium	17.5		0.200	mg/L	1	3/5/2013 12:34 AM
Manganese	0.0586		0.00500	mg/L	1	3/5/2013 12:34 AM
Molybdenum	0.00513		0.00500	mg/L	1	3/5/2013 12:34 AM
Nickel	0.0593		0.00500	mg/L	1	3/5/2013 12:34 AM
Potassium	3.08		0.200	mg/L	1	3/5/2013 12:34 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Sodium	107		0.200	mg/L	1	3/5/2013 12:34 AM
Uranium	ND		0.00500	mg/L	1	3/5/2013 12:34 AM
Zinc	0.0104		0.00500	mg/L	1	3/5/2013 12:34 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 12:33 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 12:33 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:33 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 2/26/2013 05:09 PM

Work Order: 1303029
Lab ID: 1303029-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 12:33 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:33 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 12:33 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 12:33 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 2/26/2013 05:09 PM

Work Order: 1303029
Lab ID: 1303029-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 12:33 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 12:33 AM
Surr: 2,4,6-Tribromophenol	66.7		34-129	%REC	1	3/6/2013 12:33 AM
Surr: 2-Fluorobiphenyl	62.2		40-125	%REC	1	3/6/2013 12:33 AM
Surr: 2-Fluorophenol	64.2		20-120	%REC	1	3/6/2013 12:33 AM
Surr: 4-Terphenyl-d14	73.0		40-135	%REC	1	3/6/2013 12:33 AM
Surr: Nitrobenzene-d5	64.5		41-120	%REC	1	3/6/2013 12:33 AM
Surr: Phenol-d6	61.9		20-120	%REC	1	3/6/2013 12:33 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 08:10 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 08:10 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 08:10 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 08:10 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 08:10 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 08:10 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 2/26/2013 05:09 PM

Work Order: 1303029
Lab ID: 1303029-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 08:10 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 08:10 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:10 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 08:10 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 08:10 PM
Surr: 1,2-Dichloroethane-d4	94.8		70-125	%REC	1	3/4/2013 08:10 PM
Surr: 4-Bromofluorobenzene	103		72-125	%REC	1	3/4/2013 08:10 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	3/4/2013 08:10 PM
Surr: Toluene-d8	103		75-125	%REC	1	3/4/2013 08:10 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	199		5.00	mg/L	10	3/6/2013 01:34 PM
Fluoride	0.647		0.100	mg/L	1	3/6/2013 12:06 AM
Sulfate	70.7		0.500	mg/L	1	3/6/2013 12:06 AM
Nitrate/Nitrite (as N)	2.77		2.00	mg/L	10	3/4/2013 08:13 PM
Surr: Selenate (surr)	107		85-115	%REC	10	3/6/2013 01:34 PM
Surr: Selenate (surr)	110		85-115	%REC	1	3/6/2013 12:06 AM
Surr: Selenate (surr)	89.7		85-115	%REC	10	3/4/2013 08:13 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	300		6.00	mg/L	1	3/6/2013 04:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 2/26/2013 05:09 PM

Work Order: 1303029
Lab ID: 1303029-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 04:00 PM
Alkalinity, Total (As CaCO ₃)	300		6.00	mg/L	1	3/6/2013 04:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,420		1.00	µmhos/cm	1	3/2/2013 05:48 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.31	H	0.100	pH Units	1	3/2/2013 05:48 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	756		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 2/26/2013 05:15 PM

Work Order: 1303029
Lab ID: 1303029-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:04 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 12:39 AM
Arsenic	0.00627		0.00500	mg/L	1	3/5/2013 12:39 AM
Barium	0.170		0.00500	mg/L	1	3/5/2013 12:39 AM
Boron	0.380		0.0200	mg/L	1	3/5/2013 12:39 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 12:39 AM
Calcium	186		5.00	mg/L	10	3/5/2013 07:00 PM
Chromium	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Iron	ND		0.200	mg/L	1	3/5/2013 12:39 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Magnesium	25.4		0.200	mg/L	1	3/5/2013 12:39 AM
Manganese	0.00592		0.00500	mg/L	1	3/5/2013 12:39 AM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Nickel	0.00999		0.00500	mg/L	1	3/5/2013 12:39 AM
Potassium	4.86		0.200	mg/L	1	3/5/2013 12:39 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 12:39 AM
Sodium	156		0.200	mg/L	1	3/5/2013 12:39 AM
Uranium	0.00690		0.00500	mg/L	1	3/5/2013 12:39 AM
Zinc	0.0188		0.00500	mg/L	1	3/5/2013 12:39 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 12:54 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 12:54 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 2/26/2013 05:15 PM

Work Order: 1303029
Lab ID: 1303029-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 12:54 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 12:54 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 12:54 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Bis(2-ethylhexyl)phthalate	13		0.40	µg/L	2	3/6/2013 05:49 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 12:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 2/26/2013 05:15 PM

Work Order: 1303029
Lab ID: 1303029-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 12:54 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 12:54 AM
Surr: 2,4,6-Tribromophenol	61.9		34-129	%REC	1	3/6/2013 12:54 AM
Surr: 2,4,6-Tribromophenol	80.7		34-129	%REC	2	3/6/2013 05:49 PM
Surr: 2-Fluorobiphenyl	71.8		40-125	%REC	1	3/6/2013 12:54 AM
Surr: 2-Fluorobiphenyl	76.1		40-125	%REC	2	3/6/2013 05:49 PM
Surr: 2-Fluorophenol	60.8		20-120	%REC	1	3/6/2013 12:54 AM
Surr: 2-Fluorophenol	73.8		20-120	%REC	2	3/6/2013 05:49 PM
Surr: 4-Terphenyl-d14	78.6		40-135	%REC	1	3/6/2013 12:54 AM
Surr: 4-Terphenyl-d14	86.9		40-135	%REC	2	3/6/2013 05:49 PM
Surr: Nitrobenzene-d5	72.9		41-120	%REC	2	3/6/2013 05:49 PM
Surr: Nitrobenzene-d5	73.7		41-120	%REC	1	3/6/2013 12:54 AM
Surr: Phenol-d6	59.4		20-120	%REC	2	3/6/2013 05:49 PM
Surr: Phenol-d6	47.8		20-120	%REC	1	3/6/2013 12:54 AM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 08:35 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 08:35 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 08:35 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 08:35 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 2/26/2013 05:15 PM

Work Order: 1303029
Lab ID: 1303029-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 08:35 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 08:35 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 08:35 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 08:35 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 08:35 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 08:35 PM
Surr: 1,2-Dichloroethane-d4	92.0		70-125	%REC	1	3/4/2013 08:35 PM
Surr: 4-Bromofluorobenzene	103		72-125	%REC	1	3/4/2013 08:35 PM
Surr: Dibromofluoromethane	99.9		71-125	%REC	1	3/4/2013 08:35 PM
Surr: Toluene-d8	105		75-125	%REC	1	3/4/2013 08:35 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	246		5.00	mg/L	10	3/6/2013 01:56 PM
Fluoride	0.371		0.100	mg/L	1	3/6/2013 12:28 AM
Sulfate	118		5.00	mg/L	10	3/6/2013 01:56 PM
Nitrate/Nitrite (as N)	11.1		2.00	mg/L	10	3/4/2013 08:56 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 2/26/2013 05:15 PM

Work Order: 1303029
Lab ID: 1303029-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<i>Surr: Selenate (surr)</i>	93.7		85-115	%REC	10	3/4/2013 08:56 PM
<i>Surr: Selenate (surr)</i>	110		85-115	%REC	10	3/6/2013 01:56 PM
<i>Surr: Selenate (surr)</i>	114		85-115	%REC	1	3/6/2013 12:28 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO ₃)	458		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	458		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,910		1.00	µmhos/cm	1	3/2/2013 05:50 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.13	H	0.100	pH Units	1	3/2/2013 05:50 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,080		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:06 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 12:44 AM
Arsenic	0.0126		0.00500	mg/L	1	3/5/2013 12:44 AM
Barium	0.154		0.00500	mg/L	1	3/5/2013 12:44 AM
Boron	0.214		0.0200	mg/L	1	3/5/2013 12:44 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 12:44 AM
Calcium	108		0.500	mg/L	1	3/5/2013 12:44 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Iron	1.31		0.200	mg/L	1	3/5/2013 12:44 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Magnesium	12.6		0.200	mg/L	1	3/5/2013 12:44 AM
Manganese	1.97		0.0500	mg/L	10	3/5/2013 07:05 PM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Potassium	2.93		0.200	mg/L	1	3/5/2013 12:44 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 12:44 AM
Sodium	69.0		0.200	mg/L	1	3/5/2013 12:44 AM
Uranium	0.00789		0.00500	mg/L	1	3/5/2013 12:44 AM
Zinc	0.0123		0.00500	mg/L	1	3/5/2013 12:44 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 01:14 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2,4-Dimethylphenol	0.49		0.20	µg/L	1	3/6/2013 01:14 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 01:14 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:14 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 01:14 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:14 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 01:14 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Bis(2-ethylhexyl)phthalate	2.9		0.20	µg/L	1	3/6/2013 01:14 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Diethyl phthalate	2.1		0.20	µg/L	1	3/6/2013 01:14 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Di-n-butyl phthalate	0.21		0.20	µg/L	1	3/6/2013 01:14 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 01:14 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 01:14 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 01:14 AM
Surr: 2,4,6-Tribromophenol	50.9		34-129	%REC	1	3/6/2013 01:14 AM
Surr: 2-Fluorobiphenyl	45.9		40-125	%REC	1	3/6/2013 01:14 AM
Surr: 2-Fluorophenol	64.9		20-120	%REC	1	3/6/2013 01:14 AM
Surr: 4-Terphenyl-d14	74.2		40-135	%REC	1	3/6/2013 01:14 AM
Surr: Nitrobenzene-d5	75.8		41-120	%REC	1	3/6/2013 01:14 AM
Surr: Phenol-d6	71.3		20-120	%REC	1	3/6/2013 01:14 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 09:02 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 09:02 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 09:02 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 09:02 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 09:02 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 09:02 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 09:02 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 09:02 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:02 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 09:02 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 09:02 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	3/1/2013 09:02 PM
Surr: 4-Bromofluorobenzene	93.3		72-125	%REC	1	3/1/2013 09:02 PM
Surr: Dibromofluoromethane	109		71-125	%REC	1	3/1/2013 09:02 PM
Surr: Toluene-d8	104		75-125	%REC	1	3/1/2013 09:02 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	65.4		0.500	mg/L	1	3/6/2013 12:49 AM
Fluoride	0.368		0.100	mg/L	1	3/6/2013 12:49 AM
Sulfate	77.1		0.500	mg/L	1	3/6/2013 12:49 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 09:11 PM
Surr: Selenate (surr)	113		85-115	%REC	1	3/6/2013 12:49 AM
Surr: Selenate (surr)	91.0		85-115	%REC	10	3/4/2013 09:11 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	323		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO3)	323		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	980		1.00	µmhos/cm	1	3/2/2013 05:53 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.29	H	0.100	pH Units	1	3/2/2013 05:53 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	542		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6-D
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:08 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 12:49 AM
Arsenic	0.0124		0.00500	mg/L	1	3/5/2013 12:49 AM
Barium	0.158		0.00500	mg/L	1	3/5/2013 12:49 AM
Boron	0.216		0.0200	mg/L	1	3/5/2013 12:49 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 12:49 AM
Calcium	110		0.500	mg/L	1	3/5/2013 12:49 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Iron	1.33		0.200	mg/L	1	3/5/2013 12:49 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Magnesium	13.0		0.200	mg/L	1	3/5/2013 12:49 AM
Manganese	2.02		0.0500	mg/L	10	3/5/2013 07:10 PM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Potassium	2.98		0.200	mg/L	1	3/5/2013 12:49 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 12:49 AM
Sodium	71.1		0.200	mg/L	1	3/5/2013 12:49 AM
Uranium	0.00833		0.00500	mg/L	1	3/5/2013 12:49 AM
Zinc	0.0106		0.00500	mg/L	1	3/5/2013 12:49 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 01:34 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 01:34 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:34 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6-D
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 01:34 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:34 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 01:34 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Bis(2-ethylhexyl)phthalate	3.2		0.20	µg/L	1	3/6/2013 01:34 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Diethyl phthalate	7.6		0.20	µg/L	1	3/6/2013 01:34 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 01:34 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6-D
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 01:34 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 01:34 AM
Surr: 2,4,6-Tribromophenol	74.7		34-129	%REC	1	3/6/2013 01:34 AM
Surr: 2-Fluorobiphenyl	62.7		40-125	%REC	1	3/6/2013 01:34 AM
Surr: 2-Fluorophenol	65.1		20-120	%REC	1	3/6/2013 01:34 AM
Surr: 4-Terphenyl-d14	73.5		40-135	%REC	1	3/6/2013 01:34 AM
Surr: Nitrobenzene-d5	58.4		41-120	%REC	1	3/6/2013 01:34 AM
Surr: Phenol-d6	67.5		20-120	%REC	1	3/6/2013 01:34 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 09:27 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 09:27 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 09:27 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 09:27 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 09:27 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 09:27 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6-D
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 09:27 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 09:27 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:27 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 09:27 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 09:27 PM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	3/1/2013 09:27 PM
Surr: 4-Bromofluorobenzene	95.4		72-125	%REC	1	3/1/2013 09:27 PM
Surr: Dibromofluoromethane	108		71-125	%REC	1	3/1/2013 09:27 PM
Surr: Toluene-d8	107		75-125	%REC	1	3/1/2013 09:27 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	65.7		0.500	mg/L	1	3/6/2013 01:11 AM
Fluoride	0.370		0.100	mg/L	1	3/6/2013 01:11 AM
Sulfate	77.6		0.500	mg/L	1	3/6/2013 01:11 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 09:25 PM
Surr: Selenate (surr)	91.8		85-115	%REC	10	3/4/2013 09:25 PM
Surr: Selenate (surr)	113		85-115	%REC	1	3/6/2013 01:11 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	308		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6-D
Collection Date: 2/27/2013 08:25 AM

Work Order: 1303029
Lab ID: 1303029-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	308		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	978		1.00	µmhos/cm	1	3/2/2013 05:56 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.27	H	0.100	pH Units	1	3/2/2013 05:56 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	556		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:10 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:04 AM
Arsenic	0.00802		0.00500	mg/L	1	3/5/2013 01:04 AM
Barium	0.561		0.00500	mg/L	1	3/5/2013 01:04 AM
Boron	0.349		0.0200	mg/L	1	3/5/2013 01:04 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:04 AM
Calcium	165		5.00	mg/L	10	3/5/2013 07:15 PM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:04 AM
Cobalt	0.00604		0.00500	mg/L	1	3/5/2013 01:04 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:04 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:04 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:04 AM
Magnesium	27.5		0.200	mg/L	1	3/5/2013 01:04 AM
Manganese	5.24		0.0500	mg/L	10	3/5/2013 07:15 PM
Molybdenum	0.00631		0.00500	mg/L	1	3/5/2013 01:04 AM
Nickel	0.0861		0.00500	mg/L	1	3/5/2013 01:04 AM
Potassium	4.42		0.200	mg/L	1	3/5/2013 01:04 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:04 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:04 AM
Sodium	113		0.200	mg/L	1	3/5/2013 01:04 AM
Uranium	0.0127		0.00500	mg/L	1	3/5/2013 01:04 AM
Zinc	0.0226		0.00500	mg/L	1	3/5/2013 01:04 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 01:54 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 01:54 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 01:54 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 01:54 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 01:54 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Bis(2-ethylhexyl)phthalate	5.0		0.20	µg/L	1	3/6/2013 01:54 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Diethyl phthalate	0.35		0.20	µg/L	1	3/6/2013 01:54 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 01:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 01:54 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 01:54 AM
Surr: 2,4,6-Tribromophenol	53.5		34-129	%REC	1	3/6/2013 01:54 AM
Surr: 2-Fluorobiphenyl	48.2		40-125	%REC	1	3/6/2013 01:54 AM
Surr: 2-Fluorophenol	63.8		20-120	%REC	1	3/6/2013 01:54 AM
Surr: 4-Terphenyl-d14	74.3		40-135	%REC	1	3/6/2013 01:54 AM
Surr: Nitrobenzene-d5	65.1		41-120	%REC	1	3/6/2013 01:54 AM
Surr: Phenol-d6	73.1		20-120	%REC	1	3/6/2013 01:54 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 07:23 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 07:23 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 07:23 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 07:23 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 07:23 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 07:23 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Isopropylbenzene	0.0091		0.0050	mg/L	1	3/1/2013 07:23 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 07:23 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 07:23 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:23 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 07:23 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 07:23 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	3/1/2013 07:23 PM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	3/1/2013 07:23 PM
Surr: Dibromofluoromethane	97.8		71-125	%REC	1	3/1/2013 07:23 PM
Surr: Toluene-d8	102		75-125	%REC	1	3/1/2013 07:23 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	140		5.00	mg/L	10	3/6/2013 02:18 PM
Fluoride	0.576		0.100	mg/L	1	3/6/2013 01:33 AM
Sulfate	32.6		0.500	mg/L	1	3/6/2013 01:33 AM
Nitrate/Nitrite (as N)	3.11		2.00	mg/L	10	3/4/2013 09:40 PM
Surr: Selenate (surr)	107		85-115	%REC	10	3/6/2013 02:18 PM
Surr: Selenate (surr)	109		85-115	%REC	1	3/6/2013 01:33 AM
Surr: Selenate (surr)	88.9		85-115	%REC	10	3/4/2013 09:40 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	633		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	633		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,660		1.00	µmhos/cm	1	3/2/2013 06:03 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.04	H	0.100	pH Units	1	3/2/2013 06:03 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	908		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11-D
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:12 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:09 AM
Arsenic	0.00787		0.00500	mg/L	1	3/5/2013 01:09 AM
Barium	0.574		0.00500	mg/L	1	3/5/2013 01:09 AM
Boron	0.349		0.0200	mg/L	1	3/5/2013 01:09 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:09 AM
Calcium	179		0.500	mg/L	1	3/5/2013 01:09 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:09 AM
Cobalt	0.00574		0.00500	mg/L	1	3/5/2013 01:09 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:09 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:09 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:09 AM
Magnesium	27.7		0.200	mg/L	1	3/5/2013 01:09 AM
Manganese	5.47		0.0500	mg/L	10	3/5/2013 07:20 PM
Molybdenum	0.00619		0.00500	mg/L	1	3/5/2013 01:09 AM
Nickel	0.0811		0.00500	mg/L	1	3/5/2013 01:09 AM
Potassium	4.42		0.200	mg/L	1	3/5/2013 01:09 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:09 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:09 AM
Sodium	114		0.200	mg/L	1	3/5/2013 01:09 AM
Uranium	0.0125		0.00500	mg/L	1	3/5/2013 01:09 AM
Zinc	0.0199		0.00500	mg/L	1	3/5/2013 01:09 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 02:14 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 02:14 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:14 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11-D
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 02:14 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:14 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 02:14 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Bis(2-ethylhexyl)phthalate	5.3		0.20	µg/L	1	3/6/2013 02:14 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Dibenzofuran	0.33		0.20	µg/L	1	3/6/2013 02:14 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 02:14 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11-D
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 02:14 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 02:14 AM
Surr: 2,4,6-Tribromophenol	73.8		34-129	%REC	1	3/6/2013 02:14 AM
Surr: 2-Fluorobiphenyl	64.5		40-125	%REC	1	3/6/2013 02:14 AM
Surr: 2-Fluorophenol	58.8		20-120	%REC	1	3/6/2013 02:14 AM
Surr: 4-Terphenyl-d14	69.9		40-135	%REC	1	3/6/2013 02:14 AM
Surr: Nitrobenzene-d5	61.0		41-120	%REC	1	3/6/2013 02:14 AM
Surr: Phenol-d6	71.5		20-120	%REC	1	3/6/2013 02:14 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 07:49 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 07:49 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 07:49 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 07:49 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 07:49 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 07:49 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11-D
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Isopropylbenzene	0.0091		0.0050	mg/L	1	3/1/2013 07:49 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 07:49 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 07:49 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 07:49 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 07:49 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 07:49 PM
Surr: 1,2-Dichloroethane-d4	103		70-125	%REC	1	3/1/2013 07:49 PM
Surr: 4-Bromofluorobenzene	98.9		72-125	%REC	1	3/1/2013 07:49 PM
Surr: Dibromofluoromethane	98.0		71-125	%REC	1	3/1/2013 07:49 PM
Surr: Toluene-d8	96.2		75-125	%REC	1	3/1/2013 07:49 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	143		5.00	mg/L	10	3/6/2013 02:40 PM
Fluoride	0.585		0.100	mg/L	1	3/6/2013 01:54 AM
Sulfate	32.0		0.500	mg/L	1	3/6/2013 01:54 AM
Nitrate/Nitrite (as N)	3.23		2.00	mg/L	10	3/4/2013 09:54 PM
Surr: Selenate (surr)	107		85-115	%REC	10	3/6/2013 02:40 PM
Surr: Selenate (surr)	112		85-115	%REC	1	3/6/2013 01:54 AM
Surr: Selenate (surr)	91.2		85-115	%REC	10	3/4/2013 09:54 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	614		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11-D
Collection Date: 2/27/2013 08:40 AM

Work Order: 1303029
Lab ID: 1303029-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	614		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,670		1.00	µmhos/cm	1	3/2/2013 06:05 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.02	H	0.100	pH Units	1	3/2/2013 06:05 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	908		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 2/27/2013 10:43 AM

Work Order: 1303029
Lab ID: 1303029-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:13 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:14 AM
Arsenic	0.0156		0.00500	mg/L	1	3/5/2013 01:14 AM
Barium	0.101		0.00500	mg/L	1	3/5/2013 01:14 AM
Boron	0.186		0.0200	mg/L	1	3/5/2013 01:14 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:14 AM
Calcium	33.6		0.500	mg/L	1	3/5/2013 01:14 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:14 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Magnesium	3.72		0.200	mg/L	1	3/5/2013 01:14 AM
Manganese	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Molybdenum	0.00546		0.00500	mg/L	1	3/5/2013 01:14 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Potassium	2.65		0.200	mg/L	1	3/5/2013 01:14 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Sodium	144		0.200	mg/L	1	3/5/2013 01:14 AM
Uranium	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
Zinc	ND		0.00500	mg/L	1	3/5/2013 01:14 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 02:34 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 02:34 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:34 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 2/27/2013 10:43 AM

Work Order: 1303029
Lab ID: 1303029-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 02:34 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:34 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 02:34 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Bis(2-ethylhexyl)phthalate	4.1		0.20	µg/L	1	3/6/2013 02:34 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 02:34 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 2/27/2013 10:43 AM

Work Order: 1303029
Lab ID: 1303029-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 02:34 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 02:34 AM
Surr: 2,4,6-Tribromophenol	84.5		34-129	%REC	1	3/6/2013 02:34 AM
Surr: 2-Fluorobiphenyl	81.4		40-125	%REC	1	3/6/2013 02:34 AM
Surr: 2-Fluorophenol	79.0		20-120	%REC	1	3/6/2013 02:34 AM
Surr: 4-Terphenyl-d14	93.1		40-135	%REC	1	3/6/2013 02:34 AM
Surr: Nitrobenzene-d5	78.6		41-120	%REC	1	3/6/2013 02:34 AM
Surr: Phenol-d6	74.6		20-120	%REC	1	3/6/2013 02:34 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 09:00 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 09:00 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 09:00 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 09:00 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 09:00 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 09:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 2/27/2013 10:43 AM

Work Order: 1303029
Lab ID: 1303029-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 09:00 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 09:00 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:00 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 09:00 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 09:00 PM
Surr: 1,2-Dichloroethane-d4	96.4		70-125	%REC	1	3/4/2013 09:00 PM
Surr: 4-Bromofluorobenzene	95.7		72-125	%REC	1	3/4/2013 09:00 PM
Surr: Dibromofluoromethane	100		71-125	%REC	1	3/4/2013 09:00 PM
Surr: Toluene-d8	97.5		75-125	%REC	1	3/4/2013 09:00 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	54.2		0.500	mg/L	1	3/6/2013 02:16 AM
Fluoride	2.47		0.100	mg/L	1	3/6/2013 02:16 AM
Sulfate	89.5		0.500	mg/L	1	3/6/2013 02:16 AM
Nitrate/Nitrite (as N)	2.30		2.00	mg/L	10	3/4/2013 10:09 PM
Surr: Selenate (surr)	114		85-115	%REC	1	3/6/2013 02:16 AM
Surr: Selenate (surr)	92.2		85-115	%REC	10	3/4/2013 10:09 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	242		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 2/27/2013 10:43 AM

Work Order: 1303029
Lab ID: 1303029-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	242		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	888		1.00	µmhos/cm	1	3/2/2013 06:08 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.89	H	0.100	pH Units	1	3/2/2013 06:08 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	478		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 2/27/2013 10:55 AM

Work Order: 1303029
Lab ID: 1303029-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:19 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:20 AM
Arsenic	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Barium	0.227		0.00500	mg/L	1	3/5/2013 01:20 AM
Boron	0.178		0.0200	mg/L	1	3/5/2013 01:20 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:20 AM
Calcium	71.1		0.500	mg/L	1	3/5/2013 01:20 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:20 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Magnesium	7.91		0.200	mg/L	1	3/5/2013 01:20 AM
Manganese	0.300		0.00500	mg/L	1	3/5/2013 01:20 AM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Potassium	2.42		0.200	mg/L	1	3/5/2013 01:20 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Sodium	42.1		0.200	mg/L	1	3/5/2013 01:20 AM
Uranium	ND		0.00500	mg/L	1	3/5/2013 01:20 AM
Zinc	0.00844		0.00500	mg/L	1	3/5/2013 01:20 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 02:54 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 02:54 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 2/27/2013 10:55 AM

Work Order: 1303029
Lab ID: 1303029-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 02:54 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 02:54 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 02:54 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Bis(2-ethylhexyl)phthalate	3.7		0.20	µg/L	1	3/6/2013 02:54 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 02:54 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 2/27/2013 10:55 AM

Work Order: 1303029
Lab ID: 1303029-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 02:54 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 02:54 AM
Surr: 2,4,6-Tribromophenol	80.3		34-129	%REC	1	3/6/2013 02:54 AM
Surr: 2-Fluorobiphenyl	83.5		40-125	%REC	1	3/6/2013 02:54 AM
Surr: 2-Fluorophenol	85.0		20-120	%REC	1	3/6/2013 02:54 AM
Surr: 4-Terphenyl-d14	98.5		40-135	%REC	1	3/6/2013 02:54 AM
Surr: Nitrobenzene-d5	88.6		41-120	%REC	1	3/6/2013 02:54 AM
Surr: Phenol-d6	81.3		20-120	%REC	1	3/6/2013 02:54 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 09:51 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 09:51 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 09:51 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 09:51 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 09:51 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 09:51 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 2/27/2013 10:55 AM

Work Order: 1303029
Lab ID: 1303029-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 09:51 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 09:51 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 09:51 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 09:51 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 09:51 PM
Surr: 1,2-Dichloroethane-d4	103		70-125	%REC	1	3/1/2013 09:51 PM
Surr: 4-Bromofluorobenzene	87.3		72-125	%REC	1	3/1/2013 09:51 PM
Surr: Dibromofluoromethane	111		71-125	%REC	1	3/1/2013 09:51 PM
Surr: Toluene-d8	104		75-125	%REC	1	3/1/2013 09:51 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	25.8		0.500	mg/L	1	3/6/2013 02:38 AM
Fluoride	0.709		0.100	mg/L	1	3/6/2013 02:38 AM
Sulfate	67.3		0.500	mg/L	1	3/6/2013 02:38 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 10:23 PM
Surr: Selenate (surr)	111		85-115	%REC	1	3/6/2013 02:38 AM
Surr: Selenate (surr)	88.4		85-115	%REC	10	3/4/2013 10:23 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	217		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 2/27/2013 10:55 AM

Work Order: 1303029
Lab ID: 1303029-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	217		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	655		1.00	µmhos/cm	1	3/2/2013 06:14 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.40	H	0.100	pH Units	1	3/2/2013 06:14 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	286		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 2/27/2013 12:40 PM

Work Order: 1303029
Lab ID: 1303029-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:21 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:25 AM
Arsenic	0.00857		0.00500	mg/L	1	3/5/2013 01:25 AM
Barium	0.0974		0.00500	mg/L	1	3/5/2013 01:25 AM
Boron	0.184		0.0200	mg/L	1	3/5/2013 01:25 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:25 AM
Calcium	84.4		0.500	mg/L	1	3/5/2013 01:25 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:25 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Magnesium	9.45		0.200	mg/L	1	3/5/2013 01:25 AM
Manganese	0.662		0.00500	mg/L	1	3/5/2013 01:25 AM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Potassium	1.00		0.200	mg/L	1	3/5/2013 01:25 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Sodium	41.2		0.200	mg/L	1	3/5/2013 01:25 AM
Uranium	ND		0.00500	mg/L	1	3/5/2013 01:25 AM
Zinc	0.0107		0.00500	mg/L	1	3/5/2013 01:25 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 03:15 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 03:15 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:15 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 2/27/2013 12:40 PM

Work Order: 1303029
Lab ID: 1303029-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 03:15 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:15 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 03:15 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Bis(2-ethylhexyl)phthalate	16		0.40	µg/L	2	3/6/2013 06:10 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 03:15 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 2/27/2013 12:40 PM

Work Order: 1303029
Lab ID: 1303029-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 03:15 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 03:15 AM
Surr: 2,4,6-Tribromophenol	79.2		34-129	%REC	2	3/6/2013 06:10 PM
Surr: 2,4,6-Tribromophenol	84.8		34-129	%REC	1	3/6/2013 03:15 AM
Surr: 2-Fluorobiphenyl	80.9		40-125	%REC	1	3/6/2013 03:15 AM
Surr: 2-Fluorobiphenyl	85.0		40-125	%REC	2	3/6/2013 06:10 PM
Surr: 2-Fluorophenol	81.9		20-120	%REC	1	3/6/2013 03:15 AM
Surr: 2-Fluorophenol	87.4		20-120	%REC	2	3/6/2013 06:10 PM
Surr: 4-Terphenyl-d14	102		40-135	%REC	1	3/6/2013 03:15 AM
Surr: 4-Terphenyl-d14	101		40-135	%REC	2	3/6/2013 06:10 PM
Surr: Nitrobenzene-d5	80.6		41-120	%REC	2	3/6/2013 06:10 PM
Surr: Nitrobenzene-d5	87.0		41-120	%REC	1	3/6/2013 03:15 AM
Surr: Phenol-d6	73.3		20-120	%REC	1	3/6/2013 03:15 AM
Surr: Phenol-d6	82.4		20-120	%REC	2	3/6/2013 06:10 PM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 08:15 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 08:15 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 08:15 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 08:15 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 2/27/2013 12:40 PM

Work Order: 1303029
Lab ID: 1303029-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 08:15 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 08:15 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 08:15 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 08:15 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 08:15 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 08:15 PM
Surr: 1,2-Dichloroethane-d4	100		70-125	%REC	1	3/1/2013 08:15 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	3/1/2013 08:15 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	3/1/2013 08:15 PM
Surr: Toluene-d8	101		75-125	%REC	1	3/1/2013 08:15 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	30.0		0.500	mg/L	1	3/6/2013 03:00 AM
Fluoride	0.872		0.100	mg/L	1	3/6/2013 03:00 AM
Sulfate	67.2		0.500	mg/L	1	3/6/2013 03:00 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 10:38 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 2/27/2013 12:40 PM

Work Order: 1303029
Lab ID: 1303029-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Selenate (surr)	89.9		85-115	%REC	10	3/4/2013 10:38 PM
Surr: Selenate (surr)	114		85-115	%REC	1	3/6/2013 03:00 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	240		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO3)	240		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	704		1.00	µmhos/cm	1	3/2/2013 06:17 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.21	H	0.100	pH Units	1	3/2/2013 06:17 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	400		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 2/27/2013 12:41 PM

Work Order: 1303029
Lab ID: 1303029-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:23 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/4/2013 1	Analyst: ALR 3/5/2013 01:30 AM
Arsenic	0.00546		0.00500	mg/L	1	3/5/2013 01:30 AM
Barium	0.0972		0.00500	mg/L	1	3/5/2013 01:30 AM
Boron	0.164		0.0200	mg/L	1	3/5/2013 01:30 AM
Cadmium	ND		0.00200	mg/L	1	3/5/2013 01:30 AM
Calcium	87.9		0.500	mg/L	1	3/5/2013 01:30 AM
Chromium	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Cobalt	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Copper	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Iron	ND		0.200	mg/L	1	3/5/2013 01:30 AM
Lead	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Magnesium	10.4		0.200	mg/L	1	3/5/2013 01:30 AM
Manganese	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Molybdenum	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Nickel	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Potassium	2.11		0.200	mg/L	1	3/5/2013 01:30 AM
Selenium	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Silver	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Sodium	37.9		0.200	mg/L	1	3/5/2013 01:30 AM
Uranium	ND		0.00500	mg/L	1	3/5/2013 01:30 AM
Zinc	0.00633		0.00500	mg/L	1	3/5/2013 01:30 AM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 03:35 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 03:35 AM
2,4-Dinitrotoluene	0.61		0.20	µg/L	1	3/6/2013 03:35 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:35 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 2/27/2013 12:41 PM

Work Order: 1303029
Lab ID: 1303029-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 03:35 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:35 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 03:35 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Bis(2-ethylhexyl)phthalate	1.3		0.20	µg/L	1	3/6/2013 03:35 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 03:35 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 2/27/2013 12:41 PM

Work Order: 1303029
Lab ID: 1303029-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 03:35 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 03:35 AM
Surr: 2,4,6-Tribromophenol	82.2		34-129	%REC	1	3/6/2013 03:35 AM
Surr: 2-Fluorobiphenyl	81.3		40-125	%REC	1	3/6/2013 03:35 AM
Surr: 2-Fluorophenol	70.5		20-120	%REC	1	3/6/2013 03:35 AM
Surr: 4-Terphenyl-d14	96.0		40-135	%REC	1	3/6/2013 03:35 AM
Surr: Nitrobenzene-d5	81.4		41-120	%REC	1	3/6/2013 03:35 AM
Surr: Phenol-d6	68.9		20-120	%REC	1	3/6/2013 03:35 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 09:24 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 09:24 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 09:24 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 09:24 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 09:24 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 09:24 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 2/27/2013 12:41 PM

Work Order: 1303029
Lab ID: 1303029-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 09:24 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 09:24 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:24 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 09:24 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 09:24 PM
Surr: 1,2-Dichloroethane-d4	93.0		70-125	%REC	1	3/4/2013 09:24 PM
Surr: 4-Bromofluorobenzene	104		72-125	%REC	1	3/4/2013 09:24 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	3/4/2013 09:24 PM
Surr: Toluene-d8	104		75-125	%REC	1	3/4/2013 09:24 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	48.0		0.500	mg/L	1	3/6/2013 04:05 AM
Fluoride	0.960		0.100	mg/L	1	3/6/2013 04:05 AM
Sulfate	83.5		0.500	mg/L	1	3/6/2013 04:05 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 10:53 PM
Surr: Selenate (surr)	113		85-115	%REC	1	3/6/2013 04:05 AM
Surr: Selenate (surr)	90.9		85-115	%REC	10	3/4/2013 10:53 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	202		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 2/27/2013 12:41 PM

Work Order: 1303029
Lab ID: 1303029-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	202		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	746		1.00	µmhos/cm	1	3/2/2013 06:23 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.62	H	0.100	pH Units	1	3/2/2013 06:23 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	416		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 2/27/2013 02:28 PM

Work Order: 1303029
Lab ID: 1303029-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:25 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/6/2013 1	Analyst: ALR 3/7/2013 02:14 AM
Arsenic	0.0171		0.00500	mg/L	1	3/7/2013 02:14 AM
Barium	0.0766		0.00500	mg/L	1	3/7/2013 02:14 AM
Boron	0.154		0.0200	mg/L	1	3/7/2013 02:14 AM
Cadmium	ND		0.00200	mg/L	1	3/7/2013 02:14 AM
Calcium	36.6		0.500	mg/L	1	3/7/2013 02:14 AM
Chromium	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Cobalt	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Copper	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Iron	0.702		0.200	mg/L	1	3/7/2013 02:14 AM
Lead	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Magnesium	4.02		0.200	mg/L	1	3/7/2013 02:14 AM
Manganese	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Molybdenum	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Nickel	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Potassium	2.32		0.200	mg/L	1	3/7/2013 02:14 AM
Selenium	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Silver	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Sodium	95.1		0.500	mg/L	1	3/7/2013 02:14 AM
Uranium	ND		0.00500	mg/L	1	3/7/2013 02:14 AM
Zinc	0.0167		0.00500	mg/L	1	3/7/2013 05:48 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 03:55 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 03:55 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:55 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 2/27/2013 02:28 PM

Work Order: 1303029
Lab ID: 1303029-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 03:55 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 03:55 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 03:55 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 03:55 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 2/27/2013 02:28 PM

Work Order: 1303029
Lab ID: 1303029-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 03:55 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 03:55 AM
Surr: 2,4,6-Tribromophenol	71.5		34-129	%REC	1	3/6/2013 03:55 AM
Surr: 2-Fluorobiphenyl	77.4		40-125	%REC	1	3/6/2013 03:55 AM
Surr: 2-Fluorophenol	78.6		20-120	%REC	1	3/6/2013 03:55 AM
Surr: 4-Terphenyl-d14	94.6		40-135	%REC	1	3/6/2013 03:55 AM
Surr: Nitrobenzene-d5	88.6		41-120	%REC	1	3/6/2013 03:55 AM
Surr: Phenol-d6	69.5		20-120	%REC	1	3/6/2013 03:55 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 09:49 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 09:49 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 09:49 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 09:49 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 09:49 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 09:49 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 2/27/2013 02:28 PM

Work Order: 1303029
Lab ID: 1303029-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 09:49 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 09:49 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 09:49 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 09:49 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 09:49 PM
Surr: 1,2-Dichloroethane-d4	98.3		70-125	%REC	1	3/4/2013 09:49 PM
Surr: 4-Bromofluorobenzene	94.4		72-125	%REC	1	3/4/2013 09:49 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	3/4/2013 09:49 PM
Surr: Toluene-d8	94.8		75-125	%REC	1	3/4/2013 09:49 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	31.3		0.500	mg/L	1	3/6/2013 04:26 AM
Fluoride	1.11		0.100	mg/L	1	3/6/2013 04:26 AM
Sulfate	79.1		0.500	mg/L	1	3/6/2013 04:26 AM
Nitrate/Nitrite (as N)	2.82		2.00	mg/L	10	3/4/2013 11:07 PM
Surr: Selenate (surr)	112		85-115	%REC	1	3/6/2013 04:26 AM
Surr: Selenate (surr)	91.6		85-115	%REC	10	3/4/2013 11:07 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	225		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 2/27/2013 02:28 PM

Work Order: 1303029
Lab ID: 1303029-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	225		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	742		1.00	µmhos/cm	1	3/2/2013 06:25 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.92	H	0.100	pH Units	1	3/2/2013 06:25 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	440		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 2/27/2013 02:30 PM

Work Order: 1303029
Lab ID: 1303029-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:27 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/6/2013 1	Analyst: ALR 3/7/2013 02:19 AM
Arsenic	0.0103		0.00500	mg/L	1	3/7/2013 02:19 AM
Barium	0.132		0.00500	mg/L	1	3/7/2013 02:19 AM
Boron	0.159		0.0200	mg/L	1	3/7/2013 02:19 AM
Cadmium	ND		0.00200	mg/L	1	3/7/2013 02:19 AM
Calcium	62.1		0.500	mg/L	1	3/7/2013 02:19 AM
Chromium	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Cobalt	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Copper	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Iron	0.655		0.200	mg/L	1	3/7/2013 02:19 AM
Lead	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Magnesium	6.83		0.200	mg/L	1	3/7/2013 02:19 AM
Manganese	0.00656		0.00500	mg/L	1	3/7/2013 02:19 AM
Molybdenum	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Nickel	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Potassium	2.20		0.200	mg/L	1	3/7/2013 02:19 AM
Selenium	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Silver	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Sodium	47.6		0.500	mg/L	1	3/7/2013 02:19 AM
Uranium	ND		0.00500	mg/L	1	3/7/2013 02:19 AM
Zinc	0.00801		0.00500	mg/L	1	3/7/2013 05:50 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 04:15 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 04:15 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:15 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 2/27/2013 02:30 PM

Work Order: 1303029
Lab ID: 1303029-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 04:15 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:15 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 04:15 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benzaldehyde	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Bis(2-ethylhexyl)phthalate	6.1		0.20	µg/L	1	3/6/2013 04:15 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 04:15 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 2/27/2013 02:30 PM

Work Order: 1303029
Lab ID: 1303029-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 04:15 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 04:15 AM
Surr: 2,4,6-Tribromophenol	69.6		34-129	%REC	1	3/6/2013 04:15 AM
Surr: 2-Fluorobiphenyl	68.3		40-125	%REC	1	3/6/2013 04:15 AM
Surr: 2-Fluorophenol	77.0		20-120	%REC	1	3/6/2013 04:15 AM
Surr: 4-Terphenyl-d14	98.3		40-135	%REC	1	3/6/2013 04:15 AM
Surr: Nitrobenzene-d5	78.3		41-120	%REC	1	3/6/2013 04:15 AM
Surr: Phenol-d6	71.2		20-120	%REC	1	3/6/2013 04:15 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 10:14 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 10:14 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 10:14 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 10:14 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 10:14 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 10:14 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 2/27/2013 02:30 PM

Work Order: 1303029
Lab ID: 1303029-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 10:14 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 10:14 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:14 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 10:14 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 10:14 PM
Surr: 1,2-Dichloroethane-d4	98.6		70-125	%REC	1	3/4/2013 10:14 PM
Surr: 4-Bromofluorobenzene	99.7		72-125	%REC	1	3/4/2013 10:14 PM
Surr: Dibromofluoromethane	104		71-125	%REC	1	3/4/2013 10:14 PM
Surr: Toluene-d8	99.6		75-125	%REC	1	3/4/2013 10:14 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	28.0		0.500	mg/L	1	3/6/2013 04:48 AM
Fluoride	1.09		0.100	mg/L	1	3/6/2013 04:48 AM
Sulfate	80.2		0.500	mg/L	1	3/6/2013 04:48 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/4/2013 11:51 PM
Surr: Selenate (surr)	114		85-115	%REC	1	3/6/2013 04:48 AM
Surr: Selenate (surr)	89.2		85-115	%REC	10	3/4/2013 11:51 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	167		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 2/27/2013 02:30 PM

Work Order: 1303029
Lab ID: 1303029-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	167		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	641		1.00	µmhos/cm	1	3/2/2013 06:28 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.98	H	0.100	pH Units	1	3/2/2013 06:28 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	378		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-02-27-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/5/2013 1	Analyst: OFO 3/5/2013 02:29 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/6/2013 04:35 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/6/2013 04:35 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Chlorophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Methylphenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:35 AM
2-Nitrophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
3&4-Methylphenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/6/2013 04:35 AM
3-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Chloroaniline	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Nitroaniline	ND		0.20	µg/L	1	3/6/2013 04:35 AM
4-Nitrophenol	ND		1.0	µg/L	1	3/6/2013 04:35 AM
Acenaphthene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Acenaphthylene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Acetophenone	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Anthracene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Atrazine	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Benz(a)anthracene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Benzaldehyde	0.56		0.20	µg/L	1	3/6/2013 04:35 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:35 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-02-27-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Bis(2-ethylhexyl)phthalate	0.22		0.20	µg/L	1	3/6/2013 04:35 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Caprolactam	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Carbazole	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Chrysene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Dibenzofuran	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Diethyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Dimethyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Fluoranthene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Fluorene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Hexachlorobenzene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Hexachloroethane	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Isophorone	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Naphthalene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Nitrobenzene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/6/2013 04:35 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Pentachlorophenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Phenanthrene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Phenol	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Pyrene	ND		0.20	µg/L	1	3/6/2013 04:35 AM
Surr: 2,4,6-Tribromophenol	67.8		34-129	%REC	1	3/6/2013 04:35 AM
Surr: 2-Fluorobiphenyl	74.8		40-125	%REC	1	3/6/2013 04:35 AM
Surr: 2-Fluorophenol	78.7		20-120	%REC	1	3/6/2013 04:35 AM
Surr: 4-Terphenyl-d14	102		40-135	%REC	1	3/6/2013 04:35 AM
Surr: Nitrobenzene-d5	83.4		41-120	%REC	1	3/6/2013 04:35 AM
Surr: Phenol-d6	74.4		20-120	%REC	1	3/6/2013 04:35 AM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-02-27-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 06:31 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 06:31 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 06:31 PM
Acetone	0.028		0.010	mg/L	1	3/1/2013 06:31 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 06:31 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 06:31 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 06:31 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-02-27-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:31 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 06:31 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 06:31 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	3/1/2013 06:31 PM
Surr: 4-Bromofluorobenzene	99.6		72-125	%REC	1	3/1/2013 06:31 PM
Surr: Dibromofluoromethane	99.9		71-125	%REC	1	3/1/2013 06:31 PM
Surr: Toluene-d8	102		75-125	%REC	1	3/1/2013 06:31 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	ND		0.500	mg/L	1	3/6/2013 05:10 AM
Fluoride	ND		0.100	mg/L	1	3/6/2013 05:10 AM
Sulfate	ND		0.500	mg/L	1	3/6/2013 05:10 AM
Nitrate/Nitrite (as N)	ND		2.00	mg/L	10	3/5/2013 12:05 AM
Surr: Selenate (surr)	113		85-115	%REC	1	3/6/2013 05:10 AM
Surr: Selenate (surr)	90.5		85-115	%REC	10	3/5/2013 12:05 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KCC	
Alkalinity, Bicarbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO3)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B		Analyst: KL	
Specific Conductivity	ND		1.00	µmhos/cm	1	3/2/2013 06:31 PM
PH - SM4500H+ B			SM4500H+ B		Analyst: KL	
pH	6.46	H	0.100	pH Units	1	3/2/2013 06:31 PM
TOTAL DISSOLVED SOLIDS			M2540C		Analyst: KAH	
Total Dissolved Solids (Residue, Filterable)	10.0		10.0	mg/L	1	3/4/2013 02:40 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-02-26-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2013 06:57 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2013 06:57 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2013 06:57 PM
Acetone	ND		0.010	mg/L	1	3/1/2013 06:57 PM
Benzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2013 06:57 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2013 06:57 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2013 06:57 PM
Naphthalene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
o-Xylene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Styrene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-02-26-13
Collection Date: 2/27/2013

Work Order: 1303029
Lab ID: 1303029-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Toluene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2013 06:57 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2013 06:57 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2013 06:57 PM
Surr: 1,2-Dichloroethane-d4	99.4		70-125	%REC	1	3/1/2013 06:57 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	3/1/2013 06:57 PM
Surr: Dibromofluoromethane	99.0		71-125	%REC	1	3/1/2013 06:57 PM
Surr: Toluene-d8	103		75-125	%REC	1	3/1/2013 06:57 PM

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68188** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW3-030413-68188** Units: **mg/L** Analysis Date: **3/4/2013 10:38 PM**

Client ID: Run ID: **ICP7500_130304A** SeqNo: **3130411** Prep Date: **3/4/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Uranium	ND	0.0050								
Zinc	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68188** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW3-030413-68188** Units: **mg/L** Analysis Date: **3/4/2013 10:43 PM**

Client ID: Run ID: **ICP7500_130304A** SeqNo: **3130412** Prep Date: **3/4/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.115	0.010	0.1	0	115	80-120	0			
Arsenic	0.05014	0.0050	0.05	0	100	80-120	0			
Barium	0.05324	0.0050	0.05	0	106	80-120	0			
Boron	0.4935	0.050	0.5	0	98.7	80-120	0			
Cadmium	0.05024	0.0020	0.05	0	100	80-120	0			
Calcium	5.252	0.50	5	0	105	80-120	0			
Chromium	0.05158	0.0050	0.05	0	103	80-120	0			
Cobalt	0.05119	0.0050	0.05	0	102	80-120	0			
Copper	0.0522	0.0050	0.05	0	104	80-120	0			
Iron	5.097	0.20	5	0	102	80-120	0			
Lead	0.05071	0.0050	0.05	0	101	80-120	0			
Magnesium	5.16	0.20	5	0	103	80-120	0			
Manganese	0.0512	0.0050	0.05	0	102	80-120	0			
Molybdenum	0.0505	0.0050	0.05	0	101	80-120	0			
Nickel	0.05144	0.0050	0.05	0	103	80-120	0			
Potassium	5.168	0.20	5	0	103	80-120	0			
Selenium	0.05194	0.0050	0.05	0	104	80-120	0			
Silver	0.05248	0.0050	0.05	0	105	80-120	0			
Sodium	5.191	0.20	5	0	104	80-120	0			
Uranium	0.09693	0.0050	0.1	0	96.9	80-120	0			
Zinc	0.05357	0.0050	0.05	0	107	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68188** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **1303029-02CMS** Units: **mg/L** Analysis Date: **3/4/2013 11:03 PM**

Client ID: **MW-25** Run ID: **ICP7500_130304A** SeqNo: **3130416** Prep Date: **3/4/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1158	0.010	0.1	0.00527	111	75-125	0			
Arsenic	0.05573	0.0050	0.05	0.002886	106	75-125	0			
Barium	0.205	0.0050	0.05	0.1489	112	75-125	0			
Boron	0.7535	0.050	0.5	0.2412	102	75-125	0			
Cadmium	0.04872	0.0020	0.05	0.00005239	97.3	75-125	0			
Calcium	165.9	0.50	5	162	78	75-125	0			O
Chromium	0.05906	0.0050	0.05	0.008225	102	75-125	0			
Cobalt	0.0506	0.0050	0.05	0.000793	99.6	75-125	0			
Copper	0.05029	0.0050	0.05	0.0007876	99	75-125	0			
Iron	5.066	0.20	5	0.00435	101	75-125	0			
Lead	0.05039	0.0050	0.05	0.0004975	99.8	75-125	0			
Magnesium	24.74	0.20	5	19.15	112	75-125	0			
Manganese	0.05692	0.0050	0.05	0.01035	93.1	75-125	0			
Molybdenum	0.05219	0.0050	0.05	0.00177	101	75-125	0			
Nickel	0.05312	0.0050	0.05	0.0037	98.8	75-125	0			
Potassium	9.376	0.20	5	4.245	103	75-125	0			
Selenium	0.05569	0.0050	0.05	0.001812	108	75-125	0			
Silver	0.05104	0.0050	0.05	-0.0001211	102	75-125	0			
Sodium	100.7	0.20	5	93.56	143	75-125	0			SO
Uranium	0.1111	0.0050	0.1	0.008068	103	75-125	0			
Zinc	0.06348	0.0050	0.05	0.01482	97.3	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68188** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 1303029-02CMSD				Units: mg/L		Analysis Date: 3/4/2013 11:08 PM		
Client ID: MW-25		Run ID: ICP7500_130304A				SeqNo: 3130417		Prep Date: 3/4/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1152	0.010	0.1	0.00527	110	75-125	0.1158	0.519	25	
Arsenic	0.05404	0.0050	0.05	0.002886	102	75-125	0.05573	3.08	25	
Barium	0.2042	0.0050	0.05	0.1489	111	75-125	0.205	0.391	25	
Boron	0.7559	0.050	0.5	0.2412	103	75-125	0.7535	0.318	25	
Cadmium	0.04933	0.0020	0.05	0.00005239	98.6	75-125	0.04872	1.24	25	
Calcium	169.4	0.50	5	162	148	75-125	165.9	2.09	25	SO
Chromium	0.05911	0.0050	0.05	0.008225	102	75-125	0.05906	0.0846	25	
Cobalt	0.05053	0.0050	0.05	0.000793	99.5	75-125	0.0506	0.138	25	
Copper	0.04974	0.0050	0.05	0.0007876	97.9	75-125	0.05029	1.1	25	
Iron	5.08	0.20	5	0.00435	102	75-125	5.066	0.276	25	
Lead	0.05108	0.0050	0.05	0.0004975	101	75-125	0.05039	1.36	25	
Magnesium	24.59	0.20	5	19.15	109	75-125	24.74	0.608	25	
Manganese	0.05667	0.0050	0.05	0.01035	92.6	75-125	0.05692	0.44	25	
Molybdenum	0.05225	0.0050	0.05	0.00177	101	75-125	0.05219	0.115	25	
Nickel	0.05208	0.0050	0.05	0.0037	96.8	75-125	0.05312	1.98	25	
Potassium	9.464	0.20	5	4.245	104	75-125	9.376	0.934	25	
Selenium	0.05637	0.0050	0.05	0.001812	109	75-125	0.05569	1.21	25	
Silver	0.05054	0.0050	0.05	-0.0001211	101	75-125	0.05104	0.984	25	
Sodium	100.2	0.20	5	93.56	133	75-125	100.7	0.498	25	SO
Uranium	0.1108	0.0050	0.1	0.008068	103	75-125	0.1111	0.27	25	
Zinc	0.06351	0.0050	0.05	0.01482	97.4	75-125	0.06348	0.0472	25	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68188** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

DUP Sample ID: **1303029-02CDUP** Units: **mg/L** Analysis Date: **3/4/2013 10:53 PM**
 Client ID: **MW-25** Run ID: **ICP7500_130304A** SeqNo: **3130414** Prep Date: **3/4/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010	0	0	0	0-0	0.00527	0	25	
Arsenic	ND	0.0050	0	0	0	0-0	0.002886	0	25	
Barium	0.1491	0.0050	0	0	0	0-0	0.1489	0.134	25	
Boron	0.2397	0.050	0	0	0	0-0	0.2412	0.624	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.00005239	0	25	
Calcium	160.5	0.50	0	0	0	0-0	162	0.93	25	
Chromium	0.008094	0.0050	0	0	0	0-0	0.008225	1.61	25	
Cobalt	ND	0.0050	0	0	0	0-0	0.000793	0	25	
Copper	ND	0.0050	0	0	0	0-0	0.0007876	0	25	
Iron	ND	0.20	0	0	0	0-0	0.00435	0	25	
Lead	ND	0.0050	0	0	0	0-0	0.0004975	0	25	
Magnesium	19.07	0.20	0	0	0	0-0	19.15	0.419	25	
Manganese	0.006077	0.0050	0	0	0	0-0	0.01035	52	25	R
Molybdenum	ND	0.0050	0	0	0	0-0	0.00177	0	25	
Nickel	ND	0.0050	0	0	0	0-0	0.0037	0	25	
Potassium	4.19	0.20	0	0	0	0-0	4.245	1.3	25	
Selenium	ND	0.0050	0	0	0	0-0	0.001812	0	25	
Silver	ND	0.0050	0	0	0	0-0	-0.0001211	0	25	
Sodium	93.1	0.20	0	0	0	0-0	93.56	0.493	25	
Uranium	0.008107	0.0050	0	0	0		0.008068	0.482	25	
Zinc	0.01276	0.0050	0	0	0	0-0	0.01482	14.9	25	

The following samples were analyzed in this batch:

1303029-01C	1303029-02C	1303029-03C
1303029-04C	1303029-05C	1303029-06C
1303029-07C	1303029-08C	1303029-09C
1303029-10C	1303029-11C	1303029-12C
1303029-13C	1303029-14C	1303029-15C
1303029-16C	1303029-17C	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68228** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-030513-68228				Units: mg/L		Analysis Date: 3/5/2013 01:32 PM			
Client ID:	Run ID: MERCURY_130304A				SeqNo: 3130800		Prep Date: 3/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-030513-68228				Units: mg/L		Analysis Date: 3/5/2013 01:36 PM			
Client ID:	Run ID: MERCURY_130304A				SeqNo: 3130801		Prep Date: 3/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00508	0.00020	0.005	0	102	85-115	0			

MS	Sample ID: 1303029-02DMS				Units: mg/L		Analysis Date: 3/5/2013 01:42 PM			
Client ID: MW-25	Run ID: MERCURY_130304A				SeqNo: 3130804		Prep Date: 3/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00521	0.00020	0.005	0.000064	103	85-115	0			

MSD	Sample ID: 1303029-02DMSD				Units: mg/L		Analysis Date: 3/5/2013 01:44 PM			
Client ID: MW-25	Run ID: MERCURY_130304A				SeqNo: 3130805		Prep Date: 3/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00521	0.00020	0.005	0.000064	103	85-115	0.00521	0	20	

DUP	Sample ID: 1303029-02DDUP				Units: mg/L		Analysis Date: 3/5/2013 01:40 PM			
Client ID: MW-25	Run ID: MERCURY_130304A				SeqNo: 3130803		Prep Date: 3/5/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0.000064	0	20	

The following samples were analyzed in this batch:

1303029-01D	1303029-02D	1303029-03D
1303029-04D	1303029-05D	1303029-06D
1303029-07D	1303029-08D	1303029-09D
1303029-10D	1303029-11D	1303029-12D
1303029-13D	1303029-14D	1303029-15D
1303029-16D	1303029-17D	1303029-18D
1303029-19D	1303029-20C	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** (**Dissolve**)

MBLK Sample ID: **MBLKW3-030613-68249** Units: **mg/L** Analysis Date: **3/7/2013 01:23 AM**
Client ID: Run ID: **ICP7500_130306A** SeqNo: **3133163** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	1.0								
Uranium	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW3-030613-68249** Units: **mg/L** Analysis Date: **3/7/2013 01:28 AM**

Client ID: Run ID: **ICP7500_130306A** SeqNo: **3133164** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1151	0.010	0.1	0	115	80-120	0			
Arsenic	0.04664	0.0050	0.05	0	93.3	80-120	0			
Barium	0.04976	0.0050	0.05	0	99.5	80-120	0			
Boron	0.4568	0.050	0.5	0	91.4	80-120	0			
Cadmium	0.04624	0.0020	0.05	0	92.5	80-120	0			
Calcium	4.787	0.50	5	0	95.7	80-120	0			
Chromium	0.04795	0.0050	0.05	0	95.9	80-120	0			
Cobalt	0.0481	0.0050	0.05	0	96.2	80-120	0			
Copper	0.0488	0.0050	0.05	0	97.6	80-120	0			
Iron	4.858	0.20	5	0	97.2	80-120	0			
Lead	0.04577	0.0050	0.05	0	91.5	80-120	0			
Magnesium	4.731	0.20	5	0	94.6	80-120	0			
Manganese	0.04727	0.0050	0.05	0	94.5	80-120	0			
Molybdenum	0.04433	0.0050	0.05	0	88.7	80-120	0			
Nickel	0.04792	0.0050	0.05	0	95.8	80-120	0			
Potassium	4.587	0.20	5	0	91.7	80-120	0			
Selenium	0.04773	0.0050	0.05	0	95.5	80-120	0			
Silver	0.04593	0.0050	0.05	0	91.9	80-120	0			
Sodium	4.997	1.0	5	0	99.9	80-120	0			
Uranium	0.08444	0.0050	0.1	0	84.4	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS		Sample ID: 1303092-17DMS				Units: mg/L		Analysis Date: 3/7/2013 01:48 AM		
Client ID:		Run ID: ICP7500_130306A				SeqNo: 3133168		Prep Date: 3/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1606	0.010	0.1	0.05429	106	75-125	0			
Arsenic	0.06328	0.0050	0.05	0.01459	97.4	75-125	0			
Barium	0.08959	0.0050	0.05	0.03922	101	75-125	0			
Boron	3.046	0.050	0.5	2.482	113	75-125	0			EO
Cadmium	0.04633	0.0020	0.05	0.000663	91.3	75-125	0			
Calcium	158.7	0.50	5	153.6	102	75-125	0			O
Chromium	0.05252	0.0050	0.05	0.003777	97.5	75-125	0			
Cobalt	0.04761	0.0050	0.05	0.00103	93.2	75-125	0			
Copper	0.04795	0.0050	0.05	0.001513	92.9	75-125	0			
Iron	4.792	0.20	5	0.4762	86.3	75-125	0			
Lead	0.0465	0.0050	0.05	0.001095	90.8	75-125	0			
Magnesium	83.94	0.20	5	77.8	123	75-125	0			O
Manganese	0.08018	0.0050	0.05	0.03492	90.5	75-125	0			
Molybdenum	0.05239	0.0050	0.05	0.007869	89	75-125	0			
Nickel	0.05458	0.0050	0.05	0.007574	94	75-125	0			
Potassium	12.79	0.20	5	8.017	95.5	75-125	0			
Selenium	0.05038	0.0050	0.05	0.003727	93.3	75-125	0			
Silver	0.04227	0.0050	0.05	0.0003203	83.9	75-125	0			
Sodium	409.7	1.0	5	398.7	220	75-125	0			SEO
Uranium	0.09999	0.0050	0.1	0.01218	87.8	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 1303092-17DMSD				Units: mg/L		Analysis Date: 3/7/2013 01:53 AM		
Client ID:		Run ID: ICP7500_130306A				SeqNo: 3133169		Prep Date: 3/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1623	0.010	0.1	0.05429	108	75-125	0.1606	1.05	25	
Arsenic	0.06371	0.0050	0.05	0.01459	98.2	75-125	0.06328	0.677	25	
Barium	0.08919	0.0050	0.05	0.03922	99.9	75-125	0.08959	0.447	25	
Boron	3.107	0.050	0.5	2.482	125	75-125	3.046	1.98	25	EO
Cadmium	0.04632	0.0020	0.05	0.000663	91.3	75-125	0.04633	0.0216	25	
Calcium	159.1	0.50	5	153.6	110	75-125	158.7	0.252	25	O
Chromium	0.05186	0.0050	0.05	0.003777	96.2	75-125	0.05252	1.26	25	
Cobalt	0.04733	0.0050	0.05	0.00103	92.6	75-125	0.04761	0.59	25	
Copper	0.0473	0.0050	0.05	0.001513	91.6	75-125	0.04795	1.36	25	
Iron	4.729	0.20	5	0.4762	85.1	75-125	4.792	1.32	25	
Lead	0.04531	0.0050	0.05	0.001095	88.4	75-125	0.0465	2.59	25	
Magnesium	83.2	0.20	5	77.8	108	75-125	83.94	0.885	25	O
Manganese	0.07924	0.0050	0.05	0.03492	88.6	75-125	0.08018	1.18	25	
Molybdenum	0.05284	0.0050	0.05	0.007869	89.9	75-125	0.05239	0.855	25	
Nickel	0.05381	0.0050	0.05	0.007574	92.5	75-125	0.05458	1.42	25	
Potassium	12.72	0.20	5	8.017	94.1	75-125	12.79	0.549	25	
Selenium	0.05077	0.0050	0.05	0.003727	94.1	75-125	0.05038	0.771	25	
Silver	0.04202	0.0050	0.05	0.0003203	83.4	75-125	0.04227	0.593	25	
Sodium	406.7	1.0	5	398.7	160	75-125	409.7	0.735	25	SEO
Uranium	0.1009	0.0050	0.1	0.01218	88.7	75-125	0.09999	0.906	25	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

DUP		Sample ID: 1303092-17DDUP				Units: mg/L		Analysis Date: 3/7/2013 01:38 AM		
Client ID:		Run ID: ICP7500_130306A				SeqNo: 3133166		Prep Date: 3/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.04725	0.010	0	0	0	0-0	0.05429	13.9	25	
Arsenic	0.01486	0.0050	0	0	0	0-0	0.01459	1.83	25	
Barium	0.03986	0.0050	0	0	0	0-0	0.03922	1.62	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.000663	0	25	
Calcium	155	0.50	0	0	0	0-0	153.6	0.907	25	
Chromium	ND	0.0050	0	0	0	0-0	0.003777	0	25	
Cobalt	ND	0.0050	0	0	0	0-0	0.00103	0	25	
Copper	ND	0.0050	0	0	0	0-0	0.001513	0	25	
Iron	0.6824	0.20	0	0	0	0-0	0.4762	35.6	25	R
Lead	ND	0.0050	0	0	0	0-0	0.001095	0	25	
Magnesium	80.22	0.20	0	0	0	0-0	77.8	3.06	25	
Manganese	0.03462	0.0050	0	0	0	0-0	0.03492	0.863	25	
Molybdenum	0.007944	0.0050	0	0	0	0-0	0.007869	0.949	25	
Nickel	0.007832	0.0050	0	0	0	0-0	0.007574	3.35	25	
Potassium	8.248	0.20	0	0	0	0-0	8.017	2.84	25	
Selenium	ND	0.0050	0	0	0	0-0	0.003727	0	25	
Silver	ND	0.0050	0	0	0	0-0	0.0003203	0	25	
Uranium	0.01267	0.0050	0	0	0		0.01218	3.94	25	

DUP		Sample ID: 1303092-17DDUP				Units: mg/L		Analysis Date: 3/7/2013 02:41 PM		
Client ID:		Run ID: ICPMS03_130307A				SeqNo: 3133845		Prep Date: 3/6/2013		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.158	0.50	0	0	0	0-0	2.171	0.601	25	
Sodium	346.3	10	0	0	0	0-0	344.7	0.463	25	

The following samples were analyzed in this batch:

1303029-18C 1303029-19C

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68278** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

MBLK	Sample ID: MBLKW3-030713-68278				Units: mg/L		Analysis Date: 3/8/2013 12:56 PM			
Client ID:	Run ID: ICP7500_130308A				SeqNo: 3134752		Prep Date: 3/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	ND	0.20								
Zinc	ND	0.0050								

LCS	Sample ID: MLCSW3-030713-68278				Units: mg/L		Analysis Date: 3/7/2013 05:45 PM			
Client ID:	Run ID: ICPMS05_130307A				SeqNo: 3134179		Prep Date: 3/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.188	0.20	5	0	104	80-120	0			
Zinc	0.05547	0.0050	0.05	0	111	80-120	0			

MS	Sample ID: 1303181-05DMS				Units: mg/L		Analysis Date: 3/7/2013 06:09 PM			
Client ID:	Run ID: ICPMS05_130307A				SeqNo: 3134189		Prep Date: 3/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.197	0.20	5	0.08737	102	75-125	0			
Zinc	0.05525	0.0050	0.05	0.005008	100	75-125	0			

MSD	Sample ID: 1303181-05DMSD				Units: mg/L		Analysis Date: 3/7/2013 06:11 PM			
Client ID:	Run ID: ICPMS05_130307A				SeqNo: 3134190		Prep Date: 3/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.101	0.20	5	0.08737	100	75-125	5.197	1.85	25	
Zinc	0.05348	0.0050	0.05	0.005008	96.9	75-125	0.05525	3.26	25	

DUP	Sample ID: 1303181-05DDUP				Units: mg/L		Analysis Date: 3/7/2013 06:04 PM			
Client ID:	Run ID: ICPMS05_130307A				SeqNo: 3134187		Prep Date: 3/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	ND	0.20	0	0	0	0-0	0.08737	0	25	
Zinc	0.005828	0.0050	0	0	0	0-0	0.005008	15.1	25	

The following samples were analyzed in this batch:

1303029-18C 1303029-19C

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68214** Instrument ID **SV-4** Method: **SW8270**

MBLK Sample ID: **SBLKW1-130305-68214** Units: **µg/L** Analysis Date: **3/5/2013 08:30 PM**
 Client ID: Run ID: **SV-4_130305A** SeqNo: **3132835** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68214		Instrument ID SV-4		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	3.332	0.20	5	0	66.6	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	3.438	0.20	5	0	68.8	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.55	0.20	5	0	71	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	3.855	0.20	5	0	77.1	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.41	0.20	5	0	68.2	41-120	0	
<i>Surr: Phenol-d6</i>	3.412	0.20	5	0	68.2	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68214** Instrument ID **SV-4** Method: **SW8270**

LCS Sample ID: **SLCSW1-130305-68214** Units: **µg/L** Analysis Date: **3/5/2013 08:50 PM**
 Client ID: Run ID: **SV-4_130305A** SeqNo: **3132836** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.12	0.20	5	0	62.4	45-125	0			
1-Methylnaphthalene	3.486	0.20	5	0	69.7	45-120	0			
2,4,5-Trichlorophenol	3.515	0.20	5	0	70.3	46-120	0			
2,4,6-Trichlorophenol	3.447	0.20	5	0	68.9	42-120	0			
2,4-Dichlorophenol	3.45	0.20	5	0	69	49-120	0			
2,4-Dimethylphenol	3.731	0.20	5	0	74.6	35-120	0			
2,4-Dinitrophenol	3.37	1.0	5	0	67.4	15-120	0			
2,4-Dinitrotoluene	3.382	0.20	5	0	67.6	50-122	0			
2,6-Dinitrotoluene	3.377	0.20	5	0	67.5	50-120	0			
2-Chloronaphthalene	3.394	0.20	5	0	67.9	50-120	0			
2-Chlorophenol	3.548	0.20	5	0	71	40-120	0			
2-Methylnaphthalene	3.472	0.20	5	0	69.4	50-120	0			
2-Methylphenol	3.392	0.20	5	0	67.8	45-120	0			
2-Nitroaniline	4.23	0.20	5	0	84.6	28-139	0			
2-Nitrophenol	3.652	0.20	5	0	73	40-120	0			
3&4-Methylphenol	3.398	0.20	5	0	68	35-120	0			
3,3'-Dichlorobenzidine	3.483	0.20	5	0	69.7	15-120	0			
3-Nitroaniline	3.363	0.20	5	0	67.3	30-120	0			
4,6-Dinitro-2-methylphenol	3.576	0.20	5	0	71.5	25-121	0			
4-Bromophenyl phenyl ether	3.277	0.20	5	0	65.5	45-120	0			
4-Chloro-3-methylphenol	3.556	0.20	5	0	71.1	47-120	0			
4-Chloroaniline	3.68	0.20	5	0	73.6	20-120	0			
4-Chlorophenyl phenyl ether	3.06	0.20	5	0	61.2	50-120	0			
4-Nitroaniline	3.204	0.20	5	0	64.1	30-133	0			
4-Nitrophenol	4.084	1.0	5	0	81.7	30-130	0			
Acenaphthene	3.23	0.20	5	0	64.6	45-120	0			
Acenaphthylene	3.208	0.20	5	0	64.2	47-120	0			
Acetophenone	3.227	0.20	5	0	64.5	40-120	0			
Anthracene	3.262	0.20	5	0	65.2	45-120	0			
Atrazine	3.165	0.20	5	0	63.3	40-130	0			
Benz(a)anthracene	3.178	0.20	5	0	63.6	40-120	0			
Benzaldehyde	0.9168	0.20	5	0	18.3	15-120	0			
Benzo(a)pyrene	3.445	0.20	5	0	68.9	45-120	0			
Benzo(b)fluoranthene	3.581	0.20	5	0	71.6	50-120	0			
Benzo(g,h,i)perylene	3.384	0.20	5	0	67.7	42-127	0			
Benzo(k)fluoranthene	3.568	0.20	5	0	71.4	45-127	0			
Bis(2-chloroethoxy)methane	3.56	0.20	5	0	71.2	45-120	0			
Bis(2-chloroethyl)ether	3.318	0.20	5	0	66.4	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68214		Instrument ID SV-4		Method: SW8270				
Bis(2-chloroisopropyl)ether	3.461	0.20	5	0	69.2	40-120	0	
Bis(2-ethylhexyl)phthalate	3.446	0.20	5	0	68.9	40-139	0	
Butyl benzyl phthalate	3.515	0.20	5	0	70.3	47-123	0	
Caprolactam	3.611	0.20	5	0	72.2	35-134	0	
Carbazole	3.605	0.20	5	0	72.1	42-128	0	
Chrysene	3.39	0.20	5	0	67.8	43-120	0	
Dibenz(a,h)anthracene	3.457	0.20	5	0	69.1	45-125	0	
Dibenzofuran	3.345	0.20	5	0	66.9	50-120	0	
Diethyl phthalate	3.295	0.20	5	0	65.9	41-120	0	
Dimethyl phthalate	3.324	0.20	5	0	66.5	40-122	0	
Di-n-butyl phthalate	3.406	0.20	5	0	68.1	45-123	0	
Di-n-octyl phthalate	3.77	0.20	5	0	75.4	45-129	0	
Fluoranthene	3.195	0.20	5	0	63.9	45-125	0	
Fluorene	3.217	0.20	5	0	64.3	49-120	0	
Hexachlorobenzene	3.146	0.20	5	0	62.9	48-120	0	
Hexachlorobutadiene	3.295	0.20	5	0	65.9	40-120	0	
Hexachlorocyclopentadiene	3.278	0.20	5	0	65.6	34-136	0	
Hexachloroethane	3.394	0.20	5	0	67.9	40-120	0	
Indeno(1,2,3-cd)pyrene	3.639	0.20	5	0	72.8	41-128	0	
Isophorone	3.487	0.20	5	0	69.7	40-121	0	
Naphthalene	3.408	0.20	5	0	68.2	45-120	0	
Nitrobenzene	3.435	0.20	5	0	68.7	44-120	0	
N-Nitrosodi-n-propylamine	3.6	0.20	5	0	72	40-120	0	
N-Nitrosodiphenylamine	3.239	0.20	5	0	64.8	40-125	0	
Pentachlorophenol	3.611	0.20	5	0	72.2	19-121	0	
Phenanthrene	3.257	0.20	5	0	65.1	45-121	0	
Phenol	3.634	0.20	5	0	72.7	20-124	0	
Pyrene	3.267	0.20	5	0	65.3	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	3.209	0.20	5	0	64.2	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	3.116	0.20	5	0	62.3	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.534	0.20	5	0	70.7	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	3.6	0.20	5	0	72	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.38	0.20	5	0	67.6	41-120	0	
<i>Surr: Phenol-d6</i>	3.438	0.20	5	0	68.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68214** Instrument ID **SV-4** Method: **SW8270**

LCSD		Sample ID: SLCSDW1-130305-68214				Units: µg/L		Analysis Date: 3/5/2013 09:11 PM		
Client ID:		Run ID: SV-4_130305A				SeqNo: 3132837		Prep Date: 3/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.124	0.20	5	0	62.5	45-125	3.12	0.147	20	
1-Methylnaphthalene	3.27	0.20	5	0	65.4	45-120	3.486	6.37	20	
2,4,5-Trichlorophenol	3.256	0.20	5	0	65.1	46-120	3.515	7.65	20	
2,4,6-Trichlorophenol	3.493	0.20	5	0	69.9	42-120	3.447	1.32	20	
2,4-Dichlorophenol	3.248	0.20	5	0	65	49-120	3.45	6.03	20	
2,4-Dimethylphenol	3.49	0.20	5	0	69.8	35-120	3.731	6.66	20	
2,4-Dinitrophenol	3.176	1.0	5	0	63.5	15-120	3.37	5.91	50	
2,4-Dinitrotoluene	3.356	0.20	5	0	67.1	50-122	3.382	0.789	20	
2,6-Dinitrotoluene	3.014	0.20	5	0	60.3	50-120	3.377	11.4	20	
2-Chloronaphthalene	3.628	0.20	5	0	72.6	50-120	3.394	6.66	20	
2-Chlorophenol	3.508	0.20	5	0	70.2	40-120	3.548	1.12	20	
2-Methylnaphthalene	3.36	0.20	5	0	67.2	50-120	3.472	3.27	20	
2-Methylphenol	3.369	0.20	5	0	67.4	45-120	3.392	0.673	20	
2-Nitroaniline	4.17	0.20	5	0	83.4	28-139	4.23	1.43	20	
2-Nitrophenol	3.501	0.20	5	0	70	40-120	3.652	4.21	20	
3&4-Methylphenol	3.457	0.20	5	0	69.1	35-120	3.398	1.72	20	
3,3'-Dichlorobenzidine	3.382	0.20	5	0	67.6	15-120	3.483	2.94	20	
3-Nitroaniline	3.202	0.20	5	0	64	30-120	3.363	4.89	20	
4,6-Dinitro-2-methylphenol	3.612	0.20	5	0	72.2	25-121	3.576	1	30	
4-Bromophenyl phenyl ether	3.031	0.20	5	0	60.6	45-120	3.277	7.82	20	
4-Chloro-3-methylphenol	3.408	0.20	5	0	68.2	47-120	3.556	4.27	20	
4-Chloroaniline	3.395	0.20	5	0	67.9	20-120	3.68	8.06	20	
4-Chlorophenyl phenyl ether	2.964	0.20	5	0	59.3	50-120	3.06	3.2	20	
4-Nitroaniline	3.131	0.20	5	0	62.6	30-133	3.204	2.3	20	
4-Nitrophenol	3.612	1.0	5	0	72.2	30-130	4.084	12.3	20	
Acenaphthene	3.244	0.20	5	0	64.9	45-120	3.23	0.438	20	
Acenaphthylene	3.303	0.20	5	0	66.1	47-120	3.208	2.92	20	
Acetophenone	3.204	0.20	5	0	64.1	40-120	3.227	0.713	20	
Anthracene	3.356	0.20	5	0	67.1	45-120	3.262	2.82	20	
Atrazine	3.243	0.20	5	0	64.9	40-130	3.165	2.44	20	
Benz(a)anthracene	3.213	0.20	5	0	64.3	40-120	3.178	1.08	20	
Benzaldehyde	0.8632	0.20	5	0	17.3	15-120	0.9168	6.03	30	
Benzo(a)pyrene	3.24	0.20	5	0	64.8	45-120	3.445	6.15	20	
Benzo(b)fluoranthene	3.238	0.20	5	0	64.8	50-120	3.581	10	20	
Benzo(g,h,i)perylene	3.4	0.20	5	0	68	42-127	3.384	0.458	20	
Benzo(k)fluoranthene	3.507	0.20	5	0	70.1	45-127	3.568	1.74	20	
Bis(2-chloroethoxy)methane	3.47	0.20	5	0	69.4	45-120	3.56	2.56	20	
Bis(2-chloroethyl)ether	3.389	0.20	5	0	67.8	37-121	3.318	2.12	20	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68214		Instrument ID SV-4		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.349	0.20	5	0	67	40-120	3.461	3.3	20
Bis(2-ethylhexyl)phthalate	3.467	0.20	5	0	69.3	40-139	3.446	0.625	20
Butyl benzyl phthalate	3.608	0.20	5	0	72.2	47-123	3.515	2.62	20
Caprolactam	3.467	0.20	5	0	69.3	35-134	3.611	4.08	20
Carbazole	3.576	0.20	5	0	71.5	42-128	3.605	0.806	20
Chrysene	3.344	0.20	5	0	66.9	43-120	3.39	1.35	20
Dibenz(a,h)anthracene	3.193	0.20	5	0	63.9	45-125	3.457	7.93	20
Dibenzofuran	3.256	0.20	5	0	65.1	50-120	3.345	2.7	20
Diethyl phthalate	3.262	0.20	5	0	65.2	41-120	3.295	1.01	20
Dimethyl phthalate	3.36	0.20	5	0	67.2	40-122	3.324	1.06	20
Di-n-butyl phthalate	3.43	0.20	5	0	68.6	45-123	3.406	0.712	20
Di-n-octyl phthalate	3.627	0.20	5	0	72.5	45-129	3.77	3.85	20
Fluoranthene	3.231	0.20	5	0	64.6	45-125	3.195	1.13	20
Fluorene	3.211	0.20	5	0	64.2	49-120	3.217	0.183	20
Hexachlorobenzene	3.198	0.20	5	0	64	48-120	3.146	1.64	20
Hexachlorobutadiene	3.298	0.20	5	0	66	40-120	3.295	0.0811	20
Hexachlorocyclopentadiene	3.478	0.20	5	0	69.6	34-136	3.278	5.91	20
Hexachloroethane	3.274	0.20	5	0	65.5	40-120	3.394	3.59	20
Indeno(1,2,3-cd)pyrene	3.088	0.20	5	0	61.8	41-128	3.639	16.4	20
Isophorone	3.334	0.20	5	0	66.7	40-121	3.487	4.48	20
Naphthalene	3.354	0.20	5	0	67.1	45-120	3.408	1.59	20
Nitrobenzene	3.359	0.20	5	0	67.2	44-120	3.435	2.23	20
N-Nitrosodi-n-propylamine	3.371	0.20	5	0	67.4	40-120	3.6	6.55	20
N-Nitrosodiphenylamine	3.331	0.20	5	0	66.6	40-125	3.239	2.8	20
Pentachlorophenol	3.246	0.20	5	0	64.9	19-121	3.611	10.7	20
Phenanthrene	3.376	0.20	5	0	67.5	45-121	3.257	3.6	20
Phenol	3.515	0.20	5	0	70.3	20-124	3.634	3.32	20
Pyrene	3.446	0.20	5	0	68.9	40-130	3.267	5.32	20
<i>Surr: 2,4,6-Tribromophenol</i>	2.912	0.20	5	0	58.2	34-129	3.209	9.71	0
<i>Surr: 2-Fluorobiphenyl</i>	3.122	0.20	5	0	62.4	40-125	3.116	0.18	0
<i>Surr: 2-Fluorophenol</i>	3.576	0.20	5	0	71.5	20-120	3.534	1.18	0
<i>Surr: 4-Terphenyl-d14</i>	3.616	0.20	5	0	72.3	40-135	3.6	0.448	0
<i>Surr: Nitrobenzene-d5</i>	3.262	0.20	5	0	65.2	41-120	3.38	3.54	0
<i>Surr: Phenol-d6</i>	3.378	0.20	5	0	67.6	20-120	3.438	1.77	0

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68214** Instrument ID **SV-4** Method: **SW8270**

MS		Sample ID: 1303029-02FMS				Units: µg/L		Analysis Date: 3/5/2013 09:51 PM		
Client ID: MW-25		Run ID: SV-4_130305A				SeqNo: 3132839		Prep Date: 3/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	2.97	0.20	5	0	59.4	45-125	0			
1-Methylnaphthalene	3.188	0.20	5	0	63.8	45-120	0			
2,4,5-Trichlorophenol	3.07	0.20	5	0	61.4	46-120	0			
2,4,6-Trichlorophenol	3.066	0.20	5	0	61.3	42-120	0			
2,4-Dichlorophenol	3.186	0.20	5	0	63.7	49-120	0			
2,4-Dimethylphenol	3.161	0.20	5	0	63.2	35-120	0			
2,4-Dinitrophenol	3.145	1.0	5	0	62.9	15-120	0			
2,4-Dinitrotoluene	3.253	0.20	5	0	65.1	50-122	0			
2,6-Dinitrotoluene	5.027	0.20	5	0	101	50-120	0			
2-Chloronaphthalene	2.65	0.20	5	0	53	50-120	0			
2-Chlorophenol	3.525	0.20	5	0	70.5	40-120	0			
2-Methylnaphthalene	3.253	0.20	5	0	65.1	50-120	0			
2-Methylphenol	3.468	0.20	5	0	69.4	45-120	0			
2-Nitroaniline	4.31	0.20	5	0	86.2	28-139	0			
2-Nitrophenol	3.101	0.20	5	0	62	40-120	0			
3&4-Methylphenol	3.417	0.20	5	0	68.3	35-120	0			
3,3'-Dichlorobenzidine	1.423	0.20	5	0	28.5	15-120	0			
3-Nitroaniline	2.917	0.20	5	0	58.3	30-120	0			
4,6-Dinitro-2-methylphenol	3.272	0.20	5	0	65.4	25-121	0			
4-Bromophenyl phenyl ether	2.749	0.20	5	0	55	45-120	0			
4-Chloro-3-methylphenol	3.637	0.20	5	0	72.7	47-120	0			
4-Chloroaniline	3.185	0.20	5	0	63.7	20-120	0			
4-Chlorophenyl phenyl ether	2.863	0.20	5	0	57.3	50-120	0			
4-Nitroaniline	2.928	0.20	5	0	58.6	30-133	0			
4-Nitrophenol	4.437	1.0	5	0	88.7	30-130	0			
Acenaphthene	3.112	0.20	5	0	62.2	45-120	0			
Acenaphthylene	3.1	0.20	5	0	62	47-120	0			
Acetophenone	3.008	0.20	5	0	60.2	40-120	0			
Anthracene	3.107	0.20	5	0	62.1	45-120	0			
Atrazine	2.839	0.20	5	0	56.8	40-130	0			
Benz(a)anthracene	3.14	0.20	5	0	62.8	40-120	0			
Benzaldehyde	0.7615	0.20	5	0	15.2	15-120	0			
Benzo(a)pyrene	3.464	0.20	5	0	69.3	45-120	0			
Benzo(b)fluoranthene	3.5	0.20	5	0	70	50-120	0			
Benzo(g,h,i)perylene	3.389	0.20	5	0	67.8	42-127	0			
Benzo(k)fluoranthene	3.544	0.20	5	0	70.9	45-127	0			
Bis(2-chloroethoxy)methane	3.278	0.20	5	0	65.6	45-120	0			
Bis(2-chloroethyl)ether	3.403	0.20	5	0	68.1	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68214		Instrument ID SV-4		Method: SW8270				
Bis(2-chloroisopropyl)ether	3.183	0.20	5	0	63.7	40-120	0	
Bis(2-ethylhexyl)phthalate	3.743	0.20	5	0.1816	71.2	40-139	0	
Butyl benzyl phthalate	3.833	0.20	5	0	76.7	47-123	0	
Caprolactam	3.713	0.20	5	0	74.3	35-134	0	
Carbazole	3.68	0.20	5	0	73.6	42-128	0	
Chrysene	3.357	0.20	5	0	67.1	43-120	0	
Dibenz(a,h)anthracene	3.21	0.20	5	0	64.2	45-125	0	
Dibenzofuran	3.069	0.20	5	0	61.4	50-120	0	
Diethyl phthalate	3.327	0.20	5	0	66.5	41-120	0	
Dimethyl phthalate	3.164	0.20	5	0	63.3	40-122	0	
Di-n-butyl phthalate	3.492	0.20	5	0	69.8	45-123	0	
Di-n-octyl phthalate	3.861	0.20	5	0	77.2	45-129	0	
Fluoranthene	3.212	0.20	5	0	64.2	45-125	0	
Fluorene	3.108	0.20	5	0	62.2	49-120	0	
Hexachlorobenzene	2.908	0.20	5	0	58.2	48-120	0	
Hexachlorobutadiene	3.015	0.20	5	0	60.3	40-120	0	
Hexachlorocyclopentadiene	3.273	0.20	5	0	65.5	34-136	0	
Hexachloroethane	3.405	0.20	5	0	68.1	40-120	0	
Indeno(1,2,3-cd)pyrene	3.412	0.20	5	0	68.2	41-128	0	
Isophorone	3.321	0.20	5	0	66.4	40-121	0	
Naphthalene	3.177	0.20	5	0	63.5	45-120	0	
Nitrobenzene	3.175	0.20	5	0	63.5	44-120	0	
N-Nitrosodi-n-propylamine	3.213	0.20	5	0	64.3	40-120	0	
N-Nitrosodiphenylamine	3.082	0.20	5	0	61.6	40-125	0	
Pentachlorophenol	3.523	0.20	5	0	70.5	19-121	0	
Phenanthrene	3.052	0.20	5	0	61	45-121	0	
Phenol	3.563	0.20	5	0	71.3	20-124	0	
Pyrene	3.387	0.20	5	0	67.7	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	2.911	0.20	5	0	58.2	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	3.019	0.20	5	0	60.4	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.552	0.20	5	0	71	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	3.658	0.20	5	0	73.2	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.112	0.20	5	0	62.2	41-120	0	
<i>Surr: Phenol-d6</i>	3.442	0.20	5	0	68.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68214** Instrument ID **SV-4** Method: **SW8270**

MSD		Sample ID: 1303029-02FMSD				Units: µg/L		Analysis Date: 3/5/2013 10:12 PM		
Client ID: MW-25		Run ID: SV-4_130305A				SeqNo: 3132840		Prep Date: 3/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.099	0.20	5	0	62	45-125	2.97	4.25	20	
1-Methylnaphthalene	3.093	0.20	5	0	61.9	45-120	3.188	3.03	20	
2,4,5-Trichlorophenol	3.405	0.20	5	0	68.1	46-120	3.07	10.4	20	
2,4,6-Trichlorophenol	3.22	0.20	5	0	64.4	42-120	3.066	4.91	20	
2,4-Dichlorophenol	3.242	0.20	5	0	64.8	49-120	3.186	1.73	20	
2,4-Dimethylphenol	3.378	0.20	5	0	67.6	35-120	3.161	6.64	20	
2,4-Dinitrophenol	3.398	1.0	5	0	68	15-120	3.145	7.76	50	
2,4-Dinitrotoluene	3.443	0.20	5	0	68.9	50-122	3.253	5.67	20	
2,6-Dinitrotoluene	5.068	0.20	5	0	101	50-120	5.027	0.815	20	
2-Chloronaphthalene	3.023	0.20	5	0	60.5	50-120	2.65	13.1	20	
2-Chlorophenol	3.578	0.20	5	0	71.6	40-120	3.525	1.5	20	
2-Methylnaphthalene	3.289	0.20	5	0	65.8	50-120	3.253	1.1	20	
2-Methylphenol	3.455	0.20	5	0	69.1	45-120	3.468	0.354	20	
2-Nitroaniline	4.37	0.20	5	0	87.4	28-139	4.31	1.39	20	
2-Nitrophenol	3.237	0.20	5	0	64.7	40-120	3.101	4.29	20	
3&4-Methylphenol	3.607	0.20	5	0	72.1	35-120	3.417	5.4	20	
3,3'-Dichlorobenzidine	2.443	0.20	5	0	48.9	15-120	1.423	52.8	20	R
3-Nitroaniline	3.5	0.20	5	0	70	30-120	2.917	18.2	20	
4,6-Dinitro-2-methylphenol	3.366	0.20	5	0	67.3	25-121	3.272	2.84	20	
4-Bromophenyl phenyl ether	2.955	0.20	5	0	59.1	45-120	2.749	7.21	20	
4-Chloro-3-methylphenol	3.484	0.20	5	0	69.7	47-120	3.637	4.29	20	
4-Chloroaniline	3.36	0.20	5	0	67.2	20-120	3.185	5.35	20	
4-Chlorophenyl phenyl ether	2.987	0.20	5	0	59.7	50-120	2.863	4.25	20	
4-Nitroaniline	3.261	0.20	5	0	65.2	30-133	2.928	10.8	20	
4-Nitrophenol	4.345	1.0	5	0	86.9	30-130	4.437	2.08	20	
Acenaphthene	3.331	0.20	5	0	66.6	45-120	3.112	6.79	20	
Acenaphthylene	3.312	0.20	5	0	66.2	47-120	3.1	6.61	20	
Acetophenone	3.045	0.20	5	0	60.9	40-120	3.008	1.2	20	
Anthracene	3.39	0.20	5	0	67.8	45-120	3.107	8.72	20	
Atrazine	3.394	0.20	5	0	67.9	40-130	2.839	17.8	20	
Benz(a)anthracene	3.23	0.20	5	0	64.6	40-120	3.14	2.84	20	
Benzaldehyde	0.7569	0.20	5	0	15.1	15-120	0.7615	0.605	30	
Benzo(a)pyrene	3.386	0.20	5	0	67.7	45-120	3.464	2.26	20	
Benzo(b)fluoranthene	3.749	0.20	5	0	75	50-120	3.5	6.87	20	
Benzo(g,h,i)perylene	3.372	0.20	5	0	67.4	42-127	3.389	0.497	20	
Benzo(k)fluoranthene	3.415	0.20	5	0	68.3	45-127	3.544	3.7	20	
Bis(2-chloroethoxy)methane	3.113	0.20	5	0	62.3	45-120	3.278	5.14	20	
Bis(2-chloroethyl)ether	3.8	0.20	5	0	76	37-121	3.403	11	20	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68214		Instrument ID SV-4		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.358	0.20	5	0	67.2	40-120	3.183	5.35	20
Bis(2-ethylhexyl)phthalate	3.76	0.20	5	0.1816	71.6	40-139	3.743	0.431	20
Butyl benzyl phthalate	3.819	0.20	5	0	76.4	47-123	3.833	0.355	20
Caprolactam	2.897	0.20	5	0	57.9	35-134	3.713	24.7	20 R
Carbazole	3.736	0.20	5	0	74.7	42-128	3.68	1.51	20
Chrysene	3.332	0.20	5	0	66.6	43-120	3.357	0.744	20
Dibenz(a,h)anthracene	3.409	0.20	5	0	68.2	45-125	3.21	6.01	20
Dibenzofuran	3.31	0.20	5	0	66.2	50-120	3.069	7.56	20
Diethyl phthalate	3.46	0.20	5	0	69.2	41-120	3.327	3.91	20
Dimethyl phthalate	3.348	0.20	5	0	67	40-122	3.164	5.64	20
Di-n-butyl phthalate	3.622	0.20	5	0	72.4	45-123	3.492	3.65	20
Di-n-octyl phthalate	3.942	0.20	5	0	78.8	45-129	3.861	2.07	20
Fluoranthene	3.278	0.20	5	0	65.6	45-125	3.212	2.02	20
Fluorene	3.285	0.20	5	0	65.7	49-120	3.108	5.53	20
Hexachlorobenzene	3.179	0.20	5	0	63.6	48-120	2.908	8.88	20
Hexachlorobutadiene	3.091	0.20	5	0	61.8	40-120	3.015	2.49	20
Hexachlorocyclopentadiene	3.134	0.20	5	0	62.7	34-136	3.273	4.35	20
Hexachloroethane	3.365	0.20	5	0	67.3	40-120	3.405	1.18	20
Indeno(1,2,3-cd)pyrene	3.436	0.20	5	0	68.7	41-128	3.412	0.701	20
Isophorone	3.195	0.20	5	0	63.9	40-121	3.321	3.85	20
Naphthalene	3.14	0.20	5	0	62.8	45-120	3.177	1.18	20
Nitrobenzene	3.29	0.20	5	0	65.8	44-120	3.175	3.55	20
N-Nitrosodi-n-propylamine	3.416	0.20	5	0	68.3	40-120	3.213	6.14	20
N-Nitrosodiphenylamine	3.152	0.20	5	0	63	40-125	3.082	2.24	20
Pentachlorophenol	3.549	0.20	5	0	71	19-121	3.523	0.727	20
Phenanthrene	3.233	0.20	5	0	64.7	45-121	3.052	5.75	20
Phenol	3.479	0.20	5	0	69.6	20-124	3.563	2.39	20
Pyrene	3.46	0.20	5	0	69.2	40-130	3.387	2.13	20
<i>Surr: 2,4,6-Tribromophenol</i>	2.787	0.20	5	0	55.7	34-129	2.911	4.38	0
<i>Surr: 2-Fluorobiphenyl</i>	3.065	0.20	5	0	61.3	40-125	3.019	1.51	0
<i>Surr: 2-Fluorophenol</i>	3.179	0.20	5	0	63.6	20-120	3.552	11.1	0
<i>Surr: 4-Terphenyl-d14</i>	3.566	0.20	5	0	71.3	40-135	3.658	2.57	0
<i>Surr: Nitrobenzene-d5</i>	3.09	0.20	5	0	61.8	41-120	3.112	0.706	0
<i>Surr: Phenol-d6</i>	3.297	0.20	5	0	65.9	20-120	3.442	4.3	0

The following samples were analyzed in this batch:

1303029-01F	1303029-02F	1303029-03F
1303029-04F	1303029-05F	1303029-06F
1303029-07F	1303029-08F	1303029-09F
1303029-10F	1303029-11F	1303029-12F
1303029-13F	1303029-14F	1303029-15F
1303029-16F	1303029-17F	1303029-18F
1303029-19F	1303029-20E	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143484** Instrument ID **VOA6** Method: **SW8260**

MBLK Sample ID: **VBLKW-130301-R143484** Units: **µg/L** Analysis Date: **3/1/2013 12:19 PM**
 Client ID: Run ID: **VOA6_130301A** SeqNo: **3128541** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143484		Instrument ID VOA6		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	49.6	5.0	50	0	99.2	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	50.34	5.0	50	0	101	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.35	5.0	50	0	103	71-125	0	
<i>Surr: Toluene-d8</i>	50.51	5.0	50	0	101	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143484** Instrument ID **VOA6** Method: **SW8260**

LCS				Sample ID: VLCSW-130301-R143484			Units: µg/L		Analysis Date: 3/1/2013 11:00 AM		
Client ID:		Run ID: VOA6_130301A			SeqNo: 3128540		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	45.12	5.0	50	0	90.2	80-120	0				
1,1,2,2-Tetrachloroethane	49.69	5.0	50	0	99.4	72-120	0				
1,1,2-Trichloroethane	50.52	5.0	50	0	101	80-120	0				
1,1-Dichloroethane	49.27	5.0	50	0	98.5	76-120	0				
1,1-Dichloroethene	45.53	5.0	50	0	91.1	73-124	0				
1,2,4-Trimethylbenzene	44.58	5.0	50	0	89.2	68-123	0				
1,2-Dibromoethane	50.31	5.0	50	0	101	80-120	0				
1,2-Dichloroethane	51.21	5.0	50	0	102	78-120	0				
1,2-Dichloropropane	50.23	5.0	50	0	100	80-120	0				
1,3,5-Trimethylbenzene	44.07	5.0	50	0	88.1	80-120	0				
2-Butanone	99.24	10	100	0	99.2	58-132	0				
2-Hexanone	103.6	10	100	0	104	61-130	0				
4-Isopropyltoluene	42.7	5.0	50	0	85.4	79-120	0				
4-Methyl-2-pentanone	105.1	10	100	0	105	65-127	0				
Acetone	113.1	10	100	0	113	59-137	0				
Benzene	48.71	5.0	50	0	97.4	73-121	0				
Bromodichloromethane	49.75	5.0	50	0	99.5	80-120	0				
Bromoform	55.49	5.0	50	0	111	79-120	0				
Bromomethane	51.08	5.0	50	0	102	66-137	0				
Carbon disulfide	90.73	10	100	0	90.7	68-141	0				
Carbon tetrachloride	43.93	5.0	50	0	87.9	75-124	0				
Chlorobenzene	48.62	5.0	50	0	97.2	80-120	0				
Chloroethane	46.53	5.0	50	0	93.1	76-121	0				
Chloroform	49.4	5.0	50	0	98.8	80-120	0				
Chloromethane	45.61	5.0	50	0	91.2	67-123	0				
cis-1,2-Dichloroethene	48.07	5.0	50	0	96.1	78-120	0				
cis-1,3-Dichloropropene	51.29	5.0	50	0	103	80-120	0				
Dibromochloromethane	51.54	5.0	50	0	103	80-120	0				
Ethylbenzene	44.41	5.0	50	0	88.8	80-120	0				
Isopropylbenzene	43.61	5.0	50	0	87.2	80-120	0				
m,p-Xylene	91	10	100	0	91	78-121	0				
Methyl tert-butyl ether	49.44	5.0	50	0	98.9	73-121	0				
Methylene chloride	47.26	10	50	0	94.5	65-133	0				
Naphthalene	65.46	5.0	50	0	131	65-135	0				
n-Butylbenzene	44.91	5.0	50	0	89.8	77-120	0				
n-Propylbenzene	42.93	5.0	50	0	85.9	78-120	0				
o-Xylene	47.7	5.0	50	0	95.4	80-120	0				
sec-Butylbenzene	41.99	5.0	50	0	84	78-120	0				

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143484		Instrument ID VOA6		Method: SW8260				
Styrene	49.25	5.0	50	0	98.5	80-120	0	
Tetrachloroethene	42.57	5.0	50	0	85.1	79-120	0	
Toluene	46.63	5.0	50	0	93.3	80-120	0	
trans-1,2-Dichloroethene	47.55	5.0	50	0	95.1	78-120	0	
trans-1,3-Dichloropropene	53.38	5.0	50	0	107	80-120	0	
Trichloroethene	46.93	5.0	50	0	93.9	80-120	0	
Vinyl chloride	46.12	2.0	50	0	92.2	70-127	0	
Xylenes, Total	138.7	15	150	0	92.5	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.72	5.0	50	0	97.4	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	52.06	5.0	50	0	104	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.38	5.0	50	0	103	71-125	0	
<i>Surr: Toluene-d8</i>	50.08	5.0	50	0	100	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143484** Instrument ID **VOA6** Method: **SW8260**

MS		Sample ID: 1302846-11AMS			Units: µg/L		Analysis Date: 3/1/2013 04:30 PM			
Client ID:		Run ID: VOA6_130301A			SeqNo: 3128548		Prep Date:		DF: 500	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19980	2,500	25000	0	79.9	80-120	0			S
1,1,2,2-Tetrachloroethane	22560	2,500	25000	0	90.2	72-120	0			
1,1,2-Trichloroethane	24040	2,500	25000	0	96.2	80-120	0			
1,1-Dichloroethane	23070	2,500	25000	0	92.3	76-120	0			
1,1-Dichloroethene	20660	2,500	25000	0	82.6	73-124	0			
1,2,4-Trimethylbenzene	19930	2,500	25000	0	79.7	68-123	0			
1,2-Dibromoethane	25000	2,500	25000	0	100	80-120	0			
1,2-Dichloroethane	24720	2,500	25000	0	98.9	78-120	0			
1,2-Dichloropropane	24040	2,500	25000	0	96.2	80-120	0			
1,3,5-Trimethylbenzene	18750	2,500	25000	0	75	80-120	0			S
2-Butanone	45490	5,000	50000	0	91	58-132	0			
2-Hexanone	47050	5,000	50000	0	94.1	61-130	0			
4-Isopropyltoluene	16930	2,500	25000	0	67.7	79-120	0			S
4-Methyl-2-pentanone	50200	5,000	50000	0	100	65-127	0			
Acetone	55910	5,000	50000	0	112	59-137	0			
Benzene	22360	2,500	25000	0	89.5	73-121	0			
Bromodichloromethane	24410	2,500	25000	0	97.7	80-120	0			
Bromoform	25770	2,500	25000	0	103	79-120	0			
Bromomethane	13300	2,500	25000	0	53.2	66-137	0			S
Carbon disulfide	42400	5,000	50000	0	84.8	68-141	0			
Carbon tetrachloride	16770	2,500	25000	0	67.1	75-124	0			S
Chlorobenzene	22740	2,500	25000	0	91	80-120	0			
Chloroethane	21520	2,500	25000	0	86.1	76-121	0			
Chloroform	23050	2,500	25000	0	92.2	80-120	0			
Chloromethane	34430	2,500	25000	0	138	67-123	0			S
cis-1,2-Dichloroethene	35270	2,500	25000	11460	95.2	78-120	0			
cis-1,3-Dichloropropene	24320	2,500	25000	0	97.3	80-120	0			
Dibromochloromethane	24800	2,500	25000	0	99.2	80-120	0			
Ethylbenzene	20820	2,500	25000	0	83.3	80-120	0			
Isopropylbenzene	19490	2,500	25000	0	78	80-120	0			S
m,p-Xylene	41880	5,000	50000	0	83.8	78-121	0			
Methyl tert-butyl ether	22710	2,500	25000	0	90.8	73-121	0			
Methylene chloride	25870	5,000	25000	0	103	65-133	0			
Naphthalene	23780	2,500	25000	0	95.1	65-135	0			
n-Butylbenzene	16170	2,500	25000	0	64.7	77-120	0			S
n-Propylbenzene	17920	2,500	25000	0	71.7	78-120	0			S
o-Xylene	21990	2,500	25000	0	88	80-120	0			
sec-Butylbenzene	16070	2,500	25000	0	64.3	78-120	0			S

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143484		Instrument ID VOA6		Method: SW8260				
Styrene	23470	2,500	25000	0	93.9	80-120	0	S
Tetrachloroethene	19470	2,500	25000	0	77.9	79-120	0	
Toluene	21140	2,500	25000	0	84.6	80-120	0	
trans-1,2-Dichloroethene	22940	2,500	25000	527.5	89.7	78-120	0	
trans-1,3-Dichloropropene	25390	2,500	25000	0	102	80-120	0	
Trichloroethene	21880	2,500	25000	0	87.5	80-120	0	
Vinyl chloride	48230	1,000	25000	27750	81.9	70-127	0	
Xylenes, Total	63870	7,500	75000	0	85.2	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	24350	2,500	25000	0	97.4	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	25640	2,500	25000	0	103	72-125	0	
<i>Surr: Dibromofluoromethane</i>	25180	2,500	25000	0	101	71-125	0	
<i>Surr: Toluene-d8</i>	24930	2,500	25000	0	99.7	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143484** Instrument ID **VOA6** Method: **SW8260**

MSD				Sample ID: 1302846-11AMSD			Units: µg/L		Analysis Date: 3/1/2013 04:53 PM		
Client ID:		Run ID: VOA6_130301A			SeqNo: 3128549		Prep Date:		DF: 500		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	23520	2,500	25000	0	94.1	80-120	19980	16.2	20		
1,1,2,2-Tetrachloroethane	23700	2,500	25000	0	94.8	72-120	22560	4.93	20		
1,1,2-Trichloroethane	24700	2,500	25000	0	98.8	80-120	24040	2.7	20		
1,1-Dichloroethane	24570	2,500	25000	0	98.3	76-120	23070	6.27	20		
1,1-Dichloroethene	23280	2,500	25000	0	93.1	73-124	20660	11.9	20		
1,2,4-Trimethylbenzene	23030	2,500	25000	0	92.1	68-123	19930	14.5	20		
1,2-Dibromoethane	24880	2,500	25000	0	99.5	80-120	25000	0.496	20		
1,2-Dichloroethane	25020	2,500	25000	0	100	78-120	24720	1.2	20		
1,2-Dichloropropane	24400	2,500	25000	0	97.6	80-120	24040	1.48	20		
1,3,5-Trimethylbenzene	22600	2,500	25000	0	90.4	80-120	18750	18.6	20		
2-Butanone	47990	5,000	50000	0	96	58-132	45490	5.34	20		
2-Hexanone	51210	5,000	50000	0	102	61-130	47050	8.47	20		
4-Isopropyltoluene	22190	2,500	25000	0	88.8	79-120	16930	26.9	20	R	
4-Methyl-2-pentanone	51760	5,000	50000	0	104	65-127	50200	3.06	20		
Acetone	60800	5,000	50000	0	122	59-137	55910	8.39	20		
Benzene	24020	2,500	25000	0	96.1	73-121	22360	7.14	20		
Bromodichloromethane	25060	2,500	25000	0	100	80-120	24410	2.63	20		
Bromoform	26850	2,500	25000	0	107	79-120	25770	4.11	20		
Bromomethane	14480	2,500	25000	0	57.9	66-137	13300	8.5	20	S	
Carbon disulfide	47050	5,000	50000	0	94.1	68-141	42400	10.4	20		
Carbon tetrachloride	22160	2,500	25000	0	88.6	75-124	16770	27.7	20	R	
Chlorobenzene	24680	2,500	25000	0	98.7	80-120	22740	8.17	20		
Chloroethane	23270	2,500	25000	0	93.1	76-121	21520	7.84	20		
Chloroform	24430	2,500	25000	0	97.7	80-120	23050	5.79	20		
Chloromethane	35200	2,500	25000	0	141	67-123	34430	2.21	20	S	
cis-1,2-Dichloroethene	36280	2,500	25000	11460	99.3	78-120	35270	2.84	20		
cis-1,3-Dichloropropene	24870	2,500	25000	0	99.5	80-120	24320	2.22	20		
Dibromochloromethane	24880	2,500	25000	0	99.5	80-120	24800	0.311	20		
Ethylbenzene	23500	2,500	25000	0	94	80-120	20820	12.1	20		
Isopropylbenzene	23690	2,500	25000	0	94.8	80-120	19490	19.4	20		
m,p-Xylene	47430	5,000	50000	0	94.9	78-121	41880	12.4	20		
Methyl tert-butyl ether	23990	2,500	25000	0	96	73-121	22710	5.5	20		
Methylene chloride	25650	5,000	25000	0	103	65-133	25870	0.846	20		
Naphthalene	33130	2,500	25000	0	133	65-135	23780	32.8	20	R	
n-Butylbenzene	22160	2,500	25000	0	88.6	77-120	16170	31.3	20	R	
n-Propylbenzene	22420	2,500	25000	0	89.7	78-120	17920	22.3	20	R	
o-Xylene	24250	2,500	25000	0	97	80-120	21990	9.77	20		
sec-Butylbenzene	21590	2,500	25000	0	86.4	78-120	16070	29.3	20	R	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143484		Instrument ID VOA6		Method: SW8260					
Styrene	25100	2,500	25000	0	100	80-120	23470	6.72	20
Tetrachloroethene	23750	2,500	25000	0	95	79-120	19470	19.8	20
Toluene	23120	2,500	25000	0	92.5	80-120	21140	8.94	20
trans-1,2-Dichloroethene	24220	2,500	25000	527.5	94.8	78-120	22940	5.41	20
trans-1,3-Dichloropropene	26110	2,500	25000	0	104	80-120	25390	2.79	20
Trichloroethene	25320	2,500	25000	0	101	80-120	21880	14.6	20
Vinyl chloride	51140	1,000	25000	27750	93.6	70-127	48230	5.85	20
Xylenes, Total	71670	7,500	75000	0	95.6	80-120	63870	11.5	20
<i>Surr: 1,2-Dichloroethane-d4</i>	24310	2,500	25000	0	97.2	70-125	24350	0.189	20
<i>Surr: 4-Bromofluorobenzene</i>	25930	2,500	25000	0	104	72-125	25640	1.11	20
<i>Surr: Dibromofluoromethane</i>	25420	2,500	25000	0	102	71-125	25180	0.965	20
<i>Surr: Toluene-d8</i>	24500	2,500	25000	0	98	75-125	24930	1.76	20

The following samples were analyzed in this batch:

1303029-01A	1303029-03A	1303029-12A
1303029-13A	1303029-16A	1303029-20A
1303029-21A		

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143485** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130301-R143485** Units: **µg/L** Analysis Date: **3/1/2013 02:02 PM**
 Client ID: Run ID: **VOA1_130301A** SeqNo: **3128566** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143485	Instrument ID VOA1	Method: SW8260						
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	50.32	5.0	50	0	101	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	50.25	5.0	50	0	101	72-125	0	
<i>Surr: Dibromofluoromethane</i>	55.3	5.0	50	0	111	71-125	0	
<i>Surr: Toluene-d8</i>	48.78	5.0	50	0	97.6	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143485** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130301-R143485				Units: µg/L		Analysis Date: 3/1/2013 12:47 PM		
Client ID:		Run ID: VOA1_130301A				SeqNo: 3128565		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	57.15	5.0	50	0	114	80-120	0			
1,1,2,2-Tetrachloroethane	48.85	5.0	50	0	97.7	72-120	0			
1,1,2-Trichloroethane	53.23	5.0	50	0	106	80-120	0			
1,1-Dichloroethane	55.52	5.0	50	0	111	76-120	0			
1,1-Dichloroethene	55.74	5.0	50	0	111	73-124	0			
1,2,4-Trimethylbenzene	47.05	5.0	50	0	94.1	68-123	0			
1,2-Dibromoethane	52.31	5.0	50	0	105	80-120	0			
1,2-Dichloroethane	51.27	5.0	50	0	103	78-120	0			
1,2-Dichloropropane	52.36	5.0	50	0	105	80-120	0			
1,3,5-Trimethylbenzene	48.32	5.0	50	0	96.6	80-120	0			
2-Butanone	112	10	100	0	112	58-132	0			
2-Hexanone	104.2	10	100	0	104	61-130	0			
4-Isopropyltoluene	45.67	5.0	50	0	91.3	79-120	0			
4-Methyl-2-pentanone	105.8	10	100	0	106	65-127	0			
Acetone	119.6	10	100	0	120	59-137	0			
Benzene	51.43	5.0	50	0	103	73-121	0			
Bromodichloromethane	53.28	5.0	50	0	107	80-120	0			
Bromoform	52.1	5.0	50	0	104	79-120	0			
Bromomethane	67.38	5.0	50	0	135	66-137	0			
Carbon disulfide	110.2	10	100	0	110	68-141	0			
Carbon tetrachloride	49.98	5.0	50	0	100	75-124	0			
Chlorobenzene	49.25	5.0	50	0	98.5	80-120	0			
Chloroethane	53.56	5.0	50	0	107	76-121	0			
Chloroform	55.17	5.0	50	0	110	80-120	0			
Chloromethane	51.14	5.0	50	0	102	67-123	0			
cis-1,2-Dichloroethene	56.11	5.0	50	0	112	78-120	0			
cis-1,3-Dichloropropene	50.82	5.0	50	0	102	80-120	0			
Dibromochloromethane	50.28	5.0	50	0	101	80-120	0			
Ethylbenzene	52.66	5.0	50	0	105	80-120	0			
Isopropylbenzene	49.17	5.0	50	0	98.3	80-120	0			
m,p-Xylene	104.8	10	100	0	105	78-121	0			
Methyl tert-butyl ether	55.26	5.0	50	0	111	73-121	0			
Methylene chloride	54.74	10	50	0	109	65-133	0			
Naphthalene	49.72	5.0	50	0	99.4	65-135	0			
n-Butylbenzene	45.04	5.0	50	0	90.1	77-120	0			
n-Propylbenzene	44.77	5.0	50	0	89.5	78-120	0			
o-Xylene	52.91	5.0	50	0	106	80-120	0			
sec-Butylbenzene	45.09	5.0	50	0	90.2	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143485		Instrument ID VOA1		Method: SW8260				
Styrene	53.01	5.0	50	0	106	80-120	0	
Tetrachloroethene	50.82	5.0	50	0	102	79-120	0	
Toluene	49.87	5.0	50	0	99.7	80-120	0	
trans-1,2-Dichloroethene	58.68	5.0	50	0	117	78-120	0	
trans-1,3-Dichloropropene	48.19	5.0	50	0	96.4	80-120	0	
Trichloroethene	47.99	5.0	50	0	96	80-120	0	
Vinyl chloride	56.17	2.0	50	0	112	70-127	0	
Xylenes, Total	157.7	15	150	0	105	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	49.12	5.0	50	0	98.2	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	54.05	5.0	50	0	108	72-125	0	
<i>Surr: Dibromofluoromethane</i>	55.35	5.0	50	0	111	71-125	0	
<i>Surr: Toluene-d8</i>	49.07	5.0	50	0	98.1	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143485** Instrument ID **VOA1** Method: **SW8260**

MS	Sample ID: 1302941-02AMS				Units: µg/L		Analysis Date: 3/1/2013 04:05 PM			
Client ID:		Run ID: VOA1_130301A			SeqNo: 3128571		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.84	5.0	50	0	97.7	80-120	0			
1,1,2,2-Tetrachloroethane	48.19	5.0	50	0	96.4	72-120	0			
1,1,2-Trichloroethane	48.11	5.0	50	0	96.2	80-120	0			
1,1-Dichloroethane	54.17	5.0	50	0	108	76-120	0			
1,1-Dichloroethene	52.8	5.0	50	0	106	73-124	0			
1,2,4-Trimethylbenzene	41.23	5.0	50	0	82.5	68-123	0			
1,2-Dibromoethane	47.75	5.0	50	0	95.5	80-120	0			
1,2-Dichloroethane	52.75	5.0	50	0	105	78-120	0			
1,2-Dichloropropane	52.09	5.0	50	0	104	80-120	0			
1,3,5-Trimethylbenzene	41.77	5.0	50	0	83.5	80-120	0			
2-Butanone	108.3	10	100	0	108	58-132	0			
2-Hexanone	100.8	10	100	0	101	61-130	0			
4-Isopropyltoluene	38.35	5.0	50	0	76.7	79-120	0			S
4-Methyl-2-pentanone	104.5	10	100	0	104	65-127	0			
Acetone	107.1	10	100	0	107	59-137	0			
Benzene	52.37	5.0	50	0	105	73-121	0			
Bromodichloromethane	52.18	5.0	50	0	104	80-120	0			
Bromoform	47.39	5.0	50	0	94.8	79-120	0			
Bromomethane	57.7	5.0	50	0	115	66-137	0			
Carbon disulfide	99.81	10	100	0	99.8	68-141	0			
Carbon tetrachloride	45.04	5.0	50	0	90.1	75-124	0			
Chlorobenzene	47.57	5.0	50	0	95.1	80-120	0			
Chloroethane	52.46	5.0	50	0	105	76-121	0			
Chloroform	51.65	5.0	50	0	103	80-120	0			
Chloromethane	50.81	5.0	50	0	102	67-123	0			
cis-1,2-Dichloroethene	54.77	5.0	50	0	110	78-120	0			
cis-1,3-Dichloropropene	51.21	5.0	50	0	102	80-120	0			
Dibromochloromethane	45.47	5.0	50	0	90.9	80-120	0			
Ethylbenzene	39.75	5.0	50	0	79.5	80-120	0			S
Isopropylbenzene	39.9	5.0	50	0	79.8	80-120	0			S
m,p-Xylene	84.63	10	100	0	84.6	78-121	0			
Methyl tert-butyl ether	52.88	5.0	50	0	106	73-121	0			
Methylene chloride	53.34	10	50	0	107	65-133	0			
Naphthalene	46.57	5.0	50	0	93.1	65-135	0			
n-Butylbenzene	39.76	5.0	50	0	79.5	77-120	0			
n-Propylbenzene	40.65	5.0	50	0	81.3	78-120	0			
o-Xylene	47.09	5.0	50	0	94.2	80-120	0			
sec-Butylbenzene	42.23	5.0	50	0	84.5	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143485		Instrument ID VOA1		Method: SW8260				
Styrene	48.55	5.0	50	0	97.1	80-120	0	
Tetrachloroethene	39.62	5.0	50	0	79.2	79-120	0	
Toluene	46.89	5.0	50	0	93.8	80-120	0	
trans-1,2-Dichloroethene	53.43	5.0	50	0	107	78-120	0	
trans-1,3-Dichloropropene	54.12	5.0	50	0	108	80-120	0	
Trichloroethene	49.49	5.0	50	0	99	80-120	0	
Vinyl chloride	45.73	2.0	50	0	91.5	70-127	0	
Xylenes, Total	131.7	15	150	0	87.8	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	50.05	5.0	50	0	100	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	48.5	5.0	50	0	97	72-125	0	
<i>Surr: Dibromofluoromethane</i>	53.2	5.0	50	0	106	71-125	0	
<i>Surr: Toluene-d8</i>	48.63	5.0	50	0	97.3	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143485** Instrument ID **VOA1** Method: **SW8260**

MSD				Sample ID: 1302941-02AMSD			Units: µg/L		Analysis Date: 3/1/2013 04:30 PM		
Client ID:		Run ID: VOA1_130301A			SeqNo: 3128572		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	53.86	5.0	50	0	108	80-120	48.84	9.78	20		
1,1,2,2-Tetrachloroethane	47.16	5.0	50	0	94.3	72-120	48.19	2.16	20		
1,1,2-Trichloroethane	49.56	5.0	50	0	99.1	80-120	48.11	2.96	20		
1,1-Dichloroethane	54.68	5.0	50	0	109	76-120	54.17	0.94	20		
1,1-Dichloroethene	56.03	5.0	50	0	112	73-124	52.8	5.94	20		
1,2,4-Trimethylbenzene	43.14	5.0	50	0	86.3	68-123	41.23	4.51	20		
1,2-Dibromoethane	47.2	5.0	50	0	94.4	80-120	47.75	1.17	20		
1,2-Dichloroethane	47.09	5.0	50	0	94.2	78-120	52.75	11.3	20		
1,2-Dichloropropane	48.61	5.0	50	0	97.2	80-120	52.09	6.9	20		
1,3,5-Trimethylbenzene	42.84	5.0	50	0	85.7	80-120	41.77	2.54	20		
2-Butanone	111.5	10	100	0	111	58-132	108.3	2.92	20		
2-Hexanone	103	10	100	0	103	61-130	100.8	2.17	20		
4-Isopropyltoluene	42.6	5.0	50	0	85.2	79-120	38.35	10.5	20		
4-Methyl-2-pentanone	103.2	10	100	0	103	65-127	104.5	1.18	20		
Acetone	114.3	10	100	0	114	59-137	107.1	6.56	20		
Benzene	49.21	5.0	50	0	98.4	73-121	52.37	6.24	20		
Bromodichloromethane	47	5.0	50	0	94	80-120	52.18	10.4	20		
Bromoform	44.84	5.0	50	0	89.7	79-120	47.39	5.53	20		
Bromomethane	68.88	5.0	50	0	138	66-137	57.7	17.7	20	S	
Carbon disulfide	114.7	10	100	0	115	68-141	99.81	13.9	20		
Carbon tetrachloride	47.1	5.0	50	0	94.2	75-124	45.04	4.49	20		
Chlorobenzene	47.32	5.0	50	0	94.6	80-120	47.57	0.535	20		
Chloroethane	54.85	5.0	50	0	110	76-121	52.46	4.45	20		
Chloroform	56.11	5.0	50	0	112	80-120	51.65	8.27	20		
Chloromethane	51.33	5.0	50	0	103	67-123	50.81	1.01	20		
cis-1,2-Dichloroethene	57.66	5.0	50	0	115	78-120	54.77	5.14	20		
cis-1,3-Dichloropropene	46.39	5.0	50	0	92.8	80-120	51.21	9.88	20		
Dibromochloromethane	47.12	5.0	50	0	94.2	80-120	45.47	3.57	20		
Ethylbenzene	45.8	5.0	50	0	91.6	80-120	39.75	14.1	20		
Isopropylbenzene	45.03	5.0	50	0	90.1	80-120	39.9	12.1	20		
m,p-Xylene	95.58	10	100	0	95.6	78-121	84.63	12.2	20		
Methyl tert-butyl ether	56.9	5.0	50	0	114	73-121	52.88	7.33	20		
Methylene chloride	54.39	10	50	0	109	65-133	53.34	1.94	20		
Naphthalene	44.5	5.0	50	0	89	65-135	46.57	4.55	20		
n-Butylbenzene	42.39	5.0	50	0	84.8	77-120	39.76	6.39	20		
n-Propylbenzene	42.82	5.0	50	0	85.6	78-120	40.65	5.2	20		
o-Xylene	47.86	5.0	50	0	95.7	80-120	47.09	1.63	20		
sec-Butylbenzene	41.7	5.0	50	0	83.4	78-120	42.23	1.25	20		

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143485		Instrument ID VOA1		Method: SW8260					
Styrene	48.52	5.0	50	0	97	80-120	48.55	0.058	20
Tetrachloroethene	44.51	5.0	50	0	89	79-120	39.62	11.6	20
Toluene	51.04	5.0	50	0	102	80-120	46.89	8.49	20
trans-1,2-Dichloroethene	57.22	5.0	50	0	114	78-120	53.43	6.84	20
trans-1,3-Dichloropropene	47.62	5.0	50	0	95.2	80-120	54.12	12.8	20
Trichloroethene	45.29	5.0	50	0	90.6	80-120	49.49	8.87	20
Vinyl chloride	54.28	2.0	50	0	109	70-127	45.73	17.1	20
Xylenes, Total	143.4	15	150	0	95.6	80-120	131.7	8.52	20
<i>Surr: 1,2-Dichloroethane-d4</i>	50.68	5.0	50	0	101	70-125	50.05	1.26	20
<i>Surr: 4-Bromofluorobenzene</i>	49.92	5.0	50	0	99.8	72-125	48.5	2.89	20
<i>Surr: Dibromofluoromethane</i>	53.9	5.0	50	0	108	71-125	53.2	1.32	20
<i>Surr: Toluene-d8</i>	46.72	5.0	50	0	93.4	75-125	48.63	4.01	20

The following samples were analyzed in this batch:

1303029-10A	1303029-11A	1303029-15A

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143512** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130303-R143512** Units: **µg/L** Analysis Date: **3/3/2013 04:59 PM**

Client ID: Run ID: **VOA1_130303A** SeqNo: **3129157** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143512		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	48.66	5.0	50	0	97.3	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	48.21	5.0	50	0	96.4	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.24	5.0	50	0	102	71-125	0	
<i>Surr: Toluene-d8</i>	50.04	5.0	50	0	100	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143512** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130303-R143512				Units: µg/L		Analysis Date: 3/3/2013 03:45 PM		
Client ID:		Run ID: VOA1_130303A				SeqNo: 3129156		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	50.45	5.0	50	0	101	80-120	0			
1,1,2,2-Tetrachloroethane	50.54	5.0	50	0	101	72-120	0			
1,1,2-Trichloroethane	54.22	5.0	50	0	108	80-120	0			
1,1-Dichloroethane	50.62	5.0	50	0	101	76-120	0			
1,1-Dichloroethene	49.43	5.0	50	0	98.9	73-124	0			
1,2,4-Trimethylbenzene	50.57	5.0	50	0	101	68-123	0			
1,2-Dibromoethane	54.06	5.0	50	0	108	80-120	0			
1,2-Dichloroethane	52.41	5.0	50	0	105	78-120	0			
1,2-Dichloropropane	51.21	5.0	50	0	102	80-120	0			
1,3,5-Trimethylbenzene	47.96	5.0	50	0	95.9	80-120	0			
2-Butanone	105.5	10	100	0	106	58-132	0			
2-Hexanone	101.7	10	100	0	102	61-130	0			
4-Isopropyltoluene	51.09	5.0	50	0	102	79-120	0			
4-Methyl-2-pentanone	103.6	10	100	0	104	65-127	0			
Acetone	98.36	10	100	0	98.4	59-137	0			
Benzene	53.41	5.0	50	0	107	73-121	0			
Bromodichloromethane	54.36	5.0	50	0	109	80-120	0			
Bromoform	54.65	5.0	50	0	109	79-120	0			
Bromomethane	49.49	5.0	50	0	99	66-137	0			
Carbon disulfide	101	10	100	0	101	68-141	0			
Carbon tetrachloride	49.82	5.0	50	0	99.6	75-124	0			
Chlorobenzene	49.24	5.0	50	0	98.5	80-120	0			
Chloroethane	54.85	5.0	50	0	110	76-121	0			
Chloroform	50.83	5.0	50	0	102	80-120	0			
Chloromethane	51.28	5.0	50	0	103	67-123	0			
cis-1,2-Dichloroethene	53.1	5.0	50	0	106	78-120	0			
cis-1,3-Dichloropropene	51.73	5.0	50	0	103	80-120	0			
Dibromochloromethane	55.72	5.0	50	0	111	80-120	0			
Ethylbenzene	51.81	5.0	50	0	104	80-120	0			
Isopropylbenzene	46.8	5.0	50	0	93.6	80-120	0			
m,p-Xylene	100.1	10	100	0	100	78-121	0			
Methyl tert-butyl ether	52.03	5.0	50	0	104	73-121	0			
Methylene chloride	52.3	10	50	0	105	65-133	0			
Naphthalene	51.4	5.0	50	0	103	65-135	0			
n-Butylbenzene	50.24	5.0	50	0	100	77-120	0			
n-Propylbenzene	48.37	5.0	50	0	96.7	78-120	0			
o-Xylene	49.98	5.0	50	0	100	80-120	0			
sec-Butylbenzene	45.07	5.0	50	0	90.1	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143512		Instrument ID VOA1		Method: SW8260				
Styrene	52.62	5.0	50	0	105	80-120	0	
Tetrachloroethene	50.79	5.0	50	0	102	79-120	0	
Toluene	53.36	5.0	50	0	107	80-120	0	
trans-1,2-Dichloroethene	51.79	5.0	50	0	104	78-120	0	
trans-1,3-Dichloropropene	54.07	5.0	50	0	108	80-120	0	
Trichloroethene	50.85	5.0	50	0	102	80-120	0	
Vinyl chloride	50.54	2.0	50	0	101	70-127	0	
Xylenes, Total	150.1	15	150	0	100	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	50.02	5.0	50	0	100	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.22	5.0	50	0	98.4	72-125	0	
<i>Surr: Dibromofluoromethane</i>	50.5	5.0	50	0	101	71-125	0	
<i>Surr: Toluene-d8</i>	50.76	5.0	50	0	102	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143512** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 1303029-02AMS				Units: µg/L		Analysis Date: 3/3/2013 06:14 PM		
Client ID: MW-25		Run ID: VOA1_130303A				SeqNo: 3129160		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	44.99	5.0	50	0	90	80-120	0			
1,1,2,2-Tetrachloroethane	49.91	5.0	50	0	99.8	72-120	0			
1,1,2-Trichloroethane	51.23	5.0	50	0	102	80-120	0			
1,1-Dichloroethane	48.9	5.0	50	0	97.8	76-120	0			
1,1-Dichloroethene	40.06	5.0	50	0	80.1	73-124	0			
1,2,4-Trimethylbenzene	47.54	5.0	50	0	95.1	68-123	0			
1,2-Dibromoethane	50.82	5.0	50	0	102	80-120	0			
1,2-Dichloroethane	49.07	5.0	50	0	98.1	78-120	0			
1,2-Dichloropropane	52.25	5.0	50	0	105	80-120	0			
1,3,5-Trimethylbenzene	48.84	5.0	50	0	97.7	80-120	0			
2-Butanone	95.75	10	100	0	95.7	58-132	0			
2-Hexanone	107.4	10	100	0	107	61-130	0			
4-Isopropyltoluene	46.37	5.0	50	0	92.7	79-120	0			
4-Methyl-2-pentanone	107.1	10	100	0	107	65-127	0			
Acetone	87.29	10	100	0	87.3	59-137	0			
Benzene	47.22	5.0	50	0	94.4	73-121	0			
Bromodichloromethane	51.74	5.0	50	0	103	80-120	0			
Bromoform	51.3	5.0	50	0	103	79-120	0			
Bromomethane	34.5	5.0	50	0	69	66-137	0			
Carbon disulfide	97.31	10	100	0	97.3	68-141	0			
Carbon tetrachloride	45.31	5.0	50	0	90.6	75-124	0			
Chlorobenzene	48.88	5.0	50	0	97.8	80-120	0			
Chloroethane	47.77	5.0	50	0	95.5	76-121	0			
Chloroform	49.01	5.0	50	0	98	80-120	0			
Chloromethane	42.93	5.0	50	0	85.9	67-123	0			
cis-1,2-Dichloroethene	49.48	5.0	50	0	99	78-120	0			
cis-1,3-Dichloropropene	52.57	5.0	50	0	105	80-120	0			
Dibromochloromethane	52.3	5.0	50	0	105	80-120	0			
Ethylbenzene	47.47	5.0	50	0	94.9	80-120	0			
Isopropylbenzene	47.09	5.0	50	0	94.2	80-120	0			
m,p-Xylene	101.3	10	100	0	101	78-121	0			
Methyl tert-butyl ether	51.86	5.0	50	0	104	73-121	0			
Methylene chloride	50.83	10	50	0	102	65-133	0			
Naphthalene	48.44	5.0	50	0	96.9	65-135	0			
n-Butylbenzene	43.44	5.0	50	0	86.9	77-120	0			
n-Propylbenzene	46.42	5.0	50	0	92.8	78-120	0			
o-Xylene	47.9	5.0	50	0	95.8	80-120	0			
sec-Butylbenzene	44.92	5.0	50	0	89.8	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143512		Instrument ID VOA1		Method: SW8260				
Styrene	48.75	5.0	50	0	97.5	80-120	0	
Tetrachloroethene	46.71	5.0	50	0	93.4	79-120	0	
Toluene	48.89	5.0	50	0	97.8	80-120	0	
trans-1,2-Dichloroethene	48.39	5.0	50	0	96.8	78-120	0	
trans-1,3-Dichloropropene	51.58	5.0	50	0	103	80-120	0	
Trichloroethene	47.01	5.0	50	0	94	80-120	0	
Vinyl chloride	44.46	2.0	50	0	88.9	70-127	0	
Xylenes, Total	149.2	15	150	0	99.5	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.75	5.0	50	0	97.5	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	48.8	5.0	50	0	97.6	72-125	0	
<i>Surr: Dibromofluoromethane</i>	49.06	5.0	50	0	98.1	71-125	0	
<i>Surr: Toluene-d8</i>	51.56	5.0	50	0	103	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143512** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1303029-02AMSD				Units: µg/L		Analysis Date: 3/3/2013 06:38 PM		
Client ID: MW-25		Run ID: VOA1_130303A				SeqNo: 3129161		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.12	5.0	50	0	96.2	80-120	44.99	6.72	20	
1,1,2,2-Tetrachloroethane	49.14	5.0	50	0	98.3	72-120	49.91	1.55	20	
1,1,2-Trichloroethane	50.54	5.0	50	0	101	80-120	51.23	1.35	20	
1,1-Dichloroethane	47.77	5.0	50	0	95.5	76-120	48.9	2.34	20	
1,1-Dichloroethene	46.01	5.0	50	0	92	73-124	40.06	13.8	20	
1,2,4-Trimethylbenzene	46.45	5.0	50	0	92.9	68-123	47.54	2.32	20	
1,2-Dibromoethane	49.81	5.0	50	0	99.6	80-120	50.82	2	20	
1,2-Dichloroethane	51.86	5.0	50	0	104	78-120	49.07	5.53	20	
1,2-Dichloropropane	50.27	5.0	50	0	101	80-120	52.25	3.86	20	
1,3,5-Trimethylbenzene	51.06	5.0	50	0	102	80-120	48.84	4.46	20	
2-Butanone	98.1	10	100	0	98.1	58-132	95.75	2.43	20	
2-Hexanone	103.5	10	100	0	104	61-130	107.4	3.72	20	
4-Isopropyltoluene	48.69	5.0	50	0	97.4	79-120	46.37	4.88	20	
4-Methyl-2-pentanone	103.9	10	100	0	104	65-127	107.1	3.02	20	
Acetone	90.98	10	100	0	91	59-137	87.29	4.13	20	
Benzene	49.82	5.0	50	0	99.6	73-121	47.22	5.37	20	
Bromodichloromethane	51.79	5.0	50	0	104	80-120	51.74	0.0836	20	
Bromoform	51.94	5.0	50	0	104	79-120	51.3	1.23	20	
Bromomethane	39.63	5.0	50	0	79.3	66-137	34.5	13.8	20	
Carbon disulfide	96	10	100	0	96	68-141	97.31	1.35	20	
Carbon tetrachloride	48.54	5.0	50	0	97.1	75-124	45.31	6.88	20	
Chlorobenzene	49.65	5.0	50	0	99.3	80-120	48.88	1.57	20	
Chloroethane	50.16	5.0	50	0	100	76-121	47.77	4.89	20	
Chloroform	47.29	5.0	50	0	94.6	80-120	49.01	3.55	20	
Chloromethane	47.68	5.0	50	0	95.4	67-123	42.93	10.5	20	
cis-1,2-Dichloroethene	48.75	5.0	50	0	97.5	78-120	49.48	1.47	20	
cis-1,3-Dichloropropene	53.11	5.0	50	0	106	80-120	52.57	1.02	20	
Dibromochloromethane	49.93	5.0	50	0	99.9	80-120	52.3	4.63	20	
Ethylbenzene	50.17	5.0	50	0	100	80-120	47.47	5.54	20	
Isopropylbenzene	48.02	5.0	50	0	96	80-120	47.09	1.96	20	
m,p-Xylene	99.96	10	100	0	100	78-121	101.3	1.35	20	
Methyl tert-butyl ether	50.33	5.0	50	0	101	73-121	51.86	2.99	20	
Methylene chloride	50.89	10	50	0	102	65-133	50.83	0.119	20	
Naphthalene	52.36	5.0	50	0	105	65-135	48.44	7.78	20	
n-Butylbenzene	45.58	5.0	50	0	91.2	77-120	43.44	4.82	20	
n-Propylbenzene	46.99	5.0	50	0	94	78-120	46.42	1.22	20	
o-Xylene	47.67	5.0	50	0	95.3	80-120	47.9	0.47	20	
sec-Butylbenzene	48.13	5.0	50	0	96.3	78-120	44.92	6.89	20	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143512		Instrument ID VOA1			Method: SW8260				
Styrene	47.61	5.0	50	0	95.2	80-120	48.75	2.36	20
Tetrachloroethene	46.05	5.0	50	0	92.1	79-120	46.71	1.42	20
Toluene	46.87	5.0	50	0	93.7	80-120	48.89	4.23	20
trans-1,2-Dichloroethene	48.46	5.0	50	0	96.9	78-120	48.39	0.151	20
trans-1,3-Dichloropropene	53.25	5.0	50	0	107	80-120	51.58	3.2	20
Trichloroethene	47.53	5.0	50	0	95.1	80-120	47.01	1.09	20
Vinyl chloride	44.49	2.0	50	0	89	70-127	44.46	0.0577	20
Xylenes, Total	147.6	15	150	0	98.4	80-120	149.2	1.07	20
<i>Surr: 1,2-Dichloroethane-d4</i>	46.89	5.0	50	0	93.8	70-125	48.75	3.89	20
<i>Surr: 4-Bromofluorobenzene</i>	46.15	5.0	50	0	92.3	72-125	48.8	5.58	20
<i>Surr: Dibromofluoromethane</i>	49.26	5.0	50	0	98.5	71-125	49.06	0.399	20
<i>Surr: Toluene-d8</i>	47.31	5.0	50	0	94.6	75-125	51.56	8.61	20

The following samples were analyzed in this batch:

1303029-02A	1303029-04A	1303029-05A

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130304-R143562** Units: **µg/L** Analysis Date: **3/4/2013 03:12 PM**

Client ID: Run ID: **VOA1_130304A** SeqNo: **3130034** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562	Instrument ID VOA1	Method: SW8260						
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	53.84	5.0	50	0	108	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	47.88	5.0	50	0	95.8	72-125	0	
<i>Surr: Dibromofluoromethane</i>	52.31	5.0	50	0	105	71-125	0	
<i>Surr: Toluene-d8</i>	49.89	5.0	50	0	99.8	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

LCS Sample ID: **VLCSW-130304-R143562** Units: **µg/L** Analysis Date: **3/4/2013 01:57 PM**
 Client ID: Run ID: **VOA1_130304A** SeqNo: **3130033** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	52.76	5.0	50	0	106	80-120	0			
1,1,2,2-Tetrachloroethane	53.56	5.0	50	0	107	72-120	0			
1,1,2-Trichloroethane	51.34	5.0	50	0	103	80-120	0			
1,1-Dichloroethane	52.52	5.0	50	0	105	76-120	0			
1,1-Dichloroethene	49.78	5.0	50	0	99.6	73-124	0			
1,2,4-Trimethylbenzene	53.23	5.0	50	0	106	68-123	0			
1,2-Dibromoethane	52.72	5.0	50	0	105	80-120	0			
1,2-Dichloroethane	50.08	5.0	50	0	100	78-120	0			
1,2-Dichloropropane	51.24	5.0	50	0	102	80-120	0			
1,3,5-Trimethylbenzene	52.7	5.0	50	0	105	80-120	0			
2-Butanone	108.4	10	100	0	108	58-132	0			
2-Hexanone	99.4	10	100	0	99.4	61-130	0			
4-Isopropyltoluene	51.73	5.0	50	0	103	79-120	0			
4-Methyl-2-pentanone	110.8	10	100	0	111	65-127	0			
Acetone	95.53	10	100	0	95.5	59-137	0			
Benzene	52.2	5.0	50	0	104	73-121	0			
Bromodichloromethane	48.33	5.0	50	0	96.7	80-120	0			
Bromoform	54.95	5.0	50	0	110	79-120	0			
Bromomethane	51.25	5.0	50	0	102	66-137	0			
Carbon disulfide	109.3	10	100	0	109	68-141	0			
Carbon tetrachloride	49.4	5.0	50	0	98.8	75-124	0			
Chlorobenzene	49.46	5.0	50	0	98.9	80-120	0			
Chloroethane	56.28	5.0	50	0	113	76-121	0			
Chloroform	52.62	5.0	50	0	105	80-120	0			
Chloromethane	50.51	5.0	50	0	101	67-123	0			
cis-1,2-Dichloroethene	53.47	5.0	50	0	107	78-120	0			
cis-1,3-Dichloropropene	48.67	5.0	50	0	97.3	80-120	0			
Dibromochloromethane	52.12	5.0	50	0	104	80-120	0			
Ethylbenzene	49.99	5.0	50	0	100	80-120	0			
Isopropylbenzene	48.93	5.0	50	0	97.9	80-120	0			
m,p-Xylene	104	10	100	0	104	78-121	0			
Methyl tert-butyl ether	52.69	5.0	50	0	105	73-121	0			
Methylene chloride	51.9	10	50	0	104	65-133	0			
Naphthalene	52.52	5.0	50	0	105	65-135	0			
n-Butylbenzene	48.32	5.0	50	0	96.6	77-120	0			
n-Propylbenzene	48.45	5.0	50	0	96.9	78-120	0			
o-Xylene	51.77	5.0	50	0	104	80-120	0			
sec-Butylbenzene	50.97	5.0	50	0	102	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1		Method: SW8260				
Styrene	51.84	5.0	50	0	104	80-120	0	
Tetrachloroethene	50.24	5.0	50	0	100	79-120	0	
Toluene	50.81	5.0	50	0	102	80-120	0	
trans-1,2-Dichloroethene	52.29	5.0	50	0	105	78-120	0	
trans-1,3-Dichloropropene	53.55	5.0	50	0	107	80-120	0	
Trichloroethene	49.93	5.0	50	0	99.9	80-120	0	
Vinyl chloride	55.29	2.0	50	0	111	70-127	0	
Xylenes, Total	155.7	15	150	0	104	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	50.84	5.0	50	0	102	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.54	5.0	50	0	99.1	72-125	0	
<i>Surr: Dibromofluoromethane</i>	50.28	5.0	50	0	101	71-125	0	
<i>Surr: Toluene-d8</i>	51.81	5.0	50	0	104	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 1303029-06AMS				Units: µg/L		Analysis Date: 3/4/2013 04:51 PM		
Client ID: MW-23		Run ID: VOA1_130304A				SeqNo: 3130040		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.06	5.0	50	0	86.1	80-120	0			
1,1,2,2-Tetrachloroethane	51.05	5.0	50	0	102	72-120	0			
1,1,2-Trichloroethane	51.44	5.0	50	0	103	80-120	0			
1,1-Dichloroethane	46.65	5.0	50	0	93.3	76-120	0			
1,1-Dichloroethene	42.14	5.0	50	0	84.3	73-124	0			
1,2,4-Trimethylbenzene	46.28	5.0	50	0	92.6	68-123	0			
1,2-Dibromoethane	52.63	5.0	50	0	105	80-120	0			
1,2-Dichloroethane	48.84	5.0	50	0	97.7	78-120	0			
1,2-Dichloropropane	47.76	5.0	50	0	95.5	80-120	0			
1,3,5-Trimethylbenzene	44.88	5.0	50	0	89.8	80-120	0			
2-Butanone	103.5	10	100	0	104	58-132	0			
2-Hexanone	115.6	10	100	0	116	61-130	0			
4-Isopropyltoluene	42.51	5.0	50	0	85	79-120	0			
4-Methyl-2-pentanone	118.6	10	100	0	119	65-127	0			
Acetone	98.86	10	100	8.491	90.4	59-137	0			
Benzene	46.12	5.0	50	0	92.2	73-121	0			
Bromodichloromethane	50.7	5.0	50	0	101	80-120	0			
Bromoform	54.74	5.0	50	0	109	79-120	0			
Bromomethane	42.53	5.0	50	0	85.1	66-137	0			
Carbon disulfide	86.99	10	100	0	87	68-141	0			
Carbon tetrachloride	39.4	5.0	50	0	78.8	75-124	0			
Chlorobenzene	63.2	5.0	50	0	126	80-120	0			S
Chloroethane	47.73	5.0	50	0	95.5	76-121	0			
Chloroform	49.16	5.0	50	0	98.3	80-120	0			
Chloromethane	48.24	5.0	50	0	96.5	67-123	0			
cis-1,2-Dichloroethene	49.58	5.0	50	0	99.2	78-120	0			
cis-1,3-Dichloropropene	49.01	5.0	50	0	98	80-120	0			
Dibromochloromethane	51.99	5.0	50	0	104	80-120	0			
Ethylbenzene	46.22	5.0	50	0	92.4	80-120	0			
Isopropylbenzene	42.75	5.0	50	0	85.5	80-120	0			
m,p-Xylene	90.39	10	100	0	90.4	78-121	0			
Methyl tert-butyl ether	53.49	5.0	50	0	107	73-121	0			
Methylene chloride	54.57	10	50	0	109	65-133	0			
Naphthalene	51.87	5.0	50	0	104	65-135	0			
n-Butylbenzene	39.25	5.0	50	0	78.5	77-120	0			
n-Propylbenzene	41.2	5.0	50	0	82.4	78-120	0			
o-Xylene	48.74	5.0	50	0	97.5	80-120	0			
sec-Butylbenzene	40.15	5.0	50	0	80.3	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1		Method: SW8260			
Styrene	50.64	5.0	50	0	101	80-120	0
Tetrachloroethene	41.44	5.0	50	0	82.9	79-120	0
Toluene	47.52	5.0	50	0	95	80-120	0
trans-1,2-Dichloroethene	47.12	5.0	50	0	94.2	78-120	0
trans-1,3-Dichloropropene	52.79	5.0	50	0	106	80-120	0
Trichloroethene	42.56	5.0	50	0	85.1	80-120	0
Vinyl chloride	41.77	2.0	50	0	83.5	70-127	0
Xylenes, Total	139.1	15	150	0	92.8	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	48.05	5.0	50	0	96.1	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	46.97	5.0	50	0	93.9	72-125	0
<i>Surr: Dibromofluoromethane</i>	49.49	5.0	50	0	99	71-125	0
<i>Surr: Toluene-d8</i>	50.28	5.0	50	0	101	75-125	0

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1303029-06AMSD				Units: µg/L		Analysis Date: 3/4/2013 05:16 PM		
Client ID: MW-23		Run ID: VOA1_130304A				SeqNo: 3130041		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	40.28	5.0	50	0	80.6	80-120	43.06	6.68	20	
1,1,2,2-Tetrachloroethane	52.68	5.0	50	0	105	72-120	51.05	3.15	20	
1,1,2-Trichloroethane	51.84	5.0	50	0	104	80-120	51.44	0.791	20	
1,1-Dichloroethane	46.32	5.0	50	0	92.6	76-120	46.65	0.713	20	
1,1-Dichloroethene	37.49	5.0	50	0	75	73-124	42.14	11.7	20	
1,2,4-Trimethylbenzene	44.27	5.0	50	0	88.5	68-123	46.28	4.44	20	
1,2-Dibromoethane	50.92	5.0	50	0	102	80-120	52.63	3.31	20	
1,2-Dichloroethane	47.17	5.0	50	0	94.3	78-120	48.84	3.47	20	
1,2-Dichloropropane	47.26	5.0	50	0	94.5	80-120	47.76	1.06	20	
1,3,5-Trimethylbenzene	42.61	5.0	50	0	85.2	80-120	44.88	5.19	20	
2-Butanone	107.8	10	100	0	108	58-132	103.5	4.07	20	
2-Hexanone	107.1	10	100	0	107	61-130	115.6	7.59	20	
4-Isopropyltoluene	39.55	5.0	50	0	79.1	79-120	42.51	7.21	20	
4-Methyl-2-pentanone	115.4	10	100	0	115	65-127	118.6	2.73	20	
Acetone	100.5	10	100	8.491	92	59-137	98.86	1.66	20	
Benzene	44.17	5.0	50	0	88.3	73-121	46.12	4.33	20	
Bromodichloromethane	48.61	5.0	50	0	97.2	80-120	50.7	4.2	20	
Bromoform	52.19	5.0	50	0	104	79-120	54.74	4.76	20	
Bromomethane	45.83	5.0	50	0	91.7	66-137	42.53	7.48	20	
Carbon disulfide	82.25	10	100	0	82.2	68-141	86.99	5.61	20	
Carbon tetrachloride	34.87	5.0	50	0	69.7	75-124	39.4	12.2	20	S
Chlorobenzene	48.69	5.0	50	0	97.4	80-120	63.2	25.9	20	R
Chloroethane	44.51	5.0	50	0	89	76-121	47.73	6.97	20	
Chloroform	47.35	5.0	50	0	94.7	80-120	49.16	3.75	20	
Chloromethane	44.97	5.0	50	0	89.9	67-123	48.24	7.01	20	
cis-1,2-Dichloroethene	49.54	5.0	50	0	99.1	78-120	49.58	0.0693	20	
cis-1,3-Dichloropropene	48.47	5.0	50	0	96.9	80-120	49.01	1.11	20	
Dibromochloromethane	51.51	5.0	50	0	103	80-120	51.99	0.923	20	
Ethylbenzene	44.35	5.0	50	0	88.7	80-120	46.22	4.14	20	
Isopropylbenzene	40.78	5.0	50	0	81.6	80-120	42.75	4.73	20	
m,p-Xylene	87.32	10	100	0	87.3	78-121	90.39	3.45	20	
Methyl tert-butyl ether	47.92	5.0	50	0	95.8	73-121	53.49	11	20	
Methylene chloride	53.82	10	50	0	108	65-133	54.57	1.38	20	
Naphthalene	51.19	5.0	50	0	102	65-135	51.87	1.32	20	
n-Butylbenzene	37.84	5.0	50	0	75.7	77-120	39.25	3.65	20	S
n-Propylbenzene	42.42	5.0	50	0	84.8	78-120	41.2	2.92	20	
o-Xylene	48.24	5.0	50	0	96.5	80-120	48.74	1.03	20	
sec-Butylbenzene	39.34	5.0	50	0	78.7	78-120	40.15	2.04	20	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1			Method: SW8260					
Styrene	49.38	5.0	50	0	98.8	80-120	50.64	2.52	20	
Tetrachloroethene	38.94	5.0	50	0	77.9	79-120	41.44	6.23	20	S
Toluene	47.4	5.0	50	0	94.8	80-120	47.52	0.26	20	
trans-1,2-Dichloroethene	42.86	5.0	50	0	85.7	78-120	47.12	9.49	20	
trans-1,3-Dichloropropene	50.83	5.0	50	0	102	80-120	52.79	3.78	20	
Trichloroethene	42.31	5.0	50	0	84.6	80-120	42.56	0.586	20	
Vinyl chloride	41.62	2.0	50	0	83.2	70-127	41.77	0.364	20	
Xylenes, Total	135.6	15	150	0	90.4	80-120	139.1	2.6	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	45.82	5.0	50	0	91.6	70-125	48.05	4.75	20	
<i>Surr: 4-Bromofluorobenzene</i>	50.14	5.0	50	0	100	72-125	46.97	6.55	20	
<i>Surr: Dibromofluoromethane</i>	50.23	5.0	50	0	100	71-125	49.49	1.49	20	
<i>Surr: Toluene-d8</i>	52.06	5.0	50	0	104	75-125	50.28	3.48	20	

The following samples were analyzed in this batch:

1303029-06A	1303029-07A	1303029-08A
1303029-09A	1303029-14A	1303029-17A
1303029-18A	1303029-19A	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143471** Instrument ID **ManTech01** Method: **SM4500H+ B (Dissolve)**

LCS Sample ID: **LCS-PH-R143471** Units: **pH Units** Analysis Date: **3/2/2013 05:12 PM**
Client ID: Run ID: **MANTECH01_130302B** SeqNo: **3128336** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.04	0.10	6	0	101	90-110	0			

DUP Sample ID: **1303029-02EDUP** Units: **pH Units** Analysis Date: **3/2/2013 06:12 PM**
Client ID: **MW-25** Run ID: **MANTECH01_130302B** SeqNo: **3128359** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.24	0.10	0	0	0	0-0	7.32	1.1	20	H

The following samples were analyzed in this batch:

1303029-01E	1303029-02E	1303029-03E
1303029-04E	1303029-05E	1303029-06E
1303029-07E	1303029-08E	1303029-09E
1303029-10E	1303029-11E	1303029-12E
1303029-13E	1303029-14E	1303029-15E
1303029-16E	1303029-17E	1303029-18E
1303029-19E	1303029-20D	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143472** Instrument ID **ManTech01** Method: **M2510 B (Dissolve)**

MBLK	Sample ID: WBLKW2-130302-R143472				Units: µmhos/cm		Analysis Date: 3/2/2013 05:10 PM			
Client ID:	Run ID: MANTECH01_130302C				SeqNo: 3128372		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

LCS	Sample ID: LCS-COND-R143472				Units: µmhos/cm		Analysis Date: 3/2/2013 05:14 PM			
Client ID:	Run ID: MANTECH01_130302C				SeqNo: 3128374		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1438	1.0	1413		0	102	80-120	0		

DUP	Sample ID: 1303029-02EDUP				Units: µmhos/cm		Analysis Date: 3/2/2013 06:12 PM			
Client ID: MW-25	Run ID: MANTECH01_130302C				SeqNo: 3128396		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1417	1.0	0		0	0	1423	0.433	20	

The following samples were analyzed in this batch:

1303029-01E	1303029-02E	1303029-03E
1303029-04E	1303029-05E	1303029-06E
1303029-07E	1303029-08E	1303029-09E
1303029-10E	1303029-11E	1303029-12E
1303029-13E	1303029-14E	1303029-15E
1303029-16E	1303029-17E	1303029-18E
1303029-19E	1303029-20D	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143547** Instrument ID **ICS2100** Method: **E300** (Dissolve)

MBLK Sample ID: **WBLKW1-R143547** Units: **mg/L** Analysis Date: **3/5/2013 09:58 AM**

Client ID: Run ID: **ICS2100_130304B** SeqNo: **3129761** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.20								
Surr: Selenate (surr)	4.609	0.10	5	0	92.2	85-115	0			

LCS Sample ID: **WLCSW1-R143547** Units: **mg/L** Analysis Date: **3/5/2013 09:43 AM**

Client ID: Run ID: **ICS2100_130304B** SeqNo: **3129760** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	8.101	0.20	8	0	101	90-110	0			
Surr: Selenate (surr)	4.301	0.10	5	0	86	85-115	0			

MS Sample ID: **1303029-02BMS** Units: **mg/L** Analysis Date: **3/4/2013 06:31 PM**

Client ID: **MW-25** Run ID: **ICS2100_130304B** SeqNo: **3129736** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	61.62	2.0	40	19.44	105	80-120	0			
Surr: Selenate (surr)	44.78	1.0	50	0	89.6	85-115	0			

MSD Sample ID: **1303029-02BMSD** Units: **mg/L** Analysis Date: **3/4/2013 06:45 PM**

Client ID: **MW-25** Run ID: **ICS2100_130304B** SeqNo: **3129737** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	62	2.0	40	19.44	106	80-120	61.62	0.631	20	
Surr: Selenate (surr)	44.33	1.0	50	0	88.7	85-115	44.78	1.02	20	

The following samples were analyzed in this batch:

1303029-01B	1303029-02B	1303029-03B
1303029-04B	1303029-05B	1303029-06B
1303029-07B	1303029-08B	1303029-09B
1303029-10B	1303029-11B	1303029-12B
1303029-13B	1303029-14B	1303029-15B
1303029-16B	1303029-17B	1303029-18B
1303029-19B	1303029-20B	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143582** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK	Sample ID: WBLK-030413-R143582				Units: mg/L		Analysis Date: 3/4/2013 02:40 PM			
Client ID:	Run ID: BALANCE1_130304C				SeqNo: 3130689		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS	Sample ID: WLCS-030413-R143582				Units: mg/L		Analysis Date: 3/4/2013 02:40 PM			
Client ID:	Run ID: BALANCE1_130304C				SeqNo: 3130691		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1012	10	1000		0	101	85-115	0		

DUP	Sample ID: 1302876-01DDUP				Units: mg/L		Analysis Date: 3/4/2013 02:40 PM			
Client ID:	Run ID: BALANCE1_130304C				SeqNo: 3130665		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	2512	10	0		0	0	0-0	2444	2.74	20

DUP	Sample ID: 1303029-02EDUP				Units: mg/L		Analysis Date: 3/4/2013 02:40 PM			
Client ID: MW-25	Run ID: BALANCE1_130304C				SeqNo: 3130748		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	780	10	0		0	0	0-0	788	1.02	20

The following samples were analyzed in this batch:

1303029-01E	1303029-02E	1303029-03E
1303029-04E	1303029-05E	1303029-06E
1303029-07E	1303029-08E	1303029-09E
1303029-10E	1303029-11E	1303029-12E
1303029-13E	1303029-20D	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143661** Instrument ID **ICS3K2** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW2-R143661			Units: mg/L			Analysis Date: 3/5/2013 07:24 PM			
Client ID:	Run ID: ICS3K2_130305B			SeqNo: 3132343			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Fluoride	ND	0.10								
Sulfate	ND	0.50								
<i>Surr: Selenate (surr)</i>	5.34	0.10	5	0	107	85-115	0			

LCS	Sample ID: WLCSW2-R143661			Units: mg/L			Analysis Date: 3/5/2013 07:46 PM			
Client ID:	Run ID: ICS3K2_130305B			SeqNo: 3132344			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.64	0.50	20	0	98.2	90-110	0			
Fluoride	4.116	0.10	4	0	103	90-110	0			
Sulfate	21	0.50	20	0	105	90-110	0			
<i>Surr: Selenate (surr)</i>	5.578	0.10	5	0	112	85-115	0			

MS	Sample ID: 1303029-02EMS			Units: mg/L			Analysis Date: 3/5/2013 08:51 PM			
Client ID: MW-25	Run ID: ICS3K2_130305B			SeqNo: 3132347			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	120.4	0.50	10	114.2	62.1	80-120	0			SEO
Fluoride	2.753	0.10	2	0.71	102	80-120	0			
Sulfate	129.4	0.50	10	122.1	73.6	80-120	0			SEO
<i>Surr: Selenate (surr)</i>	5.465	0.10	5	0	109	85-115	0			

MSD	Sample ID: 1303029-02EMSD			Units: mg/L			Analysis Date: 3/5/2013 09:12 PM			
Client ID: MW-25	Run ID: ICS3K2_130305B			SeqNo: 3132348			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	121.2	0.50	10	114.2	70.4	80-120	120.4	0.693	20	SEO
Fluoride	2.766	0.10	2	0.71	103	80-120	2.753	0.471	20	
Sulfate	130.2	0.50	10	122.1	80.8	80-120	129.4	0.549	20	EO
<i>Surr: Selenate (surr)</i>	5.497	0.10	5	0	110	85-115	5.465	0.584	20	

The following samples were analyzed in this batch:

1303029-01E	1303029-02E	1303029-03E
1303029-04E	1303029-05E	1303029-06E
1303029-07E	1303029-08E	1303029-09E
1303029-10E	1303029-11E	1303029-12E
1303029-13E	1303029-14E	1303029-15E
1303029-16E	1303029-17E	1303029-18E
1303029-19E	1303029-20D	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143691** Instrument ID **WetChem** Method: **SM2320B** (**Dissolve**)

MBLK Sample ID: **WBLKW1-030613-R143691** Units: **mg/L** Analysis Date: **3/6/2013 04:00 PM**

Client ID: Run ID: **WETCHEM_130306L** SeqNo: **3132948** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS Sample ID: **WLCSW1-030613-R143691** Units: **mg/L** Analysis Date: **3/6/2013 04:00 PM**

Client ID: Run ID: **WETCHEM_130306L** SeqNo: **3132949** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1166	6.0	1000	0	117	80-120	0			

DUP Sample ID: **1303029-02EDUP** Units: **mg/L** Analysis Date: **3/6/2013 04:00 PM**

Client ID: **MW-25** Run ID: **WETCHEM_130306L** SeqNo: **3132970** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	335.3	6.0	0	0	0	0-0	324.9	3.15	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	335.3	6.0	0	0	0	0-0	324.9	3.15	20	

The following samples were analyzed in this batch:

1303029-01E	1303029-02E	1303029-03E
1303029-04E	1303029-05E	1303029-06E
1303029-07E	1303029-08E	

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143718** Instrument ID **WetChem** Method: **SM2320B (Dissolve)**

MBLK Sample ID: **WBLKW1-030613-R143718** Units: **mg/L** Analysis Date: **3/6/2013 08:00 PM**

Client ID: Run ID: **WETCHEM_130306M** SeqNo: **3133681** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS Sample ID: **WLCSW1-030613-R143718** Units: **mg/L** Analysis Date: **3/6/2013 08:00 PM**

Client ID: Run ID: **WETCHEM_130306M** SeqNo: **3133682** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1166	6.0	1000	0	117	80-120	0			

DUP Sample ID: **1303029-18EDUP** Units: **mg/L** Analysis Date: **3/6/2013 08:00 PM**

Client ID: **MW-9** Run ID: **WETCHEM_130306M** SeqNo: **3133699** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	220.8	6.0	0	0	0	0-0	224.9	1.87	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	220.8	6.0	0	0	0	0-0	224.9	1.87	20	

The following samples were analyzed in this batch:

1303029-09E	1303029-10E	1303029-11E
1303029-12E	1303029-13E	1303029-14E
1303029-15E	1303029-16E	1303029-17E
1303029-18E	1303029-19E	1303029-20D

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

Client: Navajo Refining Company
Work Order: 1303029
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143736** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK	Sample ID: WBLK-030613-R143736				Units: mg/L		Analysis Date: 3/6/2013 09:40 AM			
Client ID:	Run ID: BALANCE1_130306B				SeqNo: 3134027		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS	Sample ID: WLCS-030613-R143736				Units: mg/L		Analysis Date: 3/6/2013 09:40 AM			
Client ID:	Run ID: BALANCE1_130306B				SeqNo: 3134028		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	902	10	1000	0	90.2	85-115	0			

DUP	Sample ID: 1302946-01FDUP				Units: mg/L		Analysis Date: 3/6/2013 09:40 AM			
Client ID:	Run ID: BALANCE1_130306B				SeqNo: 3134013		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	476	10	0	0	0	0-0	444	6.96	20	

DUP	Sample ID: 1303046-04ADUP				Units: mg/L		Analysis Date: 3/6/2013 09:40 AM			
Client ID:	Run ID: BALANCE1_130306B				SeqNo: 3134026		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	6564	10	0	0	0	0-0	6692	1.93	20	

The following samples were analyzed in this batch:

1303029-14E	1303029-15E	1303029-16E
1303029-17E	1303029-18E	1303029-19E

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

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
WorkOrder: 1303029

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **01-Mar-13 09:15**

Work Order: **1303029**

Received by: **RDH**

Checklist completed by Robert D. Harris
eSignature

01-Mar-13
Date

Reviewed by: Sonia West
eSignature

04-Mar-13
Date

Matrices: **waters**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☒	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.7c,3.1c,2.9c,3.2c,3.1c,2.9c,3.7c,3.4c,2.3c c/u</u>		<u>005</u>
Cooler(s)/Kit(s):	<u>2798,2592,4039,3852,3041,4179,5180,1286,3323</u>		
Date/Time sample(s) sent to storage:	<u>3/1/13 13:40</u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u>-</u>		

Login Notes: Samples MW-13 1 Liter Plastic NEAT & sample EB-02-27-13 250mL Plastic with H2SO4 were received not labeled. The lab logged them in with the rest of samples in same zip lock bag. Sample RW-1 1LPNEAT was open in cooler; lost 2/3 of sample.

Client Contacted:

Date Contacted:

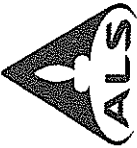
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



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Chain of Custody Form

Page 1 of 3

COC ID: 72642

NAVAJO REFINING: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

1303029

Environmental

Customer Information

ALS Project Manager:

Project Information

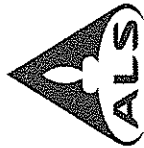
Purchase Order	Project Name	Lovington Lea Refining - SA	A	VOCs (8260) - Select List
Work Order	Project Number		B	LL SVOCs (8270) - TCL + 1-methyl-naphthalene
Company Name	Bill To Company	Navajo Refining Company	C	Total Metals (7470) - Hg
Send Report To	Invoice Attn	Robert Combs	D	Dissolved Metals (6020) - Select List
Address	Address	501 East Main	E	Anions (300) - Cl, F, SO ₄
City/State/Zip	City/State/Zip	Artesia, NM 86211	F	Alkalinity
Phone	Phone	(575) 703-5057	G	pH
Fax	Fax	(575) 746-5421	H	Specific Conductivity
e-Mail Address	e-Mail Address	denise@trcsolutions.com	I	TDS

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MWJ-24	2.26.13	0853	W	123,8	9	X	X	X	X	X	X	X	X	X	X	X
2	MWJ-25		1000	W	"	27	X	X	X	X	X	X	X	X	X	X	(NLS/MSD)
3	MWJ-26		1145	W	"	9	X	X	X	X	X	X	X	X	X	X	X
4	MWJ-24		1225	W	"	9	X	X	X	X	X	X	X	X	X	X	X
5	MWJ-19		1337	W	"	9	X	X	X	X	X	X	X	X	X	X	X
6	MWJ-23		1435	W	"	9	X	X	X	X	X	X	X	X	X	X	X
7	MWJ-13		1515	W	"	9	X	X	X	X	X	X	X	X	X	X	X
8	MWJ-27		1709	W	"	9	X	X	X	X	X	X	X	X	X	X	X
9	MWJ-8		1715	W	"	9	X	X	X	X	X	X	X	X	X	X	X
10	MWJ-10	2.27.13	0825	W	"	9	X	X	X	X	X	X	X	X	X	X	X

Sampler(s) Please Print & Sign	Ship Method	Required Turnaround Time: (Check Box)	Results Due Date:
Dan Clark	Fedex	☒ Std. 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour	
Relinquished by	Received by:	Notes:	
Dan Clark	2.28.13	13 Day TAT.	
Relinquished by	Received by (Laboratory):	QC Package: (Check One Box Below)	
Dan Clark	2.28.13	☒ Level I Std QC ☐ Level II Std QC ☐ Level III Std QC ☐ Level IV SW846/CLP	
Logged by (Laboratory):	Checked by (Laboratory):	Cooler ID	
		Cooler Temp.	
Preservative Key:	1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other	8-4°C 9-5035	

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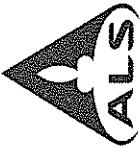
COC ID: 72653

ALS Work Order #: SD3079

Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order	Project Name	Project Number	Project Name	Project Name	Project Number	Project Name	Project Name	A	B	C	D	E	F	G	H	I	J	Hold	
Work Order	Lovington Lea Refining - SA																		
Company Name	Navajo Refining Company																		
Send Report To	Robert Combs																		
Address	501 East Main																		
City/State/Zip	Artesia, NM 88211																		
Phone	(575) 703-5057																		
Fax	(575) 746-5421																		
e-Mail Address	distance@resolutions.com																		
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	MW-6-D	2.27.13	0825	W	12,38	9													
2	MW-11		0840	W	"	9													
3	MW-11-D		0840	W	"	9													
4	MW-3		1043	W	"	9													
5	MW-7		1055	W	"	9													
6	MW-1		1240	W	"	9													
7	MW-10		1241	W	"	9													
8	MW-9		1428	W	"	9													
9	RW-1		1430	W	"	9													
10	EB-02-27-13		1525	W	"	8													
Sampler(s) Please Print & Sign				Shipment Method				Required Turnaround Time: (Check Box)				Results Due Date:							
Dave Clark				Fedex				☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour				10 Day TAT.							
Relinquished by: Dave Clark				Received by: [Signature]				Cooler ID				Cooler Temp.							
Relinquished by: [Signature]				Received by: [Signature]				QC Package: (Check One Box Below)				Level II Std QC ☒ Level III Std QC Raw Data ☐ Level IV SW846/CLP ☐ Other / EDD ☐							
Logged by (Laboratory):				Date: 8-28-13				Date: 8-28-13				Date: 8-28-13							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035																			

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Page 3 of 6

COC ID: 72647

ALS Project Manager:

ALS Work Order #: 503029

Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order	Project Name			Project Number			VOCs (8260) - Select List												
Work Order	Lovington Lea Refining - SA			Lovington Lea Refining - SA			LL SVOCs (8270) - TCL + 1-methylnaphthalene												
Company Name	Navajo Refining Company			Navajo Refining Company			Total Metals (7470) - Hg												
Send Report To	Robert Combs			Robert Combs			Dissolved Metals (8020) - Select List												
Address	501 East Main			501 East Main			Anions (300) - Cl, F, SO4												
City/State/Zip	Artesia, NM 88211			Artesia, NM 88211			Alkalinity												
Phone	(575) 703-5057			(575) 703-5057			pH												
Fax	(575) 746-5421			(575) 746-5421			Specific Conductivity												
e-Mail Address	dstan@resolutions.com			dstan@resolutions.com			TDS												
	scmiller@resolutions.com			scmiller@resolutions.com			Nitrate/Nitrite (360) - H2SO4												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	TD-02-26-13	---	---	W	1,8	2	X												
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler(s) Please Print & Sign	Ship Method	Required Turnaround Time: (Check Box)	Results Due Date:
Dave Clark	Fedex	☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour	
Relinquished by:	Received by:	Notes:	10 Day TAT.
Dave Clark	Received by: [Signature]		
Relinquished by:	Checked by (Laboratory):		
Dave Clark	Checked by: [Signature]		
Logged by (Laboratory):			
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035			

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ACTWT: 61.7 LB
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9 of 9

MPS# 7955 5154 8815
0681

Mstr# 8013 8012 6349

0215

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Fax. +1 281 530 5887

Date:
Name:
Company:

CUSTODY SEAL

Date: 2.28.13 Time: 1:30
Name: D. Clark
Company: TRC

Seal Broken By:

Date: 3/1/13



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Date:
Name:
Company:

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Date: 2.28.13 Time: 1:30
Name: D. Clark
Company: TRC

Seal Broken By:

Date: 3/1/13

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CAD: /POS1400
DIMS: 24x13x13 IN

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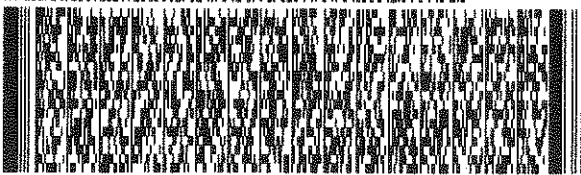
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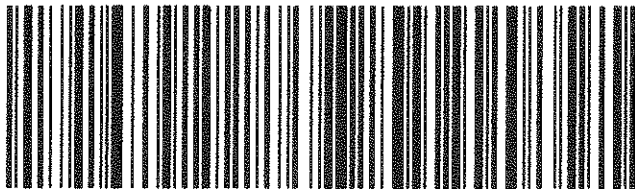
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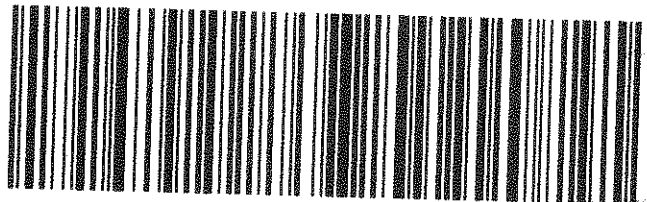
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Date:
Name:
Company:

CUSTODY SEAL

Date: 2-28-13 Time: 1230
Name: D. Clark
Company: TPC

Seal Broken By:

Date:



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Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Date: 2/28/13
Name:
Company:

CUSTODY SEAL

Date: 2/28/13 Time: 1230
Name: D. Clark
Company: TPC

Seal Broken By:

Date:

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CAD: /POS1400
DIMS: 24x13x13

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ACTWGT: 52.9 LB
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DIMS: 24x13x13 IN
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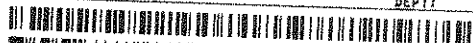
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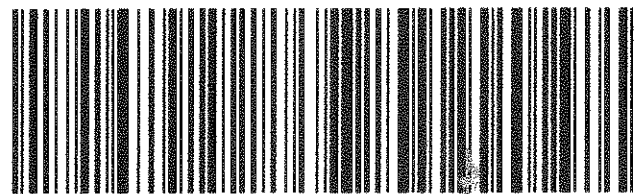
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Date:
Name:
Com:

CUSTODY SEAL

Seal Broken By:

#: 228.3 Time: 1330
ie: D. Clark
pany: TRC

Date:

3/1/13



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Fax. +1 281 530 5887

Date:
Name:
Compa:

CUSTODY SEAL

Seal Broken By:

228.3 Time: 1330
ie: D. Clark
ny: TRC

Date:

3/1/13

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1303029

ORIGIN ID:MAFA (281) 530-5656
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CAD: /POS1400

DIMS: 24x13x13 IN

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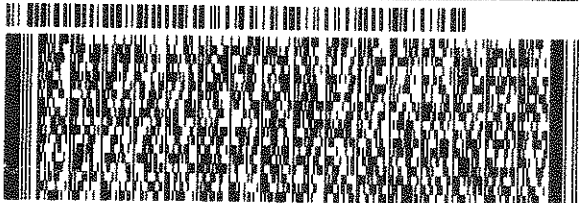
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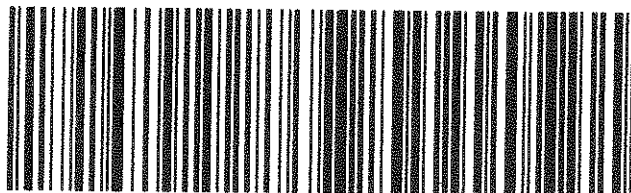
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De

Ne

Co

CUSTODY SEAL

ite: 6.28.13 Time: 1330

ime: D. Clark

ompany: DCL

Seal Broken By:

3/1/13

Date:

3/1/13



08-Mar-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Navajo Lea Refinery Semi-Annual

Work Order: **1303034**

Dear Robert,

ALS Environmental received 1 sample on 01-Mar-2013 09:15 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 44.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Luke F. Hernandez

Sonia West
Project Manager



Certificate No: T104704231-12-10

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1303034

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1303034-01	RO-Eff	Water		2/27/2013 16:15	3/1/2013 09:15	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 1303034

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 68249, Dissolved Metals, Sample 1303092-17: MS/MSD is for an unrelated sample.

Batch 68249, Dissolved Metals, Sample 1303092-17: Duplicate RPD is for an unrelated sample.

Batch R143562, Volatile Organics Method SW8260, Sample 1303029-06: MS/MSD is for an unrelated sample.

Batch R143562, Volatile Organics Method SW8260, Sample 1303029-06: MS/MSD RPD is for an unrelated sample.

Batch R143706, Volatile Organics Method SW8260, Sample 1303181-05: MS/MSD is for an unrelated sample.

Batch 68215, Semivolatile Organics Method SW8270, Insufficient sample to perform MS/MSD. LCS/LCSD provided as batch quality control.

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RO-Eff
Collection Date: 2/27/2013 04:15 PM

Work Order: 1303034
Lab ID: 1303034-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/4/2013 1	Analyst: OFO 3/4/2013 03:50 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 3/6/2013 1	Analyst: ALR 3/7/2013 02:24 AM
Arsenic	0.0189		0.00500	mg/L	1	3/7/2013 02:24 AM
Barium	0.474		0.00500	mg/L	1	3/7/2013 02:24 AM
Boron	0.310		0.0200	mg/L	1	3/7/2013 02:24 AM
Cadmium	ND		0.00200	mg/L	1	3/7/2013 02:24 AM
Calcium	583		5.00	mg/L	10	3/7/2013 02:55 PM
Chromium	0.00832		0.00500	mg/L	1	3/7/2013 02:24 AM
Cobalt	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Copper	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Iron	ND		0.200	mg/L	1	3/7/2013 02:24 AM
Lead	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Magnesium	78.5		0.200	mg/L	1	3/7/2013 02:24 AM
Manganese	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Molybdenum	0.00734		0.00500	mg/L	1	3/7/2013 02:24 AM
Nickel	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Potassium	9.62		0.200	mg/L	1	3/7/2013 02:24 AM
Selenium	0.0125		0.00500	mg/L	1	3/7/2013 02:24 AM
Silver	ND		0.00500	mg/L	1	3/7/2013 02:24 AM
Sodium	346		10.0	mg/L	10	3/7/2013 02:55 PM
Uranium	0.00820		0.00500	mg/L	1	3/7/2013 02:24 AM
Zinc	0.00968		0.00500	mg/L	1	3/7/2013 05:52 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 3/5/2013 1	Analyst: LG 3/5/2013 03:34 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	3/5/2013 03:34 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2-Chlorophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2-Methylphenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
2-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 03:34 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RO-Eff
Collection Date: 2/27/2013 04:15 PM

Work Order: 1303034
Lab ID: 1303034-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
3&4-Methylphenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	3/5/2013 03:34 PM
3-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Chloroaniline	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Nitroaniline	ND		0.20	µg/L	1	3/5/2013 03:34 PM
4-Nitrophenol	ND		1.0	µg/L	1	3/5/2013 03:34 PM
Acenaphthene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Acenaphthylene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Acetophenone	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Anthracene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Atrazine	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benz(a)anthracene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benzaldehyde	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Bis(2-ethylhexyl)phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Caprolactam	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Carbazole	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Chrysene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Dibenzofuran	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Diethyl phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Dimethyl phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Fluoranthene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Fluorene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Hexachlorobenzene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	3/5/2013 03:34 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RO-Eff
Collection Date: 2/27/2013 04:15 PM

Work Order: 1303034
Lab ID: 1303034-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Hexachloroethane	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Isophorone	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Naphthalene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Nitrobenzene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	3/5/2013 03:34 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Pentachlorophenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Phenanthrene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Phenol	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Pyrene	ND		0.20	µg/L	1	3/5/2013 03:34 PM
Surr: 2,4,6-Tribromophenol	59.9		34-129	%REC	1	3/5/2013 03:34 PM
Surr: 2-Fluorobiphenyl	76.9		40-125	%REC	1	3/5/2013 03:34 PM
Surr: 2-Fluorophenol	46.2		20-120	%REC	1	3/5/2013 03:34 PM
Surr: 4-Terphenyl-d14	86.2		40-135	%REC	1	3/5/2013 03:34 PM
Surr: Nitrobenzene-d5	70.9		41-120	%REC	1	3/5/2013 03:34 PM
Surr: Phenol-d6	69.6		20-120	%REC	1	3/5/2013 03:34 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
2-Butanone	ND		0.010	mg/L	1	3/4/2013 10:39 PM
2-Hexanone	ND		0.010	mg/L	1	3/4/2013 10:39 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/4/2013 10:39 PM
Acetone	ND		0.010	mg/L	1	3/4/2013 10:39 PM
Benzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Bromoform	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Bromomethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Carbon disulfide	ND		0.010	mg/L	1	3/4/2013 10:39 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/4/2013 10:39 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RO-Eff
Collection Date: 2/27/2013 04:15 PM

Work Order: 1303034
Lab ID: 1303034-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Chloroethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Chloroform	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Chloromethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Isopropylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
m,p-Xylene	ND		0.010	mg/L	1	3/4/2013 10:39 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Methylene chloride	ND		0.010	mg/L	1	3/4/2013 10:39 PM
Naphthalene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
n-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
n-Propylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
o-Xylene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Styrene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Toluene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Trichloroethene	ND		0.0050	mg/L	1	3/4/2013 10:39 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/4/2013 10:39 PM
Xylenes, Total	ND		0.015	mg/L	1	3/4/2013 10:39 PM
Surr: 1,2-Dichloroethane-d4	95.3		70-125	%REC	1	3/4/2013 10:39 PM
Surr: 4-Bromofluorobenzene	96.6		72-125	%REC	1	3/4/2013 10:39 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	3/4/2013 10:39 PM
Surr: Toluene-d8	101		75-125	%REC	1	3/4/2013 10:39 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	1,400		25.0	mg/L	50	3/6/2013 09:36 PM
Fluoride	2.77		0.100	mg/L	1	3/5/2013 05:35 PM
Sulfate	433		25.0	mg/L	50	3/6/2013 09:36 PM
Nitrate/Nitrite (as N)	9.96		2.00	mg/L	10	3/7/2013 12:21 PM
Surr: Selenate (surr)	112		85-115	%REC	1	3/5/2013 05:35 PM
Surr: Selenate (surr)	95.8		85-115	%REC	50	3/6/2013 09:36 PM
Surr: Selenate (surr)	104		85-115	%REC	10	3/7/2013 12:21 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KCC
Alkalinity, Bicarbonate (As CaCO3)	704		6.00	mg/L	1	3/6/2013 08:00 PM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RO-Eff
Collection Date: 2/27/2013 04:15 PM

Work Order: 1303034
Lab ID: 1303034-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	3/6/2013 08:00 PM
Alkalinity, Total (As CaCO ₃)	704		6.00	mg/L	1	3/6/2013 08:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	5,800		1.00	µmhos/cm	1	3/5/2013 11:42 AM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.74	H	0.100	pH Units	1	3/2/2013 02:29 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	4,400		10.0	mg/L	1	3/6/2013 09:40 AM

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

ALS Environmental

Date: 08-Mar-13

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68194** Instrument ID **Mercury** Method: **SW7470**

MBLK	Sample ID: GBLKW2-030413-68194					Units: mg/L	Analysis Date: 3/4/2013 03:08 PM			
Client ID:	Run ID: MERCURY_130304A					SeqNo: 3129352	Prep Date: 3/4/2013	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS	Sample ID: GLCSW2-030413-68194					Units: mg/L	Analysis Date: 3/4/2013 03:10 PM			
Client ID:	Run ID: MERCURY_130304A					SeqNo: 3129353	Prep Date: 3/4/2013	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.00020	0.005	0	99.4	85-115	0			

MS	Sample ID: 1302875-01DMS					Units: mg/L	Analysis Date: 3/4/2013 03:16 PM			
Client ID:	Run ID: MERCURY_130304A					SeqNo: 3129356	Prep Date: 3/4/2013	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00513	0.00020	0.005	-0.000014	103	85-115	0			

MSD	Sample ID: 1302875-01DMSD					Units: mg/L	Analysis Date: 3/4/2013 03:18 PM			
Client ID:	Run ID: MERCURY_130304A					SeqNo: 3129357	Prep Date: 3/4/2013	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00507	0.00020	0.005	-0.000014	102	85-115	0.00513	1.18	20	

DUP	Sample ID: 1302875-01DDUP					Units: mg/L	Analysis Date: 3/4/2013 03:14 PM			
Client ID:	Run ID: MERCURY_130304A					SeqNo: 3129355	Prep Date: 3/4/2013	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000014	0	20	

The following samples were analyzed in this batch:

1303034-01D

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

QC Page: 1 of 28

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW3-030613-68249** Units: **mg/L** Analysis Date: **3/7/2013 01:23 AM**

Client ID: Run ID: **ICP7500_130306A** SeqNo: **3133163** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	ND	0.050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	1.0								
Uranium	ND	0.0050								

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW3-030613-68249** Units: **mg/L** Analysis Date: **3/7/2013 01:28 AM**

Client ID: Run ID: **ICP7500_130306A** SeqNo: **3133164** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1151	0.010	0.1	0	115	80-120	0			
Arsenic	0.04664	0.0050	0.05	0	93.3	80-120	0			
Barium	0.04976	0.0050	0.05	0	99.5	80-120	0			
Boron	0.4568	0.050	0.5	0	91.4	80-120	0			
Cadmium	0.04624	0.0020	0.05	0	92.5	80-120	0			
Calcium	4.787	0.50	5	0	95.7	80-120	0			
Chromium	0.04795	0.0050	0.05	0	95.9	80-120	0			
Cobalt	0.0481	0.0050	0.05	0	96.2	80-120	0			
Copper	0.0488	0.0050	0.05	0	97.6	80-120	0			
Iron	4.858	0.20	5	0	97.2	80-120	0			
Lead	0.04577	0.0050	0.05	0	91.5	80-120	0			
Magnesium	4.731	0.20	5	0	94.6	80-120	0			
Manganese	0.04727	0.0050	0.05	0	94.5	80-120	0			
Molybdenum	0.04433	0.0050	0.05	0	88.7	80-120	0			
Nickel	0.04792	0.0050	0.05	0	95.8	80-120	0			
Potassium	4.587	0.20	5	0	91.7	80-120	0			
Selenium	0.04773	0.0050	0.05	0	95.5	80-120	0			
Silver	0.04593	0.0050	0.05	0	91.9	80-120	0			
Sodium	4.997	1.0	5	0	99.9	80-120	0			
Uranium	0.08444	0.0050	0.1	0	84.4	80-120	0			

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **1303092-17DMS** Units: **mg/L** Analysis Date: **3/7/2013 01:48 AM**

Client ID: Run ID: **ICP7500_130306A** SeqNo: **3133168** Prep Date: **3/6/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1606	0.010	0.1	0.05429	106	75-125	0			
Arsenic	0.06328	0.0050	0.05	0.01459	97.4	75-125	0			
Barium	0.08959	0.0050	0.05	0.03922	101	75-125	0			
Boron	3.046	0.050	0.5	2.482	113	75-125	0			EO
Cadmium	0.04633	0.0020	0.05	0.000663	91.3	75-125	0			
Calcium	158.7	0.50	5	153.6	102	75-125	0			O
Chromium	0.05252	0.0050	0.05	0.003777	97.5	75-125	0			
Cobalt	0.04761	0.0050	0.05	0.00103	93.2	75-125	0			
Copper	0.04795	0.0050	0.05	0.001513	92.9	75-125	0			
Iron	4.792	0.20	5	0.4762	86.3	75-125	0			
Lead	0.0465	0.0050	0.05	0.001095	90.8	75-125	0			
Magnesium	83.94	0.20	5	77.8	123	75-125	0			O
Manganese	0.08018	0.0050	0.05	0.03492	90.5	75-125	0			
Molybdenum	0.05239	0.0050	0.05	0.007869	89	75-125	0			
Nickel	0.05458	0.0050	0.05	0.007574	94	75-125	0			
Potassium	12.79	0.20	5	8.017	95.5	75-125	0			
Selenium	0.05038	0.0050	0.05	0.003727	93.3	75-125	0			
Silver	0.04227	0.0050	0.05	0.0003203	83.9	75-125	0			
Sodium	409.7	1.0	5	398.7	220	75-125	0			SEO
Uranium	0.09999	0.0050	0.1	0.01218	87.8	75-125	0			

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 1303092-17DMSD				Units: mg/L		Analysis Date: 3/7/2013 01:53 AM		
Client ID:		Run ID: ICP7500_130306A				SeqNo: 3133169		Prep Date: 3/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1623	0.010	0.1	0.05429	108	75-125	0.1606	1.05	25	
Arsenic	0.06371	0.0050	0.05	0.01459	98.2	75-125	0.06328	0.677	25	
Barium	0.08919	0.0050	0.05	0.03922	99.9	75-125	0.08959	0.447	25	
Boron	3.107	0.050	0.5	2.482	125	75-125	3.046	1.98	25	EO
Cadmium	0.04632	0.0020	0.05	0.000663	91.3	75-125	0.04633	0.0216	25	
Calcium	159.1	0.50	5	153.6	110	75-125	158.7	0.252	25	O
Chromium	0.05186	0.0050	0.05	0.003777	96.2	75-125	0.05252	1.26	25	
Cobalt	0.04733	0.0050	0.05	0.00103	92.6	75-125	0.04761	0.59	25	
Copper	0.0473	0.0050	0.05	0.001513	91.6	75-125	0.04795	1.36	25	
Iron	4.729	0.20	5	0.4762	85.1	75-125	4.792	1.32	25	
Lead	0.04531	0.0050	0.05	0.001095	88.4	75-125	0.0465	2.59	25	
Magnesium	83.2	0.20	5	77.8	108	75-125	83.94	0.885	25	O
Manganese	0.07924	0.0050	0.05	0.03492	88.6	75-125	0.08018	1.18	25	
Molybdenum	0.05284	0.0050	0.05	0.007869	89.9	75-125	0.05239	0.855	25	
Nickel	0.05381	0.0050	0.05	0.007574	92.5	75-125	0.05458	1.42	25	
Potassium	12.72	0.20	5	8.017	94.1	75-125	12.79	0.549	25	
Selenium	0.05077	0.0050	0.05	0.003727	94.1	75-125	0.05038	0.771	25	
Silver	0.04202	0.0050	0.05	0.0003203	83.4	75-125	0.04227	0.593	25	
Sodium	406.7	1.0	5	398.7	160	75-125	409.7	0.735	25	SEO
Uranium	0.1009	0.0050	0.1	0.01218	88.7	75-125	0.09999	0.906	25	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68249** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

DUP		Sample ID: 1303092-17DDUP				Units: mg/L		Analysis Date: 3/7/2013 01:38 AM		
Client ID:		Run ID: ICP7500_130306A				SeqNo: 3133166		Prep Date: 3/6/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.04725	0.010	0	0	0	0-0	0.05429	13.9	25	
Arsenic	0.01486	0.0050	0	0	0	0-0	0.01459	1.83	25	
Barium	0.03986	0.0050	0	0	0	0-0	0.03922	1.62	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.000663	0	25	
Calcium	155	0.50	0	0	0	0-0	153.6	0.907	25	
Chromium	ND	0.0050	0	0	0	0-0	0.003777	0	25	
Cobalt	ND	0.0050	0	0	0	0-0	0.00103	0	25	
Copper	ND	0.0050	0	0	0	0-0	0.001513	0	25	
Iron	0.6824	0.20	0	0	0	0-0	0.4762	35.6	25	R
Lead	ND	0.0050	0	0	0	0-0	0.001095	0	25	
Magnesium	80.22	0.20	0	0	0	0-0	77.8	3.06	25	
Manganese	0.03462	0.0050	0	0	0	0-0	0.03492	0.863	25	
Molybdenum	0.007944	0.0050	0	0	0	0-0	0.007869	0.949	25	
Nickel	0.007832	0.0050	0	0	0	0-0	0.007574	3.35	25	
Potassium	8.248	0.20	0	0	0	0-0	8.017	2.84	25	
Selenium	ND	0.0050	0	0	0	0-0	0.003727	0	25	
Silver	ND	0.0050	0	0	0	0-0	0.0003203	0	25	
Uranium	0.01267	0.0050	0	0	0		0.01218	3.94	25	

DUP		Sample ID: 1303092-17DDUP				Units: mg/L		Analysis Date: 3/7/2013 02:41 PM		
Client ID:		Run ID: ICPMS03_130307A				SeqNo: 3133845		Prep Date: 3/6/2013		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.158	0.50	0	0	0	0-0	2.171	0.601	25	
Sodium	346.3	10	0	0	0	0-0	344.7	0.463	25	

The following samples were analyzed in this batch:

1303034-01C

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68278** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

MBLK Sample ID: **MBLKW3-030713-68278** Units: **mg/L** Analysis Date: **3/8/2013 12:56 PM**

Client ID: Run ID: **ICP7500_130308A** SeqNo: **3134752** Prep Date: **3/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	ND	0.20								
Zinc	ND	0.0050								

LCS Sample ID: **MLCSW3-030713-68278** Units: **mg/L** Analysis Date: **3/7/2013 05:45 PM**

Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3134179** Prep Date: **3/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.188	0.20	5	0	104	80-120	0			
Zinc	0.05547	0.0050	0.05	0	111	80-120	0			

MS Sample ID: **1303181-05DMS** Units: **mg/L** Analysis Date: **3/7/2013 06:09 PM**

Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3134189** Prep Date: **3/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.197	0.20	5	0.08737	102	75-125	0			
Zinc	0.05525	0.0050	0.05	0.005008	100	75-125	0			

MSD Sample ID: **1303181-05DMSD** Units: **mg/L** Analysis Date: **3/7/2013 06:11 PM**

Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3134190** Prep Date: **3/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	5.101	0.20	5	0.08737	100	75-125	5.197	1.85	25	
Zinc	0.05348	0.0050	0.05	0.005008	96.9	75-125	0.05525	3.26	25	

DUP Sample ID: **1303181-05DDUP** Units: **mg/L** Analysis Date: **3/7/2013 06:04 PM**

Client ID: Run ID: **ICPMS05_130307A** SeqNo: **3134187** Prep Date: **3/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	ND	0.20	0	0	0	0-0	0.08737	0	25	
Zinc	0.005828	0.0050	0	0	0	0-0	0.005008	15.1	25	

The following samples were analyzed in this batch:

1303034-01C

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68215** Instrument ID **SV-6** Method: **SW8270**

MBLK Sample ID: **SBLKW2-130305-68215** Units: **µg/L** Analysis Date: **3/5/2013 02:55 PM**
 Client ID: Run ID: **SV-6_130305A** SeqNo: **3131218** Prep Date: **3/5/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68215		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	3.561	0.20	5	0	71.2	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	3.754	0.20	5	0	75.1	40-125	0	
<i>Surr: 2-Fluorophenol</i>	2.23	0.20	5	0	44.6	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.411	0.20	5	0	88.2	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	3.681	0.20	5	0	73.6	41-120	0	
<i>Surr: Phenol-d6</i>	3.436	0.20	5	0	68.7	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68215** Instrument ID **SV-6** Method: **SW8270**

LCS		Sample ID: SLCSW2-130305-68215				Units: µg/L		Analysis Date: 3/5/2013 01:02 PM		
Client ID:		Run ID: SV-6_130305A				SeqNo: 3131211		Prep Date: 3/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.78	0.20	5	0	75.6	45-125	0			
1-Methylnaphthalene	3.905	0.20	5	0	78.1	45-120	0			
2,4,5-Trichlorophenol	3.889	0.20	5	0	77.8	46-120	0			
2,4,6-Trichlorophenol	3.864	0.20	5	0	77.3	42-120	0			
2,4-Dichlorophenol	3.82	0.20	5	0	76.4	49-120	0			
2,4-Dimethylphenol	4.03	0.20	5	0	80.6	35-120	0			
2,4-Dinitrophenol	3.645	1.0	5	0	72.9	15-120	0			
2,4-Dinitrotoluene	4.073	0.20	5	0	81.5	50-122	0			
2,6-Dinitrotoluene	4.035	0.20	5	0	80.7	50-120	0			
2-Chloronaphthalene	4.079	0.20	5	0	81.6	50-120	0			
2-Chlorophenol	3.971	0.20	5	0	79.4	40-120	0			
2-Methylnaphthalene	3.982	0.20	5	0	79.6	50-120	0			
2-Methylphenol	4.153	0.20	5	0	83.1	45-120	0			
2-Nitroaniline	5.067	0.20	5	0	101	28-139	0			
2-Nitrophenol	4.485	0.20	5	0	89.7	40-120	0			
3&4-Methylphenol	4.243	0.20	5	0	84.9	35-120	0			
3,3'-Dichlorobenzidine	3.74	0.20	5	0	74.8	15-120	0			
3-Nitroaniline	4.194	0.20	5	0	83.9	30-120	0			
4,6-Dinitro-2-methylphenol	4.128	0.20	5	0	82.6	25-121	0			
4-Bromophenyl phenyl ether	3.688	0.20	5	0	73.8	45-120	0			
4-Chloro-3-methylphenol	4.346	0.20	5	0	86.9	47-120	0			
4-Chloroaniline	4.166	0.20	5	0	83.3	20-120	0			
4-Chlorophenyl phenyl ether	3.709	0.20	5	0	74.2	50-120	0			
4-Nitroaniline	4.044	0.20	5	0	80.9	30-133	0			
4-Nitrophenol	4.973	1.0	5	0	99.5	30-130	0			
Acenaphthene	3.966	0.20	5	0	79.3	45-120	0			
Acenaphthylene	4.029	0.20	5	0	80.6	47-120	0			
Acetophenone	3.614	0.20	5	0	72.3	40-120	0			
Anthracene	3.987	0.20	5	0	79.7	45-120	0			
Atrazine	3.727	0.20	5	0	74.5	40-130	0			
Benz(a)anthracene	3.976	0.20	5	0	79.5	40-120	0			
Benzaldehyde	0.9737	0.20	5	0	19.5	15-120	0			
Benzo(a)pyrene	3.976	0.20	5	0	79.5	45-120	0			
Benzo(b)fluoranthene	4.414	0.20	5	0	88.3	50-120	0			
Benzo(g,h,i)perylene	3.817	0.20	5	0	76.3	42-127	0			
Benzo(k)fluoranthene	3.705	0.20	5	0	74.1	45-127	0			
Bis(2-chloroethoxy)methane	4.138	0.20	5	0	82.8	45-120	0			
Bis(2-chloroethyl)ether	4.158	0.20	5	0	83.2	37-121	0			

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68215		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	3.895	0.20	5	0	77.9	40-120	0	
Bis(2-ethylhexyl)phthalate	4.367	0.20	5	0	87.3	40-139	0	
Butyl benzyl phthalate	4.413	0.20	5	0	88.3	47-123	0	
Caprolactam	4.119	0.20	5	0	82.4	35-134	0	
Carbazole	4.096	0.20	5	0	81.9	42-128	0	
Chrysene	3.99	0.20	5	0	79.8	43-120	0	
Dibenz(a,h)anthracene	3.894	0.20	5	0	77.9	45-125	0	
Dibenzofuran	3.911	0.20	5	0	78.2	50-120	0	
Diethyl phthalate	4.044	0.20	5	0	80.9	41-120	0	
Dimethyl phthalate	3.978	0.20	5	0	79.6	40-122	0	
Di-n-butyl phthalate	4.302	0.20	5	0	86	45-123	0	
Di-n-octyl phthalate	4.656	0.20	5	0	93.1	45-129	0	
Fluoranthene	3.973	0.20	5	0	79.5	45-125	0	
Fluorene	3.927	0.20	5	0	78.5	49-120	0	
Hexachlorobenzene	3.56	0.20	5	0	71.2	48-120	0	
Hexachlorobutadiene	3.559	0.20	5	0	71.2	40-120	0	
Hexachlorocyclopentadiene	3.543	0.20	5	0	70.9	34-136	0	
Hexachloroethane	4.038	0.20	5	0	80.8	40-120	0	
Indeno(1,2,3-cd)pyrene	3.851	0.20	5	0	77	41-128	0	
Isophorone	4.297	0.20	5	0	85.9	40-121	0	
Naphthalene	3.903	0.20	5	0	78.1	45-120	0	
Nitrobenzene	4.382	0.20	5	0	87.6	44-120	0	
N-Nitrosodi-n-propylamine	4.671	0.20	5	0	93.4	40-120	0	
N-Nitrosodiphenylamine	4.017	0.20	5	0	80.3	40-125	0	
Pentachlorophenol	2.74	0.20	5	0	54.8	19-121	0	
Phenanthrene	3.969	0.20	5	0	79.4	45-121	0	
Phenol	4.559	0.20	5	0	91.2	20-124	0	
Pyrene	4.122	0.20	5	0	82.4	40-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	3.271	0.20	5	0	65.4	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	3.807	0.20	5	0	76.1	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.95	0.20	5	0	79	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.355	0.20	5	0	87.1	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	4.32	0.20	5	0	86.4	41-120	0	
<i>Surr: Phenol-d6</i>	4.038	0.20	5	0	80.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **68215** Instrument ID **SV-6** Method: **SW8270**

LCSD		Sample ID: SLCSDW2-130305-68215				Units: µg/L		Analysis Date: 3/5/2013 01:22 PM		
Client ID:		Run ID: SV-6_130305A				SeqNo: 3131212		Prep Date: 3/5/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.73	0.20	5	0	74.6	45-125	3.78	1.32	20	
1-Methylnaphthalene	3.967	0.20	5	0	79.3	45-120	3.905	1.59	20	
2,4,5-Trichlorophenol	3.867	0.20	5	0	77.3	46-120	3.889	0.582	20	
2,4,6-Trichlorophenol	3.785	0.20	5	0	75.7	42-120	3.864	2.07	20	
2,4-Dichlorophenol	3.829	0.20	5	0	76.6	49-120	3.82	0.251	20	
2,4-Dimethylphenol	4.082	0.20	5	0	81.6	35-120	4.03	1.28	20	
2,4-Dinitrophenol	3.572	1.0	5	0	71.4	15-120	3.645	2.03	50	
2,4-Dinitrotoluene	3.998	0.20	5	0	80	50-122	4.073	1.86	20	
2,6-Dinitrotoluene	4.024	0.20	5	0	80.5	50-120	4.035	0.27	20	
2-Chloronaphthalene	3.73	0.20	5	0	74.6	50-120	4.079	8.94	20	
2-Chlorophenol	4.027	0.20	5	0	80.5	40-120	3.971	1.39	20	
2-Methylnaphthalene	3.937	0.20	5	0	78.7	50-120	3.982	1.14	20	
2-Methylphenol	4.23	0.20	5	0	84.6	45-120	4.153	1.84	20	
2-Nitroaniline	5.146	0.20	5	0	103	28-139	5.067	1.55	20	
2-Nitrophenol	4.555	0.20	5	0	91.1	40-120	4.485	1.56	20	
3&4-Methylphenol	4.261	0.20	5	0	85.2	35-120	4.243	0.419	20	
3,3'-Dichlorobenzidine	3.693	0.20	5	0	73.9	15-120	3.74	1.26	20	
3-Nitroaniline	4.085	0.20	5	0	81.7	30-120	4.194	2.65	20	
4,6-Dinitro-2-methylphenol	4.036	0.20	5	0	80.7	25-121	4.128	2.25	30	
4-Bromophenyl phenyl ether	3.65	0.20	5	0	73	45-120	3.688	1.03	20	
4-Chloro-3-methylphenol	4.306	0.20	5	0	86.1	47-120	4.346	0.934	20	
4-Chloroaniline	4.058	0.20	5	0	81.2	20-120	4.166	2.63	20	
4-Chlorophenyl phenyl ether	3.67	0.20	5	0	73.4	50-120	3.709	1.07	20	
4-Nitroaniline	3.936	0.20	5	0	78.7	30-133	4.044	2.71	20	
4-Nitrophenol	4.961	1.0	5	0	99.2	30-130	4.973	0.231	20	
Acenaphthene	3.928	0.20	5	0	78.6	45-120	3.966	0.972	20	
Acenaphthylene	4.009	0.20	5	0	80.2	47-120	4.029	0.5	20	
Acetophenone	3.62	0.20	5	0	72.4	40-120	3.614	0.165	20	
Anthracene	3.963	0.20	5	0	79.3	45-120	3.987	0.6	20	
Atrazine	3.729	0.20	5	0	74.6	40-130	3.727	0.0446	20	
Benz(a)anthracene	3.888	0.20	5	0	77.8	40-120	3.976	2.24	20	
Benzaldehyde	0.9892	0.20	5	0	19.8	15-120	0.9737	1.58	30	
Benzo(a)pyrene	3.885	0.20	5	0	77.7	45-120	3.976	2.33	20	
Benzo(b)fluoranthene	4.152	0.20	5	0	83	50-120	4.414	6.13	20	
Benzo(g,h,i)perylene	3.746	0.20	5	0	74.9	42-127	3.817	1.86	20	
Benzo(k)fluoranthene	3.808	0.20	5	0	76.2	45-127	3.705	2.73	20	
Bis(2-chloroethoxy)methane	4.17	0.20	5	0	83.4	45-120	4.138	0.754	20	
Bis(2-chloroethyl)ether	4.262	0.20	5	0	85.2	37-121	4.158	2.47	20	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 68215		Instrument ID SV-6		Method: SW8270					
Bis(2-chloroisopropyl)ether	3.86	0.20	5	0	77.2	40-120	3.895	0.913	20
Bis(2-ethylhexyl)phthalate	4.343	0.20	5	0	86.9	40-139	4.367	0.549	20
Butyl benzyl phthalate	4.379	0.20	5	0	87.6	47-123	4.413	0.762	20
Caprolactam	4.145	0.20	5	0	82.9	35-134	4.119	0.633	20
Carbazole	4.054	0.20	5	0	81.1	42-128	4.096	1.04	20
Chrysene	3.99	0.20	5	0	79.8	43-120	3.99	0.00118	20
Dibenz(a,h)anthracene	3.867	0.20	5	0	77.3	45-125	3.894	0.688	20
Dibenzofuran	3.834	0.20	5	0	76.7	50-120	3.911	2	20
Diethyl phthalate	3.945	0.20	5	0	78.9	41-120	4.044	2.48	20
Dimethyl phthalate	3.865	0.20	5	0	77.3	40-122	3.978	2.87	20
Di-n-butyl phthalate	4.216	0.20	5	0	84.3	45-123	4.302	2	20
Di-n-octyl phthalate	4.573	0.20	5	0	91.5	45-129	4.656	1.8	20
Fluoranthene	3.939	0.20	5	0	78.8	45-125	3.973	0.864	20
Fluorene	3.871	0.20	5	0	77.4	49-120	3.927	1.44	20
Hexachlorobenzene	3.536	0.20	5	0	70.7	48-120	3.56	0.696	20
Hexachlorobutadiene	3.522	0.20	5	0	70.4	40-120	3.559	1.04	20
Hexachlorocyclopentadiene	3.533	0.20	5	0	70.7	34-136	3.543	0.277	20
Hexachloroethane	4.184	0.20	5	0	83.7	40-120	4.038	3.55	20
Indeno(1,2,3-cd)pyrene	3.801	0.20	5	0	76	41-128	3.851	1.29	20
Isophorone	4.297	0.20	5	0	85.9	40-121	4.297	0.00654	20
Naphthalene	3.916	0.20	5	0	78.3	45-120	3.903	0.335	20
Nitrobenzene	4.435	0.20	5	0	88.7	44-120	4.382	1.19	20
N-Nitrosodi-n-propylamine	4.805	0.20	5	0	96.1	40-120	4.671	2.83	20
N-Nitrosodiphenylamine	4.001	0.20	5	0	80	40-125	4.017	0.403	20
Pentachlorophenol	2.835	0.20	5	0	56.7	19-121	2.74	3.41	20
Phenanthrene	3.929	0.20	5	0	78.6	45-121	3.969	1.03	20
Phenol	4.677	0.20	5	0	93.5	20-124	4.559	2.55	20
Pyrene	4.041	0.20	5	0	80.8	40-130	4.122	1.98	20
<i>Surr: 2,4,6-Tribromophenol</i>	3.125	0.20	5	0	62.5	34-129	3.271	4.55	0
<i>Surr: 2-Fluorobiphenyl</i>	3.857	0.20	5	0	77.1	40-125	3.807	1.3	0
<i>Surr: 2-Fluorophenol</i>	4.09	0.20	5	0	81.8	20-120	3.95	3.48	0
<i>Surr: 4-Terphenyl-d14</i>	4.333	0.20	5	0	86.7	40-135	4.355	0.501	0
<i>Surr: Nitrobenzene-d5</i>	4.407	0.20	5	0	88.1	41-120	4.32	1.99	0
<i>Surr: Phenol-d6</i>	4.064	0.20	5	0	81.3	20-120	4.038	0.635	0

The following samples were analyzed in this batch:

1303034-01F

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130304-R143562** Units: **µg/L** Analysis Date: **3/4/2013 03:12 PM**
 Client ID: Run ID: **VOA1_130304A** SeqNo: **3130034** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562	Instrument ID VOA1	Method: SW8260						
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	53.84	5.0	50	0	108	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	47.88	5.0	50	0	95.8	72-125	0	
<i>Surr: Dibromofluoromethane</i>	52.31	5.0	50	0	105	71-125	0	
<i>Surr: Toluene-d8</i>	49.89	5.0	50	0	99.8	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130304-R143562				Units: µg/L		Analysis Date: 3/4/2013 01:57 PM		
Client ID:		Run ID: VOA1_130304A				SeqNo: 3130033		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	52.76	5.0	50	0	106	80-120	0			
1,1,2,2-Tetrachloroethane	53.56	5.0	50	0	107	72-120	0			
1,1,2-Trichloroethane	51.34	5.0	50	0	103	80-120	0			
1,1-Dichloroethane	52.52	5.0	50	0	105	76-120	0			
1,1-Dichloroethene	49.78	5.0	50	0	99.6	73-124	0			
1,2,4-Trimethylbenzene	53.23	5.0	50	0	106	68-123	0			
1,2-Dibromoethane	52.72	5.0	50	0	105	80-120	0			
1,2-Dichloroethane	50.08	5.0	50	0	100	78-120	0			
1,2-Dichloropropane	51.24	5.0	50	0	102	80-120	0			
1,3,5-Trimethylbenzene	52.7	5.0	50	0	105	80-120	0			
2-Butanone	108.4	10	100	0	108	58-132	0			
2-Hexanone	99.4	10	100	0	99.4	61-130	0			
4-Isopropyltoluene	51.73	5.0	50	0	103	79-120	0			
4-Methyl-2-pentanone	110.8	10	100	0	111	65-127	0			
Acetone	95.53	10	100	0	95.5	59-137	0			
Benzene	52.2	5.0	50	0	104	73-121	0			
Bromodichloromethane	48.33	5.0	50	0	96.7	80-120	0			
Bromoform	54.95	5.0	50	0	110	79-120	0			
Bromomethane	51.25	5.0	50	0	102	66-137	0			
Carbon disulfide	109.3	10	100	0	109	68-141	0			
Carbon tetrachloride	49.4	5.0	50	0	98.8	75-124	0			
Chlorobenzene	49.46	5.0	50	0	98.9	80-120	0			
Chloroethane	56.28	5.0	50	0	113	76-121	0			
Chloroform	52.62	5.0	50	0	105	80-120	0			
Chloromethane	50.51	5.0	50	0	101	67-123	0			
cis-1,2-Dichloroethene	53.47	5.0	50	0	107	78-120	0			
cis-1,3-Dichloropropene	48.67	5.0	50	0	97.3	80-120	0			
Dibromochloromethane	52.12	5.0	50	0	104	80-120	0			
Ethylbenzene	49.99	5.0	50	0	100	80-120	0			
Isopropylbenzene	48.93	5.0	50	0	97.9	80-120	0			
m,p-Xylene	104	10	100	0	104	78-121	0			
Methyl tert-butyl ether	52.69	5.0	50	0	105	73-121	0			
Methylene chloride	51.9	10	50	0	104	65-133	0			
Naphthalene	52.52	5.0	50	0	105	65-135	0			
n-Butylbenzene	48.32	5.0	50	0	96.6	77-120	0			
n-Propylbenzene	48.45	5.0	50	0	96.9	78-120	0			
o-Xylene	51.77	5.0	50	0	104	80-120	0			
sec-Butylbenzene	50.97	5.0	50	0	102	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1		Method: SW8260				
Styrene	51.84	5.0	50	0	104	80-120	0	
Tetrachloroethene	50.24	5.0	50	0	100	79-120	0	
Toluene	50.81	5.0	50	0	102	80-120	0	
trans-1,2-Dichloroethene	52.29	5.0	50	0	105	78-120	0	
trans-1,3-Dichloropropene	53.55	5.0	50	0	107	80-120	0	
Trichloroethene	49.93	5.0	50	0	99.9	80-120	0	
Vinyl chloride	55.29	2.0	50	0	111	70-127	0	
Xylenes, Total	155.7	15	150	0	104	80-120	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	50.84	5.0	50	0	102	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.54	5.0	50	0	99.1	72-125	0	
<i>Surr: Dibromofluoromethane</i>	50.28	5.0	50	0	101	71-125	0	
<i>Surr: Toluene-d8</i>	51.81	5.0	50	0	104	75-125	0	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MS	Sample ID: 1303029-06AMS				Units: µg/L		Analysis Date: 3/4/2013 04:51 PM			
Client ID:		Run ID: VOA1_130304A			SeqNo: 3130040		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	43.06	5.0	50	0	86.1	80-120	0			
1,1,2,2-Tetrachloroethane	51.05	5.0	50	0	102	72-120	0			
1,1,2-Trichloroethane	51.44	5.0	50	0	103	80-120	0			
1,1-Dichloroethane	46.65	5.0	50	0	93.3	76-120	0			
1,1-Dichloroethene	42.14	5.0	50	0	84.3	73-124	0			
1,2,4-Trimethylbenzene	46.28	5.0	50	0	92.6	68-123	0			
1,2-Dibromoethane	52.63	5.0	50	0	105	80-120	0			
1,2-Dichloroethane	48.84	5.0	50	0	97.7	78-120	0			
1,2-Dichloropropane	47.76	5.0	50	0	95.5	80-120	0			
1,3,5-Trimethylbenzene	44.88	5.0	50	0	89.8	80-120	0			
2-Butanone	103.5	10	100	0	104	58-132	0			
2-Hexanone	115.6	10	100	0	116	61-130	0			
4-Isopropyltoluene	42.51	5.0	50	0	85	79-120	0			
4-Methyl-2-pentanone	118.6	10	100	0	119	65-127	0			
Acetone	98.86	10	100	8.491	90.4	59-137	0			
Benzene	46.12	5.0	50	0	92.2	73-121	0			
Bromodichloromethane	50.7	5.0	50	0	101	80-120	0			
Bromoform	54.74	5.0	50	0	109	79-120	0			
Bromomethane	42.53	5.0	50	0	85.1	66-137	0			
Carbon disulfide	86.99	10	100	0	87	68-141	0			
Carbon tetrachloride	39.4	5.0	50	0	78.8	75-124	0			
Chlorobenzene	63.2	5.0	50	0	126	80-120	0			S
Chloroethane	47.73	5.0	50	0	95.5	76-121	0			
Chloroform	49.16	5.0	50	0	98.3	80-120	0			
Chloromethane	48.24	5.0	50	0	96.5	67-123	0			
cis-1,2-Dichloroethene	49.58	5.0	50	0	99.2	78-120	0			
cis-1,3-Dichloropropene	49.01	5.0	50	0	98	80-120	0			
Dibromochloromethane	51.99	5.0	50	0	104	80-120	0			
Ethylbenzene	46.22	5.0	50	0	92.4	80-120	0			
Isopropylbenzene	42.75	5.0	50	0	85.5	80-120	0			
m,p-Xylene	90.39	10	100	0	90.4	78-121	0			
Methyl tert-butyl ether	53.49	5.0	50	0	107	73-121	0			
Methylene chloride	54.57	10	50	0	109	65-133	0			
Naphthalene	51.87	5.0	50	0	104	65-135	0			
n-Butylbenzene	39.25	5.0	50	0	78.5	77-120	0			
n-Propylbenzene	41.2	5.0	50	0	82.4	78-120	0			
o-Xylene	48.74	5.0	50	0	97.5	80-120	0			
sec-Butylbenzene	40.15	5.0	50	0	80.3	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1		Method: SW8260			
Styrene	50.64	5.0	50	0	101	80-120	0
Tetrachloroethene	41.44	5.0	50	0	82.9	79-120	0
Toluene	47.52	5.0	50	0	95	80-120	0
trans-1,2-Dichloroethene	47.12	5.0	50	0	94.2	78-120	0
trans-1,3-Dichloropropene	52.79	5.0	50	0	106	80-120	0
Trichloroethene	42.56	5.0	50	0	85.1	80-120	0
Vinyl chloride	41.77	2.0	50	0	83.5	70-127	0
Xylenes, Total	139.1	15	150	0	92.8	80-120	0
<i>Surr: 1,2-Dichloroethane-d4</i>	48.05	5.0	50	0	96.1	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	46.97	5.0	50	0	93.9	72-125	0
<i>Surr: Dibromofluoromethane</i>	49.49	5.0	50	0	99	71-125	0
<i>Surr: Toluene-d8</i>	50.28	5.0	50	0	101	75-125	0

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143562** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 1303029-06AMSD				Units: µg/L		Analysis Date: 3/4/2013 05:16 PM		
Client ID:		Run ID: VOA1_130304A				SeqNo: 3130041		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	40.28	5.0	50	0	80.6	80-120	43.06	6.68	20	
1,1,2,2-Tetrachloroethane	52.68	5.0	50	0	105	72-120	51.05	3.15	20	
1,1,2-Trichloroethane	51.84	5.0	50	0	104	80-120	51.44	0.791	20	
1,1-Dichloroethane	46.32	5.0	50	0	92.6	76-120	46.65	0.713	20	
1,1-Dichloroethene	37.49	5.0	50	0	75	73-124	42.14	11.7	20	
1,2,4-Trimethylbenzene	44.27	5.0	50	0	88.5	68-123	46.28	4.44	20	
1,2-Dibromoethane	50.92	5.0	50	0	102	80-120	52.63	3.31	20	
1,2-Dichloroethane	47.17	5.0	50	0	94.3	78-120	48.84	3.47	20	
1,2-Dichloropropane	47.26	5.0	50	0	94.5	80-120	47.76	1.06	20	
1,3,5-Trimethylbenzene	42.61	5.0	50	0	85.2	80-120	44.88	5.19	20	
2-Butanone	107.8	10	100	0	108	58-132	103.5	4.07	20	
2-Hexanone	107.1	10	100	0	107	61-130	115.6	7.59	20	
4-Isopropyltoluene	39.55	5.0	50	0	79.1	79-120	42.51	7.21	20	
4-Methyl-2-pentanone	115.4	10	100	0	115	65-127	118.6	2.73	20	
Acetone	100.5	10	100	8.491	92	59-137	98.86	1.66	20	
Benzene	44.17	5.0	50	0	88.3	73-121	46.12	4.33	20	
Bromodichloromethane	48.61	5.0	50	0	97.2	80-120	50.7	4.2	20	
Bromoform	52.19	5.0	50	0	104	79-120	54.74	4.76	20	
Bromomethane	45.83	5.0	50	0	91.7	66-137	42.53	7.48	20	
Carbon disulfide	82.25	10	100	0	82.2	68-141	86.99	5.61	20	
Carbon tetrachloride	34.87	5.0	50	0	69.7	75-124	39.4	12.2	20	S
Chlorobenzene	48.69	5.0	50	0	97.4	80-120	63.2	25.9	20	R
Chloroethane	44.51	5.0	50	0	89	76-121	47.73	6.97	20	
Chloroform	47.35	5.0	50	0	94.7	80-120	49.16	3.75	20	
Chloromethane	44.97	5.0	50	0	89.9	67-123	48.24	7.01	20	
cis-1,2-Dichloroethene	49.54	5.0	50	0	99.1	78-120	49.58	0.0693	20	
cis-1,3-Dichloropropene	48.47	5.0	50	0	96.9	80-120	49.01	1.11	20	
Dibromochloromethane	51.51	5.0	50	0	103	80-120	51.99	0.923	20	
Ethylbenzene	44.35	5.0	50	0	88.7	80-120	46.22	4.14	20	
Isopropylbenzene	40.78	5.0	50	0	81.6	80-120	42.75	4.73	20	
m,p-Xylene	87.32	10	100	0	87.3	78-121	90.39	3.45	20	
Methyl tert-butyl ether	47.92	5.0	50	0	95.8	73-121	53.49	11	20	
Methylene chloride	53.82	10	50	0	108	65-133	54.57	1.38	20	
Naphthalene	51.19	5.0	50	0	102	65-135	51.87	1.32	20	
n-Butylbenzene	37.84	5.0	50	0	75.7	77-120	39.25	3.65	20	S
n-Propylbenzene	42.42	5.0	50	0	84.8	78-120	41.2	2.92	20	
o-Xylene	48.24	5.0	50	0	96.5	80-120	48.74	1.03	20	
sec-Butylbenzene	39.34	5.0	50	0	78.7	78-120	40.15	2.04	20	

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R143562		Instrument ID VOA1			Method: SW8260					
Styrene	49.38	5.0	50	0	98.8	80-120	50.64	2.52	20	
Tetrachloroethene	38.94	5.0	50	0	77.9	79-120	41.44	6.23	20	S
Toluene	47.4	5.0	50	0	94.8	80-120	47.52	0.26	20	
trans-1,2-Dichloroethene	42.86	5.0	50	0	85.7	78-120	47.12	9.49	20	
trans-1,3-Dichloropropene	50.83	5.0	50	0	102	80-120	52.79	3.78	20	
Trichloroethene	42.31	5.0	50	0	84.6	80-120	42.56	0.586	20	
Vinyl chloride	41.62	2.0	50	0	83.2	70-127	41.77	0.364	20	
Xylenes, Total	135.6	15	150	0	90.4	80-120	139.1	2.6	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	45.82	5.0	50	0	91.6	70-125	48.05	4.75	20	
<i>Surr: 4-Bromofluorobenzene</i>	50.14	5.0	50	0	100	72-125	46.97	6.55	20	
<i>Surr: Dibromofluoromethane</i>	50.23	5.0	50	0	100	71-125	49.49	1.49	20	
<i>Surr: Toluene-d8</i>	52.06	5.0	50	0	104	75-125	50.28	3.48	20	

The following samples were analyzed in this batch:

1303034-01A

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143470** Instrument ID **ManTech01** Method: **SM4500H+ B (Dissolve)**

LCS	Sample ID: LCS-PH-R143470				Units: pH Units			Analysis Date: 3/2/2013 01:42 PM		
Client ID:	Run ID: MANTECH01_130302A				SeqNo: 3128306			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.10	6	0	100	90-110	0			

DUP	Sample ID: 1302911-01FDUP				Units: pH Units			Analysis Date: 3/2/2013 01:47 PM		
Client ID:	Run ID: MANTECH01_130302A				SeqNo: 3128308			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.34	0.10	0	0	0	0-0	7.17	2.34	20	H

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143574** Instrument ID **ManTech01** Method: **M2510 B (Dissolve)**

MBLK	Sample ID: WBLKW1-R143574				Units: µmhos/cm			Analysis Date: 3/5/2013 11:15 AM		
Client ID:	Run ID: MANTECH01_130305A				SeqNo: 3130475			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

MBLK	Sample ID: WBLKW1-130305-R143574				Units: µmhos/cm			Analysis Date: 3/5/2013 11:16 AM		
Client ID:	Run ID: MANTECH01_130305A				SeqNo: 3130476			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.0								

LCS	Sample ID: LCS-COND-R143574				Units: µmhos/cm			Analysis Date: 3/5/2013 11:17 AM		
Client ID:	Run ID: MANTECH01_130305A				SeqNo: 3130477			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1454	1.0	1413		0	103	80-120	0		

DUP	Sample ID: 1302911-01FDUP				Units: µmhos/cm			Analysis Date: 3/5/2013 11:20 AM		
Client ID:	Run ID: MANTECH01_130305A				SeqNo: 3130479			Prep Date: DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	2776	1.0	0		0	0		2776	0	20

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143633** Instrument ID **ICS3K2** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW1-R143633				Units: mg/L		Analysis Date: 3/5/2013 12:10 PM			
Client ID:	Run ID: ICS3K2_130305A				SeqNo: 3131902		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	ND	0.10								
<i>Surr: Selenate (surr)</i>	5.422	0.10	5	0	108	85-115	0			

LCS	Sample ID: WLCSW1-R143633				Units: mg/L		Analysis Date: 3/5/2013 12:31 PM			
Client ID:	Run ID: ICS3K2_130305A				SeqNo: 3131903		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.133	0.10	4	0	103	90-110	0			
<i>Surr: Selenate (surr)</i>	5.597	0.10	5	0	112	85-115	0			

MS	Sample ID: 1303034-01EMS				Units: mg/L		Analysis Date: 3/5/2013 05:57 PM			
Client ID: RO-Eff	Run ID: ICS3K2_130305A				SeqNo: 3131918		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.615	0.10	2	2.772	92.2	80-120	0			
<i>Surr: Selenate (surr)</i>	5.309	0.10	5	0	106	85-115	0			

MSD	Sample ID: 1303034-01EMSD				Units: mg/L		Analysis Date: 3/5/2013 06:19 PM			
Client ID: RO-Eff	Run ID: ICS3K2_130305A				SeqNo: 3131919		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	4.624	0.10	2	2.772	92.6	80-120	4.615	0.195	20	
<i>Surr: Selenate (surr)</i>	5.331	0.10	5	0	107	85-115	5.309	0.414	20	

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143706** Instrument ID **ICS2100** Method: **E300** **(Dissolve)**

MBLK Sample ID: **WBLKW1-R143706** Units: **mg/L** Analysis Date: **3/6/2013 04:41 PM**

Client ID: Run ID: **ICS2100_130206D** SeqNo: **3133518** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
<i>Surr: Selenate (surr)</i>	4.629	0.10	5	0	92.6	85-115	0			

LCS Sample ID: **WLCSW1-R143706** Units: **mg/L** Analysis Date: **3/6/2013 05:00 PM**

Client ID: Run ID: **ICS2100_130206D** SeqNo: **3133519** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.26	0.50	20	0	96.3	90-110	0			
Sulfate	19.61	0.50	20	0	98.1	90-110	0			
<i>Surr: Selenate (surr)</i>	4.383	0.10	5	0	87.7	85-115	0			

MS Sample ID: **1303181-05AMSZ** Units: **mg/L** Analysis Date: **3/7/2013 10:59 AM**

Client ID: Run ID: **ICS2100_130206D** SeqNo: **3133542** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2071	0.50	10	2127	-556	80-120	0			SEO
Sulfate	1121	0.50	10	1155	-346	80-120	0			SEO
<i>Surr: Selenate (surr)</i>	4.73	0.10	5	0	94.6	85-115	0			

MSD Sample ID: **1303181-05AMSDZ** Units: **mg/L** Analysis Date: **3/7/2013 11:13 AM**

Client ID: Run ID: **ICS2100_130206D** SeqNo: **3133543** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	2061	0.50	10	2127	-659	80-120	2071	0.498	20	SEO
Sulfate	1119	0.50	10	1155	-364	80-120	1121	0.155	20	SEO
<i>Surr: Selenate (surr)</i>	4.748	0.10	5	0	95	85-115	4.73	0.38	20	

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143718** Instrument ID **WetChem** Method: **SM2320B (Dissolve)**

MBLK	Sample ID: WBLKW1-030613-R143718				Units: mg/L		Analysis Date: 3/6/2013 08:00 PM			
Client ID:	Run ID: WETCHEM_130306M				SeqNo: 3133681		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.0								
Alkalinity, Carbonate (As CaCO3)	ND	6.0								
Alkalinity, Hydroxide (As CaCO3)	ND	6.0								
Alkalinity, Total (As CaCO3)	ND	6.0								

LCS	Sample ID: WLCSW1-030613-R143718				Units: mg/L		Analysis Date: 3/6/2013 08:00 PM			
Client ID:	Run ID: WETCHEM_130306M				SeqNo: 3133682		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1166	6.0	1000	0	117	80-120	0			

DUP	Sample ID: 1303029-18EDUP				Units: mg/L		Analysis Date: 3/6/2013 08:00 PM			
Client ID:	Run ID: WETCHEM_130306M				SeqNo: 3133699		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	220.8	6.0	0	0	0	0-0	224.9	1.87	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.0	0	0	0	0-0	0	0	0	
Alkalinity, Total (As CaCO3)	220.8	6.0	0	0	0	0-0	224.9	1.87	20	

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143729** Instrument ID **ICS3K2** Method: **E300** (Dissolve)

MBLK Sample ID: **WBLKW1-R143729** Units: **mg/L** Analysis Date: **3/7/2013 11:37 AM**

Client ID: Run ID: **ICS3K2_130306A** SeqNo: **3133876** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.20								
Surr: Selenate (surr)	5.674	0.10	5	0	113	85-115	0			

LCS Sample ID: **WLCSW1-R143729** Units: **mg/L** Analysis Date: **3/7/2013 11:59 AM**

Client ID: Run ID: **ICS3K2_130306A** SeqNo: **3133878** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	7.223	0.20	8	0	90.3	90-110	0			
Surr: Selenate (surr)	5.611	0.10	5	0	112	85-115	0			

MS Sample ID: **1303221-01AMS** Units: **mg/L** Analysis Date: **3/7/2013 01:04 PM**

Client ID: Run ID: **ICS3K2_130306A** SeqNo: **3133881** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	87.46	2.0	40	50.68	91.9	80-120	0			
Surr: Selenate (surr)	52.18	1.0	50	0	104	85-115	0			

MSD Sample ID: **1303221-01AMSD** Units: **mg/L** Analysis Date: **3/7/2013 01:26 PM**

Client ID: Run ID: **ICS3K2_130306A** SeqNo: **3133882** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	86.8	2.0	40	50.68	90.3	80-120	87.46	0.755	20	
Surr: Selenate (surr)	52.47	1.0	50	0	105	85-115	52.18	0.547	20	

The following samples were analyzed in this batch:

1303034-01B

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

Client: Navajo Refining Company
Work Order: 1303034
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R143736** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK Sample ID: **WBLK-030613-R143736** Units: **mg/L** Analysis Date: **3/6/2013 09:40 AM**

Client ID: Run ID: **BALANCE1_130306B** SeqNo: **3134027** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	ND	10								

LCS Sample ID: **WLCS-030613-R143736** Units: **mg/L** Analysis Date: **3/6/2013 09:40 AM**

Client ID: Run ID: **BALANCE1_130306B** SeqNo: **3134028** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	902	10	1000	0	90.2	85-115	0			

DUP Sample ID: **1302946-01FDUP** Units: **mg/L** Analysis Date: **3/6/2013 09:40 AM**

Client ID: Run ID: **BALANCE1_130306B** SeqNo: **3134013** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	476	10	0	0	0	0-0	444	6.96	20	

DUP Sample ID: **1303046-04ADUP** Units: **mg/L** Analysis Date: **3/6/2013 09:40 AM**

Client ID: Run ID: **BALANCE1_130306B** SeqNo: **3134026** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	6564	10	0	0	0	0-0	6692	1.93	20	

The following samples were analyzed in this batch:

1303034-01E

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

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
WorkOrder: 1303034

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**Date/Time Received: **01-Mar-13 09:15**Work Order: **1303034**Received by: **RDH**Checklist completed by Robert D. Harris
eSignature

01-Mar-13

Date

Reviewed by: Sonia West
eSignature

04-Mar-13

Date

Matrices: **waters**Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	3.1c,2.9c,2.7c,3.4c,2.7c,3.1c,2.9c,3.2c,2.3c c/u		005
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	3/1/13 15:30		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	-		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



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

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

Chain of Custody Form

1303034

NAVAJO REFINING: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

Environmental



Page 1 of 1

COC ID: 72645

ALS Project Manager:

Customer Information				Project Information			
Purchase Order	Project Name	Project Number	Project Name	Project Number	Project Name	Project Number	Project Name
Work Order	Navajo Refining Company TRC	Robert Combs	Navajo Refining Company	Robert Combs	501 East Main	Artesia, NM 88211	(575) 703-5057
Company Name	501 East Main	505 E. Huntland Dr. Ste 250	Artesia, NM 88211	(575) 703-5057	(575) 746-5421		
Send Report To	Robert Combs	Daniel Stone	Robert Combs	Daniel Stone			
Address	501 East Main	505 E. Huntland Dr. Ste 250	Artesia, NM 88211	(575) 703-5057	(575) 746-5421		
City/State/Zip	Artesia, NM 88211		Artesia, NM 88211	(575) 703-5057	(575) 746-5421		
Phone	(575) 703-5057	512-321-0080	(575) 703-5057	(575) 746-5421			
Fax	(575) 746-5421		(575) 746-5421				
e-Mail Address	dstone@trcsolutions.com	dstone@trcsolutions.com	dstone@trcsolutions.com				
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A B C D E F G H I J
10	RO - Eff	2-27-13	16:15	W	1238	9	K X X X X X X X X X
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)		Results Due Date:	
Danyé Clark		Fedex		Std 10 WK Days ☒ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐		Other ☐	
Relinquished by:		Received by (Laboratory):		Notes:		QC Package: (Check One Box Below)	
Danyé Clark		3/11/13		3/11/13		☒ Level II Std QC ☐ TRRP Check/LIS	
Relinquished by:		Received by (Laboratory):		Cooler Temp.		☐ Level III Std QC/RAW Data ☐ TRRP Level IV	
Danyé Clark		3/11/13		3/11/13		☐ Level IV SW846/CLP ☐ Other / EDD	
Logged by (Laboratory):		Checked by (Laboratory):		Cooler Temp.			
Danyé Clark		3/11/13		3/11/13			
Preservative Key:		1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other		8-4°C 9-5035			

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

ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP

10450 STANCLIFF RD STE 210

HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWGT: 61.7 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP

10450 STANCLIFF RD STE 210

HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWGT: 59.6 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099

(281) 530-5656

REF:

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J13101212190126

ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099

(281) 530-5656

REF:

DEPT:

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J13101212190126

9 of 9
MPS# 7955 5154 8815
0681
Mstr# 8013 8012 6349

FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT

0215

AB SGRA

77099
TX-US IAH

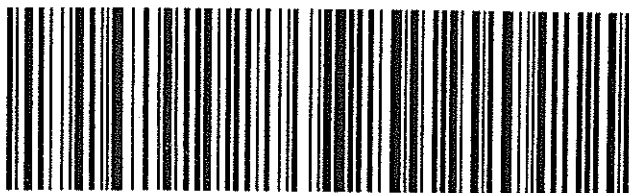
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0681
Mstr# 8013 8012 6349

FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT

0215

AB SGRA

77099
TX-US IAH



ALS Environmental

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

Date:
Name:
Company:

CUSTODY SEAL

Date: 2.28.13 Time: 1:30
Name: D. Clark
Company: FRC

Seal Broken By:

Date: 3/1/13



ALS Environmental

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

Date:
Name:
Company:

CUSTODY SEAL

Date: 2.28.13 Time: 1:30
Name: D. Clark
Company: FRC

Seal Broken By:

Date: 3/1/13

ORIGIN ID:MAFA (281) 530-5656
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10450 STANCLIFF RD STE 210

HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWT: 68.1 LB
CAD: /POS1400
DIMS: 24x13x13 IN

BILL SENDER

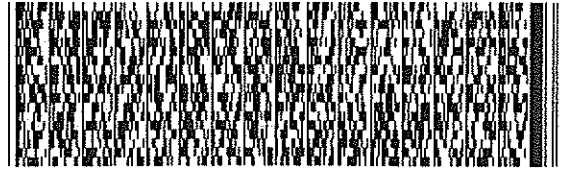
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10450 STANCLIFF RD
STE 210
HOUSTON TX 77099

(281) 530-5656

REF:

DEPT:

11010114 02/28/13 09:00:00 10450 STANCLIFF RD STE 210 HOUSTON TX 770994338



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Express



J1310121210126

5 of 9

PS# 7955 5154 8778

181 8013 8012 6349

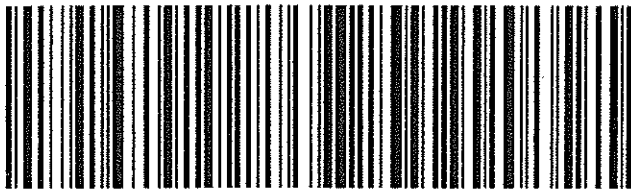
0215

AB SGRA

77099

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5180



FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT

ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP

10450 STANCLIFF RD STE 210

HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
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DIMS: 24x13x13 IN

BILL SENDER

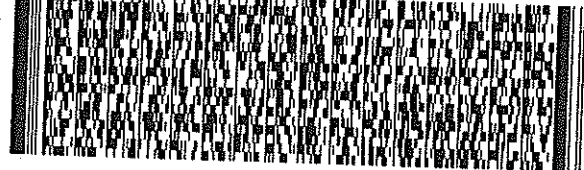
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10450 STANCLIFF RD
STE 210
HOUSTON TX 77099

(281) 530-5656

REF:

DEPT:

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FedEx
Express



J1310121210126

8 of 9

MPS# 7955 5154 8804

0681 8013 8012 6349

0215

AB SGRA

77099

TX-US IAH

1286



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PRIORITY OVERNIGHT



ALS Environmental

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

Date:

Name:

Company:

5180

CUSTODY SEAL

Seal Broken By:

2-28-13 Time: 1:30

D. Clark

TRE

Date:

Name:

Company:

Signature



ALS Environmental

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

Date:

Name:

Company:

1276

CUSTODY SEAL

Seal Broken By:

2-28-13 Time: 1:30

D. Clark

TRE

Date:

Name:

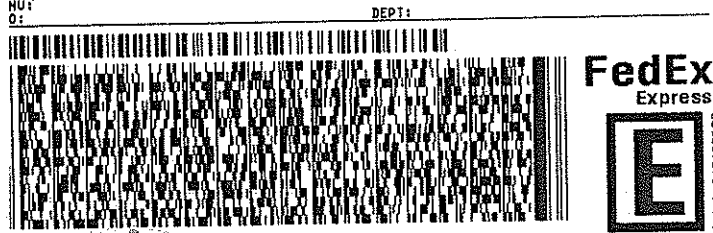
Company:

Signature

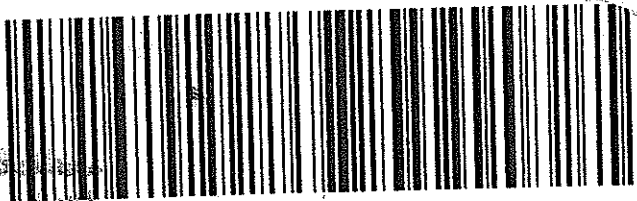
ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP
10450 STANCLIFF RD STE 210
HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWGT: 70.6 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099
(281) 530-5656 REF: DEPT:



4 of 9
MPS# 7955 5154 8767
Mstr# 8013 8012 6349
AB SGRA
FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT
2752 77099
TX-US IAH



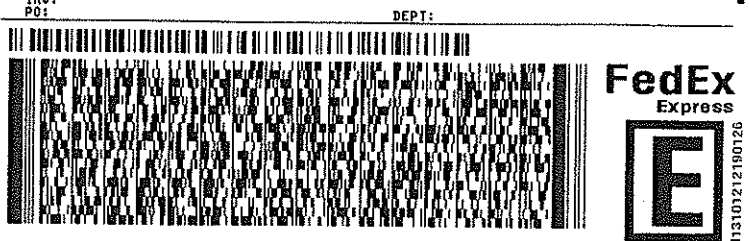
ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
2752

ALS Environmental
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
2592

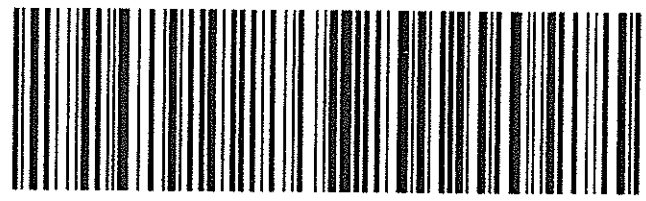
ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP
10450 STANCLIFF RD STE 210
HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWGT: 54.7 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099
(281) 530-5656 REF: DEPT:



2 of 9
MPS# 7955 5154 8745
Mstr# 8013 8012 6349
AB SGRA
FRI - 01 MAR 10:30A
PRIORITY OVERNIGHT
2592 77099
TX-US IAH



CUSTODY SEAL		Seal Broken by:
Date: 2.28.13	Time: 1330	2752 3/1/13
Name: D. Clark		
Company: TRC		

CUSTODY SEAL		Seal Broken by:
Date: 2.28.13	Time: 1330	2752 3/1/13
Name: D. Clark		
Company: TRC		

43 of 44

ORIGIN ID:MAFA (281) 530-5656
ALS LABORATORY GROUP

10450 STANCLIFF RD STE 210

HOUSTON, TX 770994338
UNITED STATES US

SHIP DATE: 28FEB13
ACTWGT: 73.6 LB
CAD: /POS1400
DIMS: 24x13x13 IN
BILL SENDER

TO

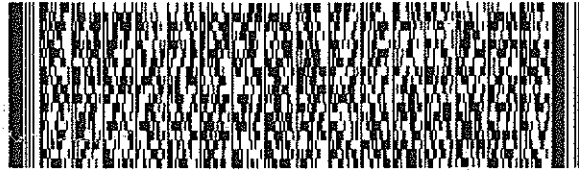
ALS LABORATORY GROUP
10450 STANCLIFF RD
STE 210
HOUSTON TX 77099

(281) 630-6666

REF:

PO:

DEPT:



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7 of 9

MPS# 7955 5154 8790
0681

Mstr# 8013 8012 6349

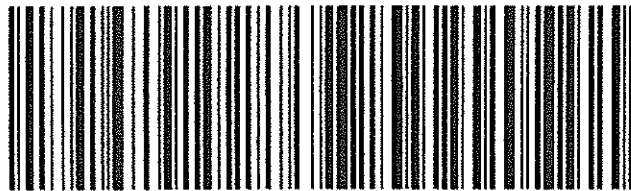
0215

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ALS Environmental

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

330

CUSTODY SEAL

Date: 2.28.13 Time: 1330
Name: D. C. C. C.
Company: D. C. C. C.

Seal Broken By:

Date: 3/1/13



10-Sep-2013

Robert Combs
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 746-5382
Fax: (575) 746-5421

Re: Navajo Lea Refinery Semi-Annual

Work Order: **13081020**

Dear Robert,

ALS Environmental received 41 samples on 24-Aug-2013 09:35 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 306.

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

Sincerely,

A handwritten signature in cursive script that reads "Sonia West".

Electronically approved by: Luke F. Hernandez

Sonia West
Project Manager



Certificate No: T104704231-13-12

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 13081020

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
13081020-01	MW-5	Water		8/20/2013 15:13	8/24/2013 09:35	☐
13081020-02	MW-20	Water		8/20/2013 17:26	8/24/2013 09:35	☐
13081020-03	MW-21	Water		8/20/2013 19:38	8/24/2013 09:35	☐
13081020-04	AC-08-20-13	Water		8/20/2013 20:14	8/24/2013 09:35	☐
13081020-05	MW-12R	Water		8/21/2013 09:54	8/24/2013 09:35	☐
13081020-06	MW-22	Water		8/21/2013 13:43	8/24/2013 09:35	☐
13081020-07	MW-23	Water		8/21/2013 16:08	8/24/2013 09:35	☐
13081020-08	MW-24	Water		8/21/2013 18:04	8/24/2013 09:35	☐
13081020-09	AC-08-21-13	Water		8/21/2013 22:00	8/24/2013 09:35	☐
13081020-10	MW-14	Water		8/22/2013 10:13	8/24/2013 09:35	☐
13081020-11	MW-2	Water		8/20/2013 14:50	8/24/2013 09:35	☐
13081020-12	MW-28	Water		8/20/2013 16:25	8/24/2013 09:35	☐
13081020-13	MW-29	Water		8/20/2013 18:10	8/24/2013 09:35	☐
13081020-14	MW-27	Water		8/20/2013 19:40	8/24/2013 09:35	☐
13081020-15	MW-11	Water		8/21/2013 09:40	8/24/2013 09:35	☐
13081020-16	DUP-2	Water		8/21/2013 09:40	8/24/2013 09:35	☐
13081020-17	MW-8	Water		8/21/2013 11:30	8/24/2013 09:35	☐
13081020-18	MW-13	Water		8/21/2013 14:10	8/24/2013 09:35	☐
13081020-19	MW-1	Water		8/21/2013 15:45	8/24/2013 09:35	☐
13081020-20	RW-1	Water		8/21/2013 17:05	8/24/2013 09:35	☐
13081020-21	MW-19	Water		8/22/2013 11:42	8/24/2013 09:35	☐
13081020-22	DUP-3	Water		8/22/2013 11:42	8/24/2013 09:35	☐
13081020-23	MW-18	Water		8/22/2013 14:22	8/24/2013 09:35	☐
13081020-24	MW-25	Water		8/22/2013 17:32	8/24/2013 09:35	☐
13081020-25	DUP-4	Water		8/22/2013 17:32	8/24/2013 09:35	☐
13081020-26	MW-15	Water		8/20/2013 09:35	8/24/2013 09:35	☐
13081020-27	DUP-1	Water		8/20/2013 09:35	8/24/2013 09:35	☐
13081020-28	MW-16	Water		8/20/2013 10:50	8/24/2013 09:35	☐
13081020-29	MW-4	Water		8/20/2013 11:50	8/24/2013 09:35	☐
13081020-30	MW-30	Water		8/20/2013 13:25	8/24/2013 09:35	☐
13081020-31	MW-7	Water		8/21/2013 18:25	8/24/2013 09:35	☐
13081020-32	MW-6	Water		8/21/2013 18:50	8/24/2013 09:35	☐
13081020-33	MW-26	Water		8/22/2013 09:35	8/24/2013 09:35	☐
13081020-34	MW-3	Water		8/22/2013 10:55	8/24/2013 09:35	☐
13081020-35	MW-9	Water		8/22/2013 12:30	8/24/2013 09:35	☐
13081020-36	MW-10	Water		8/22/2013 14:05	8/24/2013 09:35	☐
13081020-37	MW-17R	Water		8/22/2013 16:40	8/24/2013 09:35	☐
13081020-38	EB-08-22-13-A	Water		8/22/2013 17:55	8/24/2013 09:35	☐
13081020-39	EB-08-22-13-B	Water		8/22/2013 19:00	8/24/2013 09:35	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 13081020

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
13081020-40	AC-08-22-13-A	Water		8/22/2013 18:10	8/24/2013 09:35	☐
13081020-41	TB-073113-74	Water		8/22/2013	8/24/2013 09:35	☐

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Work Order: 13081020

Case Narrative

Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

Batch 72555, Dissolved Metals 6020, Sample MW-8: MS/MSD recoveries were outside of the control limits for Calcium and Sodium due to high concentration to the background sample. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Batch 72572, Dissolved Metals 6020, Sample MW-18: MS/MSD recoveries were outside of the control limits for Calcium and Sodium due to high concentration to the background sample. Results are flagged with an O. The associated LCS recoveries and MS/MSD RPD were within the control limits.

Batch 72626, Dissolved Metals 6020, Sample EB-08-22-13-A: MS/MSD RPD was outside of the control limits for Aluminum. However, the MS and MSD recoveries for Aluminum were within the control limits.

Batch 72560, Semivolatile Organics 8270, Sample MW-8: The MS recovery for bis(2-ethylhexyl)phthalate is outside control limits due matrix interference from target analytes. The MS/MSD RPD was outside of the control limits for 3,3-Dichlorobenzidine. However, the MS and MSD recoveries were within the control limits.

Batch 72561, Semivolatile Organics 8270, Sample MW-18: The MS/MSD RPDs for several compounds were outside of the control limits. The MS/MSD recoveries for these compounds were within the control limits.

Batch R152797, Volatile Organics 8260, Sample MW-8: The MS recovery was outside of the control limits for 4-Methyl-2-pentanone.

Batch R152905, Volatile Organics 8260, Sample VSTD050: CCV %D was above the control limits for Bromomethane. The associated sample results are Non Detect.

Batch R152905, Volatile Organics 8260, Sample MW-7: The MSD and/or RPDs were outside of the control limits for several compounds.

Batch R152862, Anions 300, Sample MW-8: MS/MSD recoveries were outside of the control limits due to matrix interference for Chloride and Sulfate.

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 8/20/2013 03:13 PM

Work Order: 13081020
Lab ID: 13081020-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:25 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 03:55 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Barium	0.105		0.00500	mg/L	1	8/27/2013 03:55 PM
Boron	0.100		0.0200	mg/L	1	8/27/2013 03:55 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 03:55 PM
Calcium	93.4		0.500	mg/L	1	8/27/2013 03:55 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Iron	ND		0.200	mg/L	1	8/27/2013 03:55 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Magnesium	10.5		0.200	mg/L	1	8/27/2013 03:55 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Potassium	2.48		0.200	mg/L	1	8/27/2013 03:55 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 03:55 PM
Sodium	54.3		0.200	mg/L	1	8/27/2013 03:55 PM
Uranium	0.00507		0.00500	mg/L	1	8/27/2013 03:55 PM
Zinc	0.0208		0.00500	mg/L	1	8/27/2013 03:55 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 02:45 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 02:45 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 8/20/2013 03:13 PM

Work Order: 13081020
Lab ID: 13081020-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 02:45 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:45 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 02:45 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Bis(2-ethylhexyl)phthalate	5.2		0.20	µg/L	1	8/28/2013 02:45 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 02:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 8/20/2013 03:13 PM

Work Order: 13081020
Lab ID: 13081020-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 02:45 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 02:45 PM
Surr: 2,4,6-Tribromophenol	95.1		34-129	%REC	1	8/28/2013 02:45 PM
Surr: 2-Fluorobiphenyl	88.8		40-125	%REC	1	8/28/2013 02:45 PM
Surr: 2-Fluorophenol	83.9		20-120	%REC	1	8/28/2013 02:45 PM
Surr: 4-Terphenyl-d14	97.6		40-135	%REC	1	8/28/2013 02:45 PM
Surr: Nitrobenzene-d5	94.8		41-120	%REC	1	8/28/2013 02:45 PM
Surr: Phenol-d6	89.5		20-120	%REC	1	8/28/2013 02:45 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 04:56 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 04:56 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 04:56 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 04:56 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 04:56 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 04:56 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 8/20/2013 03:13 PM

Work Order: 13081020
Lab ID: 13081020-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 04:56 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 04:56 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:56 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 04:56 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 04:56 AM
Surr: 1,2-Dichloroethane-d4	98.9		70-125	%REC	1	8/28/2013 04:56 AM
Surr: 4-Bromofluorobenzene	98.4		72-125	%REC	1	8/28/2013 04:56 AM
Surr: Dibromofluoromethane	112		71-125	%REC	1	8/28/2013 04:56 AM
Surr: Toluene-d8	97.5		75-125	%REC	1	8/28/2013 04:56 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	13.9		0.500	mg/L	1	8/28/2013 12:12 AM
Fluoride	1.16		0.100	mg/L	1	8/28/2013 12:12 AM
Sulfate	44.2		0.500	mg/L	1	8/28/2013 12:12 AM
Nitrate/Nitrite (as N)	2.05		1.00	mg/L	5	8/29/2013 04:43 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	336		6.00	mg/L	1	8/27/2013 10:01 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:01 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:01 PM
Alkalinity, Total (As CaCO3)	336		6.00	mg/L	1	8/27/2013 10:01 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-5
Collection Date: 8/20/2013 03:13 PM

Work Order: 13081020
Lab ID: 13081020-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	689		1.00	µmhos/cm	1	8/27/2013 10:01 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.57	H	0.100	pH Units	1	8/27/2013 10:01 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	448		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 8/20/2013 05:26 PM

Work Order: 13081020
Lab ID: 13081020-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:27 PM
DISSOLVED METALS						
Aluminum	0.0104		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 03:59 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Barium	0.102		0.00500	mg/L	1	8/27/2013 03:59 PM
Boron	0.172		0.0200	mg/L	1	8/27/2013 03:59 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 03:59 PM
Calcium	130		0.500	mg/L	1	8/27/2013 03:59 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Iron	ND		0.200	mg/L	1	8/27/2013 03:59 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Magnesium	14.4		0.200	mg/L	1	8/27/2013 03:59 PM
Manganese	0.00966		0.00500	mg/L	1	8/27/2013 03:59 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Nickel	0.0112		0.00500	mg/L	1	8/27/2013 03:59 PM
Potassium	2.11		0.200	mg/L	1	8/27/2013 03:59 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Sodium	40.2		0.200	mg/L	1	8/27/2013 03:59 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 03:59 PM
Zinc	0.0242		0.00500	mg/L	1	8/27/2013 03:59 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:05 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:05 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:05 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 8/20/2013 05:26 PM

Work Order: 13081020
Lab ID: 13081020-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:05 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:05 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:05 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Bis(2-ethylhexyl)phthalate	0.62		0.20	µg/L	1	8/28/2013 03:05 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Caprolactam	0.39		0.20	µg/L	1	8/28/2013 03:05 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:05 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 8/20/2013 05:26 PM

Work Order: 13081020
Lab ID: 13081020-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:05 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:05 PM
Surr: 2,4,6-Tribromophenol	86.4		34-129	%REC	1	8/28/2013 03:05 PM
Surr: 2-Fluorobiphenyl	79.7		40-125	%REC	1	8/28/2013 03:05 PM
Surr: 2-Fluorophenol	74.8		20-120	%REC	1	8/28/2013 03:05 PM
Surr: 4-Terphenyl-d14	95.1		40-135	%REC	1	8/28/2013 03:05 PM
Surr: Nitrobenzene-d5	88.4		41-120	%REC	1	8/28/2013 03:05 PM
Surr: Phenol-d6	79.7		20-120	%REC	1	8/28/2013 03:05 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 05:21 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 05:21 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 05:21 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 05:21 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 05:21 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 05:21 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 8/20/2013 05:26 PM

Work Order: 13081020
Lab ID: 13081020-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 05:21 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 05:21 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:21 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 05:21 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 05:21 AM
Surr: 1,2-Dichloroethane-d4	100		70-125	%REC	1	8/28/2013 05:21 AM
Surr: 4-Bromofluorobenzene	107		72-125	%REC	1	8/28/2013 05:21 AM
Surr: Dibromofluoromethane	105		71-125	%REC	1	8/28/2013 05:21 AM
Surr: Toluene-d8	97.8		75-125	%REC	1	8/28/2013 05:21 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	180		2.50	mg/L	5	8/29/2013 12:07 AM
Fluoride	0.755		0.100	mg/L	1	8/28/2013 12:56 AM
Sulfate	60.4		0.500	mg/L	1	8/28/2013 12:56 AM
Nitrate/Nitrite (as N)	2.40		1.00	mg/L	5	8/29/2013 04:58 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	211		6.00	mg/L	1	8/27/2013 10:11 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:11 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:11 PM
Alkalinity, Total (As CaCO3)	211		6.00	mg/L	1	8/27/2013 10:11 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-20
Collection Date: 8/20/2013 05:26 PM

Work Order: 13081020
Lab ID: 13081020-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	933		1.00	µmhos/cm	1	8/27/2013 10:11 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.51	H	0.100	pH Units	1	8/27/2013 10:11 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	736		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 8/20/2013 07:38 PM

Work Order: 13081020
Lab ID: 13081020-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:30 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:04 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Barium	0.179		0.00500	mg/L	1	8/27/2013 04:04 PM
Boron	0.308		0.0200	mg/L	1	8/27/2013 04:04 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:04 PM
Calcium	235		5.00	mg/L	10	8/28/2013 11:59 AM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:04 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Magnesium	22.5		0.200	mg/L	1	8/27/2013 04:04 PM
Manganese	0.0668		0.00500	mg/L	1	8/27/2013 04:04 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Nickel	0.0219		0.00500	mg/L	1	8/27/2013 04:04 PM
Potassium	2.98		0.200	mg/L	1	8/27/2013 04:04 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:04 PM
Sodium	58.4		0.200	mg/L	1	8/27/2013 04:04 PM
Uranium	0.00936		0.00500	mg/L	1	8/27/2013 04:04 PM
Zinc	0.0195		0.00500	mg/L	1	8/27/2013 04:04 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:25 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:25 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:25 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 8/20/2013 07:38 PM

Work Order: 13081020
Lab ID: 13081020-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:25 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:25 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:25 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Bis(2-ethylhexyl)phthalate	0.24		0.20	µg/L	1	8/28/2013 03:25 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Caprolactam	0.23		0.20	µg/L	1	8/28/2013 03:25 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:25 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 8/20/2013 07:38 PM

Work Order: 13081020
Lab ID: 13081020-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:25 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:25 PM
Surr: 2,4,6-Tribromophenol	91.0		34-129	%REC	1	8/28/2013 03:25 PM
Surr: 2-Fluorobiphenyl	80.5		40-125	%REC	1	8/28/2013 03:25 PM
Surr: 2-Fluorophenol	76.6		20-120	%REC	1	8/28/2013 03:25 PM
Surr: 4-Terphenyl-d14	89.0		40-135	%REC	1	8/28/2013 03:25 PM
Surr: Nitrobenzene-d5	87.6		41-120	%REC	1	8/28/2013 03:25 PM
Surr: Phenol-d6	80.8		20-120	%REC	1	8/28/2013 03:25 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 05:46 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 05:46 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 05:46 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 05:46 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 05:46 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 05:46 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 8/20/2013 07:38 PM

Work Order: 13081020
Lab ID: 13081020-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 05:46 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 05:46 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 05:46 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 05:46 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 05:46 AM
Surr: 1,2-Dichloroethane-d4	96.0		70-125	%REC	1	8/28/2013 05:46 AM
Surr: 4-Bromofluorobenzene	94.5		72-125	%REC	1	8/28/2013 05:46 AM
Surr: Dibromofluoromethane	99.9		71-125	%REC	1	8/28/2013 05:46 AM
Surr: Toluene-d8	97.2		75-125	%REC	1	8/28/2013 05:46 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	156		2.50	mg/L	5	8/29/2013 12:22 AM
Fluoride	0.268		0.100	mg/L	1	8/28/2013 01:10 AM
Sulfate	82.5		0.500	mg/L	1	8/28/2013 01:10 AM
Nitrate/Nitrite (as N)	3.96		1.00	mg/L	5	8/29/2013 05:13 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	550		6.00	mg/L	1	8/27/2013 10:17 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:17 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:17 PM
Alkalinity, Total (As CaCO3)	550		6.00	mg/L	1	8/27/2013 10:17 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-21
Collection Date: 8/20/2013 07:38 PM

Work Order: 13081020
Lab ID: 13081020-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,450		1.00	µmhos/cm	1	8/27/2013 10:17 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.06	H	0.100	pH Units	1	8/27/2013 10:17 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	972		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-20-13
Collection Date: 8/20/2013 08:14 PM

Work Order: 13081020
Lab ID: 13081020-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 06:49 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 06:49 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 06:49 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 06:49 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 06:49 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 06:49 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 06:49 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-20-13
Collection Date: 8/20/2013 08:14 PM

Work Order: 13081020
Lab ID: 13081020-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 06:49 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 06:49 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 06:49 PM
Surr: 1,2-Dichloroethane-d4	97.9		70-125	%REC	1	8/27/2013 06:49 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	8/27/2013 06:49 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/27/2013 06:49 PM
Surr: Toluene-d8	102		75-125	%REC	1	8/27/2013 06:49 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-12R
Collection Date: 8/21/2013 09:54 AM

Work Order: 13081020
Lab ID: 13081020-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:32 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:09 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Barium	0.0937		0.00500	mg/L	1	8/27/2013 04:09 PM
Boron	0.194		0.0200	mg/L	1	8/27/2013 04:09 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:09 PM
Calcium	70.0		0.500	mg/L	1	8/27/2013 04:09 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:09 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Magnesium	6.95		0.200	mg/L	1	8/27/2013 04:09 PM
Manganese	0.0129		0.00500	mg/L	1	8/27/2013 04:09 PM
Molybdenum	0.00647		0.00500	mg/L	1	8/27/2013 04:09 PM
Nickel	0.0103		0.00500	mg/L	1	8/27/2013 04:09 PM
Potassium	2.50		0.200	mg/L	1	8/27/2013 04:09 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Sodium	46.2		0.200	mg/L	1	8/27/2013 04:09 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 04:09 PM
Zinc	0.00956		0.00500	mg/L	1	8/27/2013 04:09 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:45 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:45 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-12R
Collection Date: 8/21/2013 09:54 AM

Work Order: 13081020
Lab ID: 13081020-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:45 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:45 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:45 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Bis(2-ethylhexyl)phthalate	0.21		0.20	µg/L	1	8/28/2013 03:45 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-12R
Collection Date: 8/21/2013 09:54 AM

Work Order: 13081020
Lab ID: 13081020-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:45 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:45 PM
Surr: 2,4,6-Tribromophenol	90.5		34-129	%REC	1	8/28/2013 03:45 PM
Surr: 2-Fluorobiphenyl	85.7		40-125	%REC	1	8/28/2013 03:45 PM
Surr: 2-Fluorophenol	80.8		20-120	%REC	1	8/28/2013 03:45 PM
Surr: 4-Terphenyl-d14	96.6		40-135	%REC	1	8/28/2013 03:45 PM
Surr: Nitrobenzene-d5	91.6		41-120	%REC	1	8/28/2013 03:45 PM
Surr: Phenol-d6	87.5		20-120	%REC	1	8/28/2013 03:45 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 06:11 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 06:11 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 06:11 AM
Acetone	0.036		0.010	mg/L	1	8/28/2013 06:11 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 06:11 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 06:11 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-12R
Collection Date: 8/21/2013 09:54 AM

Work Order: 13081020
Lab ID: 13081020-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 06:11 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 06:11 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:11 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 06:11 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 06:11 AM
Surr: 1,2-Dichloroethane-d4	107		70-125	%REC	1	8/28/2013 06:11 AM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	8/28/2013 06:11 AM
Surr: Dibromofluoromethane	105		71-125	%REC	1	8/28/2013 06:11 AM
Surr: Toluene-d8	100		75-125	%REC	1	8/28/2013 06:11 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	31.2		0.500	mg/L	1	8/28/2013 01:25 AM
Fluoride	1.40		0.100	mg/L	1	8/28/2013 01:25 AM
Sulfate	71.1		0.500	mg/L	1	8/28/2013 01:25 AM
Nitrate/Nitrite (as N)	8.14		1.00	mg/L	5	8/29/2013 05:27 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	191		6.00	mg/L	1	8/27/2013 10:23 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:23 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:23 PM
Alkalinity, Total (As CaCO3)	191		6.00	mg/L	1	8/27/2013 10:23 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-12R
Collection Date: 8/21/2013 09:54 AM

Work Order: 13081020
Lab ID: 13081020-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	590		1.00	µmhos/cm	1	8/27/2013 10:23 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.76	H	0.100	pH Units	1	8/27/2013 10:23 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	404		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 8/21/2013 01:43 PM

Work Order: 13081020
Lab ID: 13081020-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:38 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:14 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Barium	0.137		0.00500	mg/L	1	8/27/2013 04:14 PM
Boron	0.210		0.0200	mg/L	1	8/27/2013 04:14 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:14 PM
Calcium	183		5.00	mg/L	10	8/28/2013 12:04 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:14 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Magnesium	21.1		0.200	mg/L	1	8/27/2013 04:14 PM
Manganese	0.0233		0.00500	mg/L	1	8/27/2013 04:14 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Nickel	0.0209		0.00500	mg/L	1	8/27/2013 04:14 PM
Potassium	2.97		0.200	mg/L	1	8/27/2013 04:14 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:14 PM
Sodium	56.6		0.200	mg/L	1	8/27/2013 04:14 PM
Uranium	0.00658		0.00500	mg/L	1	8/27/2013 04:14 PM
Zinc	0.00566		0.00500	mg/L	1	8/27/2013 04:14 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 8/21/2013 01:43 PM

Work Order: 13081020
Lab ID: 13081020-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013
Acenaphthene	ND		0.20	µg/L	1	8/28/2013
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013
Acetophenone	ND		0.20	µg/L	1	8/28/2013
Anthracene	ND		0.20	µg/L	1	8/28/2013
Atrazine	ND		0.20	µg/L	1	8/28/2013
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013
Bis(2-ethylhexyl)phthalate	0.51		0.20	µg/L	1	8/28/2013
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013
Caprolactam	0.29		0.20	µg/L	1	8/28/2013
Carbazole	ND		0.20	µg/L	1	8/28/2013
Chrysene	ND		0.20	µg/L	1	8/28/2013
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013
Di-n-octyl phthalate	0.42		0.20	µg/L	1	8/28/2013
Fluoranthene	ND		0.20	µg/L	1	8/28/2013
Fluorene	ND		0.20	µg/L	1	8/28/2013
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 8/21/2013 01:43 PM

Work Order: 13081020
Lab ID: 13081020-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013
Isophorone	ND		0.20	µg/L	1	8/28/2013
Naphthalene	ND		0.20	µg/L	1	8/28/2013
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013
Phenanthrene	ND		0.20	µg/L	1	8/28/2013
Phenol	ND		0.20	µg/L	1	8/28/2013
Pyrene	ND		0.20	µg/L	1	8/28/2013
Surr: 2,4,6-Tribromophenol	94.1		34-129	%REC	1	8/28/2013
Surr: 2-Fluorobiphenyl	84.1		40-125	%REC	1	8/28/2013
Surr: 2-Fluorophenol	74.6		20-120	%REC	1	8/28/2013
Surr: 4-Terphenyl-d14	96.2		40-135	%REC	1	8/28/2013
Surr: Nitrobenzene-d5	92.1		41-120	%REC	1	8/28/2013
Surr: Phenol-d6	77.4		20-120	%REC	1	8/28/2013
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 06:37 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 06:37 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 06:37 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 06:37 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 06:37 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 06:37 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 8/21/2013 01:43 PM

Work Order: 13081020
Lab ID: 13081020-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 06:37 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 06:37 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 06:37 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 06:37 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 06:37 AM
Surr: 1,2-Dichloroethane-d4	96.6		70-125	%REC	1	8/28/2013 06:37 AM
Surr: 4-Bromofluorobenzene	99.6		72-125	%REC	1	8/28/2013 06:37 AM
Surr: Dibromofluoromethane	105		71-125	%REC	1	8/28/2013 06:37 AM
Surr: Toluene-d8	95.3		75-125	%REC	1	8/28/2013 06:37 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	176		2.50	mg/L	5	8/29/2013 12:36 AM
Fluoride	0.606		0.100	mg/L	1	8/28/2013 01:39 AM
Sulfate	83.0		0.500	mg/L	1	8/28/2013 01:39 AM
Nitrate/Nitrite (as N)	2.94		1.00	mg/L	5	8/29/2013 05:42 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	362		6.00	mg/L	1	8/27/2013 10:28 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:28 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:28 PM
Alkalinity, Total (As CaCO3)	362		6.00	mg/L	1	8/27/2013 10:28 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-22
Collection Date: 8/21/2013 01:43 PM

Work Order: 13081020
Lab ID: 13081020-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,220		1.00	µmhos/cm	1	8/27/2013 10:28 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.33	H	0.100	pH Units	1	8/27/2013 10:28 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	890		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 8/21/2013 04:08 PM

Work Order: 13081020
Lab ID: 13081020-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:40 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:19 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Barium	0.141		0.00500	mg/L	1	8/27/2013 04:19 PM
Boron	0.207		0.0200	mg/L	1	8/27/2013 04:19 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:19 PM
Calcium	274		5.00	mg/L	10	8/28/2013 12:09 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:19 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Magnesium	30.8		0.200	mg/L	1	8/27/2013 04:19 PM
Manganese	0.0315		0.00500	mg/L	1	8/27/2013 04:19 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Nickel	0.0286		0.00500	mg/L	1	8/27/2013 04:19 PM
Potassium	4.25		0.200	mg/L	1	8/27/2013 04:19 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:19 PM
Sodium	71.0		0.200	mg/L	1	8/27/2013 04:19 PM
Uranium	0.00533		0.00500	mg/L	1	8/27/2013 04:19 PM
Zinc	0.00919		0.00500	mg/L	1	8/27/2013 04:19 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 12:19 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 12:19 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 8/21/2013 04:08 PM

Work Order: 13081020
Lab ID: 13081020-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 12:19 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-ethylhexyl)phthalate	0.23		0.20	µg/L	1	8/28/2013 12:19 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 12:19 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 8/21/2013 04:08 PM

Work Order: 13081020
Lab ID: 13081020-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Surr: 2,4,6-Tribromophenol	95.9		34-129	%REC	1	8/28/2013 12:19 AM
Surr: 2-Fluorobiphenyl	84.9		40-125	%REC	1	8/28/2013 12:19 AM
Surr: 2-Fluorophenol	75.0		20-120	%REC	1	8/28/2013 12:19 AM
Surr: 4-Terphenyl-d14	91.8		40-135	%REC	1	8/28/2013 12:19 AM
Surr: Nitrobenzene-d5	89.1		41-120	%REC	1	8/28/2013 12:19 AM
Surr: Phenol-d6	79.1		20-120	%REC	1	8/28/2013 12:19 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:02 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:02 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:02 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 07:02 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:02 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:02 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 8/21/2013 04:08 PM

Work Order: 13081020
Lab ID: 13081020-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:02 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:02 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:02 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:02 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:02 AM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	8/28/2013 07:02 AM
Surr: 4-Bromofluorobenzene	91.5		72-125	%REC	1	8/28/2013 07:02 AM
Surr: Dibromofluoromethane	104		71-125	%REC	1	8/28/2013 07:02 AM
Surr: Toluene-d8	90.1		75-125	%REC	1	8/28/2013 07:02 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	530		2.50	mg/L	5	8/29/2013 12:51 AM
Fluoride	0.808		0.100	mg/L	1	8/28/2013 01:54 AM
Sulfate	115		2.50	mg/L	5	8/29/2013 12:51 AM
Nitrate/Nitrite (as N)	3.29		1.00	mg/L	5	8/29/2013 05:56 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	268		6.00	mg/L	1	8/27/2013 10:34 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:34 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:34 PM
Alkalinity, Total (As CaCO3)	268		6.00	mg/L	1	8/27/2013 10:34 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-23
Collection Date: 8/21/2013 04:08 PM

Work Order: 13081020
Lab ID: 13081020-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,960		1.00	µmhos/cm	1	8/27/2013 10:34 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.31	H	0.100	pH Units	1	8/27/2013 10:34 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,910		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 8/21/2013 06:04 PM

Work Order: 13081020
Lab ID: 13081020-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:42 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:34 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Barium	0.0856		0.00500	mg/L	1	8/27/2013 04:34 PM
Boron	0.183		0.0200	mg/L	1	8/27/2013 04:34 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:34 PM
Calcium	88.3		0.500	mg/L	1	8/27/2013 04:34 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:34 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Magnesium	10.8		0.200	mg/L	1	8/27/2013 04:34 PM
Manganese	0.0146		0.00500	mg/L	1	8/27/2013 04:34 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Nickel	0.0157		0.00500	mg/L	1	8/27/2013 04:34 PM
Potassium	2.12		0.200	mg/L	1	8/27/2013 04:34 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Sodium	40.2		0.200	mg/L	1	8/27/2013 04:34 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 04:34 PM
Zinc	0.00684		0.00500	mg/L	1	8/27/2013 04:34 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 12:39 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 12:39 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:39 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 8/21/2013 06:04 PM

Work Order: 13081020
Lab ID: 13081020-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 12:39 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:39 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 12:39 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Atrazine	0.22		0.20	µg/L	1	8/28/2013 12:39 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Bis(2-ethylhexyl)phthalate	0.30		0.20	µg/L	1	8/28/2013 12:39 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 12:39 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 8/21/2013 06:04 PM

Work Order: 13081020
Lab ID: 13081020-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 12:39 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 12:39 AM
Surr: 2,4,6-Tribromophenol	89.7		34-129	%REC	1	8/28/2013 12:39 AM
Surr: 2-Fluorobiphenyl	83.0		40-125	%REC	1	8/28/2013 12:39 AM
Surr: 2-Fluorophenol	72.2		20-120	%REC	1	8/28/2013 12:39 AM
Surr: 4-Terphenyl-d14	93.5		40-135	%REC	1	8/28/2013 12:39 AM
Surr: Nitrobenzene-d5	91.3		41-120	%REC	1	8/28/2013 12:39 AM
Surr: Phenol-d6	80.6		20-120	%REC	1	8/28/2013 12:39 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:27 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:27 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:27 AM
Acetone	0.013		0.010	mg/L	1	8/28/2013 07:27 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:27 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:27 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 8/21/2013 06:04 PM

Work Order: 13081020
Lab ID: 13081020-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:27 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:27 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:27 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:27 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:27 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-125	%REC	1	8/28/2013 07:27 AM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	8/28/2013 07:27 AM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/28/2013 07:27 AM
Surr: Toluene-d8	102		75-125	%REC	1	8/28/2013 07:27 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	56.5		0.500	mg/L	1	8/28/2013 02:37 AM
Fluoride	2.77		0.100	mg/L	1	8/28/2013 02:37 AM
Sulfate	55.6		0.500	mg/L	1	8/28/2013 02:37 AM
Nitrate/Nitrite (as N)	2.04		1.00	mg/L	5	8/29/2013 06:11 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	225		6.00	mg/L	1	8/27/2013 10:40 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:40 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:40 PM
Alkalinity, Total (As CaCO3)	225		6.00	mg/L	1	8/27/2013 10:40 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-24
Collection Date: 8/21/2013 06:04 PM

Work Order: 13081020
Lab ID: 13081020-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	652		1.00	µmhos/cm	1	8/27/2013 10:40 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.67	H	0.100	pH Units	1	8/27/2013 10:40 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	426		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-21-13
Collection Date: 8/21/2013 10:00 PM

Work Order: 13081020
Lab ID: 13081020-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 07:14 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 07:14 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 07:14 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 07:14 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 07:14 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 07:14 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 07:14 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-21-13
Collection Date: 8/21/2013 10:00 PM

Work Order: 13081020
Lab ID: 13081020-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:14 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 07:14 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 07:14 PM
Surr: 1,2-Dichloroethane-d4	94.6		70-125	%REC	1	8/27/2013 07:14 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	8/27/2013 07:14 PM
Surr: Dibromofluoromethane	100		71-125	%REC	1	8/27/2013 07:14 PM
Surr: Toluene-d8	109		75-125	%REC	1	8/27/2013 07:14 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-14
Collection Date: 8/22/2013 10:13 AM

Work Order: 13081020
Lab ID: 13081020-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 11:01 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 11:01 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 11:01 PM
Acetone	0.033		0.010	mg/L	1	8/27/2013 11:01 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 11:01 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 11:01 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 11:01 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-14
Collection Date: 8/22/2013 10:13 AM

Work Order: 13081020
Lab ID: 13081020-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 11:01 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 11:01 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 11:01 PM
Surr: 1,2-Dichloroethane-d4	104		70-125	%REC	1	8/27/2013 11:01 PM
Surr: 4-Bromofluorobenzene	91.2		72-125	%REC	1	8/27/2013 11:01 PM
Surr: Dibromofluoromethane	108		71-125	%REC	1	8/27/2013 11:01 PM
Surr: Toluene-d8	83.9		75-125	%REC	1	8/27/2013 11:01 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 8/20/2013 02:50 PM

Work Order: 13081020
Lab ID: 13081020-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:44 PM
DISSOLVED METALS						
Aluminum	0.0346		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:39 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Barium	0.118		0.00500	mg/L	1	8/27/2013 04:39 PM
Boron	0.216		0.0200	mg/L	1	8/27/2013 04:39 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:39 PM
Calcium	136		0.500	mg/L	1	8/27/2013 04:39 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:39 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Magnesium	15.8		0.200	mg/L	1	8/27/2013 04:39 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Potassium	2.53		0.200	mg/L	1	8/27/2013 04:39 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Sodium	77.9		0.200	mg/L	1	8/27/2013 04:39 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 04:39 PM
Zinc	0.00721		0.00500	mg/L	1	8/27/2013 04:39 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 12:59 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 12:59 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:59 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 8/20/2013 02:50 PM

Work Order: 13081020
Lab ID: 13081020-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 12:59 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:59 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 12:59 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Bis(2-ethylhexyl)phthalate	2.9		0.20	µg/L	1	8/28/2013 12:59 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 12:59 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 8/20/2013 02:50 PM

Work Order: 13081020
Lab ID: 13081020-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 12:59 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 12:59 AM
Surr: 2,4,6-Tribromophenol	88.8		34-129	%REC	1	8/28/2013 12:59 AM
Surr: 2-Fluorobiphenyl	82.9		40-125	%REC	1	8/28/2013 12:59 AM
Surr: 2-Fluorophenol	74.5		20-120	%REC	1	8/28/2013 12:59 AM
Surr: 4-Terphenyl-d14	90.2		40-135	%REC	1	8/28/2013 12:59 AM
Surr: Nitrobenzene-d5	89.0		41-120	%REC	1	8/28/2013 12:59 AM
Surr: Phenol-d6	79.8		20-120	%REC	1	8/28/2013 12:59 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 09:45 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 09:45 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 09:45 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 09:45 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 09:45 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 09:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 8/20/2013 02:50 PM

Work Order: 13081020
Lab ID: 13081020-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 09:45 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 09:45 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 09:45 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 09:45 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 09:45 PM
Surr: 1,2-Dichloroethane-d4	94.0		70-125	%REC	1	8/27/2013 09:45 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	8/27/2013 09:45 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	8/27/2013 09:45 PM
Surr: Toluene-d8	99.4		75-125	%REC	1	8/27/2013 09:45 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	178		2.50	mg/L	5	8/29/2013 01:05 AM
Fluoride	0.920		0.100	mg/L	1	8/28/2013 02:52 AM
Sulfate	88.9		0.500	mg/L	1	8/28/2013 02:52 AM
Nitrate/Nitrite (as N)	5.33		1.00	mg/L	5	8/29/2013 06:25 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	231		6.00	mg/L	1	8/27/2013 10:45 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:45 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:45 PM
Alkalinity, Total (As CaCO3)	231		6.00	mg/L	1	8/27/2013 10:45 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-2
Collection Date: 8/20/2013 02:50 PM

Work Order: 13081020
Lab ID: 13081020-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,050		1.00	µmhos/cm	1	8/27/2013 10:45 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.61	H	0.100	pH Units	1	8/27/2013 10:45 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	682		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 8/20/2013 04:25 PM

Work Order: 13081020
Lab ID: 13081020-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:46 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:44 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Barium	0.0790		0.00500	mg/L	1	8/27/2013 04:44 PM
Boron	0.168		0.0200	mg/L	1	8/27/2013 04:44 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:44 PM
Calcium	97.6		0.500	mg/L	1	8/27/2013 04:44 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Copper	0.0101		0.00500	mg/L	1	8/27/2013 04:44 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:44 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Magnesium	11.9		0.200	mg/L	1	8/27/2013 04:44 PM
Manganese	0.00874		0.00500	mg/L	1	8/27/2013 04:44 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Nickel	0.00561		0.00500	mg/L	1	8/27/2013 04:44 PM
Potassium	2.04		0.200	mg/L	1	8/27/2013 04:44 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Sodium	39.8		0.200	mg/L	1	8/27/2013 04:44 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 04:44 PM
Zinc	0.0168		0.00500	mg/L	1	8/27/2013 04:44 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 02:38 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 02:38 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 8/20/2013 04:25 PM

Work Order: 13081020
Lab ID: 13081020-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 02:38 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:38 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 02:38 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Bis(2-ethylhexyl)phthalate	0.38		0.20	µg/L	1	8/28/2013 02:38 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 02:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 8/20/2013 04:25 PM

Work Order: 13081020
Lab ID: 13081020-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 02:38 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Phenol	0.22		0.20	µg/L	1	8/28/2013 02:38 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 02:38 PM
Surr: 2,4,6-Tribromophenol	95.0		34-129	%REC	1	8/28/2013 02:38 PM
Surr: 2-Fluorobiphenyl	84.4		40-125	%REC	1	8/28/2013 02:38 PM
Surr: 2-Fluorophenol	82.5		20-120	%REC	1	8/28/2013 02:38 PM
Surr: 4-Terphenyl-d14	92.6		40-135	%REC	1	8/28/2013 02:38 PM
Surr: Nitrobenzene-d5	87.8		41-120	%REC	1	8/28/2013 02:38 PM
Surr: Phenol-d6	87.8		20-120	%REC	1	8/28/2013 02:38 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 10:11 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 10:11 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 10:11 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 10:11 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 10:11 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 10:11 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 8/20/2013 04:25 PM

Work Order: 13081020
Lab ID: 13081020-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 10:11 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 10:11 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:11 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 10:11 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 10:11 PM
Surr: 1,2-Dichloroethane-d4	96.9		70-125	%REC	1	8/27/2013 10:11 PM
Surr: 4-Bromofluorobenzene	92.7		72-125	%REC	1	8/27/2013 10:11 PM
Surr: Dibromofluoromethane	106		71-125	%REC	1	8/27/2013 10:11 PM
Surr: Toluene-d8	91.9		75-125	%REC	1	8/27/2013 10:11 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	70.4		0.500	mg/L	1	8/28/2013 03:06 AM
Fluoride	1.77		0.100	mg/L	1	8/28/2013 03:06 AM
Sulfate	77.4		0.500	mg/L	1	8/28/2013 03:06 AM
Nitrate/Nitrite (as N)	2.42		1.00	mg/L	5	8/29/2013 06:40 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	224		6.00	mg/L	1	8/27/2013 10:51 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:51 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:51 PM
Alkalinity, Total (As CaCO3)	224		6.00	mg/L	1	8/27/2013 10:51 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-28
Collection Date: 8/20/2013 04:25 PM

Work Order: 13081020
Lab ID: 13081020-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	727		1.00	µmhos/cm	1	8/27/2013 10:51 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.63	H	0.100	pH Units	1	8/27/2013 10:51 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	480		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
Collection Date: 8/20/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:48 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:49 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Barium	0.0738		0.00500	mg/L	1	8/27/2013 04:49 PM
Boron	0.187		0.0200	mg/L	1	8/27/2013 04:49 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:49 PM
Calcium	135		0.500	mg/L	1	8/27/2013 04:49 PM
Chromium	0.117		0.00500	mg/L	1	8/27/2013 04:49 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:49 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Magnesium	17.2		0.200	mg/L	1	8/27/2013 04:49 PM
Manganese	0.0159		0.00500	mg/L	1	8/27/2013 04:49 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Nickel	0.00667		0.00500	mg/L	1	8/27/2013 04:49 PM
Potassium	2.48		0.200	mg/L	1	8/27/2013 04:49 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Sodium	57.9		0.200	mg/L	1	8/27/2013 04:49 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 04:49 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 02:58 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 02:58 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:58 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
Collection Date: 8/20/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 02:58 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:58 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 02:58 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Bis(2-ethylhexyl)phthalate	0.33		0.20	µg/L	1	8/28/2013 02:58 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Di-n-octyl phthalate	0.44		0.20	µg/L	1	8/28/2013 02:58 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 02:58 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
Collection Date: 8/20/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 02:58 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 02:58 PM
Surr: 2,4,6-Tribromophenol	87.7		34-129	%REC	1	8/28/2013 02:58 PM
Surr: 2-Fluorobiphenyl	75.4		40-125	%REC	1	8/28/2013 02:58 PM
Surr: 2-Fluorophenol	69.0		20-120	%REC	1	8/28/2013 02:58 PM
Surr: 4-Terphenyl-d14	88.5		40-135	%REC	1	8/28/2013 02:58 PM
Surr: Nitrobenzene-d5	74.6		41-120	%REC	1	8/28/2013 02:58 PM
Surr: Phenol-d6	76.0		20-120	%REC	1	8/28/2013 02:58 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 10:36 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 10:36 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 10:36 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 10:36 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 10:36 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 10:36 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
Collection Date: 8/20/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 10:36 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 10:36 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 10:36 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 10:36 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 10:36 PM
Surr: 1,2-Dichloroethane-d4	94.5		70-125	%REC	1	8/27/2013 10:36 PM
Surr: 4-Bromofluorobenzene	99.3		72-125	%REC	1	8/27/2013 10:36 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/27/2013 10:36 PM
Surr: Toluene-d8	92.9		75-125	%REC	1	8/27/2013 10:36 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	152		2.50	mg/L	5	8/29/2013 01:49 AM
Fluoride	0.934		0.100	mg/L	1	8/28/2013 03:21 AM
Sulfate	96.2		0.500	mg/L	1	8/28/2013 03:21 AM
Nitrate/Nitrite (as N)	2.95		1.00	mg/L	5	8/29/2013 06:54 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	255		6.00	mg/L	1	8/27/2013 10:56 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:56 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 10:56 PM
Alkalinity, Total (As CaCO3)	255		6.00	mg/L	1	8/27/2013 10:56 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-29
Collection Date: 8/20/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,000		1.00	µmhos/cm	1	8/27/2013 10:56 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.47	H	0.100	pH Units	1	8/27/2013 10:56 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	654		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 8/20/2013 07:40 PM

Work Order: 13081020
Lab ID: 13081020-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:50 PM
DISSOLVED METALS						
Aluminum	0.0440		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:53 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Barium	0.162		0.00500	mg/L	1	8/27/2013 04:53 PM
Boron	0.222		0.0200	mg/L	1	8/27/2013 04:53 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:53 PM
Calcium	192		5.00	mg/L	10	8/28/2013 12:14 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:53 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Magnesium	24.6		0.200	mg/L	1	8/27/2013 04:53 PM
Manganese	0.0239		0.00500	mg/L	1	8/27/2013 04:53 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Nickel	0.0189		0.00500	mg/L	1	8/27/2013 04:53 PM
Potassium	3.80		0.200	mg/L	1	8/27/2013 04:53 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
Sodium	124		0.200	mg/L	1	8/27/2013 04:53 PM
Uranium	0.00899		0.00500	mg/L	1	8/27/2013 04:53 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 04:53 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:18 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:18 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:18 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 8/20/2013 07:40 PM

Work Order: 13081020
Lab ID: 13081020-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:18 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:18 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:18 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Bis(2-ethylhexyl)phthalate	0.50		0.20	µg/L	1	8/28/2013 03:18 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Di-n-octyl phthalate	1.3		0.20	µg/L	1	8/28/2013 03:18 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:18 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 8/20/2013 07:40 PM

Work Order: 13081020
Lab ID: 13081020-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:18 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:18 PM
Surr: 2,4,6-Tribromophenol	83.8		34-129	%REC	1	8/28/2013 03:18 PM
Surr: 2-Fluorobiphenyl	74.3		40-125	%REC	1	8/28/2013 03:18 PM
Surr: 2-Fluorophenol	72.2		20-120	%REC	1	8/28/2013 03:18 PM
Surr: 4-Terphenyl-d14	82.2		40-135	%REC	1	8/28/2013 03:18 PM
Surr: Nitrobenzene-d5	74.7		41-120	%REC	1	8/28/2013 03:18 PM
Surr: Phenol-d6	77.1		20-120	%REC	1	8/28/2013 03:18 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 02:49 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 02:49 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 02:49 AM
Acetone	0.011		0.010	mg/L	1	8/28/2013 02:49 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 02:49 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 02:49 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 8/20/2013 07:40 PM

Work Order: 13081020
Lab ID: 13081020-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 02:49 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 02:49 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 02:49 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 02:49 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 02:49 AM
Surr: 1,2-Dichloroethane-d4	97.4		70-125	%REC	1	8/28/2013 02:49 AM
Surr: 4-Bromofluorobenzene	88.8		72-125	%REC	1	8/28/2013 02:49 AM
Surr: Dibromofluoromethane	102		71-125	%REC	1	8/28/2013 02:49 AM
Surr: Toluene-d8	87.6		75-125	%REC	1	8/28/2013 02:49 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	315		2.50	mg/L	5	8/29/2013 02:03 AM
Fluoride	0.562		0.100	mg/L	1	8/28/2013 03:36 AM
Sulfate	75.5		0.500	mg/L	1	8/28/2013 03:36 AM
Nitrate/Nitrite (as N)	7.12		1.00	mg/L	5	8/29/2013 07:38 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	414		6.00	mg/L	1	8/27/2013 11:07 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:07 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:07 PM
Alkalinity, Total (As CaCO3)	414		6.00	mg/L	1	8/27/2013 11:07 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-27
Collection Date: 8/20/2013 07:40 PM

Work Order: 13081020
Lab ID: 13081020-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,670		1.00	µmhos/cm	1	8/27/2013 11:07 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.26	H	0.100	pH Units	1	8/27/2013 11:07 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,180		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:52 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 04:58 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Barium	0.195		0.00500	mg/L	1	8/27/2013 04:58 PM
Boron	0.283		0.0200	mg/L	1	8/27/2013 04:58 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 04:58 PM
Calcium	175		0.500	mg/L	1	8/27/2013 04:58 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Iron	ND		0.200	mg/L	1	8/27/2013 04:58 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Magnesium	23.0		0.200	mg/L	1	8/27/2013 04:58 PM
Manganese	2.62		0.0500	mg/L	10	8/28/2013 12:29 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Nickel	0.00869		0.00500	mg/L	1	8/27/2013 04:58 PM
Potassium	3.93		0.200	mg/L	1	8/27/2013 04:58 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 04:58 PM
Sodium	98.8		0.200	mg/L	1	8/27/2013 04:58 PM
Uranium	0.00723		0.00500	mg/L	1	8/27/2013 04:58 PM
Zinc	0.00547		0.00500	mg/L	1	8/27/2013 04:58 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:38 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:38 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:38 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:38 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:38 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Bis(2-ethylhexyl)phthalate	61		2.0	µg/L	10	8/28/2013 06:40 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:38 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:38 PM
Surr: 2,4,6-Tribromophenol	98.2		34-129	%REC	1	8/28/2013 03:38 PM
Surr: 2,4,6-Tribromophenol	92.9		34-129	%REC	10	8/28/2013 06:40 PM
Surr: 2-Fluorobiphenyl	92.8		40-125	%REC	10	8/28/2013 06:40 PM
Surr: 2-Fluorobiphenyl	78.4		40-125	%REC	1	8/28/2013 03:38 PM
Surr: 2-Fluorophenol	76.5		20-120	%REC	1	8/28/2013 03:38 PM
Surr: 2-Fluorophenol	80.3		20-120	%REC	10	8/28/2013 06:40 PM
Surr: 4-Terphenyl-d14	91.2		40-135	%REC	1	8/28/2013 03:38 PM
Surr: 4-Terphenyl-d14	93.4		40-135	%REC	10	8/28/2013 06:40 PM
Surr: Nitrobenzene-d5	79.2		41-120	%REC	1	8/28/2013 03:38 PM
Surr: Nitrobenzene-d5	92.8		41-120	%REC	10	8/28/2013 06:40 PM
Surr: Phenol-d6	82.8		20-120	%REC	1	8/28/2013 03:38 PM
Surr: Phenol-d6	81.1		20-120	%REC	10	8/28/2013 06:40 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:53 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:53 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:53 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 07:53 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:53 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:53 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:53 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:53 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:53 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:53 AM
Surr: 1,2-Dichloroethane-d4	105		70-125	%REC	1	8/28/2013 07:53 AM
Surr: 4-Bromofluorobenzene	93.5		72-125	%REC	1	8/28/2013 07:53 AM
Surr: Dibromofluoromethane	112		71-125	%REC	1	8/28/2013 07:53 AM
Surr: Toluene-d8	94.8		75-125	%REC	1	8/28/2013 07:53 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	182		2.50	mg/L	5	8/29/2013 02:18 AM
Fluoride	0.668		0.100	mg/L	1	8/28/2013 03:50 AM
Sulfate	75.3		0.500	mg/L	1	8/28/2013 03:50 AM
Nitrate/Nitrite (as N)	4.04		1.00	mg/L	5	8/29/2013 07:53 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-11
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY-SM2320B						
			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO ₃)	469		6.00	mg/L	1	8/27/2013 11:13 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:13 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:13 PM
Alkalinity, Total (As CaCO ₃)	469		6.00	mg/L	1	8/27/2013 11:13 PM
SPECIFIC CONDUCTIVITY						
			M2510 B			Analyst: KL
Specific Conductivity	1,360		1.00	µmhos/cm	1	8/27/2013 11:13 PM
PH - SM4500H+ B						
			SM4500H+ B			Analyst: KL
pH	7.36	H	0.100	pH Units	1	8/27/2013 11:13 PM
TOTAL DISSOLVED SOLIDS						
			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	854		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-2
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:54 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 05:03 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Barium	0.198		0.00500	mg/L	1	8/27/2013 05:03 PM
Boron	0.290		0.0200	mg/L	1	8/27/2013 05:03 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 05:03 PM
Calcium	173		0.500	mg/L	1	8/27/2013 05:03 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Iron	ND		0.200	mg/L	1	8/27/2013 05:03 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Magnesium	23.3		0.200	mg/L	1	8/27/2013 05:03 PM
Manganese	2.92		0.0500	mg/L	10	8/28/2013 12:34 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Nickel	0.00906		0.00500	mg/L	1	8/27/2013 05:03 PM
Potassium	4.03		0.200	mg/L	1	8/27/2013 05:03 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 05:03 PM
Sodium	99.1		0.200	mg/L	1	8/27/2013 05:03 PM
Uranium	0.00714		0.00500	mg/L	1	8/27/2013 05:03 PM
Zinc	0.00592		0.00500	mg/L	1	8/27/2013 05:03 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 03:58 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 03:58 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:58 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-2
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 03:58 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 03:58 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 03:58 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Acetophenone	0.24		0.20	µg/L	1	8/28/2013 03:58 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Bis(2-ethylhexyl)phthalate	79		2.0	µg/L	10	8/28/2013 05:29 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 03:58 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-2
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 03:58 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 03:58 PM
Surr: 2,4,6-Tribromophenol	96.2		34-129	%REC	10	8/28/2013 05:29 PM
Surr: 2,4,6-Tribromophenol	99.7		34-129	%REC	1	8/28/2013 03:58 PM
Surr: 2-Fluorobiphenyl	79.5		40-125	%REC	1	8/28/2013 03:58 PM
Surr: 2-Fluorobiphenyl	87.1		40-125	%REC	10	8/28/2013 05:29 PM
Surr: 2-Fluorophenol	81.9		20-120	%REC	10	8/28/2013 05:29 PM
Surr: 2-Fluorophenol	76.3		20-120	%REC	1	8/28/2013 03:58 PM
Surr: 4-Terphenyl-d14	102		40-135	%REC	10	8/28/2013 05:29 PM
Surr: 4-Terphenyl-d14	90.8		40-135	%REC	1	8/28/2013 03:58 PM
Surr: Nitrobenzene-d5	94.4		41-120	%REC	10	8/28/2013 05:29 PM
Surr: Nitrobenzene-d5	78.7		41-120	%REC	1	8/28/2013 03:58 PM
Surr: Phenol-d6	88.9		20-120	%REC	10	8/28/2013 05:29 PM
Surr: Phenol-d6	82.6		20-120	%REC	1	8/28/2013 03:58 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 03:00 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 03:00 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 03:00 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 03:00 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-2
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 03:00 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 03:00 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 03:00 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 03:00 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 03:00 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 03:00 PM
Surr: 1,2-Dichloroethane-d4	110		70-125	%REC	1	8/27/2013 03:00 PM
Surr: 4-Bromofluorobenzene	99.7		72-125	%REC	1	8/27/2013 03:00 PM
Surr: Dibromofluoromethane	110		71-125	%REC	1	8/27/2013 03:00 PM
Surr: Toluene-d8	101		75-125	%REC	1	8/27/2013 03:00 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	172		2.50	mg/L	5	8/29/2013 02:33 AM
Fluoride	0.673		0.100	mg/L	1	8/28/2013 04:05 AM
Sulfate	76.2		0.500	mg/L	1	8/28/2013 04:05 AM
Nitrate/Nitrite (as N)	4.19		1.00	mg/L	5	8/29/2013 08:07 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-2
Collection Date: 8/21/2013 09:40 AM

Work Order: 13081020
Lab ID: 13081020-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY-SM2320B						
			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO ₃)	469		6.00	mg/L	1	8/27/2013 11:18 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:18 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:18 PM
Alkalinity, Total (As CaCO ₃)	469		6.00	mg/L	1	8/27/2013 11:18 PM
SPECIFIC CONDUCTIVITY						
			M2510 B			Analyst: KL
Specific Conductivity	1,350		1.00	µmhos/cm	1	8/27/2013 11:18 PM
PH - SM4500H+ B						
			SM4500H+ B			Analyst: KL
pH	7.38	H	0.100	pH Units	1	8/27/2013 11:18 PM
TOTAL DISSOLVED SOLIDS						
			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	868		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 8/21/2013 11:30 AM

Work Order: 13081020
Lab ID: 13081020-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:17 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 03:14 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Barium	0.119		0.00500	mg/L	1	8/27/2013 03:14 PM
Boron	0.266		0.0200	mg/L	1	8/27/2013 03:14 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 03:14 PM
Calcium	132		0.500	mg/L	1	8/27/2013 03:14 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Iron	ND		0.200	mg/L	1	8/27/2013 03:14 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Magnesium	15.7		0.200	mg/L	1	8/27/2013 03:14 PM
Manganese	0.0208		0.00500	mg/L	1	8/27/2013 03:14 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Nickel	0.0135		0.00500	mg/L	1	8/27/2013 03:14 PM
Potassium	3.66		0.200	mg/L	1	8/27/2013 03:14 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Sodium	115		0.200	mg/L	1	8/27/2013 03:14 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 03:14 PM
Zinc	0.0107		0.00500	mg/L	1	8/27/2013 03:14 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 03:37 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 03:37 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:37 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 8/21/2013 11:30 AM

Work Order: 13081020
Lab ID: 13081020-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 03:37 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:37 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 03:37 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Bis(2-ethylhexyl)phthalate	47		2.0	µg/L	10	8/28/2013 07:01 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Caprolactam	0.37		0.20	µg/L	1	8/27/2013 03:37 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 03:37 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 8/21/2013 11:30 AM

Work Order: 13081020
Lab ID: 13081020-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 03:37 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 03:37 PM
Surr: 2,4,6-Tribromophenol	92.2		34-129	%REC	1	8/27/2013 03:37 PM
Surr: 2,4,6-Tribromophenol	88.5		34-129	%REC	10	8/28/2013 07:01 PM
Surr: 2-Fluorobiphenyl	87.5		40-125	%REC	10	8/28/2013 07:01 PM
Surr: 2-Fluorobiphenyl	78.2		40-125	%REC	1	8/27/2013 03:37 PM
Surr: 2-Fluorophenol	72.9		20-120	%REC	1	8/27/2013 03:37 PM
Surr: 2-Fluorophenol	78.4		20-120	%REC	10	8/28/2013 07:01 PM
Surr: 4-Terphenyl-d14	93.6		40-135	%REC	1	8/27/2013 03:37 PM
Surr: 4-Terphenyl-d14	99.8		40-135	%REC	10	8/28/2013 07:01 PM
Surr: Nitrobenzene-d5	80.2		41-120	%REC	1	8/27/2013 03:37 PM
Surr: Nitrobenzene-d5	82.9		41-120	%REC	10	8/28/2013 07:01 PM
Surr: Phenol-d6	75.4		20-120	%REC	1	8/27/2013 03:37 PM
Surr: Phenol-d6	76.2		20-120	%REC	10	8/28/2013 07:01 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 01:44 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 01:44 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 01:44 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 01:44 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 8/21/2013 11:30 AM

Work Order: 13081020
Lab ID: 13081020-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 01:44 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 01:44 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 01:44 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 01:44 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 01:44 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 01:44 PM
Surr: 1,2-Dichloroethane-d4	96.4		70-125	%REC	1	8/27/2013 01:44 PM
Surr: 4-Bromofluorobenzene	120		72-125	%REC	1	8/27/2013 01:44 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	8/27/2013 01:44 PM
Surr: Toluene-d8	107		75-125	%REC	1	8/27/2013 01:44 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	101		2.50	mg/L	5	8/29/2013 02:47 AM
Fluoride	0.513		0.100	mg/L	1	8/28/2013 04:19 AM
Sulfate	129		2.50	mg/L	5	8/29/2013 02:47 AM
Nitrate/Nitrite (as N)	9.49		1.00	mg/L	5	8/29/2013 08:22 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-8
Collection Date: 8/21/2013 11:30 AM

Work Order: 13081020
Lab ID: 13081020-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY-SM2320B						
			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO ₃)	363		6.00	mg/L	1	8/27/2013 09:49 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 09:49 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 09:49 PM
Alkalinity, Total (As CaCO ₃)	363		6.00	mg/L	1	8/27/2013 09:49 PM
SPECIFIC CONDUCTIVITY						
			M2510 B			Analyst: KL
Specific Conductivity	1,160		1.00	µmhos/cm	1	8/27/2013 09:49 PM
PH - SM4500H+ B						
			SM4500H+ B			Analyst: KL
pH	7.34	H	0.100	pH Units	1	8/27/2013 09:49 PM
TOTAL DISSOLVED SOLIDS						
			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	788		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 8/21/2013 02:10 PM

Work Order: 13081020
Lab ID: 13081020-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 03:56 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:07 PM
Arsenic	0.00590		0.00500	mg/L	1	8/27/2013 06:07 PM
Barium	0.159		0.00500	mg/L	1	8/27/2013 06:07 PM
Boron	0.265		0.0200	mg/L	1	8/27/2013 06:07 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:07 PM
Calcium	333		5.00	mg/L	10	8/28/2013 01:13 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:07 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Magnesium	40.6		0.200	mg/L	1	8/27/2013 06:07 PM
Manganese	0.705		0.00500	mg/L	1	8/27/2013 06:07 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Nickel	0.0209		0.00500	mg/L	1	8/27/2013 06:07 PM
Potassium	5.68		0.200	mg/L	1	8/27/2013 06:07 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:07 PM
Sodium	116		0.200	mg/L	1	8/27/2013 06:07 PM
Uranium	0.0153		0.00500	mg/L	1	8/27/2013 06:07 PM
Zinc	0.00931		0.00500	mg/L	1	8/27/2013 06:07 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	1.4		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 04:25 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 04:25 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 04:25 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 8/21/2013 02:10 PM

Work Order: 13081020
Lab ID: 13081020-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 04:25 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 04:25 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 04:25 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Bis(2-ethylhexyl)phthalate	120		5.0	µg/L	25	8/28/2013 06:20 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Dibenzofuran	0.32		0.20	µg/L	1	8/28/2013 04:25 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 04:25 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 8/21/2013 02:10 PM

Work Order: 13081020
Lab ID: 13081020-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 04:25 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 04:25 PM
Surr: 2,4,6-Tribromophenol	87.7		34-129	%REC	1	8/28/2013 04:25 PM
Surr: 2,4,6-Tribromophenol	93.5		34-129	%REC	25	8/28/2013 06:20 PM
Surr: 2-Fluorobiphenyl	86.7		40-125	%REC	25	8/28/2013 06:20 PM
Surr: 2-Fluorobiphenyl	74.8		40-125	%REC	1	8/28/2013 04:25 PM
Surr: 2-Fluorophenol	72.1		20-120	%REC	1	8/28/2013 04:25 PM
Surr: 2-Fluorophenol	68.0		20-120	%REC	25	8/28/2013 06:20 PM
Surr: 4-Terphenyl-d14	92.4		40-135	%REC	1	8/28/2013 04:25 PM
Surr: 4-Terphenyl-d14	100		40-135	%REC	25	8/28/2013 06:20 PM
Surr: Nitrobenzene-d5	83.3		41-120	%REC	1	8/28/2013 04:25 PM
Surr: Nitrobenzene-d5	76.5		41-120	%REC	25	8/28/2013 06:20 PM
Surr: Phenol-d6	83.5		20-120	%REC	1	8/28/2013 04:25 PM
Surr: Phenol-d6	67.0		20-120	%REC	25	8/28/2013 06:20 PM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 08:18 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 08:18 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 08:18 AM
Acetone	0.027		0.010	mg/L	1	8/28/2013 08:18 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 8/21/2013 02:10 PM

Work Order: 13081020
Lab ID: 13081020-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 08:18 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 08:18 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 08:18 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:18 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 08:18 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 08:18 AM
Surr: 1,2-Dichloroethane-d4	93.3		70-125	%REC	1	8/28/2013 08:18 AM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	8/28/2013 08:18 AM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/28/2013 08:18 AM
Surr: Toluene-d8	104		75-125	%REC	1	8/28/2013 08:18 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	548		5.00	mg/L	10	8/29/2013 03:31 AM
Fluoride	0.389		0.100	mg/L	1	8/28/2013 05:32 AM
Sulfate	108		5.00	mg/L	10	8/29/2013 03:31 AM
Nitrate/Nitrite (as N)	ND		1.00	mg/L	5	8/29/2013 09:05 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-13
Collection Date: 8/21/2013 02:10 PM

Work Order: 13081020
Lab ID: 13081020-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY-SM2320B						
			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO ₃)	451		6.00	mg/L	1	8/27/2013 11:24 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:24 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:24 PM
Alkalinity, Total (As CaCO ₃)	451		6.00	mg/L	1	8/27/2013 11:24 PM
SPECIFIC CONDUCTIVITY						
			M2510 B			Analyst: KL
Specific Conductivity	2,330		1.00	µmhos/cm	1	8/27/2013 11:24 PM
PH - SM4500H+ B						
			SM4500H+ B			Analyst: KL
pH	7.02	H	0.100	pH Units	1	8/27/2013 11:24 PM
TOTAL DISSOLVED SOLIDS						
			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	2,000		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 8/21/2013 03:45 PM

Work Order: 13081020
Lab ID: 13081020-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:03 PM
DISSOLVED METALS						
Aluminum	0.0158		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:12 PM
Arsenic	0.00589		0.00500	mg/L	1	8/27/2013 06:12 PM
Barium	0.102		0.00500	mg/L	1	8/27/2013 06:12 PM
Boron	0.187		0.0200	mg/L	1	8/27/2013 06:12 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:12 PM
Calcium	88.6		0.500	mg/L	1	8/27/2013 06:12 PM
Chromium	0.0160		0.00500	mg/L	1	8/27/2013 06:12 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:12 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Magnesium	9.06		0.200	mg/L	1	8/27/2013 06:12 PM
Manganese	1.32		0.00500	mg/L	1	8/27/2013 06:12 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Nickel	0.0164		0.00500	mg/L	1	8/27/2013 06:12 PM
Potassium	1.17		0.200	mg/L	1	8/27/2013 06:12 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Sodium	40.5		0.200	mg/L	1	8/27/2013 06:12 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:12 PM
Zinc	0.00641		0.00500	mg/L	1	8/27/2013 06:12 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 06:00 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 06:00 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 06:00 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 8/21/2013 03:45 PM

Work Order: 13081020
Lab ID: 13081020-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 06:00 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 06:00 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 06:00 PM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Acetophenone	0.29		0.20	µg/L	1	8/28/2013 06:00 PM
Anthracene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Atrazine	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Bis(2-ethylhexyl)phthalate	4.5		0.20	µg/L	1	8/28/2013 06:00 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Carbazole	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Chrysene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Fluorene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 06:00 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 8/21/2013 03:45 PM

Work Order: 13081020
Lab ID: 13081020-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Isophorone	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 06:00 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Phenol	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Pyrene	ND		0.20	µg/L	1	8/28/2013 06:00 PM
Surr: 2,4,6-Tribromophenol	89.9		34-129	%REC	1	8/28/2013 06:00 PM
Surr: 2-Fluorobiphenyl	81.7		40-125	%REC	1	8/28/2013 06:00 PM
Surr: 2-Fluorophenol	76.9		20-120	%REC	1	8/28/2013 06:00 PM
Surr: 4-Terphenyl-d14	88.6		40-135	%REC	1	8/28/2013 06:00 PM
Surr: Nitrobenzene-d5	82.6		41-120	%REC	1	8/28/2013 06:00 PM
Surr: Phenol-d6	86.4		20-120	%REC	1	8/28/2013 06:00 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 08:43 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 08:43 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 08:43 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 08:43 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 08:43 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 08:43 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 8/21/2013 03:45 PM

Work Order: 13081020
Lab ID: 13081020-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 08:43 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 08:43 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:43 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 08:43 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 08:43 AM
Surr: 1,2-Dichloroethane-d4	98.9		70-125	%REC	1	8/28/2013 08:43 AM
Surr: 4-Bromofluorobenzene	109		72-125	%REC	1	8/28/2013 08:43 AM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/28/2013 08:43 AM
Surr: Toluene-d8	104		75-125	%REC	1	8/28/2013 08:43 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	33.2		0.500	mg/L	1	8/28/2013 05:46 AM
Fluoride	1.03		0.100	mg/L	1	8/28/2013 05:46 AM
Sulfate	70.5		0.500	mg/L	1	8/28/2013 05:46 AM
Nitrate/Nitrite (as N)	ND		1.00	mg/L	5	8/29/2013 09:20 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	238		6.00	mg/L	1	8/27/2013 11:29 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:29 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:29 PM
Alkalinity, Total (As CaCO3)	238		6.00	mg/L	1	8/27/2013 11:29 PM

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

ALS Environmental**Date:** 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-1
Collection Date: 8/21/2013 03:45 PM

Work Order: 13081020
Lab ID: 13081020-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	618		1.00	µmhos/cm	1	8/27/2013 11:29 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.26	H	0.100	pH Units	1	8/27/2013 11:29 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	406		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 8/21/2013 05:05 PM

Work Order: 13081020
Lab ID: 13081020-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:05 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:17 PM
Arsenic	0.0101		0.00500	mg/L	1	8/27/2013 06:17 PM
Barium	0.153		0.00500	mg/L	1	8/27/2013 06:17 PM
Boron	0.175		0.0200	mg/L	1	8/27/2013 06:17 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:17 PM
Calcium	69.8		0.500	mg/L	1	8/27/2013 06:17 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:17 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Magnesium	7.47		0.200	mg/L	1	8/27/2013 06:17 PM
Manganese	0.0270		0.00500	mg/L	1	8/27/2013 06:17 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Potassium	2.54		0.200	mg/L	1	8/27/2013 06:17 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Sodium	51.5		0.200	mg/L	1	8/27/2013 06:17 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 06:17 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 07:54 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 07:54 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 07:54 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 8/21/2013 05:05 PM

Work Order: 13081020
Lab ID: 13081020-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 07:54 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 07:54 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 07:54 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Bis(2-ethylhexyl)phthalate	11		0.40	µg/L	2	8/28/2013 04:19 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 07:54 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 8/21/2013 05:05 PM

Work Order: 13081020
Lab ID: 13081020-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 07:54 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 07:54 PM
Surr: 2,4,6-Tribromophenol	94.9		34-129	%REC	1	8/27/2013 07:54 PM
Surr: 2,4,6-Tribromophenol	93.5		34-129	%REC	2	8/28/2013 04:19 PM
Surr: 2-Fluorobiphenyl	88.1		40-125	%REC	2	8/28/2013 04:19 PM
Surr: 2-Fluorobiphenyl	82.7		40-125	%REC	1	8/27/2013 07:54 PM
Surr: 2-Fluorophenol	71.2		20-120	%REC	1	8/27/2013 07:54 PM
Surr: 2-Fluorophenol	83.2		20-120	%REC	2	8/28/2013 04:19 PM
Surr: 4-Terphenyl-d14	94.4		40-135	%REC	1	8/27/2013 07:54 PM
Surr: 4-Terphenyl-d14	96.0		40-135	%REC	2	8/28/2013 04:19 PM
Surr: Nitrobenzene-d5	77.0		41-120	%REC	1	8/27/2013 07:54 PM
Surr: Nitrobenzene-d5	86.2		41-120	%REC	2	8/28/2013 04:19 PM
Surr: Phenol-d6	72.9		20-120	%REC	1	8/27/2013 07:54 PM
Surr: Phenol-d6	85.8		20-120	%REC	2	8/28/2013 04:19 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 09:09 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 09:09 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 09:09 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 09:09 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 8/21/2013 05:05 PM

Work Order: 13081020
Lab ID: 13081020-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 09:09 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 09:09 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 09:09 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:09 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 09:09 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 09:09 AM
Surr: 1,2-Dichloroethane-d4	97.5		70-125	%REC	1	8/28/2013 09:09 AM
Surr: 4-Bromofluorobenzene	108		72-125	%REC	1	8/28/2013 09:09 AM
Surr: Dibromofluoromethane	105		71-125	%REC	1	8/28/2013 09:09 AM
Surr: Toluene-d8	98.0		75-125	%REC	1	8/28/2013 09:09 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: JKP
Chloride	32.3		0.500	mg/L	1	8/28/2013 06:01 AM
Fluoride	1.28		0.100	mg/L	1	8/28/2013 06:01 AM
Sulfate	86.9		0.500	mg/L	1	8/28/2013 06:01 AM
Nitrate/Nitrite (as N)	1.50		1.00	mg/L	5	8/29/2013 09:34 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: RW-1
Collection Date: 8/21/2013 05:05 PM

Work Order: 13081020
Lab ID: 13081020-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY-SM2320B						
			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO ₃)	195		6.00	mg/L	1	8/27/2013 11:35 PM
Alkalinity, Carbonate (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:35 PM
Alkalinity, Hydroxide (As CaCO ₃)	ND		6.00	mg/L	1	8/27/2013 11:35 PM
Alkalinity, Total (As CaCO ₃)	195		6.00	mg/L	1	8/27/2013 11:35 PM
SPECIFIC CONDUCTIVITY						
			M2510 B			Analyst: KL
Specific Conductivity	588		1.00	µmhos/cm	1	8/27/2013 11:35 PM
PH - SM4500H+ B						
			SM4500H+ B			Analyst: KL
pH	7.52	H	0.100	pH Units	1	8/27/2013 11:35 PM
TOTAL DISSOLVED SOLIDS						
			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	392		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:07 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:22 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Barium	0.0857		0.00500	mg/L	1	8/27/2013 06:22 PM
Boron	0.241		0.0200	mg/L	1	8/27/2013 06:22 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:22 PM
Calcium	175		5.00	mg/L	10	8/28/2013 01:18 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:22 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Magnesium	18.0		0.200	mg/L	1	8/27/2013 06:22 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Potassium	3.67		0.200	mg/L	1	8/27/2013 06:22 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Sodium	156		0.200	mg/L	1	8/27/2013 06:22 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:22 PM
Zinc	0.00512		0.00500	mg/L	1	8/27/2013 06:22 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 08:14 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 08:14 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:14 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 08:14 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:14 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 08:14 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Bis(2-ethylhexyl)phthalate	0.31		0.20	µg/L	1	8/27/2013 08:14 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Di-n-octyl phthalate	0.24		0.20	µg/L	1	8/27/2013 08:14 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 08:14 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 08:14 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 08:14 PM
Surr: 2,4,6-Tribromophenol	92.7		34-129	%REC	1	8/27/2013 08:14 PM
Surr: 2-Fluorobiphenyl	77.6		40-125	%REC	1	8/27/2013 08:14 PM
Surr: 2-Fluorophenol	69.0		20-120	%REC	1	8/27/2013 08:14 PM
Surr: 4-Terphenyl-d14	89.4		40-135	%REC	1	8/27/2013 08:14 PM
Surr: Nitrobenzene-d5	65.8		41-120	%REC	1	8/27/2013 08:14 PM
Surr: Phenol-d6	69.1		20-120	%REC	1	8/27/2013 08:14 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 09:34 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 09:34 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 09:34 AM
Acetone	0.012		0.010	mg/L	1	8/28/2013 09:34 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 09:34 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 09:34 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 09:34 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 09:34 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:34 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 09:34 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 09:34 AM
Surr: 1,2-Dichloroethane-d4	98.4		70-125	%REC	1	8/28/2013 09:34 AM
Surr: 4-Bromofluorobenzene	106		72-125	%REC	1	8/28/2013 09:34 AM
Surr: Dibromofluoromethane	104		71-125	%REC	1	8/28/2013 09:34 AM
Surr: Toluene-d8	97.0		75-125	%REC	1	8/28/2013 09:34 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	487		2.50	mg/L	5	8/29/2013 03:45 AM
Fluoride	0.645		0.100	mg/L	1	8/28/2013 06:16 AM
Sulfate	92.6		0.500	mg/L	1	8/28/2013 06:16 AM
Nitrate/Nitrite (as N)	3.43		1.00	mg/L	5	8/29/2013 09:49 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	232		6.00	mg/L	1	8/27/2013 11:41 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:41 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:41 PM
Alkalinity, Total (As CaCO3)	232		6.00	mg/L	1	8/27/2013 11:41 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-19
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,790		1.00	µmhos/cm	1	8/27/2013 11:41 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.50	H	0.100	pH Units	1	8/27/2013 11:41 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,430		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-3
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-22
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:09 PM
DISSOLVED METALS						
Aluminum	0.0182		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:27 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Barium	0.0864		0.00500	mg/L	1	8/27/2013 06:27 PM
Boron	0.237		0.0200	mg/L	1	8/27/2013 06:27 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:27 PM
Calcium	177		5.00	mg/L	10	8/28/2013 01:23 PM
Chromium	0.0143		0.00500	mg/L	1	8/27/2013 06:27 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:27 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Magnesium	18.0		0.200	mg/L	1	8/27/2013 06:27 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Nickel	0.00900		0.00500	mg/L	1	8/27/2013 06:27 PM
Potassium	3.67		0.200	mg/L	1	8/27/2013 06:27 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Sodium	154		0.200	mg/L	1	8/27/2013 06:27 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 06:27 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 08:35 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 08:35 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:35 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-3
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-22
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 08:35 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:35 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 08:35 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Bis(2-ethylhexyl)phthalate	0.30		0.20	µg/L	1	8/27/2013 08:35 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Di-n-octyl phthalate	0.54		0.20	µg/L	1	8/27/2013 08:35 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 08:35 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-3
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-22
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 08:35 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 08:35 PM
Surr: 2,4,6-Tribromophenol	97.1		34-129	%REC	1	8/27/2013 08:35 PM
Surr: 2-Fluorobiphenyl	79.9		40-125	%REC	1	8/27/2013 08:35 PM
Surr: 2-Fluorophenol	73.3		20-120	%REC	1	8/27/2013 08:35 PM
Surr: 4-Terphenyl-d14	92.4		40-135	%REC	1	8/27/2013 08:35 PM
Surr: Nitrobenzene-d5	72.4		41-120	%REC	1	8/27/2013 08:35 PM
Surr: Phenol-d6	73.3		20-120	%REC	1	8/27/2013 08:35 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 09:59 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 09:59 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 09:59 AM
Acetone	0.011		0.010	mg/L	1	8/28/2013 09:59 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 09:59 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 09:59 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-3
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-22
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 09:59 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 09:59 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:59 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 09:59 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 09:59 AM
Surr: 1,2-Dichloroethane-d4	102		70-125	%REC	1	8/28/2013 09:59 AM
Surr: 4-Bromofluorobenzene	99.0		72-125	%REC	1	8/28/2013 09:59 AM
Surr: Dibromofluoromethane	108		71-125	%REC	1	8/28/2013 09:59 AM
Surr: Toluene-d8	97.2		75-125	%REC	1	8/28/2013 09:59 AM
ANIONS - EPA 300.0 (1993)			E300		Analyst: JKP	
Chloride	475		2.50	mg/L	5	8/29/2013 04:00 AM
Fluoride	0.672		0.100	mg/L	1	8/28/2013 06:30 AM
Sulfate	95.7		0.500	mg/L	1	8/28/2013 06:30 AM
Nitrate/Nitrite (as N)	3.38		1.00	mg/L	5	8/29/2013 10:33 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	233		6.00	mg/L	1	8/27/2013 11:47 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:47 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/27/2013 11:47 PM
Alkalinity, Total (As CaCO3)	233		6.00	mg/L	1	8/27/2013 11:47 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-3
Collection Date: 8/22/2013 11:42 AM

Work Order: 13081020
Lab ID: 13081020-22
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,800		1.00	µmhos/cm	1	8/27/2013 11:47 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.48	H	0.100	pH Units	1	8/27/2013 11:47 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,670		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 8/22/2013 02:22 PM

Work Order: 13081020
Lab ID: 13081020-23
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:32 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 05:28 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Barium	0.110		0.00500	mg/L	1	8/27/2013 05:28 PM
Boron	0.243		0.0200	mg/L	1	8/27/2013 05:28 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 05:28 PM
Calcium	182		5.00	mg/L	10	8/28/2013 12:44 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Iron	ND		0.200	mg/L	1	8/27/2013 05:28 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Magnesium	16.6		0.200	mg/L	1	8/27/2013 05:28 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Nickel	0.00509		0.00500	mg/L	1	8/27/2013 05:28 PM
Potassium	2.66		0.200	mg/L	1	8/27/2013 05:28 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Sodium	73.9		0.200	mg/L	1	8/27/2013 05:28 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 05:28 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 03:44 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 03:44 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:44 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 8/22/2013 02:22 PM

Work Order: 13081020
Lab ID: 13081020-23
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 03:44 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 03:44 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 03:44 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Bis(2-ethylhexyl)phthalate	0.29		0.20	µg/L	1	8/27/2013 03:44 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Di-n-octyl phthalate	0.38		0.20	µg/L	1	8/27/2013 03:44 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 03:44 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 8/22/2013 02:22 PM

Work Order: 13081020
Lab ID: 13081020-23
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 03:44 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 03:44 PM
Surr: 2,4,6-Tribromophenol	98.3		34-129	%REC	1	8/27/2013 03:44 PM
Surr: 2-Fluorobiphenyl	83.2		40-125	%REC	1	8/27/2013 03:44 PM
Surr: 2-Fluorophenol	72.5		20-120	%REC	1	8/27/2013 03:44 PM
Surr: 4-Terphenyl-d14	107		40-135	%REC	1	8/27/2013 03:44 PM
Surr: Nitrobenzene-d5	78.5		41-120	%REC	1	8/27/2013 03:44 PM
Surr: Phenol-d6	72.1		20-120	%REC	1	8/27/2013 03:44 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 03:14 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 03:14 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 03:14 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 03:14 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 03:14 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 03:14 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 8/22/2013 02:22 PM

Work Order: 13081020
Lab ID: 13081020-23
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 03:14 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 03:14 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:14 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 03:14 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 03:14 AM
Surr: 1,2-Dichloroethane-d4	98.4		70-125	%REC	1	8/28/2013 03:14 AM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	8/28/2013 03:14 AM
Surr: Dibromofluoromethane	100		71-125	%REC	1	8/28/2013 03:14 AM
Surr: Toluene-d8	87.5		75-125	%REC	1	8/28/2013 03:14 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	197		2.50	mg/L	5	8/30/2013 04:02 PM
Fluoride	0.531		0.500	mg/L	5	8/30/2013 04:02 PM
Sulfate	130		2.50	mg/L	5	8/30/2013 04:02 PM
Nitrate/Nitrite (as N)	5.59		1.00	mg/L	5	8/29/2013 10:47 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	263		6.00	mg/L	1	8/28/2013 01:59 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 01:59 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 01:59 PM
Alkalinity, Total (As CaCO3)	263		6.00	mg/L	1	8/28/2013 01:59 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-18
Collection Date: 8/22/2013 02:22 PM

Work Order: 13081020
Lab ID: 13081020-23
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,340		1.00	µmhos/cm	1	8/28/2013 01:59 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.41	H	0.100	pH Units	1	8/28/2013 01:59 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,100		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-24
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:41 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:32 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Barium	0.224		0.00500	mg/L	1	8/27/2013 06:32 PM
Boron	0.262		0.0200	mg/L	1	8/27/2013 06:32 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:32 PM
Calcium	204		5.00	mg/L	10	8/28/2013 01:28 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:32 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Magnesium	24.8		0.200	mg/L	1	8/27/2013 06:32 PM
Manganese	0.0122		0.00500	mg/L	1	8/27/2013 06:32 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Nickel	0.0210		0.00500	mg/L	1	8/27/2013 06:32 PM
Potassium	4.84		0.200	mg/L	1	8/27/2013 06:32 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
Sodium	110		0.200	mg/L	1	8/27/2013 06:32 PM
Uranium	0.00862		0.00500	mg/L	1	8/27/2013 06:32 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 06:32 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 08:55 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 08:55 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:55 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-24
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 08:55 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 08:55 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 08:55 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Bis(2-ethylhexyl)phthalate	0.41		0.20	µg/L	1	8/27/2013 08:55 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 08:55 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-24
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 08:55 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 08:55 PM
Surr: 2,4,6-Tribromophenol	93.4		34-129	%REC	1	8/27/2013 08:55 PM
Surr: 2-Fluorobiphenyl	79.5		40-125	%REC	1	8/27/2013 08:55 PM
Surr: 2-Fluorophenol	64.7		20-120	%REC	1	8/27/2013 08:55 PM
Surr: 4-Terphenyl-d14	91.5		40-135	%REC	1	8/27/2013 08:55 PM
Surr: Nitrobenzene-d5	79.2		41-120	%REC	1	8/27/2013 08:55 PM
Surr: Phenol-d6	71.2		20-120	%REC	1	8/27/2013 08:55 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 10:25 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 10:25 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 10:25 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 10:25 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 10:25 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 10:25 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-24
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 10:25 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 10:25 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:25 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 10:25 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 10:25 AM
Surr: 1,2-Dichloroethane-d4	106		70-125	%REC	1	8/28/2013 10:25 AM
Surr: 4-Bromofluorobenzene	111		72-125	%REC	1	8/28/2013 10:25 AM
Surr: Dibromofluoromethane	110		71-125	%REC	1	8/28/2013 10:25 AM
Surr: Toluene-d8	107		75-125	%REC	1	8/28/2013 10:25 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	314		5.00	mg/L	10	8/30/2013 01:41 AM
Fluoride	0.696		0.100	mg/L	1	8/30/2013 12:09 PM
Sulfate	74.7		0.500	mg/L	1	8/30/2013 12:09 PM
Nitrate/Nitrite (as N)	3.36		1.00	mg/L	5	8/30/2013 06:53 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	373		6.00	mg/L	1	8/28/2013 02:10 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:10 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:10 PM
Alkalinity, Total (As CaCO3)	373		6.00	mg/L	1	8/28/2013 02:10 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-25
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-24
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,710		1.00	µmhos/cm	1	8/28/2013 02:10 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.33	H	0.100	pH Units	1	8/28/2013 02:10 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,350		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-4
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-25
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:43 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:47 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Barium	0.226		0.00500	mg/L	1	8/27/2013 06:47 PM
Boron	0.263		0.0200	mg/L	1	8/27/2013 06:47 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:47 PM
Calcium	204		5.00	mg/L	10	8/28/2013 01:33 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:47 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Magnesium	24.7		0.200	mg/L	1	8/27/2013 06:47 PM
Manganese	0.0127		0.00500	mg/L	1	8/27/2013 06:47 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Nickel	0.0210		0.00500	mg/L	1	8/27/2013 06:47 PM
Potassium	4.86		0.200	mg/L	1	8/27/2013 06:47 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:47 PM
Sodium	108		0.200	mg/L	1	8/27/2013 06:47 PM
Uranium	0.00860		0.00500	mg/L	1	8/27/2013 06:47 PM
Zinc	0.00607		0.00500	mg/L	1	8/27/2013 06:47 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 09:15 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 09:15 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:15 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-4
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-25
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 09:15 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:15 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 09:15 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Bis(2-ethylhexyl)phthalate	0.32		0.20	µg/L	1	8/27/2013 09:15 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 09:15 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-4
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-25
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 09:15 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 09:15 PM
Surr: 2,4,6-Tribromophenol	99.2		34-129	%REC	1	8/27/2013 09:15 PM
Surr: 2-Fluorobiphenyl	82.9		40-125	%REC	1	8/27/2013 09:15 PM
Surr: 2-Fluorophenol	62.9		20-120	%REC	1	8/27/2013 09:15 PM
Surr: 4-Terphenyl-d14	90.7		40-135	%REC	1	8/27/2013 09:15 PM
Surr: Nitrobenzene-d5	82.9		41-120	%REC	1	8/27/2013 09:15 PM
Surr: Phenol-d6	78.1		20-120	%REC	1	8/27/2013 09:15 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 10:50 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 10:50 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 10:50 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 10:50 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 10:50 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 10:50 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-4
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-25
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 10:50 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 10:50 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:50 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 10:50 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 10:50 AM
Surr: 1,2-Dichloroethane-d4	100		70-125	%REC	1	8/28/2013 10:50 AM
Surr: 4-Bromofluorobenzene	109		72-125	%REC	1	8/28/2013 10:50 AM
Surr: Dibromofluoromethane	102		71-125	%REC	1	8/28/2013 10:50 AM
Surr: Toluene-d8	101		75-125	%REC	1	8/28/2013 10:50 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	310		5.00	mg/L	10	8/30/2013 02:59 AM
Fluoride	0.684		0.100	mg/L	1	8/30/2013 12:35 PM
Sulfate	74.3		0.500	mg/L	1	8/30/2013 12:35 PM
Nitrate/Nitrite (as N)	3.42		1.00	mg/L	5	8/30/2013 08:05 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	375		6.00	mg/L	1	8/28/2013 02:20 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:20 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:20 PM
Alkalinity, Total (As CaCO3)	375		6.00	mg/L	1	8/28/2013 02:20 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-4
Collection Date: 8/22/2013 05:32 PM

Work Order: 13081020
Lab ID: 13081020-25
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,700		1.00	µmhos/cm	1	8/28/2013 02:20 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.25	H	0.100	pH Units	1	8/28/2013 02:20 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,350		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-26
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:45 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:52 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Barium	0.232		0.00500	mg/L	1	8/27/2013 06:52 PM
Boron	0.194		0.0200	mg/L	1	8/27/2013 06:52 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:52 PM
Calcium	178		0.500	mg/L	1	8/27/2013 06:52 PM
Chromium	0.00594		0.00500	mg/L	1	8/27/2013 06:52 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:52 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Magnesium	22.4		0.200	mg/L	1	8/27/2013 06:52 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Potassium	4.24		0.200	mg/L	1	8/27/2013 06:52 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Sodium	129		0.200	mg/L	1	8/27/2013 06:52 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:52 PM
Zinc	0.00854		0.00500	mg/L	1	8/27/2013 06:52 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 09:36 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 09:36 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:36 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-26
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 09:36 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:36 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 09:36 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Atrazine	0.89		0.20	µg/L	1	8/27/2013 09:36 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Bis(2-ethylhexyl)phthalate	0.34		0.20	µg/L	1	8/27/2013 09:36 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Di-n-octyl phthalate	0.38		0.20	µg/L	1	8/27/2013 09:36 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 09:36 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-26
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 09:36 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 09:36 PM
Surr: 2,4,6-Tribromophenol	92.2		34-129	%REC	1	8/27/2013 09:36 PM
Surr: 2-Fluorobiphenyl	70.9		40-125	%REC	1	8/27/2013 09:36 PM
Surr: 2-Fluorophenol	56.5		20-120	%REC	1	8/27/2013 09:36 PM
Surr: 4-Terphenyl-d14	86.3		40-135	%REC	1	8/27/2013 09:36 PM
Surr: Nitrobenzene-d5	71.7		41-120	%REC	1	8/27/2013 09:36 PM
Surr: Phenol-d6	65.7		20-120	%REC	1	8/27/2013 09:36 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 11:15 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 11:15 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 11:15 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 11:15 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 11:15 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 11:15 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-26
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Chloroform	0.0060		0.0050	mg/L	1	8/28/2013 11:15 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 11:15 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 11:15 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:15 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 11:15 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 11:15 AM
Surr: 1,2-Dichloroethane-d4	98.1		70-125	%REC	1	8/28/2013 11:15 AM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	8/28/2013 11:15 AM
Surr: Dibromofluoromethane	104		71-125	%REC	1	8/28/2013 11:15 AM
Surr: Toluene-d8	98.5		75-125	%REC	1	8/28/2013 11:15 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	379		5.00	mg/L	10	8/30/2013 03:25 AM
Fluoride	0.910		0.100	mg/L	1	8/30/2013 01:00 PM
Sulfate	71.3		0.500	mg/L	1	8/30/2013 01:00 PM
Nitrate/Nitrite (as N)	6.82		1.00	mg/L	5	8/30/2013 08:29 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	192		6.00	mg/L	1	8/28/2013 02:26 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:26 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:26 PM
Alkalinity, Total (As CaCO3)	192		6.00	mg/L	1	8/28/2013 02:26 PM

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

ALS Environmental**Date:** 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-15
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-26
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,640		1.00	µmhos/cm	1	8/28/2013 02:26 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.58	H	0.100	pH Units	1	8/28/2013 02:26 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,280		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-1
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-27
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:47 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 06:57 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Barium	0.232		0.00500	mg/L	1	8/27/2013 06:57 PM
Boron	0.188		0.0200	mg/L	1	8/27/2013 06:57 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 06:57 PM
Calcium	178		0.500	mg/L	1	8/27/2013 06:57 PM
Chromium	0.00582		0.00500	mg/L	1	8/27/2013 06:57 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Iron	ND		0.200	mg/L	1	8/27/2013 06:57 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Magnesium	22.0		0.200	mg/L	1	8/27/2013 06:57 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Potassium	4.20		0.200	mg/L	1	8/27/2013 06:57 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Sodium	127		0.200	mg/L	1	8/27/2013 06:57 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 06:57 PM
Zinc	0.00619		0.00500	mg/L	1	8/27/2013 06:57 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 09:56 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 09:56 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:56 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-1
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-27
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 09:56 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 09:56 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 09:56 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Atrazine	1.0		0.20	µg/L	1	8/27/2013 09:56 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Bis(2-ethylhexyl)phthalate	0.27		0.20	µg/L	1	8/27/2013 09:56 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Di-n-octyl phthalate	0.30		0.20	µg/L	1	8/27/2013 09:56 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 09:56 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-1
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-27
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 09:56 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 09:56 PM
Surr: 2,4,6-Tribromophenol	86.1		34-129	%REC	1	8/27/2013 09:56 PM
Surr: 2-Fluorobiphenyl	73.4		40-125	%REC	1	8/27/2013 09:56 PM
Surr: 2-Fluorophenol	59.0		20-120	%REC	1	8/27/2013 09:56 PM
Surr: 4-Terphenyl-d14	89.9		40-135	%REC	1	8/27/2013 09:56 PM
Surr: Nitrobenzene-d5	77.9		41-120	%REC	1	8/27/2013 09:56 PM
Surr: Phenol-d6	57.6		20-120	%REC	1	8/27/2013 09:56 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 11:41 AM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 11:41 AM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 11:41 AM
Acetone	ND		0.010	mg/L	1	8/28/2013 11:41 AM
Benzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 11:41 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 11:41 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-1
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-27
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Chloroform	0.0056		0.0050	mg/L	1	8/28/2013 11:41 AM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 11:41 AM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 11:41 AM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Styrene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Toluene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 11:41 AM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 11:41 AM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 11:41 AM
Surr: 1,2-Dichloroethane-d4	107		70-125	%REC	1	8/28/2013 11:41 AM
Surr: 4-Bromofluorobenzene	98.5		72-125	%REC	1	8/28/2013 11:41 AM
Surr: Dibromofluoromethane	110		71-125	%REC	1	8/28/2013 11:41 AM
Surr: Toluene-d8	104		75-125	%REC	1	8/28/2013 11:41 AM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	381		5.00	mg/L	10	8/30/2013 03:50 AM
Fluoride	0.931		0.100	mg/L	1	8/30/2013 01:26 PM
Sulfate	72.7		0.500	mg/L	1	8/30/2013 01:26 PM
Nitrate/Nitrite (as N)	6.83		1.00	mg/L	5	8/30/2013 08:53 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	192		6.00	mg/L	1	8/28/2013 02:31 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:31 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:31 PM
Alkalinity, Total (As CaCO3)	192		6.00	mg/L	1	8/28/2013 02:31 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: DUP-1
Collection Date: 8/20/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-27
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,650		1.00	µmhos/cm	1	8/28/2013 02:31 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.57	H	0.100	pH Units	1	8/28/2013 02:31 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,230		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 8/20/2013 10:50 AM

Work Order: 13081020
Lab ID: 13081020-28
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:53 PM
DISSOLVED METALS						
Aluminum	0.0260		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:02 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Barium	0.105		0.00500	mg/L	1	8/27/2013 07:02 PM
Boron	0.192		0.0200	mg/L	1	8/27/2013 07:02 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:02 PM
Calcium	87.6		0.500	mg/L	1	8/27/2013 07:02 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:02 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Magnesium	9.42		0.200	mg/L	1	8/27/2013 07:02 PM
Manganese	0.0219		0.00500	mg/L	1	8/27/2013 07:02 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Nickel	0.0177		0.00500	mg/L	1	8/27/2013 07:02 PM
Potassium	2.17		0.200	mg/L	1	8/27/2013 07:02 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Sodium	38.1		0.200	mg/L	1	8/27/2013 07:02 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 07:02 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 10:17 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 10:17 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:17 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 8/20/2013 10:50 AM

Work Order: 13081020
Lab ID: 13081020-28
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 10:17 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:17 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 10:17 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Bis(2-ethylhexyl)phthalate	0.35		0.20	µg/L	1	8/27/2013 10:17 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 10:17 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 8/20/2013 10:50 AM

Work Order: 13081020
Lab ID: 13081020-28
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 10:17 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 10:17 PM
Surr: 2,4,6-Tribromophenol	90.5		34-129	%REC	1	8/27/2013 10:17 PM
Surr: 2-Fluorobiphenyl	74.4		40-125	%REC	1	8/27/2013 10:17 PM
Surr: 2-Fluorophenol	67.7		20-120	%REC	1	8/27/2013 10:17 PM
Surr: 4-Terphenyl-d14	90.8		40-135	%REC	1	8/27/2013 10:17 PM
Surr: Nitrobenzene-d5	79.5		41-120	%REC	1	8/27/2013 10:17 PM
Surr: Phenol-d6	69.8		20-120	%REC	1	8/27/2013 10:17 PM
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 04:34 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 04:34 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 04:34 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 04:34 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 04:34 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 04:34 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 8/20/2013 10:50 AM

Work Order: 13081020
Lab ID: 13081020-28
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 04:34 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 04:34 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:34 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 04:34 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 04:34 PM
Surr: 1,2-Dichloroethane-d4	97.7		70-125	%REC	1	8/28/2013 04:34 PM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	8/28/2013 04:34 PM
Surr: Dibromofluoromethane	109		71-125	%REC	1	8/28/2013 04:34 PM
Surr: Toluene-d8	104		75-125	%REC	1	8/28/2013 04:34 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	24.7		0.500	mg/L	1	8/30/2013 04:16 AM
Fluoride	1.02		0.100	mg/L	1	8/30/2013 04:16 AM
Sulfate	64.0		0.500	mg/L	1	8/30/2013 04:16 AM
Nitrate/Nitrite (as N)	1.75		1.00	mg/L	5	8/30/2013 09:18 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	234		6.00	mg/L	1	8/28/2013 02:37 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:37 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:37 PM
Alkalinity, Total (As CaCO3)	234		6.00	mg/L	1	8/28/2013 02:37 PM

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

ALS Environmental**Date:** 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-16
Collection Date: 8/20/2013 10:50 AM

Work Order: 13081020
Lab ID: 13081020-28
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	617		1.00	µmhos/cm	1	8/28/2013 02:37 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.67	H	0.100	pH Units	1	8/28/2013 02:37 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	392		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 8/20/2013 11:50 AM

Work Order: 13081020
Lab ID: 13081020-29
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:55 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:07 PM
Arsenic	0.00500		0.00500	mg/L	1	8/27/2013 07:07 PM
Barium	0.0902		0.00500	mg/L	1	8/27/2013 07:07 PM
Boron	0.156		0.0200	mg/L	1	8/27/2013 07:07 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:07 PM
Calcium	77.0		0.500	mg/L	1	8/27/2013 07:07 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:07 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Magnesium	8.84		0.200	mg/L	1	8/27/2013 07:07 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Potassium	2.33		0.200	mg/L	1	8/27/2013 07:07 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Sodium	36.4		0.200	mg/L	1	8/27/2013 07:07 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 07:07 PM
Zinc	0.00506		0.00500	mg/L	1	8/27/2013 07:07 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 10:37 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 10:37 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:37 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 8/20/2013 11:50 AM

Work Order: 13081020
Lab ID: 13081020-29
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 10:37 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:37 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 10:37 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Bis(2-ethylhexyl)phthalate	7.0		0.20	µg/L	1	8/27/2013 10:37 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Caprolactam	0.20		0.20	µg/L	1	8/27/2013 10:37 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 10:37 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 8/20/2013 11:50 AM

Work Order: 13081020
Lab ID: 13081020-29
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 10:37 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 10:37 PM
Surr: 2,4,6-Tribromophenol	100		34-129	%REC	1	8/27/2013 10:37 PM
Surr: 2-Fluorobiphenyl	80.2		40-125	%REC	1	8/27/2013 10:37 PM
Surr: 2-Fluorophenol	75.5		20-120	%REC	1	8/27/2013 10:37 PM
Surr: 4-Terphenyl-d14	90.5		40-135	%REC	1	8/27/2013 10:37 PM
Surr: Nitrobenzene-d5	81.5		41-120	%REC	1	8/27/2013 10:37 PM
Surr: Phenol-d6	75.7		20-120	%REC	1	8/27/2013 10:37 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:07 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:07 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:07 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 07:07 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:07 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:07 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 8/20/2013 11:50 AM

Work Order: 13081020
Lab ID: 13081020-29
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:07 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:07 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:07 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:07 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:07 PM
Surr: 1,2-Dichloroethane-d4	98.5		70-125	%REC	1	8/28/2013 07:07 PM
Surr: 4-Bromofluorobenzene	99.0		72-125	%REC	1	8/28/2013 07:07 PM
Surr: Dibromofluoromethane	105		71-125	%REC	1	8/28/2013 07:07 PM
Surr: Toluene-d8	90.3		75-125	%REC	1	8/28/2013 07:07 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: EDG	
Chloride	26.4		0.500	mg/L	1	8/30/2013 04:42 AM
Fluoride	1.20		0.100	mg/L	1	8/30/2013 04:42 AM
Sulfate	71.6		0.500	mg/L	1	8/30/2013 04:42 AM
Nitrate/Nitrite (as N)	1.72		1.00	mg/L	5	8/30/2013 09:42 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	201		6.00	mg/L	1	8/28/2013 02:43 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:43 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:43 PM
Alkalinity, Total (As CaCO3)	201		6.00	mg/L	1	8/28/2013 02:43 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-4
Collection Date: 8/20/2013 11:50 AM

Work Order: 13081020
Lab ID: 13081020-29
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	578		1.00	µmhos/cm	1	8/28/2013 02:43 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.75	H	0.100	pH Units	1	8/28/2013 02:43 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	382		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-30
Collection Date: 8/20/2013 01:25 PM

Work Order: 13081020
Lab ID: 13081020-30
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:57 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:11 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Barium	0.0761		0.00500	mg/L	1	8/27/2013 07:11 PM
Boron	0.159		0.0200	mg/L	1	8/27/2013 07:11 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:11 PM
Calcium	92.4		0.500	mg/L	1	8/27/2013 07:11 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:11 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Magnesium	11.6		0.200	mg/L	1	8/27/2013 07:11 PM
Manganese	0.0589		0.00500	mg/L	1	8/27/2013 07:11 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Nickel	0.0263		0.00500	mg/L	1	8/27/2013 07:11 PM
Potassium	2.35		0.200	mg/L	1	8/27/2013 07:11 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Sodium	37.8		0.200	mg/L	1	8/27/2013 07:11 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 07:11 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 10:57 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 10:57 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:57 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-30
Collection Date: 8/20/2013 01:25 PM

Work Order: 13081020
Lab ID: 13081020-30
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 10:57 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 10:57 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 10:57 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Bis(2-ethylhexyl)phthalate	0.26		0.20	µg/L	1	8/27/2013 10:57 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Di-n-butyl phthalate	0.25		0.20	µg/L	1	8/27/2013 10:57 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 10:57 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-30
Collection Date: 8/20/2013 01:25 PM

Work Order: 13081020
Lab ID: 13081020-30
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 10:57 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 10:57 PM
Surr: 2,4,6-Tribromophenol	101		34-129	%REC	1	8/27/2013 10:57 PM
Surr: 2-Fluorobiphenyl	89.0		40-125	%REC	1	8/27/2013 10:57 PM
Surr: 2-Fluorophenol	78.1		20-120	%REC	1	8/27/2013 10:57 PM
Surr: 4-Terphenyl-d14	93.9		40-135	%REC	1	8/27/2013 10:57 PM
Surr: Nitrobenzene-d5	81.9		41-120	%REC	1	8/27/2013 10:57 PM
Surr: Phenol-d6	72.4		20-120	%REC	1	8/27/2013 10:57 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:32 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:32 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:32 PM
Acetone	0.028		0.010	mg/L	1	8/28/2013 07:32 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:32 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:32 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-30
Collection Date: 8/20/2013 01:25 PM

Work Order: 13081020
Lab ID: 13081020-30
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:32 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:32 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:32 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:32 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:32 PM
Surr: 1,2-Dichloroethane-d4	96.9		70-125	%REC	1	8/28/2013 07:32 PM
Surr: 4-Bromofluorobenzene	101		72-125	%REC	1	8/28/2013 07:32 PM
Surr: Dibromofluoromethane	107		71-125	%REC	1	8/28/2013 07:32 PM
Surr: Toluene-d8	103		75-125	%REC	1	8/28/2013 07:32 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	63.7		0.500	mg/L	1	8/30/2013 06:00 AM
Fluoride	1.59		0.100	mg/L	1	8/30/2013 06:00 AM
Sulfate	87.0		0.500	mg/L	1	8/30/2013 06:00 AM
Nitrate/Nitrite (as N)	2.85		1.00	mg/L	5	8/30/2013 10:06 AM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	189		6.00	mg/L	1	8/28/2013 02:49 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:49 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:49 PM
Alkalinity, Total (As CaCO3)	189		6.00	mg/L	1	8/28/2013 02:49 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-30
Collection Date: 8/20/2013 01:25 PM

Work Order: 13081020
Lab ID: 13081020-30
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	703		1.00	µmhos/cm	1	8/28/2013 02:49 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.71	H	0.100	pH Units	1	8/28/2013 02:49 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	438		10.0	mg/L	1	8/27/2013 10:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 8/21/2013 06:25 PM

Work Order: 13081020
Lab ID: 13081020-31
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 04:59 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:41 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Barium	0.220		0.00500	mg/L	1	8/27/2013 07:41 PM
Boron	0.178		0.0200	mg/L	1	8/27/2013 07:41 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:41 PM
Calcium	73.9		0.500	mg/L	1	8/27/2013 07:41 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:41 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Magnesium	7.37		0.200	mg/L	1	8/27/2013 07:41 PM
Manganese	0.365		0.00500	mg/L	1	8/27/2013 07:41 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Potassium	2.32		0.200	mg/L	1	8/27/2013 07:41 PM
Selenium	0.00600		0.00500	mg/L	1	8/27/2013 07:41 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Sodium	41.6		0.200	mg/L	1	8/27/2013 07:41 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 07:41 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 11:18 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 11:18 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:18 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 8/21/2013 06:25 PM

Work Order: 13081020
Lab ID: 13081020-31
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 11:18 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:18 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 11:18 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Bis(2-ethylhexyl)phthalate	4.9		0.20	µg/L	1	8/27/2013 11:18 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 11:18 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 8/21/2013 06:25 PM

Work Order: 13081020
Lab ID: 13081020-31
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 11:18 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 11:18 PM
Surr: 2,4,6-Tribromophenol	92.7		34-129	%REC	1	8/27/2013 11:18 PM
Surr: 2-Fluorobiphenyl	82.8		40-125	%REC	1	8/27/2013 11:18 PM
Surr: 2-Fluorophenol	71.0		20-120	%REC	1	8/27/2013 11:18 PM
Surr: 4-Terphenyl-d14	86.6		40-135	%REC	1	8/27/2013 11:18 PM
Surr: Nitrobenzene-d5	79.9		41-120	%REC	1	8/27/2013 11:18 PM
Surr: Phenol-d6	64.6		20-120	%REC	1	8/27/2013 11:18 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 04:09 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 04:09 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 04:09 PM
Acetone	0.020		0.010	mg/L	1	8/28/2013 04:09 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 04:09 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 04:09 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 8/21/2013 06:25 PM

Work Order: 13081020
Lab ID: 13081020-31
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 04:09 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 04:09 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 04:09 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 04:09 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 04:09 PM
Surr: 1,2-Dichloroethane-d4	97.8		70-125	%REC	1	8/28/2013 04:09 PM
Surr: 4-Bromofluorobenzene	91.3		72-125	%REC	1	8/28/2013 04:09 PM
Surr: Dibromofluoromethane	102		71-125	%REC	1	8/28/2013 04:09 PM
Surr: Toluene-d8	92.8		75-125	%REC	1	8/28/2013 04:09 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: EDG	
Chloride	26.9		0.500	mg/L	1	8/30/2013 06:25 AM
Fluoride	0.748		0.100	mg/L	1	8/30/2013 06:25 AM
Sulfate	60.8		0.500	mg/L	1	8/30/2013 06:25 AM
Nitrate/Nitrite (as N)	1.62		1.00	mg/L	5	8/30/2013 10:30 AM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	206		6.00	mg/L	1	8/28/2013 02:54 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:54 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 02:54 PM
Alkalinity, Total (As CaCO3)	206		6.00	mg/L	1	8/28/2013 02:54 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-7
Collection Date: 8/21/2013 06:25 PM

Work Order: 13081020
Lab ID: 13081020-31
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	576		1.00	µmhos/cm	1	8/28/2013 02:54 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.42	H	0.100	pH Units	1	8/28/2013 02:54 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	290		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 8/21/2013 06:50 PM

Work Order: 13081020
Lab ID: 13081020-32
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:01 PM
DISSOLVED METALS						
Aluminum	0.0244		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:46 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Barium	0.129		0.00500	mg/L	1	8/27/2013 07:46 PM
Boron	0.198		0.0200	mg/L	1	8/27/2013 07:46 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:46 PM
Calcium	93.5		0.500	mg/L	1	8/27/2013 07:46 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:46 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Magnesium	10.7		0.200	mg/L	1	8/27/2013 07:46 PM
Manganese	1.68		0.00500	mg/L	1	8/27/2013 07:46 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Potassium	2.75		0.200	mg/L	1	8/27/2013 07:46 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
Sodium	58.0		0.200	mg/L	1	8/27/2013 07:46 PM
Uranium	0.00606		0.00500	mg/L	1	8/27/2013 07:46 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 07:46 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 11:38 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 11:38 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 8/21/2013 06:50 PM

Work Order: 13081020
Lab ID: 13081020-32
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 11:38 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:38 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 11:38 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Bis(2-ethylhexyl)phthalate	1.9		0.20	µg/L	1	8/27/2013 11:38 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Caprolactam	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 11:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 8/21/2013 06:50 PM

Work Order: 13081020
Lab ID: 13081020-32
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 11:38 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Phenol	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 11:38 PM
Surr: 2,4,6-Tribromophenol	106		34-129	%REC	1	8/27/2013 11:38 PM
Surr: 2-Fluorobiphenyl	82.0		40-125	%REC	1	8/27/2013 11:38 PM
Surr: 2-Fluorophenol	76.9		20-120	%REC	1	8/27/2013 11:38 PM
Surr: 4-Terphenyl-d14	91.8		40-135	%REC	1	8/27/2013 11:38 PM
Surr: Nitrobenzene-d5	78.6		41-120	%REC	1	8/27/2013 11:38 PM
Surr: Phenol-d6	77.9		20-120	%REC	1	8/27/2013 11:38 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 07:58 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 07:58 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 07:58 PM
Acetone	0.041		0.010	mg/L	1	8/28/2013 07:58 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 07:58 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 07:58 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 8/21/2013 06:50 PM

Work Order: 13081020
Lab ID: 13081020-32
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 07:58 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 07:58 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 07:58 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 07:58 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 07:58 PM
Surr: 1,2-Dichloroethane-d4	100		70-125	%REC	1	8/28/2013 07:58 PM
Surr: 4-Bromofluorobenzene	91.2		72-125	%REC	1	8/28/2013 07:58 PM
Surr: Dibromofluoromethane	104		71-125	%REC	1	8/28/2013 07:58 PM
Surr: Toluene-d8	112		75-125	%REC	1	8/28/2013 07:58 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	43.3		0.500	mg/L	1	8/30/2013 06:51 AM
Fluoride	0.441		0.100	mg/L	1	8/30/2013 06:51 AM
Sulfate	76.6		0.500	mg/L	1	8/30/2013 06:51 AM
Nitrate/Nitrite (as N)	ND		0.200	mg/L	1	8/30/2013 03:21 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	280		6.00	mg/L	1	8/28/2013 03:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:00 PM
Alkalinity, Total (As CaCO3)	280		6.00	mg/L	1	8/28/2013 03:00 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-6
Collection Date: 8/21/2013 06:50 PM

Work Order: 13081020
Lab ID: 13081020-32
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	753		1.00	µmhos/cm	1	8/28/2013 03:00 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.28	H	0.100	pH Units	1	8/28/2013 03:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	502		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 8/22/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-33
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:03 PM
DISSOLVED METALS						
Aluminum	0.0319		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:51 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Barium	0.0910		0.00500	mg/L	1	8/27/2013 07:51 PM
Boron	0.209		0.0200	mg/L	1	8/27/2013 07:51 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:51 PM
Calcium	190		5.00	mg/L	10	8/28/2013 01:38 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:51 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Magnesium	23.7		0.200	mg/L	1	8/27/2013 07:51 PM
Manganese	0.0174		0.00500	mg/L	1	8/27/2013 07:51 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Nickel	0.00539		0.00500	mg/L	1	8/27/2013 07:51 PM
Potassium	3.15		0.200	mg/L	1	8/27/2013 07:51 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:51 PM
Sodium	75.8		0.200	mg/L	1	8/27/2013 07:51 PM
Uranium	0.00577		0.00500	mg/L	1	8/27/2013 07:51 PM
Zinc	0.00877		0.00500	mg/L	1	8/27/2013 07:51 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/27/2013 11:59 PM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/27/2013 11:59 PM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2-Chlorophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
2-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:59 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 8/22/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-33
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
3&4-Methylphenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/27/2013 11:59 PM
3-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Chloroaniline	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Nitroaniline	ND		0.20	µg/L	1	8/27/2013 11:59 PM
4-Nitrophenol	ND		1.0	µg/L	1	8/27/2013 11:59 PM
Acenaphthene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Acenaphthylene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Acetophenone	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Anthracene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Atrazine	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benz(a)anthracene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benzaldehyde	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Bis(2-ethylhexyl)phthalate	0.32		0.20	µg/L	1	8/27/2013 11:59 PM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Caprolactam	0.58		0.20	µg/L	1	8/27/2013 11:59 PM
Carbazole	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Chrysene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Dibenzofuran	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Diethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Dimethyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Di-n-octyl phthalate	0.52		0.20	µg/L	1	8/27/2013 11:59 PM
Fluoranthene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Fluorene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Hexachlorobenzene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/27/2013 11:59 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 8/22/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-33
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Hexachloroethane	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Isophorone	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Naphthalene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Nitrobenzene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/27/2013 11:59 PM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Pentachlorophenol	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Phenanthrene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Phenol	0.61		0.20	µg/L	1	8/27/2013 11:59 PM
Pyrene	ND		0.20	µg/L	1	8/27/2013 11:59 PM
Surr: 2,4,6-Tribromophenol	96.7		34-129	%REC	1	8/27/2013 11:59 PM
Surr: 2-Fluorobiphenyl	73.8		40-125	%REC	1	8/27/2013 11:59 PM
Surr: 2-Fluorophenol	72.8		20-120	%REC	1	8/27/2013 11:59 PM
Surr: 4-Terphenyl-d14	92.7		40-135	%REC	1	8/27/2013 11:59 PM
Surr: Nitrobenzene-d5	83.2		41-120	%REC	1	8/27/2013 11:59 PM
Surr: Phenol-d6	70.4		20-120	%REC	1	8/27/2013 11:59 PM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 08:23 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 08:23 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 08:23 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 08:23 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 08:23 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 08:23 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 8/22/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-33
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 08:23 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 08:23 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:23 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 08:23 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 08:23 PM
Surr: 1,2-Dichloroethane-d4	98.6		70-125	%REC	1	8/28/2013 08:23 PM
Surr: 4-Bromofluorobenzene	88.9		72-125	%REC	1	8/28/2013 08:23 PM
Surr: Dibromofluoromethane	108		71-125	%REC	1	8/28/2013 08:23 PM
Surr: Toluene-d8	83.2		75-125	%REC	1	8/28/2013 08:23 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	222		2.50	mg/L	5	8/30/2013 07:17 AM
Fluoride	0.611		0.100	mg/L	1	8/30/2013 01:52 PM
Sulfate	133		2.50	mg/L	5	8/30/2013 07:17 AM
Nitrate/Nitrite (as N)	5.55		1.00	mg/L	5	8/30/2013 12:06 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	333		6.00	mg/L	1	8/28/2013 03:06 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:06 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:06 PM
Alkalinity, Total (As CaCO3)	333		6.00	mg/L	1	8/28/2013 03:06 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-26
Collection Date: 8/22/2013 09:35 AM

Work Order: 13081020
Lab ID: 13081020-33
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,450		1.00	µmhos/cm	1	8/28/2013 03:06 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.36	H	0.100	pH Units	1	8/28/2013 03:06 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,170		10.0	mg/L	1	8/28/2013 11:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 8/22/2013 10:55 AM

Work Order: 13081020
Lab ID: 13081020-34
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:05 PM
DISSOLVED METALS						
Aluminum	0.0185		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 07:56 PM
Arsenic	0.0169		0.00500	mg/L	1	8/27/2013 07:56 PM
Barium	0.0782		0.00500	mg/L	1	8/27/2013 07:56 PM
Boron	0.178		0.0200	mg/L	1	8/27/2013 07:56 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 07:56 PM
Calcium	29.9		0.500	mg/L	1	8/27/2013 07:56 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Iron	ND		0.200	mg/L	1	8/27/2013 07:56 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Magnesium	3.26		0.200	mg/L	1	8/27/2013 07:56 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Potassium	2.39		0.200	mg/L	1	8/27/2013 07:56 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Sodium	134		0.200	mg/L	1	8/27/2013 07:56 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 07:56 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 12:19 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 12:19 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 8/22/2013 10:55 AM

Work Order: 13081020
Lab ID: 13081020-34
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:19 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 12:19 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Bis(2-ethylhexyl)phthalate	6.7		0.20	µg/L	1	8/28/2013 12:19 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 12:19 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 8/22/2013 10:55 AM

Work Order: 13081020
Lab ID: 13081020-34
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 12:19 AM
Surr: 2,4,6-Tribromophenol	98.7		34-129	%REC	1	8/28/2013 12:19 AM
Surr: 2-Fluorobiphenyl	79.5		40-125	%REC	1	8/28/2013 12:19 AM
Surr: 2-Fluorophenol	74.7		20-120	%REC	1	8/28/2013 12:19 AM
Surr: 4-Terphenyl-d14	93.8		40-135	%REC	1	8/28/2013 12:19 AM
Surr: Nitrobenzene-d5	84.3		41-120	%REC	1	8/28/2013 12:19 AM
Surr: Phenol-d6	74.0		20-120	%REC	1	8/28/2013 12:19 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 08:48 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 08:48 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 08:48 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 08:48 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 08:48 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 08:48 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 8/22/2013 10:55 AM

Work Order: 13081020
Lab ID: 13081020-34
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 08:48 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 08:48 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 08:48 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 08:48 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 08:48 PM
Surr: 1,2-Dichloroethane-d4	99.8		70-125	%REC	1	8/28/2013 08:48 PM
Surr: 4-Bromofluorobenzene	94.6		72-125	%REC	1	8/28/2013 08:48 PM
Surr: Dibromofluoromethane	108		71-125	%REC	1	8/28/2013 08:48 PM
Surr: Toluene-d8	93.1		75-125	%REC	1	8/28/2013 08:48 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	46.1		0.500	mg/L	1	8/30/2013 07:43 AM
Fluoride	2.40		0.100	mg/L	1	8/30/2013 07:43 AM
Sulfate	81.9		0.500	mg/L	1	8/30/2013 07:43 AM
Nitrate/Nitrite (as N)	2.06		1.00	mg/L	5	8/30/2013 12:31 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	238		6.00	mg/L	1	8/28/2013 03:16 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:16 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:16 PM
Alkalinity, Total (As CaCO3)	238		6.00	mg/L	1	8/28/2013 03:16 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-3
Collection Date: 8/22/2013 10:55 AM

Work Order: 13081020
Lab ID: 13081020-34
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	743		1.00	µmhos/cm	1	8/28/2013 03:16 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.91	H	0.100	pH Units	1	8/28/2013 03:16 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	456		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 8/22/2013 12:30 PM

Work Order: 13081020
Lab ID: 13081020-35
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:07 PM
DISSOLVED METALS						
Aluminum	0.0467		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 08:01 PM
Arsenic	0.0246		0.00500	mg/L	1	8/27/2013 08:01 PM
Barium	0.0736		0.00500	mg/L	1	8/27/2013 08:01 PM
Boron	0.153		0.0200	mg/L	1	8/27/2013 08:01 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 08:01 PM
Calcium	25.6		0.500	mg/L	1	8/27/2013 08:01 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Iron	ND		0.200	mg/L	1	8/27/2013 08:01 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Magnesium	2.63		0.200	mg/L	1	8/27/2013 08:01 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Potassium	2.49		0.200	mg/L	1	8/27/2013 08:01 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Sodium	128		0.200	mg/L	1	8/27/2013 08:01 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 08:01 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 12:40 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 12:40 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2,6-Dinitrotoluene	0.86		0.20	µg/L	1	8/28/2013 12:40 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:40 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 8/22/2013 12:30 PM

Work Order: 13081020
Lab ID: 13081020-35
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 12:40 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 12:40 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 12:40 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Bis(2-ethylhexyl)phthalate	2.2		0.20	µg/L	1	8/28/2013 12:40 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 12:40 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 8/22/2013 12:30 PM

Work Order: 13081020
Lab ID: 13081020-35
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 12:40 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 12:40 AM
Surr: 2,4,6-Tribromophenol	70.6		34-129	%REC	1	8/28/2013 12:40 AM
Surr: 2-Fluorobiphenyl	53.6		40-125	%REC	1	8/28/2013 12:40 AM
Surr: 2-Fluorophenol	46.1		20-120	%REC	1	8/28/2013 12:40 AM
Surr: 4-Terphenyl-d14	82.3		40-135	%REC	1	8/28/2013 12:40 AM
Surr: Nitrobenzene-d5	60.9		41-120	%REC	1	8/28/2013 12:40 AM
Surr: Phenol-d6	41.8		20-120	%REC	1	8/28/2013 12:40 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 09:13 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 09:13 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 09:13 PM
Acetone	0.011		0.010	mg/L	1	8/28/2013 09:13 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 09:13 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 09:13 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 8/22/2013 12:30 PM

Work Order: 13081020
Lab ID: 13081020-35
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 09:13 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 09:13 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:13 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 09:13 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 09:13 PM
Surr: 1,2-Dichloroethane-d4	97.6		70-125	%REC	1	8/28/2013 09:13 PM
Surr: 4-Bromofluorobenzene	97.3		72-125	%REC	1	8/28/2013 09:13 PM
Surr: Dibromofluoromethane	96.2		71-125	%REC	1	8/28/2013 09:13 PM
Surr: Toluene-d8	106		75-125	%REC	1	8/28/2013 09:13 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	35.7		0.500	mg/L	1	8/30/2013 08:09 AM
Fluoride	1.80		0.100	mg/L	1	8/30/2013 08:09 AM
Sulfate	74.0		0.500	mg/L	1	8/30/2013 08:09 AM
Nitrate/Nitrite (as N)	3.01		1.00	mg/L	5	8/30/2013 12:55 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	247		6.00	mg/L	1	8/28/2013 03:22 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:22 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:22 PM
Alkalinity, Total (As CaCO3)	247		6.00	mg/L	1	8/28/2013 03:22 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-9
Collection Date: 8/22/2013 12:30 PM

Work Order: 13081020
Lab ID: 13081020-35
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	703		1.00	µmhos/cm	1	8/28/2013 03:22 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	8.00	H	0.100	pH Units	1	8/28/2013 03:22 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	466		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 8/22/2013 02:05 PM

Work Order: 13081020
Lab ID: 13081020-36
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:10 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 08:06 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Barium	0.104		0.00500	mg/L	1	8/27/2013 08:06 PM
Boron	0.168		0.0200	mg/L	1	8/27/2013 08:06 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 08:06 PM
Calcium	112		0.500	mg/L	1	8/27/2013 08:06 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Iron	ND		0.200	mg/L	1	8/27/2013 08:06 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Magnesium	12.2		0.200	mg/L	1	8/27/2013 08:06 PM
Manganese	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Molybdenum	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Nickel	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Potassium	2.32		0.200	mg/L	1	8/27/2013 08:06 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Sodium	41.4		0.200	mg/L	1	8/27/2013 08:06 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 08:06 PM
Zinc	0.00671		0.00500	mg/L	1	8/27/2013 08:06 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 01:00 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 01:00 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:00 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 8/22/2013 02:05 PM

Work Order: 13081020
Lab ID: 13081020-36
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 01:00 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:00 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 01:00 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Bis(2-ethylhexyl)phthalate	1.9		0.20	µg/L	1	8/28/2013 01:00 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 01:00 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 8/22/2013 02:05 PM

Work Order: 13081020
Lab ID: 13081020-36
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 01:00 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Phenol	0.32		0.20	µg/L	1	8/28/2013 01:00 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 01:00 AM
Surr: 2,4,6-Tribromophenol	95.5		34-129	%REC	1	8/28/2013 01:00 AM
Surr: 2-Fluorobiphenyl	87.9		40-125	%REC	1	8/28/2013 01:00 AM
Surr: 2-Fluorophenol	76.5		20-120	%REC	1	8/28/2013 01:00 AM
Surr: 4-Terphenyl-d14	86.7		40-135	%REC	1	8/28/2013 01:00 AM
Surr: Nitrobenzene-d5	88.0		41-120	%REC	1	8/28/2013 01:00 AM
Surr: Phenol-d6	72.2		20-120	%REC	1	8/28/2013 01:00 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 09:39 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 09:39 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 09:39 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 09:39 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 09:39 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 09:39 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 8/22/2013 02:05 PM

Work Order: 13081020
Lab ID: 13081020-36
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 09:39 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 09:39 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 09:39 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 09:39 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 09:39 PM
Surr: 1,2-Dichloroethane-d4	93.5		70-125	%REC	1	8/28/2013 09:39 PM
Surr: 4-Bromofluorobenzene	96.3		72-125	%REC	1	8/28/2013 09:39 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/28/2013 09:39 PM
Surr: Toluene-d8	103		75-125	%REC	1	8/28/2013 09:39 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	95.0		0.500	mg/L	1	8/30/2013 08:34 AM
Fluoride	0.994		0.100	mg/L	1	8/30/2013 08:34 AM
Sulfate	72.2		0.500	mg/L	1	8/30/2013 08:34 AM
Nitrate/Nitrite (as N)	2.12		1.00	mg/L	5	8/30/2013 01:19 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	199		6.00	mg/L	1	8/28/2013 03:28 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:28 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:28 PM
Alkalinity, Total (As CaCO3)	199		6.00	mg/L	1	8/28/2013 03:28 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-10
Collection Date: 8/22/2013 02:05 PM

Work Order: 13081020
Lab ID: 13081020-36
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	776		1.00	µmhos/cm	1	8/28/2013 03:28 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.70	H	0.100	pH Units	1	8/28/2013 03:28 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	516		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-17R
Collection Date: 8/22/2013 04:40 PM

Work Order: 13081020
Lab ID: 13081020-37
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:12 PM
DISSOLVED METALS						
Aluminum	0.0302		SW6020 0.0100	mg/L	Prep Date: 8/27/2013 1	Analyst: ALR 8/27/2013 08:10 PM
Arsenic	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Barium	0.154		0.00500	mg/L	1	8/27/2013 08:10 PM
Boron	0.188		0.0200	mg/L	1	8/27/2013 08:10 PM
Cadmium	ND		0.00200	mg/L	1	8/27/2013 08:10 PM
Calcium	195		5.00	mg/L	10	8/28/2013 01:43 PM
Chromium	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Cobalt	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Copper	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Iron	ND		0.200	mg/L	1	8/27/2013 08:10 PM
Lead	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Magnesium	22.3		0.200	mg/L	1	8/27/2013 08:10 PM
Manganese	0.0819		0.00500	mg/L	1	8/27/2013 08:10 PM
Molybdenum	0.00531		0.00500	mg/L	1	8/27/2013 08:10 PM
Nickel	0.0189		0.00500	mg/L	1	8/27/2013 08:10 PM
Potassium	3.08		0.200	mg/L	1	8/27/2013 08:10 PM
Selenium	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Silver	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Sodium	53.4		0.200	mg/L	1	8/27/2013 08:10 PM
Uranium	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
Zinc	ND		0.00500	mg/L	1	8/27/2013 08:10 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 01:20 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 01:20 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-17R
Collection Date: 8/22/2013 04:40 PM

Work Order: 13081020
Lab ID: 13081020-37
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 01:20 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:20 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 01:20 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benzaldehyde	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Bis(2-ethylhexyl)phthalate	0.31		0.20	µg/L	1	8/28/2013 01:20 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 01:20 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-17R
Collection Date: 8/22/2013 04:40 PM

Work Order: 13081020
Lab ID: 13081020-37
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 01:20 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 01:20 AM
Surr: 2,4,6-Tribromophenol	88.4		34-129	%REC	1	8/28/2013 01:20 AM
Surr: 2-Fluorobiphenyl	82.6		40-125	%REC	1	8/28/2013 01:20 AM
Surr: 2-Fluorophenol	74.6		20-120	%REC	1	8/28/2013 01:20 AM
Surr: 4-Terphenyl-d14	95.1		40-135	%REC	1	8/28/2013 01:20 AM
Surr: Nitrobenzene-d5	85.4		41-120	%REC	1	8/28/2013 01:20 AM
Surr: Phenol-d6	72.2		20-120	%REC	1	8/28/2013 01:20 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 10:04 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 10:04 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 10:04 PM
Acetone	0.023		0.010	mg/L	1	8/28/2013 10:04 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 10:04 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 10:04 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-17R
Collection Date: 8/22/2013 04:40 PM

Work Order: 13081020
Lab ID: 13081020-37
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 10:04 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 10:04 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 10:04 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 10:04 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 10:04 PM
Surr: 1,2-Dichloroethane-d4	105		70-125	%REC	1	8/28/2013 10:04 PM
Surr: 4-Bromofluorobenzene	100		72-125	%REC	1	8/28/2013 10:04 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	8/28/2013 10:04 PM
Surr: Toluene-d8	91.7		75-125	%REC	1	8/28/2013 10:04 PM
ANIONS - EPA 300.0 (1993)			E300		Analyst: EDG	
Chloride	246		2.50	mg/L	5	8/30/2013 09:00 AM
Fluoride	0.602		0.100	mg/L	1	8/30/2013 02:18 PM
Sulfate	81.7		2.50	mg/L	5	8/30/2013 09:00 AM
Nitrate/Nitrite (as N)	3.44		1.00	mg/L	5	8/30/2013 02:07 PM
ALKALINITY-SM2320B			SM2320B		Analyst: KL	
Alkalinity, Bicarbonate (As CaCO3)	261		6.00	mg/L	1	8/28/2013 03:34 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:34 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:34 PM
Alkalinity, Total (As CaCO3)	261		6.00	mg/L	1	8/28/2013 03:34 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: MW-17R
Collection Date: 8/22/2013 04:40 PM

Work Order: 13081020
Lab ID: 13081020-37
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	1,340		1.00	µmhos/cm	1	8/28/2013 03:34 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	7.50	H	0.100	pH Units	1	8/28/2013 03:34 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	1,190		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-A
Collection Date: 8/22/2013 05:55 PM

Work Order: 13081020
Lab ID: 13081020-38
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:18 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/28/2013 1	Analyst: ALR 8/29/2013 06:06 PM
Arsenic	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Barium	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Boron	0.0202		0.0200	mg/L	1	8/29/2013 06:06 PM
Cadmium	ND		0.00200	mg/L	1	8/29/2013 06:06 PM
Calcium	ND		0.500	mg/L	1	8/29/2013 06:06 PM
Chromium	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Cobalt	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Copper	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Iron	ND		0.200	mg/L	1	8/29/2013 06:06 PM
Lead	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Magnesium	ND		0.200	mg/L	1	8/29/2013 06:06 PM
Manganese	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Molybdenum	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Nickel	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Potassium	ND		0.200	mg/L	1	8/29/2013 06:06 PM
Selenium	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Silver	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Sodium	ND		0.200	mg/L	1	8/29/2013 06:06 PM
Uranium	ND		0.00500	mg/L	1	8/29/2013 06:06 PM
Zinc	0.00647		0.00500	mg/L	1	8/29/2013 06:06 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 01:41 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 01:41 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:41 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-A
Collection Date: 8/22/2013 05:55 PM

Work Order: 13081020
Lab ID: 13081020-38
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 01:41 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 01:41 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 01:41 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Benzaldehyde	2.6		0.20	µg/L	1	8/28/2013 01:41 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Bis(2-ethylhexyl)phthalate	0.22		0.20	µg/L	1	8/28/2013 01:41 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 01:41 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-A
Collection Date: 8/22/2013 05:55 PM

Work Order: 13081020
Lab ID: 13081020-38
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 01:41 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 01:41 AM
Surr: 2,4,6-Tribromophenol	74.8		34-129	%REC	1	8/28/2013 01:41 AM
Surr: 2-Fluorobiphenyl	75.2		40-125	%REC	1	8/28/2013 01:41 AM
Surr: 2-Fluorophenol	72.5		20-120	%REC	1	8/28/2013 01:41 AM
Surr: 4-Terphenyl-d14	89.0		40-135	%REC	1	8/28/2013 01:41 AM
Surr: Nitrobenzene-d5	79.8		41-120	%REC	1	8/28/2013 01:41 AM
Surr: Phenol-d6	69.9		20-120	%REC	1	8/28/2013 01:41 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 07:39 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 07:39 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 07:39 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 07:39 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 07:39 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 07:39 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-A
Collection Date: 8/22/2013 05:55 PM

Work Order: 13081020
Lab ID: 13081020-38
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 07:39 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 07:39 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 07:39 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 07:39 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 07:39 PM
Surr: 1,2-Dichloroethane-d4	96.1		70-125	%REC	1	8/27/2013 07:39 PM
Surr: 4-Bromofluorobenzene	111		72-125	%REC	1	8/27/2013 07:39 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/27/2013 07:39 PM
Surr: Toluene-d8	101		75-125	%REC	1	8/27/2013 07:39 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	ND		0.500	mg/L	1	8/30/2013 09:26 AM
Fluoride	ND		0.100	mg/L	1	8/30/2013 09:26 AM
Sulfate	ND		0.500	mg/L	1	8/30/2013 09:26 AM
Nitrate/Nitrite (as N)	ND		1.00	mg/L	5	8/30/2013 02:31 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:38 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:38 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:38 PM
Alkalinity, Total (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:38 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-A
Collection Date: 8/22/2013 05:55 PM

Work Order: 13081020
Lab ID: 13081020-38
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	ND		1.00	µmhos/cm	1	8/28/2013 03:38 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	5.37	H	0.100	pH Units	1	8/28/2013 03:38 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	ND		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-B
Collection Date: 8/22/2013 07:00 PM

Work Order: 13081020
Lab ID: 13081020-39
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY-SW7470A						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 8/28/2013 1	Analyst: JCJ 8/28/2013 05:20 PM
DISSOLVED METALS						
Aluminum	ND		SW6020 0.0100	mg/L	Prep Date: 8/28/2013 1	Analyst: ALR 8/29/2013 03:14 PM
Arsenic	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Barium	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Boron	ND		0.0200	mg/L	1	8/29/2013 03:14 PM
Cadmium	ND		0.00200	mg/L	1	8/29/2013 03:14 PM
Calcium	ND		0.500	mg/L	1	8/29/2013 03:14 PM
Chromium	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Cobalt	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Copper	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Iron	ND		0.200	mg/L	1	8/29/2013 03:14 PM
Lead	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Magnesium	ND		0.200	mg/L	1	8/29/2013 03:14 PM
Manganese	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Molybdenum	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Nickel	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Potassium	ND		0.200	mg/L	1	8/29/2013 03:14 PM
Selenium	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Silver	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Sodium	ND		0.200	mg/L	1	8/29/2013 03:14 PM
Uranium	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
Zinc	ND		0.00500	mg/L	1	8/29/2013 03:14 PM
LOW-LEVEL SEMIVOLATILES						
1,1'-Biphenyl	ND		SW8270 0.20	µg/L	Prep Date: 8/27/2013 1	Analyst: LG 8/28/2013 02:01 AM
1-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,4,5-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,4,6-Trichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,4-Dichlorophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,4-Dimethylphenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,4-Dinitrophenol	ND		1.0	µg/L	1	8/28/2013 02:01 AM
2,4-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2,6-Dinitrotoluene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2-Chloronaphthalene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2-Chlorophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2-Methylnaphthalene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
2-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:01 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-B
Collection Date: 8/22/2013 07:00 PM

Work Order: 13081020
Lab ID: 13081020-39
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
3&4-Methylphenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
3,3'-Dichlorobenzidine	ND		0.20	µg/L	1	8/28/2013 02:01 AM
3-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4,6-Dinitro-2-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Bromophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Chloro-3-methylphenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Chloroaniline	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Chlorophenyl phenyl ether	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Nitroaniline	ND		0.20	µg/L	1	8/28/2013 02:01 AM
4-Nitrophenol	ND		1.0	µg/L	1	8/28/2013 02:01 AM
Acenaphthene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Acenaphthylene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Acetophenone	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Anthracene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Atrazine	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Benz(a)anthracene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Benzaldehyde	4.4		0.20	µg/L	1	8/28/2013 02:01 AM
Benzo(a)pyrene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Benzo(b)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Benzo(g,h,i)perylene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Benzo(k)fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Bis(2-chloroethoxy)methane	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Bis(2-chloroethyl)ether	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Bis(2-chloroisopropyl)ether	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Bis(2-ethylhexyl)phthalate	0.25		0.20	µg/L	1	8/28/2013 02:01 AM
Butyl benzyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Caprolactam	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Carbazole	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Chrysene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Dibenz(a,h)anthracene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Dibenzofuran	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Diethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Dimethyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Di-n-butyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Di-n-octyl phthalate	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Fluoranthene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Fluorene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Hexachlorobenzene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Hexachlorobutadiene	ND		0.20	µg/L	1	8/28/2013 02:01 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-B
Collection Date: 8/22/2013 07:00 PM

Work Order: 13081020
Lab ID: 13081020-39
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Hexachloroethane	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Indeno(1,2,3-cd)pyrene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Isophorone	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Naphthalene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Nitrobenzene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
N-Nitrosodi-n-propylamine	ND		0.20	µg/L	1	8/28/2013 02:01 AM
N-Nitrosodiphenylamine	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Pentachlorophenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Phenanthrene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Phenol	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Pyrene	ND		0.20	µg/L	1	8/28/2013 02:01 AM
Surr: 2,4,6-Tribromophenol	83.6		34-129	%REC	1	8/28/2013 02:01 AM
Surr: 2-Fluorobiphenyl	81.7		40-125	%REC	1	8/28/2013 02:01 AM
Surr: 2-Fluorophenol	77.0		20-120	%REC	1	8/28/2013 02:01 AM
Surr: 4-Terphenyl-d14	94.0		40-135	%REC	1	8/28/2013 02:01 AM
Surr: Nitrobenzene-d5	84.3		41-120	%REC	1	8/28/2013 02:01 AM
Surr: Phenol-d6	72.1		20-120	%REC	1	8/28/2013 02:01 AM
VOLATILES - SW8260C			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 08:04 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 08:04 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 08:04 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 08:04 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 08:04 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 08:04 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-B
Collection Date: 8/22/2013 07:00 PM

Work Order: 13081020
Lab ID: 13081020-39
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 08:04 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 08:04 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:04 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 08:04 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 08:04 PM
Surr: 1,2-Dichloroethane-d4	93.8		70-125	%REC	1	8/27/2013 08:04 PM
Surr: 4-Bromofluorobenzene	102		72-125	%REC	1	8/27/2013 08:04 PM
Surr: Dibromofluoromethane	103		71-125	%REC	1	8/27/2013 08:04 PM
Surr: Toluene-d8	109		75-125	%REC	1	8/27/2013 08:04 PM
ANIONS - EPA 300.0 (1993)			E300			Analyst: EDG
Chloride	ND		0.500	mg/L	1	8/30/2013 09:52 AM
Fluoride	ND		0.100	mg/L	1	8/30/2013 09:52 AM
Sulfate	ND		0.500	mg/L	1	8/30/2013 09:52 AM
Nitrate/Nitrite (as N)	ND		1.00	mg/L	5	8/30/2013 02:55 PM
ALKALINITY-SM2320B			SM2320B			Analyst: KL
Alkalinity, Bicarbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:43 PM
Alkalinity, Carbonate (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:43 PM
Alkalinity, Hydroxide (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:43 PM
Alkalinity, Total (As CaCO3)	ND		6.00	mg/L	1	8/28/2013 03:43 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: EB-08-22-13-B
Collection Date: 8/22/2013 07:00 PM

Work Order: 13081020
Lab ID: 13081020-39
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: KL
Specific Conductivity	ND		1.00	µmhos/cm	1	8/28/2013 03:43 PM
PH - SM4500H+ B			SM4500H+ B			Analyst: KL
pH	4.89	H	0.100	pH Units	1	8/28/2013 03:43 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KAH
Total Dissolved Solids (Residue, Filterable)	ND		10.0	mg/L	1	8/29/2013 11:10 AM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-22-13-A
Collection Date: 8/22/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-40
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
2-Butanone	ND		0.010	mg/L	1	8/27/2013 08:30 PM
2-Hexanone	ND		0.010	mg/L	1	8/27/2013 08:30 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/27/2013 08:30 PM
Acetone	ND		0.010	mg/L	1	8/27/2013 08:30 PM
Benzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Bromoform	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Bromomethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Carbon disulfide	ND		0.010	mg/L	1	8/27/2013 08:30 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Chloroethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Chloroform	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Chloromethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
m,p-Xylene	ND		0.010	mg/L	1	8/27/2013 08:30 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Methylene chloride	ND		0.010	mg/L	1	8/27/2013 08:30 PM
Naphthalene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
o-Xylene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Styrene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: AC-08-22-13-A
Collection Date: 8/22/2013 06:10 PM

Work Order: 13081020
Lab ID: 13081020-40
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Toluene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Trichloroethene	ND		0.0050	mg/L	1	8/27/2013 08:30 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/27/2013 08:30 PM
Xylenes, Total	ND		0.015	mg/L	1	8/27/2013 08:30 PM
Surr: 1,2-Dichloroethane-d4	101		70-125	%REC	1	8/27/2013 08:30 PM
Surr: 4-Bromofluorobenzene	108		72-125	%REC	1	8/27/2013 08:30 PM
Surr: Dibromofluoromethane	101		71-125	%REC	1	8/27/2013 08:30 PM
Surr: Toluene-d8	92.4		75-125	%REC	1	8/27/2013 08:30 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-073113-74
Collection Date: 8/22/2013

Work Order: 13081020
Lab ID: 13081020-41
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILES - SW8260C			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
2-Butanone	ND		0.010	mg/L	1	8/28/2013 03:43 PM
2-Hexanone	ND		0.010	mg/L	1	8/28/2013 03:43 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/28/2013 03:43 PM
Acetone	ND		0.010	mg/L	1	8/28/2013 03:43 PM
Benzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Bromoform	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Bromomethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Carbon disulfide	ND		0.010	mg/L	1	8/28/2013 03:43 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Chlorobenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Chloroethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Chloroform	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Chloromethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Isopropylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
m,p-Xylene	ND		0.010	mg/L	1	8/28/2013 03:43 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Methylene chloride	ND		0.010	mg/L	1	8/28/2013 03:43 PM
Naphthalene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
n-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
n-Propylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
o-Xylene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Styrene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM

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

ALS Environmental

Date: 10-Sep-13

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
Sample ID: TB-073113-74
Collection Date: 8/22/2013

Work Order: 13081020
Lab ID: 13081020-41
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Tetrachloroethene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Toluene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Trichloroethene	ND		0.0050	mg/L	1	8/28/2013 03:43 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/28/2013 03:43 PM
Xylenes, Total	ND		0.015	mg/L	1	8/28/2013 03:43 PM
Surr: 1,2-Dichloroethane-d4	94.5		70-125	%REC	1	8/28/2013 03:43 PM
Surr: 4-Bromofluorobenzene	96.7		72-125	%REC	1	8/28/2013 03:43 PM
Surr: Dibromofluoromethane	97.7		71-125	%REC	1	8/28/2013 03:43 PM
Surr: Toluene-d8	89.8		75-125	%REC	1	8/28/2013 03:43 PM

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

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> 72555		<u>Test Name:</u> Dissolved Metals				
13081020-01	MW-5	Water	8/20/2013 3:13:00 PM		8/27/2013 10:00 AM	8/27/2013 03:55 PM
13081020-02	MW-20		8/20/2013 5:26:00 PM		8/27/2013 10:00 AM	8/27/2013 03:59 PM
13081020-03	MW-21		8/20/2013 7:38:00 PM		8/27/2013 10:00 AM	8/27/2013 04:04 PM
13081020-05	MW-12R		8/21/2013 9:54:00 AM		8/27/2013 10:00 AM	8/27/2013 04:09 PM
13081020-06	MW-22		8/21/2013 1:43:00 PM		8/27/2013 10:00 AM	8/27/2013 04:14 PM
13081020-07	MW-23		8/21/2013 4:08:00 PM		8/27/2013 10:00 AM	8/27/2013 04:19 PM
13081020-08	MW-24		8/21/2013 6:04:00 PM		8/27/2013 10:00 AM	8/27/2013 04:34 PM
13081020-11	MW-2		8/20/2013 2:50:00 PM		8/27/2013 10:00 AM	8/27/2013 04:39 PM
13081020-12	MW-28		8/20/2013 4:25:00 PM		8/27/2013 10:00 AM	8/27/2013 04:44 PM
13081020-13	MW-29		8/20/2013 6:10:00 PM		8/27/2013 10:00 AM	8/27/2013 04:49 PM
13081020-14	MW-27		8/20/2013 7:40:00 PM		8/27/2013 10:00 AM	8/27/2013 04:53 PM
13081020-15	MW-11		8/21/2013 9:40:00 AM		8/27/2013 10:00 AM	8/27/2013 04:58 PM
13081020-16	DUP-2				8/27/2013 10:00 AM	8/27/2013 05:03 PM
13081020-17	MW-8		8/21/2013 11:30:00 AM		8/27/2013 10:00 AM	8/27/2013 03:14 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> 72560		<u>Test Name:</u> Low-Level Semivolatiles				
13081020-01B	MW-5	Water	8/20/2013 3:13:00 PM		8/27/2013 07:23 AM	8/28/2013 02:45 PM
13081020-02B	MW-20		8/20/2013 5:26:00 PM		8/27/2013 07:23 AM	8/28/2013 03:05 PM
13081020-03B	MW-21		8/20/2013 7:38:00 PM		8/27/2013 07:23 AM	8/28/2013 03:25 PM
13081020-05B	MW-12R		8/21/2013 9:54:00 AM		8/27/2013 07:23 AM	8/28/2013 03:45 PM
13081020-06B	MW-22		8/21/2013 1:43:00 PM		8/27/2013 07:23 AM	8/28/2013
13081020-07B	MW-23		8/21/2013 4:08:00 PM		8/27/2013 07:23 AM	8/28/2013 12:19 AM
13081020-08B	MW-24		8/21/2013 6:04:00 PM		8/27/2013 07:23 AM	8/28/2013 12:39 AM
13081020-11B	MW-2		8/20/2013 2:50:00 PM		8/27/2013 07:23 AM	8/28/2013 12:59 AM
13081020-12B	MW-28		8/20/2013 4:25:00 PM		8/27/2013 07:23 AM	8/28/2013 02:38 PM
13081020-13B	MW-29		8/20/2013 6:10:00 PM		8/27/2013 07:23 AM	8/28/2013 02:58 PM
13081020-14B	MW-27		8/20/2013 7:40:00 PM		8/27/2013 07:23 AM	8/28/2013 03:18 PM
13081020-15B	MW-11		8/21/2013 9:40:00 AM		8/27/2013 07:23 AM	8/28/2013 03:38 PM
					8/27/2013 07:23 AM	8/28/2013 06:40 PM
13081020-16B	DUP-2				8/27/2013 07:23 AM	8/28/2013 03:58 PM
					8/27/2013 07:23 AM	8/28/2013 05:29 PM
13081020-17B	MW-8		8/21/2013 11:30:00 AM		8/27/2013 07:23 AM	8/27/2013 03:37 PM
					8/27/2013 07:23 AM	8/28/2013 07:01 PM
13081020-18B	MW-13		8/21/2013 2:10:00 PM		8/27/2013 07:23 AM	8/28/2013 04:25 PM
					8/27/2013 07:23 AM	8/28/2013 06:20 PM
13081020-19B	MW-1		8/21/2013 3:45:00 PM		8/27/2013 07:23 AM	8/28/2013 06:00 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> 72561		<u>Test Name:</u> Low-Level Semivolatiles				
13081020-20B	RW-1	Water	8/21/2013 5:05:00 PM		8/27/2013 07:30 AM	8/27/2013 07:54 PM
					8/27/2013 07:30 AM	8/28/2013 04:19 PM
13081020-21B	MW-19		8/22/2013 11:42:00 AM		8/27/2013 07:30 AM	8/27/2013 08:14 PM
13081020-22B	DUP-3				8/27/2013 07:30 AM	8/27/2013 08:35 PM
13081020-23B	MW-18		8/22/2013 2:22:00 PM		8/27/2013 07:30 AM	8/27/2013 03:44 PM
13081020-24B	MW-25		8/22/2013 5:32:00 PM		8/27/2013 07:30 AM	8/27/2013 08:55 PM
13081020-25B	DUP-4				8/27/2013 07:30 AM	8/27/2013 09:15 PM
13081020-26B	MW-15		8/20/2013 9:35:00 AM		8/27/2013 07:30 AM	8/27/2013 09:36 PM
13081020-27B	DUP-1				8/27/2013 07:30 AM	8/27/2013 09:56 PM
13081020-28B	MW-16		8/20/2013 10:50:00 AM		8/27/2013 07:30 AM	8/27/2013 10:17 PM
13081020-29B	MW-4		8/20/2013 11:50:00 AM		8/27/2013 07:30 AM	8/27/2013 10:37 PM
13081020-30B	MW-30		8/20/2013 1:25:00 PM		8/27/2013 07:30 AM	8/27/2013 10:57 PM
13081020-31B	MW-7		8/21/2013 6:25:00 PM		8/27/2013 07:30 AM	8/27/2013 11:18 PM
13081020-32B	MW-6		8/21/2013 6:50:00 PM		8/27/2013 07:30 AM	8/27/2013 11:38 PM
13081020-33B	MW-26		8/22/2013 9:35:00 AM		8/27/2013 07:30 AM	8/27/2013 11:59 PM
13081020-34B	MW-3		8/22/2013 10:55:00 AM		8/27/2013 07:30 AM	8/28/2013 12:19 AM
13081020-35B	MW-9		8/22/2013 12:30:00 PM		8/27/2013 07:30 AM	8/28/2013 12:40 AM
13081020-36B	MW-10		8/22/2013 2:05:00 PM		8/27/2013 07:30 AM	8/28/2013 01:00 AM
13081020-37B	MW-17R		8/22/2013 4:40:00 PM		8/27/2013 07:30 AM	8/28/2013 01:20 AM
13081020-38B	EB-08-22-13-A		8/22/2013 5:55:00 PM		8/27/2013 07:30 AM	8/28/2013 01:41 AM
13081020-39B	EB-08-22-13-B		8/22/2013 7:00:00 PM		8/27/2013 07:30 AM	8/28/2013 02:01 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> 72572		<u>Test Name:</u> Dissolved Metals				
13081020-18	MW-13	Water	8/21/2013 2:10:00 PM		8/27/2013 11:00 AM	8/27/2013 06:07 PM
D					8/27/2013 11:00 AM	8/28/2013 01:13 PM
13081020-19	MW-1		8/21/2013 3:45:00 PM		8/27/2013 11:00 AM	8/27/2013 06:12 PM
D						
13081020-20	RW-1		8/21/2013 5:05:00 PM		8/27/2013 11:00 AM	8/27/2013 06:17 PM
D						
13081020-21	MW-19		8/22/2013 11:42:00 AM		8/27/2013 11:00 AM	8/27/2013 06:22 PM
D					8/27/2013 11:00 AM	8/28/2013 01:18 PM
13081020-22	DUP-3				8/27/2013 11:00 AM	8/27/2013 06:27 PM
D					8/27/2013 11:00 AM	8/28/2013 01:23 PM
13081020-23	MW-18		8/22/2013 2:22:00 PM		8/27/2013 11:00 AM	8/27/2013 05:28 PM
D					8/27/2013 11:00 AM	8/28/2013 12:44 PM
13081020-24	MW-25		8/22/2013 5:32:00 PM		8/27/2013 11:00 AM	8/27/2013 06:32 PM
D					8/27/2013 11:00 AM	8/28/2013 01:28 PM
13081020-25	DUP-4				8/27/2013 11:00 AM	8/27/2013 06:47 PM
D					8/27/2013 11:00 AM	8/28/2013 01:33 PM
13081020-26	MW-15		8/20/2013 9:35:00 AM		8/27/2013 11:00 AM	8/27/2013 06:52 PM
D					8/27/2013 11:00 AM	8/27/2013 06:57 PM
13081020-27	DUP-1					
D						
13081020-28	MW-16		8/20/2013 10:50:00 AM		8/27/2013 11:00 AM	8/27/2013 07:02 PM
D						
13081020-29	MW-4		8/20/2013 11:50:00 AM		8/27/2013 11:00 AM	8/27/2013 07:07 PM
D						
13081020-30	MW-30		8/20/2013 1:25:00 PM		8/27/2013 11:00 AM	8/27/2013 07:11 PM
D						
13081020-31	MW-7		8/21/2013 6:25:00 PM		8/27/2013 11:00 AM	8/27/2013 07:41 PM
D						
13081020-32	MW-6		8/21/2013 6:50:00 PM		8/27/2013 11:00 AM	8/27/2013 07:46 PM
D						
13081020-33	MW-26		8/22/2013 9:35:00 AM		8/27/2013 11:00 AM	8/27/2013 07:51 PM
D					8/27/2013 11:00 AM	8/28/2013 01:38 PM
13081020-34	MW-3		8/22/2013 10:55:00 AM		8/27/2013 11:00 AM	8/27/2013 07:56 PM
D						
13081020-35	MW-9		8/22/2013 12:30:00 PM		8/27/2013 11:00 AM	8/27/2013 08:01 PM
D						

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
13081020-36	MW-10	Water	8/22/2013 2:05:00 PM		8/27/2013 11:00 AM	8/27/2013 08:06 PM
13081020-37	MW-17R		8/22/2013 4:40:00 PM		8/27/2013 11:00 AM	8/27/2013 08:10 PM
					8/27/2013 11:00 AM	8/28/2013 01:43 PM
Batch ID 72601 Test Name: Mercury-SW7470A						
13081020-01C	MW-5	Water	8/20/2013 3:13:00 PM		8/28/2013 09:44 AM	8/28/2013 03:25 PM
13081020-02C	MW-20		8/20/2013 5:26:00 PM		8/28/2013 09:44 AM	8/28/2013 03:27 PM
13081020-03C	MW-21		8/20/2013 7:38:00 PM		8/28/2013 09:44 AM	8/28/2013 03:30 PM
13081020-05C	MW-12R		8/21/2013 9:54:00 AM		8/28/2013 09:44 AM	8/28/2013 03:32 PM
13081020-06C	MW-22		8/21/2013 1:43:00 PM		8/28/2013 09:44 AM	8/28/2013 03:38 PM
13081020-07C	MW-23		8/21/2013 4:08:00 PM		8/28/2013 09:44 AM	8/28/2013 03:40 PM
13081020-08C	MW-24		8/21/2013 6:04:00 PM		8/28/2013 09:44 AM	8/28/2013 03:42 PM
13081020-11C	MW-2		8/20/2013 2:50:00 PM		8/28/2013 09:44 AM	8/28/2013 03:44 PM
13081020-12C	MW-28		8/20/2013 4:25:00 PM		8/28/2013 09:44 AM	8/28/2013 03:46 PM
13081020-13C	MW-29		8/20/2013 6:10:00 PM		8/28/2013 09:44 AM	8/28/2013 03:48 PM
13081020-14C	MW-27		8/20/2013 7:40:00 PM		8/28/2013 09:44 AM	8/28/2013 03:50 PM
13081020-15C	MW-11		8/21/2013 9:40:00 AM		8/28/2013 09:44 AM	8/28/2013 03:52 PM
13081020-16C	DUP-2				8/28/2013 09:44 AM	8/28/2013 03:54 PM
13081020-17C	MW-8		8/21/2013 11:30:00 AM		8/28/2013 09:44 AM	8/28/2013 03:17 PM
13081020-18C	MW-13		8/21/2013 2:10:00 PM		8/28/2013 09:44 AM	8/28/2013 03:56 PM
13081020-19C	MW-1		8/21/2013 3:45:00 PM		8/28/2013 09:44 AM	8/28/2013 04:03 PM
13081020-20C	RW-1		8/21/2013 5:05:00 PM		8/28/2013 09:44 AM	8/28/2013 04:05 PM
13081020-21C	MW-19		8/22/2013 11:42:00 AM		8/28/2013 09:44 AM	8/28/2013 04:07 PM
13081020-22C	DUP-3				8/28/2013 09:44 AM	8/28/2013 04:09 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> 72602		<u>Test Name:</u> Mercury-SW7470A				
13081020-23C	MW-18	Water	8/22/2013 2:22:00 PM		8/28/2013 09:45 AM	8/28/2013 04:32 PM
13081020-24C	MW-25		8/22/2013 5:32:00 PM		8/28/2013 09:45 AM	8/28/2013 04:41 PM
13081020-25C	DUP-4				8/28/2013 09:45 AM	8/28/2013 04:43 PM
13081020-26C	MW-15		8/20/2013 9:35:00 AM		8/28/2013 09:45 AM	8/28/2013 04:45 PM
13081020-27C	DUP-1				8/28/2013 09:45 AM	8/28/2013 04:47 PM
13081020-28C	MW-16		8/20/2013 10:50:00 AM		8/28/2013 09:45 AM	8/28/2013 04:53 PM
13081020-29C	MW-4		8/20/2013 11:50:00 AM		8/28/2013 09:45 AM	8/28/2013 04:55 PM
13081020-30C	MW-30		8/20/2013 1:25:00 PM		8/28/2013 09:45 AM	8/28/2013 04:57 PM
13081020-31C	MW-7		8/21/2013 6:25:00 PM		8/28/2013 09:45 AM	8/28/2013 04:59 PM
13081020-32C	MW-6		8/21/2013 6:50:00 PM		8/28/2013 09:45 AM	8/28/2013 05:01 PM
13081020-33C	MW-26		8/22/2013 9:35:00 AM		8/28/2013 09:45 AM	8/28/2013 05:03 PM
13081020-34C	MW-3		8/22/2013 10:55:00 AM		8/28/2013 09:45 AM	8/28/2013 05:05 PM
13081020-35C	MW-9		8/22/2013 12:30:00 PM		8/28/2013 09:45 AM	8/28/2013 05:07 PM
13081020-36C	MW-10		8/22/2013 2:05:00 PM		8/28/2013 09:45 AM	8/28/2013 05:10 PM
13081020-37C	MW-17R		8/22/2013 4:40:00 PM		8/28/2013 09:45 AM	8/28/2013 05:12 PM
13081020-38C	EB-08-22-13-A		8/22/2013 5:55:00 PM		8/28/2013 09:45 AM	8/28/2013 05:18 PM
13081020-39C	EB-08-22-13-B		8/22/2013 7:00:00 PM		8/28/2013 09:45 AM	8/28/2013 05:20 PM
<u>Batch ID</u> 72626		<u>Test Name:</u> Dissolved Metals				
13081020-38	EB-08-22-13-A	Water	8/22/2013 5:55:00 PM		8/28/2013 03:00 PM	8/29/2013 06:06 PM
13081020-39	EB-08-22-13-B		8/22/2013 7:00:00 PM		8/28/2013 03:00 PM	8/29/2013 03:14 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152797 <u>Test Name:</u> Volatiles - SW8260C						
13081020-04 ^	AC-08-20-13	Water	8/20/2013 8:14:00 PM			8/27/2013 06:49 PM
13081020-09 ^	AC-08-21-13		8/21/2013 10:00:00 PM			8/27/2013 07:14 PM
13081020-10 ^	MW-14		8/22/2013 10:13:00 AM			8/27/2013 11:01 PM
13081020-11 ^	MW-2		8/20/2013 2:50:00 PM			8/27/2013 09:45 PM
13081020-12 ^	MW-28		8/20/2013 4:25:00 PM			8/27/2013 10:11 PM
13081020-13 ^	MW-29		8/20/2013 6:10:00 PM			8/27/2013 10:36 PM
13081020-16 ^	DUP-2		8/21/2013 9:40:00 AM			8/27/2013 03:00 PM
13081020-17 ^	MW-8		8/21/2013 11:30:00 AM			8/27/2013 01:44 PM
13081020-38 ^	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/27/2013 07:39 PM
13081020-39 ^	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/27/2013 08:04 PM
13081020-40 ^	AC-08-22-13-A		8/22/2013 6:10:00 PM			8/27/2013 08:30 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152822 <u>Test Name:</u> Specific Conductivity						
13081020-01E	MW-5	Water	8/20/2013 3:13:00 PM			8/27/2013 10:01 PM
13081020-02E	MW-20		8/20/2013 5:26:00 PM			8/27/2013 10:11 PM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/27/2013 10:17 PM
13081020-05E	MW-12R		8/21/2013 9:54:00 AM			8/27/2013 10:23 PM
13081020-06E	MW-22		8/21/2013 1:43:00 PM			8/27/2013 10:28 PM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/27/2013 10:34 PM
13081020-08E	MW-24		8/21/2013 6:04:00 PM			8/27/2013 10:40 PM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/27/2013 10:45 PM
13081020-12E	MW-28		8/20/2013 4:25:00 PM			8/27/2013 10:51 PM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/27/2013 10:56 PM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/27/2013 11:07 PM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/27/2013 11:13 PM
13081020-16E	DUP-2					8/27/2013 11:18 PM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/27/2013 09:49 PM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/27/2013 11:24 PM
13081020-19E	MW-1		8/21/2013 3:45:00 PM			8/27/2013 11:29 PM
13081020-20E	RW-1		8/21/2013 5:05:00 PM			8/27/2013 11:35 PM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/27/2013 11:41 PM
13081020-22E	DUP-3					8/27/2013 11:47 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152823 <u>Test Name:</u> Alkalinity-SM2320B						
13081020-01E	MW-5	Water	8/20/2013 3:13:00 PM			8/27/2013 10:01 PM
13081020-02E	MW-20		8/20/2013 5:26:00 PM			8/27/2013 10:11 PM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/27/2013 10:17 PM
13081020-05E	MW-12R		8/21/2013 9:54:00 AM			8/27/2013 10:23 PM
13081020-06E	MW-22		8/21/2013 1:43:00 PM			8/27/2013 10:28 PM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/27/2013 10:34 PM
13081020-08E	MW-24		8/21/2013 6:04:00 PM			8/27/2013 10:40 PM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/27/2013 10:45 PM
13081020-12E	MW-28		8/20/2013 4:25:00 PM			8/27/2013 10:51 PM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/27/2013 10:56 PM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/27/2013 11:07 PM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/27/2013 11:13 PM
13081020-16E	DUP-2					8/27/2013 11:18 PM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/27/2013 09:49 PM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/27/2013 11:24 PM
13081020-19E	MW-1		8/21/2013 3:45:00 PM			8/27/2013 11:29 PM
13081020-20E	RW-1		8/21/2013 5:05:00 PM			8/27/2013 11:35 PM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/27/2013 11:41 PM
13081020-22E	DUP-3					8/27/2013 11:47 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152824 <u>Test Name:</u> pH - SM4500H+ B						
13081020-01E	MW-5	Water	8/20/2013 3:13:00 PM			8/27/2013 10:01 PM
13081020-02E	MW-20		8/20/2013 5:26:00 PM			8/27/2013 10:11 PM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/27/2013 10:17 PM
13081020-05E	MW-12R		8/21/2013 9:54:00 AM			8/27/2013 10:23 PM
13081020-06E	MW-22		8/21/2013 1:43:00 PM			8/27/2013 10:28 PM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/27/2013 10:34 PM
13081020-08E	MW-24		8/21/2013 6:04:00 PM			8/27/2013 10:40 PM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/27/2013 10:45 PM
13081020-12E	MW-28		8/20/2013 4:25:00 PM			8/27/2013 10:51 PM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/27/2013 10:56 PM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/27/2013 11:07 PM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/27/2013 11:13 PM
13081020-16E	DUP-2					8/27/2013 11:18 PM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/27/2013 09:49 PM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/27/2013 11:24 PM
13081020-19E	MW-1		8/21/2013 3:45:00 PM			8/27/2013 11:29 PM
13081020-20E	RW-1		8/21/2013 5:05:00 PM			8/27/2013 11:35 PM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/27/2013 11:41 PM
13081020-22E	DUP-3					8/27/2013 11:47 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
Batch ID R152845 Test Name: Volatiles - SW8260C						
13081020-01 ^	MW-5	Water	8/20/2013 3:13:00 PM			8/28/2013 04:56 AM
13081020-02 ^	MW-20		8/20/2013 5:26:00 PM			8/28/2013 05:21 AM
13081020-03 ^	MW-21		8/20/2013 7:38:00 PM			8/28/2013 05:46 AM
13081020-05 ^	MW-12R		8/21/2013 9:54:00 AM			8/28/2013 06:11 AM
13081020-06 ^	MW-22		8/21/2013 1:43:00 PM			8/28/2013 06:37 AM
13081020-07 ^	MW-23		8/21/2013 4:08:00 PM			8/28/2013 07:02 AM
13081020-08 ^	MW-24		8/21/2013 6:04:00 PM			8/28/2013 07:27 AM
13081020-14 ^	MW-27		8/20/2013 7:40:00 PM			8/28/2013 02:49 AM
13081020-15 ^	MW-11		8/21/2013 9:40:00 AM			8/28/2013 07:53 AM
13081020-18 ^	MW-13		8/21/2013 2:10:00 PM			8/28/2013 08:18 AM
13081020-19 ^	MW-1		8/21/2013 3:45:00 PM			8/28/2013 08:43 AM
13081020-20 ^	RW-1		8/21/2013 5:05:00 PM			8/28/2013 09:09 AM
13081020-21 ^	MW-19		8/22/2013 11:42:00 AM			8/28/2013 09:34 AM
13081020-22 ^	DUP-3					8/28/2013 09:59 AM
13081020-23 ^	MW-18		8/22/2013 2:22:00 PM			8/28/2013 03:14 AM
13081020-24 ^	MW-25		8/22/2013 5:32:00 PM			8/28/2013 10:25 AM
13081020-25 ^	DUP-4					8/28/2013 10:50 AM
13081020-26 ^	MW-15		8/20/2013 9:35:00 AM			8/28/2013 11:15 AM
13081020-27 ^	DUP-1					8/28/2013 11:41 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152862 <u>Test Name:</u> Anions - EPA 300.0 (1993)						
13081020-01E	MW-5	Water	8/20/2013 3:13:00 PM			8/28/2013 12:12 AM
13081020-02E	MW-20		8/20/2013 5:26:00 PM			8/28/2013 12:56 AM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/28/2013 01:10 AM
13081020-05E	MW-12R		8/21/2013 9:54:00 AM			8/28/2013 01:25 AM
13081020-06E	MW-22		8/21/2013 1:43:00 PM			8/28/2013 01:39 AM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/28/2013 01:54 AM
13081020-08E	MW-24		8/21/2013 6:04:00 PM			8/28/2013 02:37 AM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/28/2013 02:52 AM
13081020-12E	MW-28		8/20/2013 4:25:00 PM			8/28/2013 03:06 AM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/28/2013 03:21 AM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/28/2013 03:36 AM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/28/2013 03:50 AM
13081020-16E	DUP-2					8/28/2013 04:05 AM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/28/2013 04:19 AM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/28/2013 05:32 AM
13081020-19E	MW-1		8/21/2013 3:45:00 PM			8/28/2013 05:46 AM
13081020-20E	RW-1		8/21/2013 5:05:00 PM			8/28/2013 06:01 AM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/28/2013 06:16 AM
13081020-22E	DUP-3					8/28/2013 06:30 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152883 <u>Test Name:</u> pH - SM4500H+ B						
13081020-23E	MW-18	Water	8/22/2013 2:22:00 PM			8/28/2013 01:59 PM
13081020-24E	MW-25		8/22/2013 5:32:00 PM			8/28/2013 02:10 PM
13081020-25E	DUP-4					8/28/2013 02:20 PM
13081020-26E	MW-15		8/20/2013 9:35:00 AM			8/28/2013 02:26 PM
13081020-27E	DUP-1					8/28/2013 02:31 PM
13081020-28E	MW-16		8/20/2013 10:50:00 AM			8/28/2013 02:37 PM
13081020-29E	MW-4		8/20/2013 11:50:00 AM			8/28/2013 02:43 PM
13081020-30E	MW-30		8/20/2013 1:25:00 PM			8/28/2013 02:49 PM
13081020-31E	MW-7		8/21/2013 6:25:00 PM			8/28/2013 02:54 PM
13081020-32E	MW-6		8/21/2013 6:50:00 PM			8/28/2013 03:00 PM
13081020-33E	MW-26		8/22/2013 9:35:00 AM			8/28/2013 03:06 PM
13081020-34E	MW-3		8/22/2013 10:55:00 AM			8/28/2013 03:16 PM
13081020-35E	MW-9		8/22/2013 12:30:00 PM			8/28/2013 03:22 PM
13081020-36E	MW-10		8/22/2013 2:05:00 PM			8/28/2013 03:28 PM
13081020-37E	MW-17R		8/22/2013 4:40:00 PM			8/28/2013 03:34 PM
13081020-38E	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/28/2013 03:38 PM
13081020-39E	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/28/2013 03:43 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152885 <u>Test Name:</u> Alkalinity-SM2320B						
13081020-23E	MW-18	Water	8/22/2013 2:22:00 PM			8/28/2013 01:59 PM
13081020-24E	MW-25		8/22/2013 5:32:00 PM			8/28/2013 02:10 PM
13081020-25E	DUP-4					8/28/2013 02:20 PM
13081020-26E	MW-15		8/20/2013 9:35:00 AM			8/28/2013 02:26 PM
13081020-27E	DUP-1					8/28/2013 02:31 PM
13081020-28E	MW-16		8/20/2013 10:50:00 AM			8/28/2013 02:37 PM
13081020-29E	MW-4		8/20/2013 11:50:00 AM			8/28/2013 02:43 PM
13081020-30E	MW-30		8/20/2013 1:25:00 PM			8/28/2013 02:49 PM
13081020-31E	MW-7		8/21/2013 6:25:00 PM			8/28/2013 02:54 PM
13081020-32E	MW-6		8/21/2013 6:50:00 PM			8/28/2013 03:00 PM
13081020-33E	MW-26		8/22/2013 9:35:00 AM			8/28/2013 03:06 PM
13081020-34E	MW-3		8/22/2013 10:55:00 AM			8/28/2013 03:16 PM
13081020-35E	MW-9		8/22/2013 12:30:00 PM			8/28/2013 03:22 PM
13081020-36E	MW-10		8/22/2013 2:05:00 PM			8/28/2013 03:28 PM
13081020-37E	MW-17R		8/22/2013 4:40:00 PM			8/28/2013 03:34 PM
13081020-38E	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/28/2013 03:38 PM
13081020-39E	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/28/2013 03:43 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152889 <u>Test Name:</u> Specific Conductivity						
13081020-23E	MW-18	Water	8/22/2013 2:22:00 PM			8/28/2013 01:59 PM
13081020-24E	MW-25		8/22/2013 5:32:00 PM			8/28/2013 02:10 PM
13081020-25E	DUP-4					8/28/2013 02:20 PM
13081020-26E	MW-15		8/20/2013 9:35:00 AM			8/28/2013 02:26 PM
13081020-27E	DUP-1					8/28/2013 02:31 PM
13081020-28E	MW-16		8/20/2013 10:50:00 AM			8/28/2013 02:37 PM
13081020-29E	MW-4		8/20/2013 11:50:00 AM			8/28/2013 02:43 PM
13081020-30E	MW-30		8/20/2013 1:25:00 PM			8/28/2013 02:49 PM
13081020-31E	MW-7		8/21/2013 6:25:00 PM			8/28/2013 02:54 PM
13081020-32E	MW-6		8/21/2013 6:50:00 PM			8/28/2013 03:00 PM
13081020-33E	MW-26		8/22/2013 9:35:00 AM			8/28/2013 03:06 PM
13081020-34E	MW-3		8/22/2013 10:55:00 AM			8/28/2013 03:16 PM
13081020-35E	MW-9		8/22/2013 12:30:00 PM			8/28/2013 03:22 PM
13081020-36E	MW-10		8/22/2013 2:05:00 PM			8/28/2013 03:28 PM
13081020-37E	MW-17R		8/22/2013 4:40:00 PM			8/28/2013 03:34 PM
13081020-38E	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/28/2013 03:38 PM
13081020-39E	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/28/2013 03:43 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152893	<u>Test Name:</u> Total Dissolved Solids					
13081020-01E	MW-5	Water	8/20/2013 3:13:00 PM			8/27/2013 10:10 AM
13081020-02E	MW-20		8/20/2013 5:26:00 PM			8/27/2013 10:10 AM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/27/2013 10:10 AM
13081020-05E	MW-12R		8/21/2013 9:54:00 AM			8/27/2013 10:10 AM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/27/2013 10:10 AM
13081020-12E	MW-28		8/20/2013 4:25:00 PM			8/27/2013 10:10 AM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/27/2013 10:10 AM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/27/2013 10:10 AM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/27/2013 10:10 AM
13081020-16E	DUP-2					8/27/2013 10:10 AM
13081020-26E	MW-15		8/20/2013 9:35:00 AM			8/27/2013 10:10 AM
13081020-27E	DUP-1					8/27/2013 10:10 AM
13081020-28E	MW-16		8/20/2013 10:50:00 AM			8/27/2013 10:10 AM
13081020-29E	MW-4		8/20/2013 11:50:00 AM			8/27/2013 10:10 AM
13081020-30E	MW-30		8/20/2013 1:25:00 PM			8/27/2013 10:10 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152905 <u>Test Name:</u> Volatiles - SW8260C						
13081020-28 ^	MW-16	Water	8/20/2013 10:50:00 AM			8/28/2013 04:34 PM
13081020-29 ^	MW-4		8/20/2013 11:50:00 AM			8/28/2013 07:07 PM
13081020-30 ^	MW-30		8/20/2013 1:25:00 PM			8/28/2013 07:32 PM
13081020-31 ^	MW-7		8/21/2013 6:25:00 PM			8/28/2013 04:09 PM
13081020-32 ^	MW-6		8/21/2013 6:50:00 PM			8/28/2013 07:58 PM
13081020-33 ^	MW-26		8/22/2013 9:35:00 AM			8/28/2013 08:23 PM
13081020-34 ^	MW-3		8/22/2013 10:55:00 AM			8/28/2013 08:48 PM
13081020-35 ^	MW-9		8/22/2013 12:30:00 PM			8/28/2013 09:13 PM
13081020-36 ^	MW-10		8/22/2013 2:05:00 PM			8/28/2013 09:39 PM
13081020-37 ^	MW-17R		8/22/2013 4:40:00 PM			8/28/2013 10:04 PM
13081020-41 ^	TB-073113-74		8/22/2013			8/28/2013 03:43 PM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152958 <u>Test Name:</u> Total Dissolved Solids						
13081020-06E	MW-22	Water	8/21/2013 1:43:00 PM			8/28/2013 11:20 AM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/28/2013 11:20 AM
13081020-08E	MW-24		8/21/2013 6:04:00 PM			8/28/2013 11:20 AM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/28/2013 11:20 AM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/28/2013 11:20 AM
13081020-19E	MW-1		8/21/2013 3:45:00 PM			8/28/2013 11:20 AM
13081020-20E	RW-1		8/21/2013 5:05:00 PM			8/28/2013 11:20 AM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/28/2013 11:20 AM
13081020-22E	DUP-3					8/28/2013 11:20 AM
13081020-23E	MW-18		8/22/2013 2:22:00 PM			8/28/2013 11:20 AM
13081020-24E	MW-25		8/22/2013 5:32:00 PM			8/28/2013 11:20 AM
13081020-25E	DUP-4					8/28/2013 11:20 AM
13081020-31E	MW-7		8/21/2013 6:25:00 PM			8/28/2013 11:20 AM
13081020-32E	MW-6		8/21/2013 6:50:00 PM			8/28/2013 11:20 AM
13081020-33E	MW-26		8/22/2013 9:35:00 AM			8/28/2013 11:20 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152959	<u>Test Name:</u> Anions - EPA 300.0 (1993)					
13081020-02E	MW-20	Water	8/20/2013 5:26:00 PM			8/29/2013 12:07 AM
13081020-03E	MW-21		8/20/2013 7:38:00 PM			8/29/2013 12:22 AM
13081020-06E	MW-22		8/21/2013 1:43:00 PM			8/29/2013 12:36 AM
13081020-07E	MW-23		8/21/2013 4:08:00 PM			8/29/2013 12:51 AM
13081020-11E	MW-2		8/20/2013 2:50:00 PM			8/29/2013 01:05 AM
13081020-13E	MW-29		8/20/2013 6:10:00 PM			8/29/2013 01:49 AM
13081020-14E	MW-27		8/20/2013 7:40:00 PM			8/29/2013 02:03 AM
13081020-15E	MW-11		8/21/2013 9:40:00 AM			8/29/2013 02:18 AM
13081020-16E	DUP-2					8/29/2013 02:33 AM
13081020-17E	MW-8		8/21/2013 11:30:00 AM			8/29/2013 02:47 AM
13081020-18E	MW-13		8/21/2013 2:10:00 PM			8/29/2013 03:31 AM
13081020-21E	MW-19		8/22/2013 11:42:00 AM			8/29/2013 03:45 AM
13081020-22E	DUP-3					8/29/2013 04:00 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152973 <u>Test Name:</u> Anions - EPA 300.0 (1993)						
13081020-01F	MW-5	Water	8/20/2013 3:13:00 PM			8/29/2013 04:43 AM
13081020-02F	MW-20		8/20/2013 5:26:00 PM			8/29/2013 04:58 AM
13081020-03F	MW-21		8/20/2013 7:38:00 PM			8/29/2013 05:13 AM
13081020-05F	MW-12R		8/21/2013 9:54:00 AM			8/29/2013 05:27 AM
13081020-06F	MW-22		8/21/2013 1:43:00 PM			8/29/2013 05:42 AM
13081020-07F	MW-23		8/21/2013 4:08:00 PM			8/29/2013 05:56 AM
13081020-08F	MW-24		8/21/2013 6:04:00 PM			8/29/2013 06:11 AM
13081020-11F	MW-2		8/20/2013 2:50:00 PM			8/29/2013 06:25 AM
13081020-12F	MW-28		8/20/2013 4:25:00 PM			8/29/2013 06:40 AM
13081020-13F	MW-29		8/20/2013 6:10:00 PM			8/29/2013 06:54 AM
13081020-14F	MW-27		8/20/2013 7:40:00 PM			8/29/2013 07:38 AM
13081020-15F	MW-11		8/21/2013 9:40:00 AM			8/29/2013 07:53 AM
13081020-16F	DUP-2					8/29/2013 08:07 AM
13081020-17F	MW-8		8/21/2013 11:30:00 AM			8/29/2013 08:22 AM
13081020-18F	MW-13		8/21/2013 2:10:00 PM			8/29/2013 09:05 AM
13081020-19F	MW-1		8/21/2013 3:45:00 PM			8/29/2013 09:20 AM
13081020-20F	RW-1		8/21/2013 5:05:00 PM			8/29/2013 09:34 AM
13081020-21F	MW-19		8/22/2013 11:42:00 AM			8/29/2013 09:49 AM
13081020-22F	DUP-3					8/29/2013 10:33 AM
13081020-23F	MW-18		8/22/2013 2:22:00 PM			8/29/2013 10:47 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R152996 <u>Test Name:</u> Total Dissolved Solids						
13081020-34E	MW-3	Water	8/22/2013 10:55:00 AM			8/29/2013 11:10 AM
13081020-35E	MW-9		8/22/2013 12:30:00 PM			8/29/2013 11:10 AM
13081020-36E	MW-10		8/22/2013 2:05:00 PM			8/29/2013 11:10 AM
13081020-37E	MW-17R		8/22/2013 4:40:00 PM			8/29/2013 11:10 AM
13081020-38E	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/29/2013 11:10 AM
13081020-39E	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/29/2013 11:10 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R153012 <u>Test Name:</u> Anions - EPA 300.0 (1993)						
13081020-23E	MW-18	Water	8/22/2013 2:22:00 PM			8/30/2013 04:02 PM
13081020-24E	MW-25		8/22/2013 5:32:00 PM			8/30/2013 01:41 AM
						8/30/2013 12:09 PM
13081020-25E	DUP-4					8/30/2013 02:59 AM
						8/30/2013 12:35 PM
13081020-26E	MW-15		8/20/2013 9:35:00 AM			8/30/2013 03:25 AM
						8/30/2013 01:00 PM
13081020-27E	DUP-1					8/30/2013 03:50 AM
						8/30/2013 01:26 PM
13081020-28E	MW-16		8/20/2013 10:50:00 AM			8/30/2013 04:16 AM
13081020-29E	MW-4		8/20/2013 11:50:00 AM			8/30/2013 04:42 AM
13081020-30E	MW-30		8/20/2013 1:25:00 PM			8/30/2013 06:00 AM
13081020-31E	MW-7		8/21/2013 6:25:00 PM			8/30/2013 06:25 AM
13081020-32E	MW-6		8/21/2013 6:50:00 PM			8/30/2013 06:51 AM
13081020-33E	MW-26		8/22/2013 9:35:00 AM			8/30/2013 07:17 AM
						8/30/2013 01:52 PM
13081020-34E	MW-3		8/22/2013 10:55:00 AM			8/30/2013 07:43 AM
13081020-35E	MW-9		8/22/2013 12:30:00 PM			8/30/2013 08:09 AM
13081020-36E	MW-10		8/22/2013 2:05:00 PM			8/30/2013 08:34 AM
13081020-37E	MW-17R		8/22/2013 4:40:00 PM			8/30/2013 09:00 AM
						8/30/2013 02:18 PM
13081020-38E	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/30/2013 09:26 AM
13081020-39E	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/30/2013 09:52 AM

Work Order: 13081020
Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<u>Batch ID</u> R153028 <u>Test Name:</u> Anions - EPA 300.0 (1993)						
13081020-24F	MW-25	Water	8/22/2013 5:32:00 PM			8/30/2013 06:53 AM
13081020-25F	DUP-4					8/30/2013 08:05 AM
13081020-26F	MW-15		8/20/2013 9:35:00 AM			8/30/2013 08:29 AM
13081020-27F	DUP-1					8/30/2013 08:53 AM
13081020-28F	MW-16		8/20/2013 10:50:00 AM			8/30/2013 09:18 AM
13081020-29F	MW-4		8/20/2013 11:50:00 AM			8/30/2013 09:42 AM
13081020-30F	MW-30		8/20/2013 1:25:00 PM			8/30/2013 10:06 AM
13081020-31F	MW-7		8/21/2013 6:25:00 PM			8/30/2013 10:30 AM
13081020-32F	MW-6		8/21/2013 6:50:00 PM			8/30/2013 03:21 PM
13081020-33F	MW-26		8/22/2013 9:35:00 AM			8/30/2013 12:06 PM
13081020-34F	MW-3		8/22/2013 10:55:00 AM			8/30/2013 12:31 PM
13081020-35F	MW-9		8/22/2013 12:30:00 PM			8/30/2013 12:55 PM
13081020-36F	MW-10		8/22/2013 2:05:00 PM			8/30/2013 01:19 PM
13081020-37F	MW-17R		8/22/2013 4:40:00 PM			8/30/2013 02:07 PM
13081020-38F	EB-08-22-13-A		8/22/2013 5:55:00 PM			8/30/2013 02:31 PM
13081020-39F	EB-08-22-13-B		8/22/2013 7:00:00 PM			8/30/2013 02:55 PM

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72555** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW4-082713-72555** Units: **mg/L** Analysis Date: **8/27/2013 03:04 PM**

Client ID: Run ID: **ICP7500_130827A** SeqNo: **3333647** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100								
Arsenic	ND	0.00500								
Barium	ND	0.00500								
Boron	ND	0.0500								
Cadmium	ND	0.00200								
Calcium	ND	0.500								
Chromium	ND	0.00500								
Cobalt	ND	0.00500								
Copper	ND	0.00500								
Iron	ND	0.200								
Lead	ND	0.00500								
Magnesium	ND	0.200								
Manganese	ND	0.00500								
Molybdenum	ND	0.00500								
Nickel	ND	0.00500								
Potassium	ND	0.200								
Selenium	ND	0.00500								
Silver	ND	0.00500								
Sodium	ND	0.200								
Uranium	ND	0.00500								
Zinc	ND	0.00500								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72555** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW4-082713-72555** Units: **mg/L** Analysis Date: **8/27/2013 03:09 PM**

Client ID: Run ID: **ICP7500_130827A** SeqNo: **3333648** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1088	0.0100	0.1	0	109	80-120				
Arsenic	0.0505	0.00500	0.05	0	101	80-120				
Barium	0.04958	0.00500	0.05	0	99.2	80-120				
Boron	0.4759	0.0500	0.5	0	95.2	80-120				
Cadmium	0.04961	0.00200	0.05	0	99.2	80-120				
Calcium	5.131	0.500	5	0	103	80-120				
Chromium	0.05039	0.00500	0.05	0	101	80-120				
Cobalt	0.05084	0.00500	0.05	0	102	80-120				
Copper	0.04993	0.00500	0.05	0	99.9	80-120				
Iron	5.202	0.200	5	0	104	80-120				
Lead	0.0488	0.00500	0.05	0	97.6	80-120				
Magnesium	5.111	0.200	5	0	102	80-120				
Manganese	0.05082	0.00500	0.05	0	102	80-120				
Molybdenum	0.04847	0.00500	0.05	0	96.9	80-120				
Nickel	0.05055	0.00500	0.05	0	101	80-120				
Potassium	5.026	0.200	5	0	101	80-120				
Selenium	0.0495	0.00500	0.05	0	99	80-120				
Silver	0.05104	0.00500	0.05	0	102	80-120				
Sodium	5.076	0.200	5	0	102	80-120				
Uranium	0.09202	0.00500	0.1	0	92	80-120				
Zinc	0.05244	0.00500	0.05	0	105	80-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72555** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS		Sample ID: 13081020-17DMS				Units: mg/L		Analysis Date: 8/27/2013 03:29 PM		
Client ID: MW-8		Run ID: ICP7500_130827A				SeqNo: 3333652		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1118	0.0100	0.1	0.007627	104	75-125				
Arsenic	0.05751	0.00500	0.05	0.004736	106	75-125				
Barium	0.1712	0.00500	0.05	0.1193	104	75-125				
Boron	0.7644	0.0500	0.5	0.2659	99.7	75-125				
Cadmium	0.05127	0.00200	0.05	0.0001398	102	75-125				
Calcium	137.1	0.500	5	132.3	96	75-125				O
Chromium	0.05162	0.00500	0.05	0.0002341	103	75-125				
Cobalt	0.0511	0.00500	0.05	0.0004055	101	75-125				
Copper	0.05152	0.00500	0.05	0.00007993	103	75-125				
Iron	5.283	0.200	5	-0.01958	106	75-125				
Lead	0.05049	0.00500	0.05	0.0007237	99.5	75-125				
Magnesium	20.58	0.200	5	15.66	98.4	75-125				
Manganese	0.07273	0.00500	0.05	0.02084	104	75-125				
Molybdenum	0.05163	0.00500	0.05	0.002316	98.6	75-125				
Nickel	0.06171	0.00500	0.05	0.01354	96.3	75-125				
Potassium	8.754	0.200	5	3.664	102	75-125				
Selenium	0.05378	0.00500	0.05	0.000808	106	75-125				
Silver	0.04925	0.00500	0.05	-0.0002462	99	75-125				
Sodium	117.8	0.200	5	114.9	58	75-125				SO
Uranium	0.1027	0.00500	0.1	0.00452	98.2	75-125				
Zinc	0.0547	0.00500	0.05	0.01072	88	75-125				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72555** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 13081020-17DMSD				Units: mg/L		Analysis Date: 8/27/2013 03:34 PM		
Client ID: MW-8		Run ID: ICP7500_130827A				SeqNo: 3333653		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1106	0.0100	0.1	0.007627	103	75-125	0.1118	1.08	25	
Arsenic	0.05586	0.00500	0.05	0.004736	102	75-125	0.05751	2.91	25	
Barium	0.1684	0.00500	0.05	0.1193	98.2	75-125	0.1712	1.65	25	
Boron	0.7747	0.0500	0.5	0.2659	102	75-125	0.7644	1.34	25	
Cadmium	0.05063	0.00200	0.05	0.0001398	101	75-125	0.05127	1.26	25	
Calcium	134.3	0.500	5	132.3	40	75-125	137.1	2.06	25	SO
Chromium	0.05024	0.00500	0.05	0.0002341	100	75-125	0.05162	2.71	25	
Cobalt	0.05049	0.00500	0.05	0.0004055	100	75-125	0.0511	1.2	25	
Copper	0.04915	0.00500	0.05	0.00007993	98.1	75-125	0.05152	4.71	25	
Iron	5.051	0.200	5	-0.01958	101	75-125	5.283	4.49	25	
Lead	0.04899	0.00500	0.05	0.0007237	96.5	75-125	0.05049	3.02	25	
Magnesium	20.35	0.200	5	15.66	93.8	75-125	20.58	1.12	25	
Manganese	0.06933	0.00500	0.05	0.02084	97	75-125	0.07273	4.79	25	
Molybdenum	0.05192	0.00500	0.05	0.002316	99.2	75-125	0.05163	0.56	25	
Nickel	0.06109	0.00500	0.05	0.01354	95.1	75-125	0.06171	1.01	25	
Potassium	8.594	0.200	5	3.664	98.6	75-125	8.754	1.84	25	
Selenium	0.05432	0.00500	0.05	0.000808	107	75-125	0.05378	0.999	25	
Silver	0.0485	0.00500	0.05	-0.0002462	97.5	75-125	0.04925	1.53	25	
Sodium	116.4	0.200	5	114.9	30	75-125	117.8	1.2	25	SO
Uranium	0.1009	0.00500	0.1	0.00452	96.4	75-125	0.1027	1.77	25	
Zinc	0.05264	0.00500	0.05	0.01072	83.8	75-125	0.0547	3.84	25	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72555** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

DUP Sample ID: **13081020-17DDUP** Units: **mg/L** Analysis Date: **8/27/2013 03:19 PM**
 Client ID: **MW-8** Run ID: **ICP7500_130827A** SeqNo: **3333650** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100					0.007627	0	25	
Arsenic	ND	0.00500					0.004736	0	25	
Barium	0.1249	0.00500					0.1193	4.59	25	
Boron	0.2728	0.0500					0.2659	2.56	25	
Cadmium	ND	0.00200					0.0001398	0	25	
Calcium	137.1	0.500					132.3	3.56	25	
Chromium	ND	0.00500					0.0002341	0	25	
Cobalt	ND	0.00500					0.0004055	0	25	
Copper	ND	0.00500					0.00007993	0	25	
Iron	ND	0.200					-0.01958	0	25	
Lead	ND	0.00500					0.0007237	0	25	
Magnesium	16.31	0.200					15.66	4.07	25	
Manganese	0.02123	0.00500					0.02084	1.85	25	
Molybdenum	ND	0.00500					0.002316	0	25	
Nickel	0.01299	0.00500					0.01354	4.15	25	
Potassium	3.784	0.200					3.664	3.22	25	
Selenium	ND	0.00500					0.000808	0	25	
Silver	ND	0.00500					-0.0002462	0	25	
Sodium	120.4	0.200					114.9	4.67	25	
Uranium	ND	0.00500					0.00452	0	25	
Zinc	ND	0.00500					0.01072	0	25	

The following samples were analyzed in this batch:

13081020-01D	13081020-02D	13081020-03D
13081020-05D	13081020-06D	13081020-07D
13081020-08D	13081020-11D	13081020-12D
13081020-13D	13081020-14D	13081020-15D
13081020-16D	13081020-17D	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72572** Instrument ID **ICP7500** Method: **SW6020** (**Dissolve**)

MBLK Sample ID: **MBLKW6-082713-72572** Units: **mg/L** Analysis Date: **8/27/2013 05:18 PM**

Client ID: Run ID: **ICP7500_130827A** SeqNo: **3334020** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100								
Arsenic	ND	0.00500								
Barium	ND	0.00500								
Boron	ND	0.0500								
Cadmium	ND	0.00200								
Calcium	ND	0.500								
Chromium	ND	0.00500								
Cobalt	ND	0.00500								
Copper	ND	0.00500								
Iron	ND	0.200								
Lead	ND	0.00500								
Magnesium	ND	0.200								
Manganese	ND	0.00500								
Molybdenum	ND	0.00500								
Nickel	ND	0.00500								
Potassium	ND	0.200								
Selenium	ND	0.00500								
Silver	ND	0.00500								
Sodium	ND	0.200								
Uranium	ND	0.00500								
Zinc	ND	0.00500								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72572** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS Sample ID: **MLCSW6-082713-72572** Units: **mg/L** Analysis Date: **8/27/2013 05:23 PM**

Client ID: Run ID: **ICP7500_130827A** SeqNo: **3334021** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1056	0.0100	0.1	0	106	80-120				
Arsenic	0.04886	0.00500	0.05	0	97.7	80-120				
Barium	0.04832	0.00500	0.05	0	96.6	80-120				
Boron	0.4758	0.0500	0.5	0	95.2	80-120				
Cadmium	0.04801	0.00200	0.05	0	96	80-120				
Calcium	5.087	0.500	5	0	102	80-120				
Chromium	0.04799	0.00500	0.05	0	96	80-120				
Cobalt	0.04772	0.00500	0.05	0	95.4	80-120				
Copper	0.04871	0.00500	0.05	0	97.4	80-120				
Iron	4.987	0.200	5	0	99.7	80-120				
Lead	0.04766	0.00500	0.05	0	95.3	80-120				
Magnesium	4.895	0.200	5	0	97.9	80-120				
Manganese	0.04976	0.00500	0.05	0	99.5	80-120				
Molybdenum	0.04695	0.00500	0.05	0	93.9	80-120				
Nickel	0.04692	0.00500	0.05	0	93.8	80-120				
Potassium	4.925	0.200	5	0	98.5	80-120				
Selenium	0.05029	0.00500	0.05	0	101	80-120				
Silver	0.04921	0.00500	0.05	0	98.4	80-120				
Sodium	4.885	0.200	5	0	97.7	80-120				
Uranium	0.09411	0.00500	0.1	0	94.1	80-120				
Zinc	0.05085	0.00500	0.05	0	102	80-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72572** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **13081020-23DMS** Units: **mg/L** Analysis Date: **8/27/2013 05:43 PM**
 Client ID: **MW-18** Run ID: **ICP7500_130827A** SeqNo: **3334025** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.107	0.0100	0.1	0.004491	103	75-125				
Arsenic	0.05191	0.00500	0.05	0.00266	98.5	75-125				
Barium	0.1577	0.00500	0.05	0.1101	95.2	75-125				
Boron	0.7286	0.0500	0.5	0.2426	97.2	75-125				
Cadmium	0.04838	0.00200	0.05	0.0001804	96.4	75-125				
Calcium	192.3	0.500	5	185.1	144	75-125				SEO
Chromium	0.04913	0.00500	0.05	0.000204	97.9	75-125				
Cobalt	0.04771	0.00500	0.05	-0.00002513	95.5	75-125				
Copper	0.04841	0.00500	0.05	0.0005019	95.8	75-125				
Iron	4.946	0.200	5	-0.02373	99.4	75-125				
Lead	0.04834	0.00500	0.05	0.0003638	96	75-125				
Magnesium	21.29	0.200	5	16.55	94.8	75-125				
Manganese	0.04921	0.00500	0.05	0.000577	97.3	75-125				
Molybdenum	0.05034	0.00500	0.05	0.00211	96.5	75-125				
Nickel	0.05194	0.00500	0.05	0.005092	93.7	75-125				
Potassium	7.619	0.200	5	2.664	99.1	75-125				
Selenium	0.05492	0.00500	0.05	0.001722	106	75-125				
Silver	0.04813	0.00500	0.05	-0.000258	96.8	75-125				
Sodium	78.97	0.200	5	73.88	102	75-125				O
Uranium	0.1024	0.00500	0.1	0.004323	98.1	75-125				
Zinc	0.05332	0.00500	0.05	0.004275	98.1	75-125				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72572** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD		Sample ID: 13081020-23DMSD				Units: mg/L		Analysis Date: 8/27/2013 05:48 PM		
Client ID: MW-18		Run ID: ICP7500_130827A				SeqNo: 3334026		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1052	0.0100	0.1	0.004491	101	75-125	0.107	1.7	25	
Arsenic	0.05147	0.00500	0.05	0.00266	97.6	75-125	0.05191	0.851	25	
Barium	0.1551	0.00500	0.05	0.1101	90	75-125	0.1577	1.66	25	
Boron	0.7101	0.0500	0.5	0.2426	93.5	75-125	0.7286	2.57	25	
Cadmium	0.04677	0.00200	0.05	0.0001804	93.2	75-125	0.04838	3.38	25	
Calcium	188.7	0.500	5	185.1	72	75-125	192.3	1.89	25	SEO
Chromium	0.04853	0.00500	0.05	0.000204	96.7	75-125	0.04913	1.23	25	
Cobalt	0.04676	0.00500	0.05	-0.00002513	93.6	75-125	0.04771	2.01	25	
Copper	0.04719	0.00500	0.05	0.0005019	93.4	75-125	0.04841	2.55	25	
Iron	4.897	0.200	5	-0.02373	98.4	75-125	4.946	0.996	25	
Lead	0.04661	0.00500	0.05	0.0003638	92.5	75-125	0.04834	3.64	25	
Magnesium	20.43	0.200	5	16.55	77.6	75-125	21.29	4.12	25	
Manganese	0.04964	0.00500	0.05	0.000577	98.1	75-125	0.04921	0.87	25	
Molybdenum	0.04791	0.00500	0.05	0.00211	91.6	75-125	0.05034	4.95	25	
Nickel	0.05052	0.00500	0.05	0.005092	90.9	75-125	0.05194	2.77	25	
Potassium	7.4	0.200	5	2.664	94.7	75-125	7.619	2.92	25	
Selenium	0.05069	0.00500	0.05	0.001722	97.9	75-125	0.05492	8.01	25	
Silver	0.0458	0.00500	0.05	-0.000258	92.1	75-125	0.04813	4.96	25	
Sodium	74.8	0.200	5	73.88	18.4	75-125	78.97	5.42	25	SO
Uranium	0.09976	0.00500	0.1	0.004323	95.4	75-125	0.1024	2.61	25	
Zinc	0.05192	0.00500	0.05	0.004275	95.3	75-125	0.05332	2.66	25	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72572** Instrument ID **ICP7500** Method: **SW6020** (Dissolve)

DUP Sample ID: **13081020-23DDUP** Units: **mg/L** Analysis Date: **8/27/2013 05:33 PM**
Client ID: **MW-18** Run ID: **ICP7500_130827A** SeqNo: **3334023** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100					0.004491	0	25	
Arsenic	ND	0.00500					0.00266	0	25	
Barium	0.114	0.00500					0.1101	3.48	25	
Boron	0.2507	0.0500					0.2426	3.28	25	
Cadmium	ND	0.00200					0.0001804	0	25	
Chromium	ND	0.00500					0.000204	0	25	
Cobalt	ND	0.00500					-0.00002513	0	25	
Copper	ND	0.00500					0.0005019	0	25	
Iron	ND	0.200					-0.02373	0	25	
Lead	ND	0.00500					0.0003638	0	25	
Magnesium	17.13	0.200					16.55	3.44	25	
Manganese	ND	0.00500					0.000577	0	25	
Molybdenum	ND	0.00500					0.00211	0	25	
Nickel	0.005188	0.00500					0.005092	1.87	25	
Potassium	2.775	0.200					2.664	4.08	25	
Selenium	ND	0.00500					0.001722	0	25	
Silver	ND	0.00500					-0.000258	0	25	
Sodium	75.79	0.200					73.88	2.55	25	
Uranium	ND	0.00500					0.004323	0	25	
Zinc	ND	0.00500					0.004275	0	25	

DUP Sample ID: **13081020-23DDUP** Units: **mg/L** Analysis Date: **8/28/2013 12:48 PM**
Client ID: **MW-18** Run ID: **ICP7500_130828A** SeqNo: **3335196** Prep Date: **8/27/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	180.9	5.00					182.3	0.771	25	

The following samples were analyzed in this batch:

13081020-18D	13081020-19D	13081020-20D
13081020-21D	13081020-22D	13081020-23D
13081020-24D	13081020-25D	13081020-26D
13081020-27D	13081020-28D	13081020-29D
13081020-30D	13081020-31D	13081020-32D
13081020-33D	13081020-34D	13081020-35D
13081020-36D	13081020-37D	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72601** Instrument ID **HG02** Method: **SW7470**

MBLK	Sample ID: GBLKW2-082813-72601				Units: mg/L		Analysis Date: 8/28/2013 03:13 PM			
Client ID:	Run ID: HG02_130828A				SeqNo: 3335800		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.000200								

LCS	Sample ID: GLCSW2-082813-72601				Units: mg/L		Analysis Date: 8/28/2013 03:15 PM			
Client ID:	Run ID: HG02_130828A				SeqNo: 3335801		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00492	0.000200	0.005	0	98.4	85-115				

MS	Sample ID: 13081020-17CMS				Units: mg/L		Analysis Date: 8/28/2013 03:21 PM			
Client ID: MW-8	Run ID: HG02_130828A				SeqNo: 3335804		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00489	0.000200	0.005	0.000002	97.8	85-115				

MSD	Sample ID: 13081020-17CMSD				Units: mg/L		Analysis Date: 8/28/2013 03:23 PM			
Client ID: MW-8	Run ID: HG02_130828A				SeqNo: 3335805		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00492	0.000200	0.005	0.000002	98.4	85-115	0.00489	0.612	20	

DUP	Sample ID: 13081020-17CDUP				Units: mg/L		Analysis Date: 8/28/2013 03:19 PM			
Client ID: MW-8	Run ID: HG02_130828A				SeqNo: 3335803		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.000200					0.000002	0	20	

The following samples were analyzed in this batch:

13081020-01C	13081020-02C	13081020-03C
13081020-05C	13081020-06C	13081020-07C
13081020-08C	13081020-11C	13081020-12C
13081020-13C	13081020-14C	13081020-15C
13081020-16C	13081020-17C	13081020-18C
13081020-19C	13081020-20C	13081020-21C
13081020-22C		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72602** Instrument ID **HG02** Method: **SW7470**

MBLK	Sample ID: GBLKW3-082813-72602				Units: mg/L		Analysis Date: 8/28/2013 04:28 PM			
Client ID:	Run ID: HG02_130828A				SeqNo: 3335830		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.000200								

LCS	Sample ID: GLCSW3-082813-72602				Units: mg/L		Analysis Date: 8/28/2013 04:30 PM			
Client ID:	Run ID: HG02_130828A				SeqNo: 3335831		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00504	0.000200	0.005	0	101	85-115				

MS	Sample ID: 13081020-23CMS				Units: mg/L		Analysis Date: 8/28/2013 04:37 PM			
Client ID: MW-18	Run ID: HG02_130828A				SeqNo: 3335834		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00484	0.000200	0.005	0.000002	96.8	85-115				

MSD	Sample ID: 13081020-23CMSD				Units: mg/L		Analysis Date: 8/28/2013 04:39 PM			
Client ID: MW-18	Run ID: HG02_130828A				SeqNo: 3335835		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.000200	0.005	0.000002	97	85-115	0.00484	0.206	20	

DUP	Sample ID: 13081020-23CDUP				Units: mg/L		Analysis Date: 8/28/2013 04:35 PM			
Client ID: MW-18	Run ID: HG02_130828A				SeqNo: 3335833		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.000200					0.000002	0	20	

The following samples were analyzed in this batch:

13081020-23C	13081020-24C	13081020-25C
13081020-26C	13081020-27C	13081020-28C
13081020-29C	13081020-30C	13081020-31C
13081020-32C	13081020-33C	13081020-34C
13081020-35C	13081020-36C	13081020-37C
13081020-38C	13081020-39C	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72626** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MBLK Sample ID: **MBLKW9-082813-72626** Units: **mg/L** Analysis Date: **8/29/2013 03:04 PM**

Client ID: Run ID: **ICP7500_130829A** SeqNo: **3337218** Prep Date: **8/28/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100								
Arsenic	ND	0.00500								
Barium	ND	0.00500								
Boron	ND	0.0500								
Cadmium	ND	0.00200								
Calcium	ND	0.500								
Chromium	ND	0.00500								
Cobalt	ND	0.00500								
Copper	ND	0.00500								
Iron	ND	0.200								
Lead	ND	0.00500								
Magnesium	ND	0.200								
Manganese	ND	0.00500								
Molybdenum	ND	0.00500								
Nickel	ND	0.00500								
Potassium	ND	0.200								
Selenium	ND	0.00500								
Silver	ND	0.00500								
Sodium	ND	0.200								
Uranium	ND	0.00500								
Zinc	ND	0.00500								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72626** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

LCS	Sample ID: MLCSW9-082813-72626				Units: mg/L		Analysis Date: 8/29/2013 03:09 PM			
Client ID:	Run ID: ICP7500_130829A				SeqNo: 3337219		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1184	0.0100	0.1	0	118	80-120				
Arsenic	0.05223	0.00500	0.05	0	104	80-120				
Barium	0.05309	0.00500	0.05	0	106	80-120				
Boron	0.501	0.0500	0.5	0	100	80-120				
Calcium	5.439	0.500	5	0	109	80-120				
Chromium	0.05436	0.00500	0.05	0	109	80-120				
Cobalt	0.05261	0.00500	0.05	0	105	80-120				
Copper	0.05431	0.00500	0.05	0	109	80-120				
Iron	5.298	0.200	5	0	106	80-120				
Lead	0.05234	0.00500	0.05	0	105	80-120				
Magnesium	5.329	0.200	5	0	107	80-120				
Manganese	0.05361	0.00500	0.05	0	107	80-120				
Molybdenum	0.05143	0.00500	0.05	0	103	80-120				
Nickel	0.05278	0.00500	0.05	0	106	80-120				
Potassium	5.196	0.200	5	0	104	80-120				
Selenium	0.05339	0.00500	0.05	0	107	80-120				
Silver	0.05337	0.00500	0.05	0	107	80-120				
Zinc	0.05415	0.00500	0.05	0	108	80-120				

LCS	Sample ID: MLCSW9-082813-72626				Units: mg/L		Analysis Date: 8/29/2013 06:01 PM			
Client ID:	Run ID: ICP7500_130829A				SeqNo: 3337944		Prep Date: 8/28/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	0.0536	0.00200	0.05	0	107	80-120				
Sodium	5.206	0.200	5	0	104	80-120				
Uranium	0.105	0.00500	0.1	0	105	80-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72626** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MS Sample ID: **13081020-38DMS** Units: **mg/L** Analysis Date: **8/29/2013 06:21 PM**
 Client ID: **EB-08-22-13-A** Run ID: **ICP7500_130829A** SeqNo: **3337948** Prep Date: **8/28/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1173	0.0100	0.1	0.007681	110	75-125				
Arsenic	0.05126	0.00500	0.05	0.00006379	102	75-125				
Barium	0.05425	0.00500	0.05	0.0006602	107	75-125				
Boron	0.5004	0.0500	0.5	0.0202	96	75-125				
Cadmium	0.0533	0.00200	0.05	-0.0001762	107	75-125				
Calcium	5.279	0.500	5	-0.00471	106	75-125				
Chromium	0.05193	0.00500	0.05	0.00004313	104	75-125				
Cobalt	0.05216	0.00500	0.05	-0.0001867	105	75-125				
Copper	0.05305	0.00500	0.05	-4.657E-06	106	75-125				
Iron	5.299	0.200	5	-0.0171	106	75-125				
Lead	0.05189	0.00500	0.05	0.0004159	103	75-125				
Magnesium	5.228	0.200	5	0.03986	104	75-125				
Manganese	0.05308	0.00500	0.05	0.0001325	106	75-125				
Molybdenum	0.05193	0.00500	0.05	0.0007685	102	75-125				
Nickel	0.05201	0.00500	0.05	-0.0002978	105	75-125				
Potassium	5.198	0.200	5	0.03548	103	75-125				
Selenium	0.05242	0.00500	0.05	0.0007048	103	75-125				
Silver	0.05372	0.00500	0.05	0.0001601	107	75-125				
Sodium	5.234	0.200	5	0.03349	104	75-125				
Uranium	0.1041	0.00500	0.1	0.00005347	104	75-125				
Zinc	0.05712	0.00500	0.05	0.006472	101	75-125				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72626** Instrument ID **ICP7500** Method: **SW6020** **(Dissolve)**

MSD	Sample ID: 13081020-38DMSD					Units: mg/L		Analysis Date: 8/29/2013 06:26 PM		
Client ID: EB-08-22-13-A			Run ID: ICP7500_130829A			SeqNo: 3337949		Prep Date: 8/28/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.2546	0.0100	0.2	0.007681	123	75-125	0.1173	73.8	25	R
Arsenic	0.05091	0.00500	0.05	0	102	75-125	0.05126	0.685	25	
Barium	0.05546	0.00500	0.05	0	111	75-125	0.05425	2.21	25	
Boron	0.5045	0.0500	0.5	0.0202	96.9	75-125	0.5004	0.816	25	
Cadmium	0.05411	0.00200	0.05	0	108	75-125	0.0533	1.51	25	
Calcium	5.283	0.500	5	0	106	75-125	5.279	0.0757	25	
Chromium	0.05249	0.00500	0.05	0	105	75-125	0.05193	1.07	25	
Cobalt	0.05211	0.00500	0.05	0	104	75-125	0.05216	0.0959	25	
Copper	0.0535	0.00500	0.05	0	107	75-125	0.05305	0.845	25	
Iron	5.436	0.200	5	0	109	75-125	5.299	2.55	25	
Lead	0.05181	0.00500	0.05	0	104	75-125	0.05189	0.154	25	
Magnesium	5.211	0.200	5	0	104	75-125	5.228	0.326	25	
Manganese	0.05521	0.00500	0.05	0	110	75-125	0.05308	3.93	25	
Molybdenum	0.05112	0.00500	0.05	0	102	75-125	0.05193	1.57	25	
Nickel	0.05325	0.00500	0.05	0	106	75-125	0.05201	2.36	25	
Potassium	5.181	0.200	5	0	104	75-125	5.198	0.328	25	
Selenium	0.05372	0.00500	0.05	0	107	75-125	0.05242	2.45	25	
Silver	0.05242	0.00500	0.05	0	105	75-125	0.05372	2.45	25	
Sodium	5.105	0.200	5	0	102	75-125	5.234	2.5	25	
Uranium	0.1037	0.00500	0.1	0	104	75-125	0.1041	0.385	25	
Zinc	0.05806	0.00500	0.05	0.006472	103	75-125	0.05712	1.63	25	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72626** Instrument ID **ICP7500** Method: **SW6020** (**Dissolve**)

DUP Sample ID: **13081020-38DDUP** Units: **mg/L** Analysis Date: **8/29/2013 06:11 PM**
Client ID: **EB-08-22-13-A** Run ID: **ICP7500_130829A** SeqNo: **3337946** Prep Date: **8/28/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.0100					0.007681	0	25	
Arsenic	ND	0.00500					0.00006379	0	25	
Barium	ND	0.00500					0.0006602	0	25	
Boron	ND	0.0500					0.0202	0	25	
Cadmium	ND	0.00200					-0.0001762	0	25	
Calcium	ND	0.500					-0.00471	0	25	
Chromium	ND	0.00500					0.00004313	0	25	
Cobalt	ND	0.00500					-0.0001867	0	25	
Copper	ND	0.00500					-4.657E-06	0	25	
Iron	ND	0.200					-0.0171	0	25	
Lead	ND	0.00500					0.0004159	0	25	
Magnesium	ND	0.200					0.03986	0	25	
Manganese	ND	0.00500					0.0001325	0	25	
Molybdenum	ND	0.00500					0.0007685	0	25	
Nickel	ND	0.00500					-0.0002978	0	25	
Potassium	ND	0.200					0.03548	0	25	
Selenium	ND	0.00500					0.0007048	0	25	
Silver	ND	0.00500					0.0001601	0	25	
Sodium	ND	0.200					0.03349	0	25	
Uranium	ND	0.00500					0.00005347	0	25	
Zinc	ND	0.00500					0.006472	0	25	

The following samples were analyzed in this batch:

13081020-38D	13081020-39D

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72560** Instrument ID **SV-6** Method: **SW8270**

MBLK Sample ID: **SBLKW2-130827-72560** Units: **µg/L** Analysis Date: **8/27/2013 02:54 PM**
 Client ID: Run ID: **SV-6_130827B** SeqNo: **3336012** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72560		Instrument ID SV-6		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	4.378	0.20	5	0	87.6	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.11	0.20	5	0	82.2	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.893	0.20	5	0	77.9	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.582	0.20	5	0	91.6	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	4.228	0.20	5	0	84.6	41-120	0	
<i>Surr: Phenol-d6</i>	3.991	0.20	5	0	79.8	20-120	0	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72560** Instrument ID **SV-6** Method: **SW8270**

LCS				Sample ID: SLCSW2-130827-72560		Units: µg/L		Analysis Date: 8/27/2013 03:15 PM		
Client ID:		Run ID: SV-6_130827B			SeqNo: 3336013		Prep Date: 8/27/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.884	0.20	5	0	77.7	45-125				
1-Methylnaphthalene	4.035	0.20	5	0	80.7	45-120				
2,4,5-Trichlorophenol	4.113	0.20	5	0	82.3	46-120				
2,4,6-Trichlorophenol	4.097	0.20	5	0	81.9	42-120				
2,4-Dichlorophenol	4.072	0.20	5	0	81.4	49-120				
2,4-Dimethylphenol	4.083	0.20	5	0	81.7	35-120				
2,4-Dinitrophenol	4.068	1.0	5	0	81.4	15-120				
2,4-Dinitrotoluene	4.476	0.20	5	0	89.5	50-122				
2,6-Dinitrotoluene	4.314	0.20	5	0	86.3	50-120				
2-Chloronaphthalene	4.008	0.20	5	0	80.2	50-120				
2-Chlorophenol	3.623	0.20	5	0	72.5	40-120				
2-Methylnaphthalene	3.789	0.20	5	0	75.8	50-120				
2-Methylphenol	3.664	0.20	5	0	73.3	45-120				
2-Nitroaniline	5.2	0.20	5	0	104	28-139				
2-Nitrophenol	4.184	0.20	5	0	83.7	40-120				
3&4-Methylphenol	3.71	0.20	5	0	74.2	35-120				
3,3'-Dichlorobenzidine	3.957	0.20	5	0	79.1	15-120				
3-Nitroaniline	4.422	0.20	5	0	88.4	30-120				
4,6-Dinitro-2-methylphenol	4.558	0.20	5	0	91.2	25-121				
4-Bromophenyl phenyl ether	4.387	0.20	5	0	87.7	45-120				
4-Chloro-3-methylphenol	4.007	0.20	5	0	80.1	47-120				
4-Chloroaniline	4.025	0.20	5	0	80.5	20-120				
4-Chlorophenyl phenyl ether	4.006	0.20	5	0	80.1	50-120				
4-Nitroaniline	4.487	0.20	5	0	89.7	30-133				
4-Nitrophenol	4.282	1.0	5	0	85.6	30-130				
Acenaphthene	3.998	0.20	5	0	80	45-120				
Acenaphthylene	4.056	0.20	5	0	81.1	47-120				
Acetophenone	3.641	0.20	5	0	72.8	40-120				
Anthracene	4.422	0.20	5	0	88.4	45-120				
Atrazine	4.454	0.20	5	0	89.1	40-130				
Benz(a)anthracene	4.155	0.20	5	0	83.1	40-120				
Benzaldehyde	0.8433	0.20	5	0	16.9	15-120				
Benzo(a)pyrene	4.124	0.20	5	0	82.5	45-120				
Benzo(b)fluoranthene	4.54	0.20	5	0	90.8	50-120				
Benzo(g,h,i)perylene	4.081	0.20	5	0	81.6	42-127				
Benzo(k)fluoranthene	3.874	0.20	5	0	77.5	45-127				
Bis(2-chloroethoxy)methane	4.08	0.20	5	0	81.6	45-120				
Bis(2-chloroethyl)ether	3.55	0.20	5	0	71	37-121				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72560		Instrument ID SV-6		Method: SW8270			
Bis(2-chloroisopropyl)ether	3.46	0.20	5	0	69.2	40-120	
Bis(2-ethylhexyl)phthalate	4.288	0.20	5	0	85.8	40-139	
Butyl benzyl phthalate	4.224	0.20	5	0	84.5	47-123	
Caprolactam	4.036	0.20	5	0	80.7	35-134	
Carbazole	4.492	0.20	5	0	89.8	42-128	
Chrysene	4.037	0.20	5	0	80.7	43-120	
Dibenz(a,h)anthracene	4.078	0.20	5	0	81.6	45-125	
Dibenzofuran	4.114	0.20	5	0	82.3	50-120	
Diethyl phthalate	3.921	0.20	5	0	78.4	41-120	
Dimethyl phthalate	4.11	0.20	5	0	82.2	40-122	
Di-n-butyl phthalate	4.476	0.20	5	0	89.5	45-123	
Di-n-octyl phthalate	4.359	0.20	5	0	87.2	45-129	
Fluoranthene	4.425	0.20	5	0	88.5	45-125	
Fluorene	4.029	0.20	5	0	80.6	49-120	
Hexachlorobenzene	4.396	0.20	5	0	87.9	48-120	
Hexachlorobutadiene	3.889	0.20	5	0	77.8	40-120	
Hexachlorocyclopentadiene	4.249	0.20	5	0	85	34-136	
Hexachloroethane	3.523	0.20	5	0	70.5	40-120	
Indeno(1,2,3-cd)pyrene	4.514	0.20	5	0	90.3	41-128	
Isophorone	3.947	0.20	5	0	78.9	40-121	
Naphthalene	3.907	0.20	5	0	78.1	45-120	
Nitrobenzene	4.018	0.20	5	0	80.4	44-120	
N-Nitrosodi-n-propylamine	3.675	0.20	5	0	73.5	40-120	
N-Nitrosodiphenylamine	4.457	0.20	5	0	89.1	40-125	
Pentachlorophenol	4.102	0.20	5	0	82	19-121	
Phenanthrene	4.341	0.20	5	0	86.8	45-121	
Phenol	3.626	0.20	5	0	72.5	20-124	
Pyrene	4.11	0.20	5	0	82.2	40-130	
<i>Surr: 2,4,6-Tribromophenol</i>	4.686	0.20	5	0	93.7	34-129	0
<i>Surr: 2-Fluorobiphenyl</i>	4.06	0.20	5	0	81.2	40-125	0
<i>Surr: 2-Fluorophenol</i>	3.791	0.20	5	0	75.8	20-120	0
<i>Surr: 4-Terphenyl-d14</i>	4.421	0.20	5	0	88.4	40-135	0
<i>Surr: Nitrobenzene-d5</i>	4.121	0.20	5	0	82.4	41-120	0
<i>Surr: Phenol-d6</i>	3.899	0.20	5	0	78	20-120	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72560** Instrument ID **SV-6** Method: **SW8270**

MS		Sample ID: 13081020-17BMS				Units: µg/L		Analysis Date: 8/27/2013 03:58 PM		
Client ID: MW-8		Run ID: SV-6_130827B				SeqNo: 3336015		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.98	0.20	5	0	79.6	45-125				
1-Methylnaphthalene	4.216	0.20	5	0	84.3	45-120				
2,4,5-Trichlorophenol	4.531	0.20	5	0	90.6	46-120				
2,4,6-Trichlorophenol	4.187	0.20	5	0	83.7	42-120				
2,4-Dichlorophenol	4.237	0.20	5	0	84.7	49-120				
2,4-Dimethylphenol	3.886	0.20	5	0	77.7	35-120				
2,4-Dinitrophenol	5.316	1.0	5	0	106	15-120				
2,4-Dinitrotoluene	4.571	0.20	5	0	91.4	50-122				
2,6-Dinitrotoluene	5.222	0.20	5	0	104	50-120				
2-Chloronaphthalene	4.096	0.20	5	0	81.9	50-120				
2-Chlorophenol	3.643	0.20	5	0	72.9	40-120				
2-Methylnaphthalene	3.893	0.20	5	0	77.9	50-120				
2-Methylphenol	3.732	0.20	5	0	74.6	45-120				
2-Nitroaniline	5.22	0.20	5	0	104	28-139				
2-Nitrophenol	4.318	0.20	5	0	86.4	40-120				
3&4-Methylphenol	3.778	0.20	5	0	75.6	35-120				
3,3'-Dichlorobenzidine	1.788	0.20	5	0	35.8	15-120				
3-Nitroaniline	4.277	0.20	5	0	85.5	30-120				
4,6-Dinitro-2-methylphenol	5.11	0.20	5	0	102	25-121				
4-Bromophenyl phenyl ether	4.536	0.20	5	0	90.7	45-120				
4-Chloro-3-methylphenol	4.284	0.20	5	0	85.7	47-120				
4-Chloroaniline	3.682	0.20	5	0	73.6	20-120				
4-Chlorophenyl phenyl ether	4.174	0.20	5	0	83.5	50-120				
4-Nitroaniline	4.452	0.20	5	0	89	30-133				
4-Nitrophenol	5.097	1.0	5	0	102	30-130				
Acenaphthene	4.168	0.20	5	0	83.4	45-120				
Acenaphthylene	4.089	0.20	5	0	81.8	47-120				
Acetophenone	3.687	0.20	5	0	73.7	40-120				
Anthracene	4.53	0.20	5	0	90.6	45-120				
Atrazine	4.748	0.20	5	0	95	40-130				
Benz(a)anthracene	4.623	0.20	5	0	92.5	40-120				
Benzaldehyde	0.8602	0.20	5	0	17.2	15-120				
Benzo(a)pyrene	4.547	0.20	5	0	90.9	45-120				
Benzo(b)fluoranthene	4.681	0.20	5	0	93.6	50-120				
Benzo(g,h,i)perylene	4.551	0.20	5	0	91	42-127				
Benzo(k)fluoranthene	4.717	0.20	5	0	94.3	45-127				
Bis(2-chloroethoxy)methane	4.147	0.20	5	0	82.9	45-120				
Bis(2-chloroethyl)ether	4.212	0.20	5	0	84.2	37-121				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72560		Instrument ID SV-6		Method: SW8270			
Bis(2-chloroisopropyl)ether	3.465	0.20	5	0	69.3	40-120	SEO
Bis(2-ethylhexyl)phthalate	35.42	0.20	5	34.8	12.5	40-139	
Butyl benzyl phthalate	4.831	0.20	5	0	96.6	47-123	
Caprolactam	4.352	0.20	5	0.3654	79.7	35-134	
Carbazole	4.983	0.20	5	0	99.7	42-128	
Chrysene	4.481	0.20	5	0	89.6	43-120	
Dibenz(a,h)anthracene	4.751	0.20	5	0	95	45-125	
Dibenzofuran	4.108	0.20	5	0	82.2	50-120	
Diethyl phthalate	4.021	0.20	5	0.07723	78.9	41-120	
Dimethyl phthalate	4.18	0.20	5	0	83.6	40-122	
Di-n-butyl phthalate	5.022	0.20	5	0.08977	98.7	45-123	
Di-n-octyl phthalate	4.938	0.20	5	0.0515	97.7	45-129	
Fluoranthene	4.648	0.20	5	0	93	45-125	
Fluorene	4.17	0.20	5	0	83.4	49-120	
Hexachlorobenzene	4.341	0.20	5	0	86.8	48-120	
Hexachlorobutadiene	3.972	0.20	5	0	79.4	40-120	
Hexachlorocyclopentadiene	4.392	0.20	5	0	87.8	34-136	
Hexachloroethane	3.56	0.20	5	0	71.2	40-120	
Indeno(1,2,3-cd)pyrene	4.999	0.20	5	0	100	41-128	
Isophorone	3.969	0.20	5	0	79.4	40-121	
Naphthalene	4.035	0.20	5	0	80.7	45-120	
Nitrobenzene	4.1	0.20	5	0	82	44-120	
N-Nitrosodi-n-propylamine	3.749	0.20	5	0	75	40-120	
N-Nitrosodiphenylamine	4.582	0.20	5	0	91.6	40-125	
Pentachlorophenol	4.925	0.20	5	0	98.5	19-121	
Phenanthrene	4.469	0.20	5	0	89.4	45-121	
Phenol	3.717	0.20	5	0	74.3	20-124	
Pyrene	4.38	0.20	5	0	87.6	40-130	
<i>Surr: 2,4,6-Tribromophenol</i>	4.705	0.20	5	0	94.1	34-129	0
<i>Surr: 2-Fluorobiphenyl</i>	4.049	0.20	5	0	81	40-125	0
<i>Surr: 2-Fluorophenol</i>	3.624	0.20	5	0	72.5	20-120	0
<i>Surr: 4-Terphenyl-d14</i>	4.643	0.20	5	0	92.9	40-135	0
<i>Surr: Nitrobenzene-d5</i>	4.12	0.20	5	0	82.4	41-120	0
<i>Surr: Phenol-d6</i>	3.753	0.20	5	0	75.1	20-120	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72560** Instrument ID **SV-6** Method: **SW8270**

MSD		Sample ID: 13081020-17BMSD				Units: µg/L		Analysis Date: 8/27/2013 04:19 PM		
Client ID: MW-8		Run ID: SV-6_130827B				SeqNo: 3336016		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.964	0.20	5	0	79.3	45-125	3.98	0.411	20	
1-Methylnaphthalene	4.189	0.20	5	0	83.8	45-120	4.216	0.645	20	
2,4,5-Trichlorophenol	4.45	0.20	5	0	89	46-120	4.531	1.81	20	
2,4,6-Trichlorophenol	4.085	0.20	5	0	81.7	42-120	4.187	2.46	20	
2,4-Dichlorophenol	4.17	0.20	5	0	83.4	49-120	4.237	1.59	20	
2,4-Dimethylphenol	4.025	0.20	5	0	80.5	35-120	3.886	3.51	20	
2,4-Dinitrophenol	4.534	1.0	5	0	90.7	15-120	5.316	15.9	50	
2,4-Dinitrotoluene	4.685	0.20	5	0	93.7	50-122	4.571	2.45	20	
2,6-Dinitrotoluene	5.191	0.20	5	0	104	50-120	5.222	0.585	20	
2-Chloronaphthalene	3.849	0.20	5	0	77	50-120	4.096	6.21	20	
2-Chlorophenol	3.569	0.20	5	0	71.4	40-120	3.643	2.05	20	
2-Methylnaphthalene	3.866	0.20	5	0	77.3	50-120	3.893	0.691	20	
2-Methylphenol	3.685	0.20	5	0	73.7	45-120	3.732	1.25	20	
2-Nitroaniline	5.341	0.20	5	0	107	28-139	5.22	2.29	20	
2-Nitrophenol	4.352	0.20	5	0	87	40-120	4.318	0.79	20	
3&4-Methylphenol	3.635	0.20	5	0	72.7	35-120	3.778	3.87	20	
3,3'-Dichlorobenzidine	2.265	0.20	5	0	45.3	15-120	1.788	23.6	20	R
3-Nitroaniline	4.541	0.20	5	0	90.8	30-120	4.277	5.99	20	
4,6-Dinitro-2-methylphenol	4.878	0.20	5	0	97.6	25-121	5.11	4.63	20	
4-Bromophenyl phenyl ether	4.607	0.20	5	0	92.1	45-120	4.536	1.57	20	
4-Chloro-3-methylphenol	4.357	0.20	5	0	87.1	47-120	4.284	1.69	20	
4-Chloroaniline	3.695	0.20	5	0	73.9	20-120	3.682	0.366	20	
4-Chlorophenyl phenyl ether	4.175	0.20	5	0	83.5	50-120	4.174	0.0159	20	
4-Nitroaniline	4.607	0.20	5	0	92.1	30-133	4.452	3.42	20	
4-Nitrophenol	5.15	1.0	5	0	103	30-130	5.097	1.04	20	
Acenaphthene	4.126	0.20	5	0	82.5	45-120	4.168	1.01	20	
Acenaphthylene	4.103	0.20	5	0	82.1	47-120	4.089	0.341	20	
Acetophenone	3.64	0.20	5	0	72.8	40-120	3.687	1.3	20	
Anthracene	4.611	0.20	5	0	92.2	45-120	4.53	1.77	20	
Atrazine	4.772	0.20	5	0	95.4	40-130	4.748	0.494	20	
Benz(a)anthracene	4.608	0.20	5	0	92.2	40-120	4.623	0.327	20	
Benzaldehyde	0.9313	0.20	5	0	18.6	15-120	0.8602	7.93	30	
Benzo(a)pyrene	4.603	0.20	5	0	92.1	45-120	4.547	1.23	20	
Benzo(b)fluoranthene	4.688	0.20	5	0	93.8	50-120	4.681	0.147	20	
Benzo(g,h,i)perylene	4.504	0.20	5	0	90.1	42-127	4.551	1.05	20	
Benzo(k)fluoranthene	4.789	0.20	5	0	95.8	45-127	4.717	1.53	20	
Bis(2-chloroethoxy)methane	4.095	0.20	5	0	81.9	45-120	4.147	1.25	20	
Bis(2-chloroethyl)ether	3.96	0.20	5	0	79.2	37-121	4.212	6.16	20	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72560		Instrument ID SV-6		Method: SW8270						
Bis(2-chloroisopropyl)ether	3.424	0.20	5	0	68.5	40-120	3.465	1.18	20	
Bis(2-ethylhexyl)phthalate	36.65	0.20	5	34.8	37	40-139	35.42	3.41	20	SEO
Butyl benzyl phthalate	4.854	0.20	5	0	97.1	47-123	4.831	0.473	20	
Caprolactam	4.732	0.20	5	0.3654	87.3	35-134	4.352	8.35	20	
Carbazole	5.09	0.20	5	0	102	42-128	4.983	2.12	20	
Chrysene	4.441	0.20	5	0	88.8	43-120	4.481	0.909	20	
Dibenz(a,h)anthracene	4.73	0.20	5	0	94.6	45-125	4.751	0.436	20	
Dibenzofuran	4.167	0.20	5	0	83.3	50-120	4.108	1.44	20	
Diethyl phthalate	4.082	0.20	5	0.07723	80.1	41-120	4.021	1.5	20	
Dimethyl phthalate	4.248	0.20	5	0	85	40-122	4.18	1.61	20	
Di-n-butyl phthalate	5.145	0.20	5	0.08977	101	45-123	5.022	2.42	20	
Di-n-octyl phthalate	5.073	0.20	5	0.0515	100	45-129	4.938	2.71	20	
Fluoranthene	4.802	0.20	5	0	96	45-125	4.648	3.24	20	
Fluorene	4.141	0.20	5	0	82.8	49-120	4.17	0.698	20	
Hexachlorobenzene	4.346	0.20	5	0	86.9	48-120	4.341	0.116	20	
Hexachlorobutadiene	3.966	0.20	5	0	79.3	40-120	3.972	0.154	20	
Hexachlorocyclopentadiene	4.312	0.20	5	0	86.2	34-136	4.392	1.84	20	
Hexachloroethane	3.531	0.20	5	0	70.6	40-120	3.56	0.81	20	
Indeno(1,2,3-cd)pyrene	5.042	0.20	5	0	101	41-128	4.999	0.842	20	
Isophorone	3.999	0.20	5	0	80	40-121	3.969	0.767	20	
Naphthalene	3.938	0.20	5	0	78.8	45-120	4.035	2.43	20	
Nitrobenzene	4.088	0.20	5	0	81.8	44-120	4.1	0.276	20	
N-Nitrosodi-n-propylamine	3.673	0.20	5	0	73.5	40-120	3.749	2.06	20	
N-Nitrosodiphenylamine	4.619	0.20	5	0	92.4	40-125	4.582	0.794	20	
Pentachlorophenol	4.767	0.20	5	0	95.3	19-121	4.925	3.26	20	
Phenanthrene	4.518	0.20	5	0	90.4	45-121	4.469	1.07	20	
Phenol	3.78	0.20	5	0	75.6	20-124	3.717	1.68	20	
Pyrene	4.465	0.20	5	0	89.3	40-130	4.38	1.93	20	
<i>Surr: 2,4,6-Tribromophenol</i>	4.75	0.20	5	0	95	34-129	4.705	0.955	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.015	0.20	5	0	80.3	40-125	4.049	0.839	0	
<i>Surr: 2-Fluorophenol</i>	3.48	0.20	5	0	69.6	20-120	3.624	4.05	0	
<i>Surr: 4-Terphenyl-d14</i>	4.676	0.20	5	0	93.5	40-135	4.643	0.717	0	
<i>Surr: Nitrobenzene-d5</i>	4.068	0.20	5	0	81.4	41-120	4.12	1.27	0	
<i>Surr: Phenol-d6</i>	3.705	0.20	5	0	74.1	20-120	3.753	1.31	0	

The following samples were analyzed in this batch:

13081020-01B	13081020-02B	13081020-03B
13081020-05B	13081020-06B	13081020-07B
13081020-08B	13081020-11B	13081020-12B
13081020-13B	13081020-14B	13081020-15B
13081020-16B	13081020-17B	13081020-18B
13081020-19B		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72561** Instrument ID **SV-4** Method: **SW8270**

MBLK Sample ID: **SBLKW3-130827-72561** Units: **µg/L** Analysis Date: **8/27/2013 03:03 PM**
 Client ID: Run ID: **SV-4_130827A** SeqNo: **3335973** Prep Date: **8/27/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	ND	0.20								
1-Methylnaphthalene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
2,4-Dichlorophenol	ND	0.20								
2,4-Dimethylphenol	ND	0.20								
2,4-Dinitrophenol	ND	1.0								
2,4-Dinitrotoluene	ND	0.20								
2,6-Dinitrotoluene	ND	0.20								
2-Chloronaphthalene	ND	0.20								
2-Chlorophenol	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.20								
2-Nitroaniline	ND	0.20								
2-Nitrophenol	ND	0.20								
3&4-Methylphenol	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.20								
3-Nitroaniline	ND	0.20								
4,6-Dinitro-2-methylphenol	ND	0.20								
4-Bromophenyl phenyl ether	ND	0.20								
4-Chloro-3-methylphenol	ND	0.20								
4-Chloroaniline	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
4-Nitroaniline	ND	0.20								
4-Nitrophenol	ND	1.0								
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Acetophenone	ND	0.20								
Anthracene	ND	0.20								
Atrazine	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzaldehyde	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72561		Instrument ID SV-4		Method: SW8270				
Bis(2-chloroisopropyl)ether	ND	0.20						
Bis(2-ethylhexyl)phthalate	ND	0.20						
Butyl benzyl phthalate	ND	0.20						
Caprolactam	ND	0.20						
Carbazole	ND	0.20						
Chrysene	ND	0.20						
Dibenz(a,h)anthracene	ND	0.20						
Dibenzofuran	ND	0.20						
Diethyl phthalate	ND	0.20						
Dimethyl phthalate	ND	0.20						
Di-n-butyl phthalate	ND	0.20						
Di-n-octyl phthalate	ND	0.20						
Fluoranthene	ND	0.20						
Fluorene	ND	0.20						
Hexachlorobenzene	ND	0.20						
Hexachlorobutadiene	ND	0.20						
Hexachlorocyclopentadiene	ND	0.20						
Hexachloroethane	ND	0.20						
Indeno(1,2,3-cd)pyrene	ND	0.20						
Isophorone	ND	0.20						
Naphthalene	ND	0.20						
Nitrobenzene	ND	0.20						
N-Nitrosodi-n-propylamine	ND	0.20						
N-Nitrosodiphenylamine	ND	0.20						
Pentachlorophenol	ND	0.20						
Phenanthrene	ND	0.20						
Phenol	ND	0.20						
Pyrene	ND	0.20						
<i>Surr: 2,4,6-Tribromophenol</i>	4.231	0.20	5	0	84.6	34-129	0	
<i>Surr: 2-Fluorobiphenyl</i>	4.09	0.20	5	0	81.8	40-125	0	
<i>Surr: 2-Fluorophenol</i>	3.981	0.20	5	0	79.6	20-120	0	
<i>Surr: 4-Terphenyl-d14</i>	4.277	0.20	5	0	85.5	40-135	0	
<i>Surr: Nitrobenzene-d5</i>	4.018	0.20	5	0	80.4	41-120	0	
<i>Surr: Phenol-d6</i>	4.127	0.20	5	0	82.5	20-120	0	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72561** Instrument ID **SV-4** Method: **SW8270**

LCS				Sample ID: SLCSW3-130827-72561		Units: µg/L		Analysis Date: 8/27/2013 03:24 PM		
Client ID:		Run ID: SV-4_130827A			SeqNo: 3335974		Prep Date: 8/27/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	4.006	0.20	5	0	80.1	45-125				
1-Methylnaphthalene	4.2	0.20	5	0	84	45-120				
2,4,5-Trichlorophenol	4.049	0.20	5	0	81	46-120				
2,4,6-Trichlorophenol	4.432	0.20	5	0	88.6	42-120				
2,4-Dichlorophenol	4.152	0.20	5	0	83	49-120				
2,4-Dimethylphenol	3.99	0.20	5	0	79.8	35-120				
2,4-Dinitrophenol	3.945	1.0	5	0	78.9	15-120				
2,4-Dinitrotoluene	4.24	0.20	5	0	84.8	50-122				
2,6-Dinitrotoluene	4.173	0.20	5	0	83.5	50-120				
2-Chloronaphthalene	5.324	0.20	5	0	106	50-120				
2-Chlorophenol	3.694	0.20	5	0	73.9	40-120				
2-Methylnaphthalene	3.856	0.20	5	0	77.1	50-120				
2-Methylphenol	3.668	0.20	5	0	73.4	45-120				
2-Nitroaniline	5.213	0.20	5	0	104	28-139				
2-Nitrophenol	4.2	0.20	5	0	84	40-120				
3&4-Methylphenol	3.739	0.20	5	0	74.8	35-120				
3,3'-Dichlorobenzidine	3.816	0.20	5	0	76.3	15-120				
3-Nitroaniline	4.215	0.20	5	0	84.3	30-120				
4,6-Dinitro-2-methylphenol	5.087	0.20	5	0	102	25-121				
4-Bromophenyl phenyl ether	4.976	0.20	5	0	99.5	45-120				
4-Chloro-3-methylphenol	4.261	0.20	5	0	85.2	47-120				
4-Chloroaniline	3.962	0.20	5	0	79.2	20-120				
4-Chlorophenyl phenyl ether	4.035	0.20	5	0	80.7	50-120				
4-Nitroaniline	4.184	0.20	5	0	83.7	30-133				
4-Nitrophenol	5.017	1.0	5	0	100	30-130				
Acenaphthene	3.993	0.20	5	0	79.9	45-120				
Acenaphthylene	4.071	0.20	5	0	81.4	47-120				
Acetophenone	3.772	0.20	5	0	75.4	40-120				
Anthracene	4.465	0.20	5	0	89.3	45-120				
Atrazine	4.068	0.20	5	0	81.4	40-130				
Benz(a)anthracene	4.145	0.20	5	0	82.9	40-120				
Benzaldehyde	0.8158	0.20	5	0	16.3	15-120				
Benzo(a)pyrene	4.075	0.20	5	0	81.5	45-120				
Benzo(b)fluoranthene	5.095	0.20	5	0	102	50-120				
Benzo(g,h,i)perylene	4.229	0.20	5	0	84.6	42-127				
Benzo(k)fluoranthene	3.695	0.20	5	0	73.9	45-127				
Bis(2-chloroethoxy)methane	4.168	0.20	5	0	83.4	45-120				
Bis(2-chloroethyl)ether	3.569	0.20	5	0	71.4	37-121				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72561		Instrument ID SV-4		Method: SW8270			
Bis(2-chloroisopropyl)ether	3.52	0.20	5	0	70.4	40-120	
Bis(2-ethylhexyl)phthalate	4.051	0.20	5	0	81	40-139	
Butyl benzyl phthalate	4.105	0.20	5	0	82.1	47-123	
Caprolactam	4.2	0.20	5	0	84	35-134	
Carbazole	4.641	0.20	5	0	92.8	42-128	
Chrysene	3.921	0.20	5	0	78.4	43-120	
Dibenz(a,h)anthracene	4.249	0.20	5	0	85	45-125	
Dibenzofuran	4.057	0.20	5	0	81.1	50-120	
Diethyl phthalate	4.106	0.20	5	0	82.1	41-120	
Dimethyl phthalate	3.991	0.20	5	0	79.8	40-122	
Di-n-butyl phthalate	4.525	0.20	5	0	90.5	45-123	
Di-n-octyl phthalate	4.12	0.20	5	0	82.4	45-129	
Fluoranthene	4.521	0.20	5	0	90.4	45-125	
Fluorene	4.066	0.20	5	0	81.3	49-120	
Hexachlorobenzene	4.55	0.20	5	0	91	48-120	
Hexachlorobutadiene	3.839	0.20	5	0	76.8	40-120	
Hexachlorocyclopentadiene	4.164	0.20	5	0	83.3	34-136	
Hexachloroethane	3.611	0.20	5	0	72.2	40-120	
Indeno(1,2,3-cd)pyrene	4.379	0.20	5	0	87.6	41-128	
Isophorone	3.967	0.20	5	0	79.3	40-121	
Naphthalene	4.013	0.20	5	0	80.3	45-120	
Nitrobenzene	4.129	0.20	5	0	82.6	44-120	
N-Nitrosodi-n-propylamine	3.889	0.20	5	0	77.8	40-120	
N-Nitrosodiphenylamine	5.035	0.20	5	0	101	40-125	
Pentachlorophenol	4.198	0.20	5	0	84	19-121	
Phenanthrene	4.307	0.20	5	0	86.1	45-121	
Phenol	3.842	0.20	5	0	76.8	20-124	
Pyrene	4.061	0.20	5	0	81.2	40-130	
<i>Surr: 2,4,6-Tribromophenol</i>	4.701	0.20	5	0	94	34-129	0
<i>Surr: 2-Fluorobiphenyl</i>	4.14	0.20	5	0	82.8	40-125	0
<i>Surr: 2-Fluorophenol</i>	3.885	0.20	5	0	77.7	20-120	0
<i>Surr: 4-Terphenyl-d14</i>	4.381	0.20	5	0	87.6	40-135	0
<i>Surr: Nitrobenzene-d5</i>	4.057	0.20	5	0	81.1	41-120	0
<i>Surr: Phenol-d6</i>	4.107	0.20	5	0	82.1	20-120	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72561** Instrument ID **SV-4** Method: **SW8270**

MS				Sample ID: 13081020-23BMS		Units: µg/L		Analysis Date: 8/27/2013 04:05 PM		
Client ID: MW-18		Run ID: SV-4_130827A			SeqNo: 3335976		Prep Date: 8/27/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.839	0.20	5	0	76.8	45-125				
1-Methylnaphthalene	3.776	0.20	5	0	75.5	45-120				
2,4,5-Trichlorophenol	4.779	0.20	5	0	95.6	46-120				
2,4,6-Trichlorophenol	3.649	0.20	5	0	73	42-120				
2,4-Dichlorophenol	3.741	0.20	5	0	74.8	49-120				
2,4-Dimethylphenol	3.328	0.20	5	0	66.6	35-120				
2,4-Dinitrophenol	4.482	1.0	5	0	89.6	15-120				
2,4-Dinitrotoluene	4.26	0.20	5	0	85.2	50-122				
2,6-Dinitrotoluene	5.957	0.20	5	0	119	50-120				
2-Chloronaphthalene	4.143	0.20	5	0	82.9	50-120				
2-Chlorophenol	3.384	0.20	5	0	67.7	40-120				
2-Methylnaphthalene	3.445	0.20	5	0	68.9	50-120				
2-Methylphenol	2.908	0.20	5	0	58.2	45-120				
2-Nitroaniline	4.838	0.20	5	0	96.8	28-139				
2-Nitrophenol	3.768	0.20	5	0	75.4	40-120				
3&4-Methylphenol	3.795	0.20	5	0	75.9	35-120				
3,3'-Dichlorobenzidine	0.8796	0.20	5	0	17.6	15-120				
3-Nitroaniline	4.061	0.20	5	0	81.2	30-120				
4,6-Dinitro-2-methylphenol	4.644	0.20	5	0	92.9	25-121				
4-Bromophenyl phenyl ether	4.08	0.20	5	0	81.6	45-120				
4-Chloro-3-methylphenol	4.22	0.20	5	0	84.4	47-120				
4-Chloroaniline	3.376	0.20	5	0	67.5	20-120				
4-Chlorophenyl phenyl ether	3.865	0.20	5	0	77.3	50-120				
4-Nitroaniline	4.072	0.20	5	0	81.4	30-133				
4-Nitrophenol	3.775	1.0	5	0	75.5	30-130				
Acenaphthene	3.692	0.20	5	0	73.8	45-120				
Acenaphthylene	3.823	0.20	5	0	76.5	47-120				
Acetophenone	3.245	0.20	5	0	64.9	40-120				
Anthracene	4.233	0.20	5	0	84.7	45-120				
Atrazine	3.177	0.20	5	0	63.5	40-130				
Benz(a)anthracene	4.236	0.20	5	0	84.7	40-120				
Benzaldehyde	0.8652	0.20	5	0	17.3	15-120				
Benzo(a)pyrene	4.103	0.20	5	0	82.1	45-120				
Benzo(b)fluoranthene	5.039	0.20	5	0	101	50-120				
Benzo(g,h,i)perylene	4.331	0.20	5	0	86.6	42-127				
Benzo(k)fluoranthene	3.809	0.20	5	0	76.2	45-127				
Bis(2-chloroethoxy)methane	3.787	0.20	5	0	75.7	45-120				
Bis(2-chloroethyl)ether	4.888	0.20	5	0	97.8	37-121				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72561		Instrument ID SV-4		Method: SW8270			
Bis(2-chloroisopropyl)ether	3.057	0.20	5	0	61.1	40-120	
Bis(2-ethylhexyl)phthalate	4.492	0.20	5	0.2872	84.1	40-139	
Butyl benzyl phthalate	4.321	0.20	5	0	86.4	47-123	
Caprolactam	3.998	0.20	5	0	80	35-134	
Carbazole	4.563	0.20	5	0	91.3	42-128	
Chrysene	4.018	0.20	5	0	80.4	43-120	
Dibenz(a,h)anthracene	4.203	0.20	5	0	84.1	45-125	
Dibenzofuran	3.921	0.20	5	0	78.4	50-120	
Diethyl phthalate	4.229	0.20	5	0.06002	83.4	41-120	
Dimethyl phthalate	3.906	0.20	5	0	78.1	40-122	
Di-n-butyl phthalate	4.536	0.20	5	0	90.7	45-123	
Di-n-octyl phthalate	4.437	0.20	5	0.3784	81.2	45-129	
Fluoranthene	4.218	0.20	5	0	84.4	45-125	
Fluorene	3.905	0.20	5	0	78.1	49-120	
Hexachlorobenzene	3.696	0.20	5	0	73.9	48-120	
Hexachlorobutadiene	3.264	0.20	5	0	65.3	40-120	
Hexachlorocyclopentadiene	3.767	0.20	5	0	75.3	34-136	
Hexachloroethane	3.2	0.20	5	0	64	40-120	
Indeno(1,2,3-cd)pyrene	4.396	0.20	5	0	87.9	41-128	
Isophorone	3.582	0.20	5	0	71.6	40-121	
Naphthalene	3.734	0.20	5	0	74.7	45-120	
Nitrobenzene	3.596	0.20	5	0	71.9	44-120	
N-Nitrosodi-n-propylamine	2.998	0.20	5	0	60	40-120	
N-Nitrosodiphenylamine	4.277	0.20	5	0	85.5	40-125	
Pentachlorophenol	4.87	0.20	5	0	97.4	19-121	
Phenanthrene	4.318	0.20	5	0	86.4	45-121	
Phenol	2.952	0.20	5	0.05546	57.9	20-124	
Pyrene	4.154	0.20	5	0	83.1	40-130	
<i>Surr: 2,4,6-Tribromophenol</i>	4.958	0.20	5	0	99.2	34-129	0
<i>Surr: 2-Fluorobiphenyl</i>	3.931	0.20	5	0	78.6	40-125	0
<i>Surr: 2-Fluorophenol</i>	3.317	0.20	5	0	66.3	20-120	0
<i>Surr: 4-Terphenyl-d14</i>	4.599	0.20	5	0	92	40-135	0
<i>Surr: Nitrobenzene-d5</i>	3.841	0.20	5	0	76.8	41-120	0
<i>Surr: Phenol-d6</i>	3.373	0.20	5	0	67.5	20-120	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **72561** Instrument ID **SV-4** Method: **SW8270**

MSD		Sample ID: 13081020-23BMSD				Units: µg/L		Analysis Date: 8/27/2013 04:46 PM		
Client ID: MW-18		Run ID: SV-4_130827A				SeqNo: 3336001		Prep Date: 8/27/2013		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	3.813	0.20	5	0	76.3	45-125	3.839	0.681	20	
1-Methylnaphthalene	3.548	0.20	5	0	71	45-120	3.776	6.21	20	
2,4,5-Trichlorophenol	5.257	0.20	5	0	105	46-120	4.779	9.54	20	
2,4,6-Trichlorophenol	2.49	0.20	5	0	49.8	42-120	3.649	37.8	20	R
2,4-Dichlorophenol	3.288	0.20	5	0	65.8	49-120	3.741	12.9	20	
2,4-Dimethylphenol	2.669	0.20	5	0	53.4	35-120	3.328	22	20	R
2,4-Dinitrophenol	4.146	1.0	5	0	82.9	15-120	4.482	7.79	50	
2,4-Dinitrotoluene	4.125	0.20	5	0	82.5	50-122	4.26	3.22	20	
2,6-Dinitrotoluene	5.749	0.20	5	0	115	50-120	5.957	3.55	20	
2-Chloronaphthalene	4.012	0.20	5	0	80.2	50-120	4.143	3.23	20	
2-Chlorophenol	3.159	0.20	5	0	63.2	40-120	3.384	6.88	20	
2-Methylnaphthalene	3.373	0.20	5	0	67.5	50-120	3.445	2.11	20	
2-Methylphenol	2.759	0.20	5	0	55.2	45-120	2.908	5.27	20	
2-Nitroaniline	4.634	0.20	5	0	92.7	28-139	4.838	4.29	20	
2-Nitrophenol	3.597	0.20	5	0	71.9	40-120	3.768	4.64	20	
3&4-Methylphenol	3.823	0.20	5	0	76.5	35-120	3.795	0.744	20	
3,3'-Dichlorobenzidine	0.7654	0.20	5	0	15.3	15-120	0.8796	13.9	20	
3-Nitroaniline	3.111	0.20	5	0	62.2	30-120	4.061	26.5	20	R
4,6-Dinitro-2-methylphenol	4.631	0.20	5	0	92.6	25-121	4.644	0.294	20	
4-Bromophenyl phenyl ether	4.078	0.20	5	0	81.6	45-120	4.08	0.0598	20	
4-Chloro-3-methylphenol	3.904	0.20	5	0	78.1	47-120	4.22	7.78	20	
4-Chloroaniline	2.382	0.20	5	0	47.6	20-120	3.376	34.5	20	R
4-Chlorophenyl phenyl ether	3.891	0.20	5	0	77.8	50-120	3.865	0.677	20	
4-Nitroaniline	3.363	0.20	5	0	67.3	30-133	4.072	19.1	20	
4-Nitrophenol	3.104	1.0	5	0	62.1	30-130	3.775	19.5	20	
Acenaphthene	4.023	0.20	5	0	80.5	45-120	3.692	8.56	20	
Acenaphthylene	3.817	0.20	5	0	76.3	47-120	3.823	0.149	20	
Acetophenone	3.167	0.20	5	0	63.3	40-120	3.245	2.42	20	
Anthracene	4.659	0.20	5	0	93.2	45-120	4.233	9.6	20	
Atrazine	2.467	0.20	5	0	49.3	40-130	3.177	25.1	20	R
Benz(a)anthracene	3.693	0.20	5	0	73.9	40-120	4.236	13.7	20	
Benzaldehyde	1.249	0.20	5	0	25	15-120	0.8652	36.3	30	R
Benzo(a)pyrene	4.123	0.20	5	0	82.5	45-120	4.103	0.481	20	
Benzo(b)fluoranthene	4.196	0.20	5	0	83.9	50-120	5.039	18.3	20	
Benzo(g,h,i)perylene	4.371	0.20	5	0	87.4	42-127	4.331	0.908	20	
Benzo(k)fluoranthene	5.085	0.20	5	0	102	45-127	3.809	28.7	20	R
Bis(2-chloroethoxy)methane	3.532	0.20	5	0	70.6	45-120	3.787	6.97	20	
Bis(2-chloroethyl)ether	3.572	0.20	5	0	71.4	37-121	4.888	31.1	20	R

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: 72561		Instrument ID SV-4		Method: SW8270					
Bis(2-chloroisopropyl)ether	2.873	0.20	5	0	57.5	40-120	3.057	6.21	20
Bis(2-ethylhexyl)phthalate	4.292	0.20	5	0.2872	80.1	40-139	4.492	4.55	20
Butyl benzyl phthalate	4.291	0.20	5	0	85.8	47-123	4.321	0.711	20
Caprolactam	1.846	0.20	5	0	36.9	35-134	3.998	73.6	20 R
Carbazole	4.816	0.20	5	0	96.3	42-128	4.563	5.39	20
Chrysene	4.469	0.20	5	0	89.4	43-120	4.018	10.6	20
Dibenz(a,h)anthracene	4.392	0.20	5	0	87.8	45-125	4.203	4.41	20
Dibenzofuran	3.806	0.20	5	0	76.1	50-120	3.921	2.99	20
Diethyl phthalate	4.132	0.20	5	0.06002	81.4	41-120	4.229	2.33	20
Dimethyl phthalate	3.584	0.20	5	0	71.7	40-122	3.906	8.62	20
Di-n-butyl phthalate	4.613	0.20	5	0	92.3	45-123	4.536	1.69	20
Di-n-octyl phthalate	4.103	0.20	5	0.3784	74.5	45-129	4.437	7.82	20
Fluoranthene	4.583	0.20	5	0	91.7	45-125	4.218	8.29	20
Fluorene	3.974	0.20	5	0	79.5	49-120	3.905	1.75	20
Hexachlorobenzene	3.868	0.20	5	0	77.4	48-120	3.696	4.56	20
Hexachlorobutadiene	3.295	0.20	5	0	65.9	40-120	3.264	0.949	20
Hexachlorocyclopentadiene	3.74	0.20	5	0	74.8	34-136	3.767	0.732	20
Hexachloroethane	3.229	0.20	5	0	64.6	40-120	3.2	0.904	20
Indeno(1,2,3-cd)pyrene	4.369	0.20	5	0	87.4	41-128	4.396	0.61	20
Isophorone	2.865	0.20	5	0	57.3	40-121	3.582	22.3	20 R
Naphthalene	3.777	0.20	5	0	75.5	45-120	3.734	1.14	20
Nitrobenzene	3.187	0.20	5	0	63.7	44-120	3.596	12.1	20
N-Nitrosodi-n-propylamine	2.574	0.20	5	0	51.5	40-120	2.998	15.2	20
N-Nitrosodiphenylamine	4.376	0.20	5	0	87.5	40-125	4.277	2.29	20
Pentachlorophenol	5.12	0.20	5	0	102	19-121	4.87	5.01	20
Phenanthrene	4.093	0.20	5	0	81.9	45-121	4.318	5.35	20
Phenol	2.41	0.20	5	0.05546	47.1	20-124	2.952	20.2	20 R
Pyrene	4.059	0.20	5	0	81.2	40-130	4.154	2.3	20
<i>Surr: 2,4,6-Tribromophenol</i>	4.801	0.20	5	0	96	34-129	4.958	3.22	0
<i>Surr: 2-Fluorobiphenyl</i>	3.737	0.20	5	0	74.7	40-125	3.931	5.06	0
<i>Surr: 2-Fluorophenol</i>	3.441	0.20	5	0	68.8	20-120	3.317	3.67	0
<i>Surr: 4-Terphenyl-d14</i>	4.284	0.20	5	0	85.7	40-135	4.599	7.08	0
<i>Surr: Nitrobenzene-d5</i>	3.269	0.20	5	0	65.4	41-120	3.841	16.1	0
<i>Surr: Phenol-d6</i>	2.764	0.20	5	0	55.3	20-120	3.373	19.8	0

The following samples were analyzed in this batch:

13081020-20B	13081020-21B	13081020-22B
13081020-23B	13081020-24B	13081020-25B
13081020-26B	13081020-27B	13081020-28B
13081020-29B	13081020-30B	13081020-31B
13081020-32B	13081020-33B	13081020-34B
13081020-35B	13081020-36B	13081020-37B
13081020-38B	13081020-39B	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152797** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130827-R152797** Units: **µg/L** Analysis Date: **8/27/2013 01:19 PM**
 Client ID: Run ID: **VOA1_130827A** SeqNo: **3333563** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152797		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	50.25	5.0	50	0	101	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	49.18	5.0	50	0	98.4	72-125	0	
<i>Surr: Dibromofluoromethane</i>	51.32	5.0	50	0	103	71-125	0	
<i>Surr: Toluene-d8</i>	48.29	5.0	50	0	96.6	75-125	0	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152797** Instrument ID **VOA1** Method: **SW8260**

LCS				Sample ID: VLCSW-130827-R152797		Units: µg/L		Analysis Date: 8/27/2013 12:03 PM		
Client ID:		Run ID: VOA1_130827A			SeqNo: 3333562		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	49.24	5.0	50	0	98.5	80-120				
1,1,2,2-Tetrachloroethane	55.18	5.0	50	0	110	72-120				
1,1,2-Trichloroethane	47.14	5.0	50	0	94.3	80-120				
1,1-Dichloroethane	49.13	5.0	50	0	98.3	76-120				
1,1-Dichloroethene	51.51	5.0	50	0	103	73-124				
1,2,4-Trimethylbenzene	53.24	5.0	50	0	106	68-123				
1,2-Dibromoethane	48.51	5.0	50	0	97	80-120				
1,2-Dichloroethane	47.4	5.0	50	0	94.8	78-120				
1,2-Dichloropropane	57.19	5.0	50	0	114	80-120				
1,3,5-Trimethylbenzene	55.62	5.0	50	0	111	80-120				
2-Butanone	91.12	10	100	0	91.1	58-132				
2-Hexanone	88.14	10	100	0	88.1	61-130				
4-Isopropyltoluene	50.46	5.0	50	0	101	79-120				
4-Methyl-2-pentanone	97.83	10	100	0	97.8	65-127				
Acetone	94.99	10	100	0	95	59-137				
Benzene	49.01	5.0	50	0	98	73-121				
Bromodichloromethane	51.62	5.0	50	0	103	75-125				
Bromoform	52.76	5.0	50	0	106	70-130				
Bromomethane	54.15	5.0	50	0	108	60-145				
Carbon disulfide	102.5	10	100	0	102	68-141				
Carbon tetrachloride	46.5	5.0	50	0	93	75-125				
Chlorobenzene	52.02	5.0	50	0	104	80-120				
Chloroethane	56.08	5.0	50	0	112	70-130				
Chloroform	45.62	5.0	50	0	91.2	70-130				
Chloromethane	46.75	5.0	50	0	93.5	67-123				
cis-1,2-Dichloroethene	48.01	5.0	50	0	96	78-120				
cis-1,3-Dichloropropene	56.36	5.0	50	0	113	80-120				
Dibromochloromethane	48.03	5.0	50	0	96.1	80-120				
Ethylbenzene	51.24	5.0	50	0	102	80-120				
Isopropylbenzene	49.24	5.0	50	0	98.5	75-130				
m,p-Xylene	105.1	10	100	0	105	78-121				
Methyl tert-butyl ether	45.03	5.0	50	0	90.1	73-121				
Methylene chloride	46.28	10	50	0	92.6	65-133				
Naphthalene	51.58	5.0	50	0	103	65-135				
n-Butylbenzene	52.01	5.0	50	0	104	77-120				
n-Propylbenzene	57.96	5.0	50	0	116	78-120				
o-Xylene	51.27	5.0	50	0	103	80-120				
sec-Butylbenzene	51.49	5.0	50	0	103	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152797		Instrument ID VOA1		Method: SW8260			
Styrene	52.22	5.0	50	0	104	80-120	
Tetrachloroethene	45.88	5.0	50	0	91.8	79-120	
Toluene	47.51	5.0	50	0	95	80-120	
trans-1,2-Dichloroethene	47.49	5.0	50	0	95	78-120	
trans-1,3-Dichloropropene	52.48	5.0	50	0	105	80-120	
Trichloroethene	49.85	5.0	50	0	99.7	80-120	
Vinyl chloride	49.28	2.0	50	0	98.6	70-127	
Xylenes, Total	156.4	15	150	0	104	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	43.7	5.0	50	0	87.4	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	53.97	5.0	50	0	108	72-125	0
<i>Surr: Dibromofluoromethane</i>	49.48	5.0	50	0	99	71-125	0
<i>Surr: Toluene-d8</i>	46.25	5.0	50	0	92.5	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152797** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 13081020-17AMS				Units: µg/L		Analysis Date: 8/27/2013 03:26 PM		
Client ID: MW-8		Run ID: VOA1_130827A				SeqNo: 3333722		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	44.05	5.0	50	0	88.1	80-120				
1,1,2,2-Tetrachloroethane	51.3	5.0	50	0	103	72-120				
1,1,2-Trichloroethane	50.12	5.0	50	0	100	80-120				
1,1-Dichloroethane	53.41	5.0	50	0	107	76-120				
1,1-Dichloroethene	53.11	5.0	50	0	106	73-124				
1,2,4-Trimethylbenzene	47.37	5.0	50	0	94.7	68-123				
1,2-Dibromoethane	52.22	5.0	50	0	104	80-120				
1,2-Dichloroethane	46.09	5.0	50	0	92.2	78-120				
1,2-Dichloropropane	49.95	5.0	50	0	99.9	80-120				
1,3,5-Trimethylbenzene	46.33	5.0	50	0	92.7	80-120				
2-Butanone	116.5	10	100	0	117	58-132				
2-Hexanone	115.1	10	100	0	115	61-130				
4-Isopropyltoluene	42.53	5.0	50	0	85.1	79-120				
4-Methyl-2-pentanone	130.9	10	100	0	131	65-127				S
Acetone	116.3	10	100	7.195	109	59-137				
Benzene	48.23	5.0	50	0	96.5	73-121				
Bromodichloromethane	50.71	5.0	50	0	101	75-125				
Bromoform	54.09	5.0	50	0	108	70-130				
Bromomethane	55.09	5.0	50	0	110	60-145				
Carbon disulfide	103.4	10	100	0	103	68-141				
Carbon tetrachloride	41.43	5.0	50	0	82.9	75-125				
Chlorobenzene	48.83	5.0	50	0	97.7	80-120				
Chloroethane	52.62	5.0	50	0	105	70-130				
Chloroform	50.94	5.0	50	0	102	70-130				
Chloromethane	44.72	5.0	50	0	89.4	67-123				
cis-1,2-Dichloroethene	53.23	5.0	50	0	106	78-120				
cis-1,3-Dichloropropene	56.56	5.0	50	0	113	80-120				
Dibromochloromethane	51.22	5.0	50	0	102	80-120				
Ethylbenzene	47.94	5.0	50	0	95.9	80-120				
Isopropylbenzene	44.71	5.0	50	0	89.4	75-130				
m,p-Xylene	98.12	10	100	0	98.1	78-121				
Methyl tert-butyl ether	49.62	5.0	50	0	99.2	73-121				
Methylene chloride	56.04	10	50	0	112	65-133				
Naphthalene	47.53	5.0	50	0	95.1	65-135				
n-Butylbenzene	38.55	5.0	50	0	77.1	77-120				
n-Propylbenzene	43.58	5.0	50	0	87.2	78-120				
o-Xylene	47.04	5.0	50	0	94.1	80-120				
sec-Butylbenzene	44.87	5.0	50	0	89.7	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152797		Instrument ID VOA1		Method: SW8260			
Styrene	48.82	5.0	50	0	97.6	80-120	
Tetrachloroethene	42.21	5.0	50	0	84.4	79-120	
Toluene	52.61	5.0	50	0	105	80-120	
trans-1,2-Dichloroethene	54.8	5.0	50	0	110	78-120	
trans-1,3-Dichloropropene	50.25	5.0	50	0	101	80-120	
Trichloroethene	44.54	5.0	50	0	89.1	80-120	
Vinyl chloride	44.13	2.0	50	0	88.3	70-127	
Xylenes, Total	145.2	15	150	0	96.8	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.94	5.0	50	0	97.9	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	52.31	5.0	50	0	105	72-125	0
<i>Surr: Dibromofluoromethane</i>	51.67	5.0	50	0	103	71-125	0
<i>Surr: Toluene-d8</i>	54.37	5.0	50	0	109	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152797** Instrument ID **VOA1** Method: **SW8260**

MSD				Sample ID: 13081020-17AMSD		Units: µg/L		Analysis Date: 8/27/2013 03:51 PM		
Client ID: MW-8		Run ID: VOA1_130827A			SeqNo:3333727		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.46	5.0	50	0	94.9	80-120	44.05	7.46	20	
1,1,2,2-Tetrachloroethane	53.95	5.0	50	0	108	72-120	51.3	5.04	20	
1,1,2-Trichloroethane	54.56	5.0	50	0	109	80-120	50.12	8.5	20	
1,1-Dichloroethane	54.54	5.0	50	0	109	76-120	53.41	2.1	20	
1,1-Dichloroethene	55.18	5.0	50	0	110	73-124	53.11	3.83	20	
1,2,4-Trimethylbenzene	45.7	5.0	50	0	91.4	68-123	47.37	3.59	20	
1,2-Dibromoethane	55.81	5.0	50	0	112	80-120	52.22	6.66	20	
1,2-Dichloroethane	51.08	5.0	50	0	102	78-120	46.09	10.3	20	
1,2-Dichloropropane	51.16	5.0	50	0	102	80-120	49.95	2.4	20	
1,3,5-Trimethylbenzene	46.94	5.0	50	0	93.9	80-120	46.33	1.3	20	
2-Butanone	116.4	10	100	0	116	58-132	116.5	0.128	20	
2-Hexanone	120.7	10	100	0	121	61-130	115.1	4.75	20	
4-Isopropyltoluene	43.68	5.0	50	0	87.4	79-120	42.53	2.65	20	
4-Methyl-2-pentanone	122.6	10	100	0	123	65-127	130.9	6.56	20	
Acetone	125.8	10	100	7.195	119	59-137	116.3	7.86	20	
Benzene	48.96	5.0	50	0	97.9	73-121	48.23	1.5	20	
Bromodichloromethane	57.01	5.0	50	0	114	75-125	50.71	11.7	20	
Bromoform	62.23	5.0	50	0	124	70-130	54.09	14	20	
Bromomethane	56.62	5.0	50	0	113	60-145	55.09	2.75	20	
Carbon disulfide	110.9	10	100	0	111	68-141	103.4	6.97	20	
Carbon tetrachloride	44.39	5.0	50	0	88.8	75-125	41.43	6.89	20	
Chlorobenzene	52.42	5.0	50	0	105	80-120	48.83	7.09	20	
Chloroethane	58.36	5.0	50	0	117	76-121	52.62	10.3	20	
Chloroform	54.14	5.0	50	0	108	70-130	50.94	6.09	20	
Chloromethane	45.5	5.0	50	0	91	67-123	44.72	1.72	20	
cis-1,2-Dichloroethene	54.82	5.0	50	0	110	78-120	53.23	2.93	20	
cis-1,3-Dichloropropene	56.7	5.0	50	0	113	80-120	56.56	0.247	20	
Dibromochloromethane	55.88	5.0	50	0	112	80-120	51.22	8.69	20	
Ethylbenzene	49.9	5.0	50	0	99.8	80-120	47.94	4	20	
Isopropylbenzene	52.14	5.0	50	0	104	75-130	44.71	15.3	20	
m,p-Xylene	100.1	10	100	0	100	78-121	98.12	2.02	20	
Methyl tert-butyl ether	48.28	5.0	50	0	96.6	73-121	49.62	2.74	20	
Methylene chloride	54.98	10	50	0	110	65-133	56.04	1.9	20	
Naphthalene	50.88	5.0	50	0	102	65-135	47.53	6.79	20	
n-Butylbenzene	41.63	5.0	50	0	83.3	77-120	38.55	7.68	20	
n-Propylbenzene	43.95	5.0	50	0	87.9	78-120	43.58	0.858	20	
o-Xylene	51.94	5.0	50	0	104	80-120	47.04	9.89	20	
sec-Butylbenzene	45.27	5.0	50	0	90.5	78-120	44.87	0.88	20	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152797		Instrument ID VOA1			Method: SW8260				
Styrene	55.79	5.0	50	0	112	80-120	48.82	13.3	20
Tetrachloroethene	46.36	5.0	50	0	92.7	79-120	42.21	9.37	20
Toluene	47.1	5.0	50	0	94.2	80-120	52.61	11	20
trans-1,2-Dichloroethene	52.15	5.0	50	0	104	78-120	54.8	4.95	20
trans-1,3-Dichloropropene	52.82	5.0	50	0	106	80-120	50.25	4.99	20
Trichloroethene	48.48	5.0	50	0	97	80-120	44.54	8.46	20
Vinyl chloride	49.65	2.0	50	0	99.3	70-127	44.13	11.8	20
Xylenes, Total	152.1	15	150	0	101	78-121	145.2	4.64	20
<i>Surr: 1,2-Dichloroethane-d4</i>	50.63	5.0	50	0	101	70-125	48.94	3.41	20
<i>Surr: 4-Bromofluorobenzene</i>	54	5.0	50	0	108	72-125	52.31	3.17	20
<i>Surr: Dibromofluoromethane</i>	52.03	5.0	50	0	104	71-125	51.67	0.687	20
<i>Surr: Toluene-d8</i>	48.92	5.0	50	0	97.8	75-125	54.37	10.5	20

The following samples were analyzed in this batch:

13081020-04A	13081020-09A	13081020-10A
13081020-11A	13081020-12A	13081020-13A
13081020-16A	13081020-17A	13081020-38A
13081020-39A	13081020-40A	13081020-41A

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152845** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130817-R152845** Units: **µg/L** Analysis Date: **8/28/2013 02:24 AM**
 Client ID: Run ID: **VOA1_130827C** SeqNo: **3334900** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152845		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
Surr: 1,2-Dichloroethane-d4	48.99	5.0	50	0	98	70-125	0	
Surr: 4-Bromofluorobenzene	53.08	5.0	50	0	106	72-125	0	
Surr: Dibromofluoromethane	50.53	5.0	50	0	101	71-125	0	
Surr: Toluene-d8	46.8	5.0	50	0	93.6	75-125	0	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152845** Instrument ID **VOA1** Method: **SW8260**

LCS		Sample ID: VLCSW-130827-R152845				Units: µg/L		Analysis Date: 8/28/2013 01:08 AM		
Client ID:		Run ID: VOA1_130827C				SeqNo: 3334899		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.56	5.0	50	0	91.1	80-120				
1,1,2,2-Tetrachloroethane	51.12	5.0	50	0	102	72-120				
1,1,2-Trichloroethane	49.15	5.0	50	0	98.3	80-120				
1,1-Dichloroethane	49.57	5.0	50	0	99.1	76-120				
1,1-Dichloroethene	51.19	5.0	50	0	102	73-124				
1,2,4-Trimethylbenzene	53.42	5.0	50	0	107	68-123				
1,2-Dibromoethane	48.9	5.0	50	0	97.8	80-120				
1,2-Dichloroethane	48.38	5.0	50	0	96.8	78-120				
1,2-Dichloropropane	52.13	5.0	50	0	104	80-120				
1,3,5-Trimethylbenzene	54.33	5.0	50	0	109	80-120				
2-Butanone	90.12	10	100	0	90.1	58-132				
2-Hexanone	85.75	10	100	0	85.8	61-130				
4-Isopropyltoluene	46.85	5.0	50	0	93.7	79-120				
4-Methyl-2-pentanone	94.42	10	100	0	94.4	65-127				
Acetone	92.63	10	100	0	92.6	59-137				
Benzene	50.48	5.0	50	0	101	73-121				
Bromodichloromethane	49.56	5.0	50	0	99.1	75-125				
Bromoform	49.22	5.0	50	0	98.4	70-130				
Bromomethane	57.83	5.0	50	0	116	60-145				
Carbon disulfide	106.9	10	100	0	107	68-141				
Carbon tetrachloride	47.55	5.0	50	0	95.1	75-125				
Chlorobenzene	47.95	5.0	50	0	95.9	80-120				
Chloroethane	58.37	5.0	50	0	117	70-130				
Chloroform	47.75	5.0	50	0	95.5	70-130				
Chloromethane	53.34	5.0	50	0	107	67-123				
cis-1,2-Dichloroethene	50.42	5.0	50	0	101	78-120				
cis-1,3-Dichloropropene	52.02	5.0	50	0	104	80-120				
Dibromochloromethane	49.07	5.0	50	0	98.1	80-120				
Ethylbenzene	47.21	5.0	50	0	94.4	80-120				
Isopropylbenzene	50.65	5.0	50	0	101	75-130				
m,p-Xylene	95.36	10	100	0	95.4	78-121				
Methyl tert-butyl ether	45.02	5.0	50	0	90	73-121				
Methylene chloride	48.57	10	50	0	97.1	65-133				
Naphthalene	52.09	5.0	50	0	104	65-135				
n-Butylbenzene	52.8	5.0	50	0	106	77-120				
n-Propylbenzene	47.77	5.0	50	0	95.5	78-120				
o-Xylene	49.99	5.0	50	0	100	80-120				
sec-Butylbenzene	52.46	5.0	50	0	105	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152845		Instrument ID VOA1		Method: SW8260			
Styrene	51.99	5.0	50	0	104	80-120	
Tetrachloroethene	47.2	5.0	50	0	94.4	79-120	
Toluene	48.95	5.0	50	0	97.9	80-120	
trans-1,2-Dichloroethene	50.27	5.0	50	0	101	78-120	
trans-1,3-Dichloropropene	52.21	5.0	50	0	104	80-120	
Trichloroethene	50.07	5.0	50	0	100	80-120	
Vinyl chloride	55.78	2.0	50	0	112	70-127	
Xylenes, Total	145.3	15	150	0	96.9	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.1	5.0	50	0	96.2	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	51.11	5.0	50	0	102	72-125	0
<i>Surr: Dibromofluoromethane</i>	47.71	5.0	50	0	95.4	71-125	0
<i>Surr: Toluene-d8</i>	48.94	5.0	50	0	97.9	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152845** Instrument ID **VOA1** Method: **SW8260**

MS				Sample ID: 13081020-23AMS		Units: µg/L		Analysis Date: 8/28/2013 03:40 AM		
Client ID: MW-18		Run ID: VOA1_130827C			SeqNo: 3334903		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.12	5.0	50	0	90.2	80-120				
1,1,2,2-Tetrachloroethane	47.09	5.0	50	0	94.2	72-120				
1,1,2-Trichloroethane	51.38	5.0	50	0	103	80-120				
1,1-Dichloroethane	50.51	5.0	50	0	101	76-120				
1,1-Dichloroethene	60.48	5.0	50	0	121	73-124				
1,2,4-Trimethylbenzene	43.33	5.0	50	0	86.7	68-123				
1,2-Dibromoethane	48.75	5.0	50	0	97.5	80-120				
1,2-Dichloroethane	46.4	5.0	50	0	92.8	78-120				
1,2-Dichloropropane	53.19	5.0	50	0	106	80-120				
1,3,5-Trimethylbenzene	43.92	5.0	50	0	87.8	80-120				
2-Butanone	93.86	10	100	0	93.9	58-132				
2-Hexanone	100.8	10	100	0	101	61-130				
4-Isopropyltoluene	41.64	5.0	50	0	83.3	79-120				
4-Methyl-2-pentanone	94.74	10	100	0	94.7	65-127				
Acetone	101.5	10	100	0	102	59-137				
Benzene	44.89	5.0	50	0	89.8	73-121				
Bromodichloromethane	51.01	5.0	50	0	102	75-125				
Bromoform	50.96	5.0	50	0	102	70-130				
Bromomethane	57.73	5.0	50	0	115	60-145				
Carbon disulfide	111.2	10	100	0	111	68-141				
Carbon tetrachloride	41.1	5.0	50	0	82.2	75-125				
Chlorobenzene	44.42	5.0	50	0	88.8	80-120				
Chloroethane	61.19	5.0	50	0	122	70-130				
Chloroform	49.96	5.0	50	0	99.9	70-130				
Chloromethane	49.64	5.0	50	0	99.3	67-123				
cis-1,2-Dichloroethene	52.72	5.0	50	0	105	78-120				
cis-1,3-Dichloropropene	47.18	5.0	50	0	94.4	80-120				
Dibromochloromethane	50.74	5.0	50	0	101	80-120				
Ethylbenzene	47.21	5.0	50	0	94.4	80-120				
Isopropylbenzene	46.48	5.0	50	0	93	75-130				
m,p-Xylene	90.62	10	100	0	90.6	78-121				
Methyl tert-butyl ether	41.44	5.0	50	0	82.9	73-121				
Methylene chloride	49.26	10	50	0	98.5	65-133				
Naphthalene	48.21	5.0	50	0	96.4	65-135				
n-Butylbenzene	42.47	5.0	50	0	84.9	77-120				
n-Propylbenzene	40.6	5.0	50	0	81.2	78-120				
o-Xylene	47.94	5.0	50	0	95.9	80-120				
sec-Butylbenzene	42.34	5.0	50	0	84.7	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152845		Instrument ID VOA1		Method: SW8260			
Styrene	48.9	5.0	50	0	97.8	80-120	
Tetrachloroethene	42.3	5.0	50	0	84.6	79-120	
Toluene	45.92	5.0	50	0	91.8	80-120	
trans-1,2-Dichloroethene	50.49	5.0	50	0	101	78-120	
trans-1,3-Dichloropropene	48.58	5.0	50	0	97.2	80-120	
Trichloroethene	48.53	5.0	50	0	97.1	80-120	
Vinyl chloride	52.43	2.0	50	0	105	70-127	
Xylenes, Total	138.6	15	150	0	92.4	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	47.75	5.0	50	0	95.5	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	53.21	5.0	50	0	106	72-125	0
<i>Surr: Dibromofluoromethane</i>	50.92	5.0	50	0	102	71-125	0
<i>Surr: Toluene-d8</i>	49.75	5.0	50	0	99.5	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152845** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 13081020-23AMSD				Units: µg/L		Analysis Date: 8/28/2013 04:05 AM		
Client ID: MW-18		Run ID: VOA1_130827C				SeqNo: 3334904		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.21	5.0	50	0	90.4	80-120	45.12	0.209	20	
1,1,2,2-Tetrachloroethane	48.65	5.0	50	0	97.3	72-120	47.09	3.27	20	
1,1,2-Trichloroethane	43.93	5.0	50	0	87.9	80-120	51.38	15.6	20	
1,1-Dichloroethane	50.74	5.0	50	0	101	76-120	50.51	0.456	20	
1,1-Dichloroethene	55.72	5.0	50	0	111	73-124	60.48	8.18	20	
1,2,4-Trimethylbenzene	44.75	5.0	50	0	89.5	68-123	43.33	3.22	20	
1,2-Dibromoethane	48.85	5.0	50	0	97.7	80-120	48.75	0.197	20	
1,2-Dichloroethane	47.21	5.0	50	0	94.4	78-120	46.4	1.74	20	
1,2-Dichloropropane	50.26	5.0	50	0	101	80-120	53.19	5.66	20	
1,3,5-Trimethylbenzene	42.59	5.0	50	0	85.2	80-120	43.92	3.08	20	
2-Butanone	101.3	10	100	0	101	58-132	93.86	7.58	20	
2-Hexanone	100.2	10	100	0	100	61-130	100.8	0.65	20	
4-Isopropyltoluene	40.94	5.0	50	0	81.9	79-120	41.64	1.7	20	
4-Methyl-2-pentanone	102.4	10	100	0	102	65-127	94.74	7.82	20	
Acetone	102.7	10	100	0	103	59-137	101.5	1.18	20	
Benzene	44.9	5.0	50	0	89.8	73-121	44.89	0.0271	20	
Bromodichloromethane	49.26	5.0	50	0	98.5	75-125	51.01	3.49	20	
Bromoform	49.71	5.0	50	0	99.4	70-130	50.96	2.49	20	
Bromomethane	58.05	5.0	50	0	116	60-145	57.73	0.56	20	
Carbon disulfide	103	10	100	0	103	68-141	111.2	7.66	20	
Carbon tetrachloride	40.62	5.0	50	0	81.2	75-125	41.1	1.17	20	
Chlorobenzene	47.24	5.0	50	0	94.5	80-120	44.42	6.15	20	
Chloroethane	55.66	5.0	50	0	111	76-121	61.19	9.47	20	
Chloroform	49.59	5.0	50	0	99.2	70-130	49.96	0.733	20	
Chloromethane	47.76	5.0	50	0	95.5	67-123	49.64	3.87	20	
cis-1,2-Dichloroethene	50.27	5.0	50	0	101	78-120	52.72	4.77	20	
cis-1,3-Dichloropropene	50.59	5.0	50	0	101	80-120	47.18	6.98	20	
Dibromochloromethane	48.44	5.0	50	0	96.9	80-120	50.74	4.64	20	
Ethylbenzene	45.45	5.0	50	0	90.9	80-120	47.21	3.8	20	
Isopropylbenzene	41.98	5.0	50	0	84	75-130	46.48	10.2	20	
m,p-Xylene	95.76	10	100	0	95.8	78-121	90.62	5.52	20	
Methyl tert-butyl ether	43.66	5.0	50	0	87.3	73-121	41.44	5.22	20	
Methylene chloride	50.17	10	50	0	100	65-133	49.26	1.83	20	
Naphthalene	49.49	5.0	50	0	99	65-135	48.21	2.61	20	
n-Butylbenzene	40.94	5.0	50	0	81.9	77-120	42.47	3.67	20	
n-Propylbenzene	44.66	5.0	50	0	89.3	78-120	40.6	9.53	20	
o-Xylene	42.67	5.0	50	0	85.3	80-120	47.94	11.6	20	
sec-Butylbenzene	42.99	5.0	50	0	86	78-120	42.34	1.55	20	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152845		Instrument ID VOA1		Method: SW8260						
Styrene	43.92	5.0	50	0	87.8	80-120	48.9	10.7	20	
Tetrachloroethene	37.85	5.0	50	0	75.7	79-120	42.3	11.1	20	S
Toluene	45.89	5.0	50	0	91.8	80-120	45.92	0.0807	20	
trans-1,2-Dichloroethene	48.15	5.0	50	0	96.3	78-120	50.49	4.74	20	
trans-1,3-Dichloropropene	50.53	5.0	50	0	101	80-120	48.58	3.93	20	
Trichloroethene	45.55	5.0	50	0	91.1	80-120	48.53	6.34	20	
Vinyl chloride	52.06	2.0	50	0	104	70-127	52.43	0.704	20	
Xylenes, Total	138.4	15	150	0	92.3	78-121	138.6	0.091	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.27	5.0	50	0	96.5	70-125	47.75	1.1	20	
<i>Surr: 4-Bromofluorobenzene</i>	48.45	5.0	50	0	96.9	72-125	53.21	9.37	20	
<i>Surr: Dibromofluoromethane</i>	52.01	5.0	50	0	104	71-125	50.92	2.1	20	
<i>Surr: Toluene-d8</i>	46.66	5.0	50	0	93.3	75-125	49.75	6.41	20	

The following samples were analyzed in this batch:

13081020-01A	13081020-02A	13081020-03A
13081020-05A	13081020-06A	13081020-07A
13081020-08A	13081020-14A	13081020-15A
13081020-18A	13081020-19A	13081020-20A
13081020-21A	13081020-22A	13081020-23A
13081020-24A	13081020-25A	13081020-26A
13081020-27A		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152905** Instrument ID **VOA1** Method: **SW8260**

MBLK Sample ID: **VBLKW-130828-R152905** Units: **µg/L** Analysis Date: **8/28/2013 03:18 PM**
 Client ID: Run ID: **VOA1_130828A** SeqNo: **3336313** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2,4-Trimethylbenzene	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
2-Butanone	ND	10								
2-Hexanone	ND	10								
4-Isopropyltoluene	ND	5.0								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,2-Dichloroethene	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
Isopropylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methyl tert-butyl ether	ND	5.0								
Methylene chloride	ND	10								
Naphthalene	ND	5.0								
n-Butylbenzene	ND	5.0								
n-Propylbenzene	ND	5.0								
o-Xylene	ND	5.0								
sec-Butylbenzene	ND	5.0								

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152905		Instrument ID VOA1		Method: SW8260				
Styrene	ND	5.0						
Tetrachloroethene	ND	5.0						
Toluene	ND	5.0						
trans-1,2-Dichloroethene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
<i>Surr: 1,2-Dichloroethane-d4</i>	48.24	5.0	50	0	96.5	70-125	0	
<i>Surr: 4-Bromofluorobenzene</i>	50.6	5.0	50	0	101	72-125	0	
<i>Surr: Dibromofluoromethane</i>	52.07	5.0	50	0	104	71-125	0	
<i>Surr: Toluene-d8</i>	42.82	5.0	50	0	85.6	75-125	0	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152905** Instrument ID **VOA1** Method: **SW8260**

LCS				Sample ID: VLCSW-130828-R152905		Units: µg/L		Analysis Date: 8/28/2013 02:02 PM		
Client ID:		Run ID: VOA1_130828A			SeqNo: 3336312		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.83	5.0	50	0	97.7	80-120				
1,1,2,2-Tetrachloroethane	49.44	5.0	50	0	98.9	72-120				
1,1,2-Trichloroethane	47.89	5.0	50	0	95.8	80-120				
1,1-Dichloroethane	56.19	5.0	50	0	112	76-120				
1,1-Dichloroethene	56.23	5.0	50	0	112	73-124				
1,2,4-Trimethylbenzene	48.88	5.0	50	0	97.8	68-123				
1,2-Dibromoethane	47.48	5.0	50	0	95	80-120				
1,2-Dichloroethane	48.49	5.0	50	0	97	78-120				
1,2-Dichloropropane	49.08	5.0	50	0	98.2	80-120				
1,3,5-Trimethylbenzene	49.41	5.0	50	0	98.8	80-120				
2-Butanone	106.4	10	100	0	106	58-132				
2-Hexanone	97.21	10	100	0	97.2	61-130				
4-Isopropyltoluene	49.85	5.0	50	0	99.7	79-120				
4-Methyl-2-pentanone	96.92	10	100	0	96.9	65-127				
Acetone	97.76	10	100	0	97.8	59-137				
Benzene	51.11	5.0	50	0	102	73-121				
Bromodichloromethane	47.69	5.0	50	0	95.4	75-125				
Bromoform	50.92	5.0	50	0	102	70-130				
Bromomethane	55.54	5.0	50	0	111	60-145				
Carbon disulfide	114.6	10	100	0	115	68-141				
Carbon tetrachloride	50.57	5.0	50	0	101	75-125				
Chlorobenzene	48.7	5.0	50	0	97.4	80-120				
Chloroethane	53.46	5.0	50	0	107	70-130				
Chloroform	50.73	5.0	50	0	101	70-130				
Chloromethane	50.25	5.0	50	0	100	67-123				
cis-1,2-Dichloroethene	55.76	5.0	50	0	112	78-120				
cis-1,3-Dichloropropene	49.71	5.0	50	0	99.4	80-120				
Dibromochloromethane	49.53	5.0	50	0	99.1	80-120				
Ethylbenzene	48.55	5.0	50	0	97.1	80-120				
Isopropylbenzene	47.45	5.0	50	0	94.9	75-130				
m,p-Xylene	99.19	10	100	0	99.2	78-121				
Methyl tert-butyl ether	49.45	5.0	50	0	98.9	73-121				
Methylene chloride	54.55	10	50	0	109	65-133				
Naphthalene	49.3	5.0	50	0	98.6	65-135				
n-Butylbenzene	54.25	5.0	50	0	108	77-120				
n-Propylbenzene	50.42	5.0	50	0	101	78-120				
o-Xylene	48.66	5.0	50	0	97.3	80-120				
sec-Butylbenzene	53.06	5.0	50	0	106	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152905		Instrument ID VOA1		Method: SW8260			
Styrene	49.82	5.0	50	0	99.6	80-120	
Tetrachloroethene	45.77	5.0	50	0	91.5	79-120	
Toluene	48.37	5.0	50	0	96.7	80-120	
trans-1,2-Dichloroethene	57.78	5.0	50	0	116	78-120	
trans-1,3-Dichloropropene	47.09	5.0	50	0	94.2	80-120	
Trichloroethene	49.09	5.0	50	0	98.2	80-120	
Vinyl chloride	58.11	2.0	50	0	116	70-127	
Xylenes, Total	147.9	15	150	0	98.6	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.56	5.0	50	0	97.1	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	48.56	5.0	50	0	97.1	72-125	0
<i>Surr: Dibromofluoromethane</i>	50.39	5.0	50	0	101	71-125	0
<i>Surr: Toluene-d8</i>	47.13	5.0	50	0	94.3	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152905** Instrument ID **VOA1** Method: **SW8260**

MS		Sample ID: 13081020-31AMS				Units: µg/L		Analysis Date: 8/28/2013 05:50 PM		
Client ID: MW-7		Run ID: VOA1_130828A				SeqNo: 3336317		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.58	5.0	50	0	95.2	80-120				
1,1,2,2-Tetrachloroethane	53.39	5.0	50	0	107	72-120				
1,1,2-Trichloroethane	51.96	5.0	50	0	104	80-120				
1,1-Dichloroethane	56.84	5.0	50	0	114	76-120				
1,1-Dichloroethene	51.97	5.0	50	0	104	73-124				
1,2,4-Trimethylbenzene	48.02	5.0	50	0	96	68-123				
1,2-Dibromoethane	52.45	5.0	50	0	105	80-120				
1,2-Dichloroethane	44.92	5.0	50	0	89.8	78-120				
1,2-Dichloropropane	50.81	5.0	50	0	102	80-120				
1,3,5-Trimethylbenzene	47.64	5.0	50	0	95.3	80-120				
2-Butanone	113.2	10	100	0	113	58-132				
2-Hexanone	107.8	10	100	0	108	61-130				
4-Isopropyltoluene	44.68	5.0	50	0	89.4	79-120				
4-Methyl-2-pentanone	105.5	10	100	0	106	65-127				
Acetone	117.8	10	100	20.4	97.3	59-137				
Benzene	46.77	5.0	50	0	93.5	73-121				
Bromodichloromethane	47.82	5.0	50	0	95.6	75-125				
Bromoform	51.24	5.0	50	0	102	70-130				
Bromomethane	50.05	5.0	50	0	100	60-145				
Carbon disulfide	106.9	10	100	0	107	68-141				
Carbon tetrachloride	41.57	5.0	50	0	83.1	75-125				
Chlorobenzene	46.27	5.0	50	0	92.5	80-120				
Chloroethane	50.69	5.0	50	0	101	70-130				
Chloroform	53.92	5.0	50	0	108	70-130				
Chloromethane	43.41	5.0	50	0	86.8	67-123				
cis-1,2-Dichloroethene	56.51	5.0	50	0	113	78-120				
cis-1,3-Dichloropropene	49.09	5.0	50	0	98.2	80-120				
Dibromochloromethane	50.37	5.0	50	0	101	80-120				
Ethylbenzene	48.41	5.0	50	0	96.8	80-120				
Isopropylbenzene	45.17	5.0	50	0	90.3	75-130				
m,p-Xylene	96.09	10	100	0	96.1	78-121				
Methyl tert-butyl ether	47.11	5.0	50	0	94.2	73-121				
Methylene chloride	57.59	10	50	0	115	65-133				
Naphthalene	50.41	5.0	50	0	101	65-135				
n-Butylbenzene	46.55	5.0	50	0	93.1	77-120				
n-Propylbenzene	46.49	5.0	50	0	93	78-120				
o-Xylene	49.01	5.0	50	0	98	80-120				
sec-Butylbenzene	45.51	5.0	50	0	91	78-120				

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152905		Instrument ID VOA1		Method: SW8260			
Styrene	49.51	5.0	50	0	99	80-120	
Tetrachloroethene	43.18	5.0	50	0	86.4	79-120	
Toluene	47.15	5.0	50	0	94.3	80-120	
trans-1,2-Dichloroethene	56.16	5.0	50	0	112	78-120	
trans-1,3-Dichloropropene	47.62	5.0	50	0	95.2	80-120	
Trichloroethene	46.18	5.0	50	0	92.4	80-120	
Vinyl chloride	46.17	2.0	50	0	92.3	70-127	
Xylenes, Total	145.1	15	150	0	96.7	80-120	
<i>Surr: 1,2-Dichloroethane-d4</i>	48.69	5.0	50	0	97.4	70-125	0
<i>Surr: 4-Bromofluorobenzene</i>	47	5.0	50	0	94	72-125	0
<i>Surr: Dibromofluoromethane</i>	52.26	5.0	50	0	105	71-125	0
<i>Surr: Toluene-d8</i>	47.66	5.0	50	0	95.3	75-125	0

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152905** Instrument ID **VOA1** Method: **SW8260**

MSD		Sample ID: 13081020-31AMSD				Units: µg/L		Analysis Date: 8/28/2013 06:16 PM		
Client ID: MW-7		Run ID: VOA1_130828A				SeqNo: 3336318		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.24	5.0	50	0	94.5	80-120	47.58	0.716	20	
1,1,2,2-Tetrachloroethane	49.39	5.0	50	0	98.8	72-120	53.39	7.77	20	
1,1,2-Trichloroethane	54.01	5.0	50	0	108	80-120	51.96	3.87	20	
1,1-Dichloroethane	54.77	5.0	50	0	110	76-120	56.84	3.71	20	
1,1-Dichloroethene	54.16	5.0	50	0	108	73-124	51.97	4.13	20	
1,2,4-Trimethylbenzene	45.14	5.0	50	0	90.3	68-123	48.02	6.19	20	
1,2-Dibromoethane	53.79	5.0	50	0	108	80-120	52.45	2.52	20	
1,2-Dichloroethane	48.49	5.0	50	0	97	78-120	44.92	7.65	20	
1,2-Dichloropropane	49.26	5.0	50	0	98.5	80-120	50.81	3.09	20	
1,3,5-Trimethylbenzene	41.53	5.0	50	0	83.1	80-120	47.64	13.7	20	
2-Butanone	118.8	10	100	0	119	58-132	113.2	4.83	20	
2-Hexanone	111	10	100	0	111	61-130	107.8	2.9	20	
4-Isopropyltoluene	42.23	5.0	50	0	84.5	79-120	44.68	5.65	20	
4-Methyl-2-pentanone	117.2	10	100	0	117	65-127	105.5	10.4	20	
Acetone	123	10	100	20.4	103	59-137	117.8	4.35	20	
Benzene	49.69	5.0	50	0	99.4	73-121	46.77	6.06	20	
Bromodichloromethane	50.62	5.0	50	0	101	75-125	47.82	5.69	20	
Bromoform	58.16	5.0	50	0	116	70-130	51.24	12.6	20	
Bromomethane	65.83	5.0	50	0	132	60-145	50.05	27.2	20	R
Carbon disulfide	104.3	10	100	0	104	68-141	106.9	2.49	20	
Carbon tetrachloride	42.7	5.0	50	0	85.4	75-125	41.57	2.7	20	
Chlorobenzene	47.56	5.0	50	0	95.1	80-120	46.27	2.74	20	
Chloroethane	61.08	5.0	50	0	122	76-121	50.69	18.6	20	S
Chloroform	53.87	5.0	50	0	108	70-130	53.92	0.0943	20	
Chloromethane	48.65	5.0	50	0	97.3	67-123	43.41	11.4	20	
cis-1,2-Dichloroethene	55.89	5.0	50	0	112	78-120	56.51	1.1	20	
cis-1,3-Dichloropropene	51.99	5.0	50	0	104	80-120	49.09	5.74	20	
Dibromochloromethane	52.42	5.0	50	0	105	80-120	50.37	3.99	20	
Ethylbenzene	48.85	5.0	50	0	97.7	80-120	48.41	0.915	20	
Isopropylbenzene	49.58	5.0	50	0	99.2	75-130	45.17	9.32	20	
m,p-Xylene	97.72	10	100	0	97.7	78-121	96.09	1.68	20	
Methyl tert-butyl ether	49.48	5.0	50	0	99	73-121	47.11	4.92	20	
Methylene chloride	56.17	10	50	0	112	65-133	57.59	2.49	20	
Naphthalene	45.69	5.0	50	0	91.4	65-135	50.41	9.81	20	
n-Butylbenzene	43.65	5.0	50	0	87.3	77-120	46.55	6.43	20	
n-Propylbenzene	38.63	5.0	50	0	77.3	78-120	46.49	18.5	20	S
o-Xylene	48.94	5.0	50	0	97.9	80-120	49.01	0.144	20	
sec-Butylbenzene	44.92	5.0	50	0	89.8	78-120	45.51	1.31	20	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: R152905		Instrument ID VOA1			Method: SW8260					
Styrene	51.97	5.0	50	0	104	80-120	49.51	4.84	20	
Tetrachloroethene	44.21	5.0	50	0	88.4	79-120	43.18	2.36	20	
Toluene	48.13	5.0	50	0	96.3	80-120	47.15	2.06	20	
trans-1,2-Dichloroethene	55.62	5.0	50	0	111	78-120	56.16	0.975	20	
trans-1,3-Dichloropropene	52.07	5.0	50	0	104	80-120	47.62	8.93	20	
Trichloroethene	25.12	5.0	50	0	50.2	80-120	46.18	59.1	20	SR
Vinyl chloride	51.95	2.0	50	0	104	70-127	46.17	11.8	20	
Xylenes, Total	146.7	15	150	0	97.8	78-121	145.1	1.07	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	53.53	5.0	50	0	107	70-125	48.69	9.47	20	
<i>Surr: 4-Bromofluorobenzene</i>	54.94	5.0	50	0	110	72-125	47	15.6	20	
<i>Surr: Dibromofluoromethane</i>	53.17	5.0	50	0	106	71-125	52.26	1.72	20	
<i>Surr: Toluene-d8</i>	49.1	5.0	50	0	98.2	75-125	47.66	2.97	20	

The following samples were analyzed in this batch:

13081020-28A	13081020-29A	13081020-30A
13081020-31A	13081020-32A	13081020-33A
13081020-34A	13081020-35A	13081020-36A
13081020-37A	13081020-41A	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152822** Instrument ID **ManTech01** Method: **M2510 B (Dissolve)**

MBLK Sample ID: **WBLKW1-130827-R152822** Units: **µmhos/cm** Analysis Date: **8/27/2013 09:33 PM**

Client ID: Run ID: **MANTECH01_130827C** SeqNo: **3334105** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.00								

LCS Sample ID: **LCS-COND-R152822** Units: **µmhos/cm** Analysis Date: **8/27/2013 09:44 PM**

Client ID: Run ID: **MANTECH01_130827C** SeqNo: **3334108** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1383	1.00	1413		0	97.9	80-120			

DUP Sample ID: **13081020-17EDUP** Units: **µmhos/cm** Analysis Date: **8/27/2013 09:55 PM**

Client ID: **MW-8** Run ID: **MANTECH01_130827C** SeqNo: **3334110** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1152	1.00					1158	0.519	20	

The following samples were analyzed in this batch:

13081020-01E	13081020-02E	13081020-03E
13081020-05E	13081020-06E	13081020-07E
13081020-08E	13081020-11E	13081020-12E
13081020-13E	13081020-14E	13081020-15E
13081020-16E	13081020-17E	13081020-18E
13081020-19E	13081020-20E	13081020-21E
13081020-22E		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152823** Instrument ID **ManTech01** Method: **SM2320B** **(Dissolve)**

MBLK Sample ID: **WBLKW1-130827-R152823** Units: **mg/L** Analysis Date: **8/27/2013 09:33 PM**
 Client ID: Run ID: **MANTECH01_130827D** SeqNo: **3334161** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.00								
Alkalinity, Carbonate (As CaCO3)	ND	6.00								
Alkalinity, Hydroxide (As CaCO3)	ND	6.00								
Alkalinity, Total (As CaCO3)	ND	6.00								

LCS Sample ID: **WLCSW1-130827-R152823** Units: **mg/L** Analysis Date: **8/27/2013 09:39 PM**
 Client ID: Run ID: **MANTECH01_130827D** SeqNo: **3334162** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1115	6.00	1000	0	111	80-120				

DUP Sample ID: **13081020-17EDUP** Units: **mg/L** Analysis Date: **8/27/2013 09:55 PM**
 Client ID: **MW-8** Run ID: **MANTECH01_130827D** SeqNo: **3334166** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	364.2	6.00					363.4	0.209	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.00					0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.00					0	0	0	
Alkalinity, Total (As CaCO3)	364.2	6.00					363.4	0.209	20	

The following samples were analyzed in this batch:

13081020-01E	13081020-02E	13081020-03E
13081020-05E	13081020-06E	13081020-07E
13081020-08E	13081020-11E	13081020-12E
13081020-13E	13081020-14E	13081020-15E
13081020-16E	13081020-17E	13081020-18E
13081020-19E	13081020-20E	13081020-21E
13081020-22E		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152824** Instrument ID **ManTech01** Method: **SM4500H+ B (Dissolve)**

LCS Sample ID: **LCS-PH-R152824** Units: **pH Units** Analysis Date: **8/27/2013 09:43 PM**
Client ID: Run ID: **MANTECH01_130827E** SeqNo: **3334219** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6	0.100	6	0	100	90-110				

DUP Sample ID: **13081020-17EDUP** Units: **pH Units** Analysis Date: **8/27/2013 09:55 PM**
Client ID: **MW-8** Run ID: **MANTECH01_130827E** SeqNo: **3334222** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.37	0.100					7.34	0.408	20	H

The following samples were analyzed in this batch:

13081020-01E	13081020-02E	13081020-03E
13081020-05E	13081020-06E	13081020-07E
13081020-08E	13081020-11E	13081020-12E
13081020-13E	13081020-14E	13081020-15E
13081020-16E	13081020-17E	13081020-18E
13081020-19E	13081020-20E	13081020-21E
13081020-22E		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152862** Instrument ID **ICS2100** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW2-R152862				Units: mg/L		Analysis Date: 8/27/2013 08:00 PM			
Client ID:	Run ID: ICS2100_130827C				SeqNo: 3335265		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								
Fluoride	ND	0.100								
Sulfate	ND	0.500								

LCS	Sample ID: WLCSW2-R152862				Units: mg/L		Analysis Date: 8/27/2013 08:15 PM			
Client ID:	Run ID: ICS2100_130827C				SeqNo: 3335266		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.15	0.500	20	0	101	90-110				
Fluoride	4.137	0.100	4	0	103	90-110				
Sulfate	19.89	0.500	20	0	99.4	90-110				

MS	Sample ID: 13081020-01EMS				Units: mg/L		Analysis Date: 8/28/2013 12:26 AM			
Client ID: MW-5	Run ID: ICS2100_130827C				SeqNo: 3335268		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	23.09	0.500	10	13.92	91.6	80-120				
Fluoride	3.142	0.100	2	1.165	98.8	80-120				
Sulfate	51.47	0.500	10	44.19	72.8	80-120				SO

MS	Sample ID: 13081020-17EMS				Units: mg/L		Analysis Date: 8/28/2013 04:34 AM			
Client ID: MW-8	Run ID: ICS2100_130827C				SeqNo: 3335285		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	108.1	0.500	10	104.9	31.3	80-120				SEO
Fluoride	2.637	0.100	2	0.513	106	80-120				
Sulfate	135.6	0.500	10	133.9	16.9	80-120				SEO

MSD	Sample ID: 13081020-01EMSD				Units: mg/L		Analysis Date: 8/28/2013 12:41 AM			
Client ID: MW-5	Run ID: ICS2100_130827C				SeqNo: 3335269		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	23.25	0.500	10	13.92	93.2	80-120	23.09	0.691	20	
Fluoride	3.193	0.100	2	1.165	101	80-120	3.142	1.61	20	
Sulfate	51.5	0.500	10	44.19	73.1	80-120	51.47	0.066	20	SO

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152862** Instrument ID **ICS2100** Method: **E300** **(Dissolve)**

MSD Sample ID: **13081020-17EMSD** Units: **mg/L** Analysis Date: **8/28/2013 04:48 AM**
 Client ID: **MW-8** Run ID: **ICS2100_130827C** SeqNo: **3335286** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	108.7	0.500	10	104.9	37.7	80-120	108.1	0.59	20	SEO
Fluoride	2.648	0.100	2	0.513	107	80-120	2.637	0.416	20	
Sulfate	134.7	0.500	10	133.9	8.02	80-120	135.6	0.661	20	SEO

The following samples were analyzed in this batch:

13081020-01E	13081020-02E	13081020-03E
13081020-05E	13081020-06E	13081020-07E
13081020-08E	13081020-11E	13081020-12E
13081020-13E	13081020-14E	13081020-15E
13081020-16E	13081020-17E	13081020-18E
13081020-19E	13081020-20E	13081020-21E
13081020-22E		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152883** Instrument ID **ManTech01** Method: **SM4500H+ B (Dissolve)**

LCS Sample ID: **LCS-PH-R152883** Units: **pH Units** Analysis Date: **8/28/2013 01:52 PM**
Client ID: Run ID: **MANTECH01_130828A** SeqNo: **3335718** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.100	6	0	100	90-110				

DUP Sample ID: **13081020-23EDUP** Units: **pH Units** Analysis Date: **8/28/2013 02:04 PM**
Client ID: **MW-18** Run ID: **MANTECH01_130828A** SeqNo: **3335721** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.44	0.100					7.41	0.404	20	H

The following samples were analyzed in this batch:

13081020-23E	13081020-24E	13081020-25E
13081020-26E	13081020-27E	13081020-28E
13081020-29E	13081020-30E	13081020-31E
13081020-32E	13081020-33E	13081020-34E
13081020-35E	13081020-36E	13081020-37E
13081020-38E	13081020-39E	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152885** Instrument ID **ManTech01** Method: **SM2320B** **(Dissolve)**

MBLK Sample ID: **WBLKW1-130828-R152885** Units: **mg/L** Analysis Date: **8/28/2013 01:43 PM**
 Client ID: Run ID: **MANTECH01_130828B** SeqNo: **3335756** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	6.00								
Alkalinity, Carbonate (As CaCO3)	ND	6.00								
Alkalinity, Hydroxide (As CaCO3)	ND	6.00								
Alkalinity, Total (As CaCO3)	ND	6.00								

LCS Sample ID: **WLCSW1-130828-R152885** Units: **mg/L** Analysis Date: **8/28/2013 01:49 PM**
 Client ID: Run ID: **MANTECH01_130828B** SeqNo: **3335757** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Total (As CaCO3)	1118	6.00	1000	0	112	80-120				

DUP Sample ID: **13081020-23EDUP** Units: **mg/L** Analysis Date: **8/28/2013 02:04 PM**
 Client ID: **MW-18** Run ID: **MANTECH01_130828B** SeqNo: **3335761** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	261.2	6.00					263	0.71	0	
Alkalinity, Carbonate (As CaCO3)	ND	6.00					0	0	0	
Alkalinity, Hydroxide (As CaCO3)	ND	6.00					0	0	0	
Alkalinity, Total (As CaCO3)	261.2	6.00					263	0.71	20	

The following samples were analyzed in this batch:

13081020-23E	13081020-24E	13081020-25E
13081020-26E	13081020-27E	13081020-28E
13081020-29E	13081020-30E	13081020-31E
13081020-32E	13081020-33E	13081020-34E
13081020-35E	13081020-36E	13081020-37E
13081020-38E	13081020-39E	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152889** Instrument ID **ManTech01** Method: **M2510 B (Dissolve)**

MBLK Sample ID: **WBLKW1-130828-R152889** Units: **µmhos/cm** Analysis Date: **8/28/2013 01:43 PM**
Client ID: Run ID: **MANTECH01_130828C** SeqNo: **3335888** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	ND	1.00								

LCS Sample ID: **LCS-COND-R152889** Units: **µmhos/cm** Analysis Date: **8/28/2013 01:53 PM**
Client ID: Run ID: **MANTECH01_130828C** SeqNo: **3335891** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1483	1.00	1413		0	105	80-120			

DUP Sample ID: **13081020-23EDUP** Units: **µmhos/cm** Analysis Date: **8/28/2013 02:04 PM**
Client ID: **MW-18** Run ID: **MANTECH01_130828C** SeqNo: **3335893** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1333	1.00					1338	0.374	20	

The following samples were analyzed in this batch:

13081020-23E	13081020-24E	13081020-25E
13081020-26E	13081020-27E	13081020-28E
13081020-29E	13081020-30E	13081020-31E
13081020-32E	13081020-33E	13081020-34E
13081020-35E	13081020-36E	13081020-37E
13081020-38E	13081020-39E	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152893** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK	Sample ID: WBLK-082713-R152893				Units: mg/L		Analysis Date: 8/27/2013 10:10 AM			
Client ID:	Run ID: BALANCE1_130827D				SeqNo: 3335967		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	ND	10.0								

LCS	Sample ID: WLCS-082713-R152893				Units: mg/L		Analysis Date: 8/27/2013 10:10 AM			
Client ID:	Run ID: BALANCE1_130827D				SeqNo: 3335968		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1022	10.0	1000		0	102	85-115			

DUP	Sample ID: 13081020-26EDUP				Units: mg/L		Analysis Date: 8/27/2013 10:10 AM			
Client ID: MW-15	Run ID: BALANCE1_130827D				SeqNo: 3335956		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1224	10.0					1280	4.47	20	

DUP	Sample ID: 1308980-01BDUP				Units: mg/L		Analysis Date: 8/27/2013 10:10 AM			
Client ID:	Run ID: BALANCE1_130827D				SeqNo: 3335966		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	3620	10.0					3620	0	20	

The following samples were analyzed in this batch:

13081020-01E	13081020-02E	13081020-03E
13081020-05E	13081020-11E	13081020-12E
13081020-13E	13081020-14E	13081020-15E
13081020-16E	13081020-26E	13081020-27E
13081020-28E	13081020-29E	13081020-30E

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152958** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK	Sample ID: WBLK-082813-R152958				Units: mg/L		Analysis Date: 8/28/2013 11:20 AM			
Client ID:	Run ID: BALANCE1_130828E				SeqNo: 3337414		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	ND	10.0								

LCS	Sample ID: WLCS-082813-R152958				Units: mg/L		Analysis Date: 8/28/2013 11:20 AM			
Client ID:	Run ID: BALANCE1_130828E				SeqNo: 3337415		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1054	10.0	1000		0	105	85-115			

DUP	Sample ID: 13081020-17EDUP				Units: mg/L		Analysis Date: 8/28/2013 11:20 AM			
Client ID: MW-8	Run ID: BALANCE1_130828E				SeqNo: 3337396		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	752	10.0					788	4.68	20	

DUP	Sample ID: 13081020-23EDUP				Units: mg/L		Analysis Date: 8/28/2013 11:20 AM			
Client ID: MW-18	Run ID: BALANCE1_130828E				SeqNo: 3337403		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	1080	10.0					1096	1.47	20	

The following samples were analyzed in this batch:

13081020-06E	13081020-07E	13081020-08E
13081020-17E	13081020-18E	13081020-19E
13081020-20E	13081020-21E	13081020-22E
13081020-23E	13081020-24E	13081020-25E
13081020-31E	13081020-32E	13081020-33E

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152959** Instrument ID **ICS2100** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW2-R152959		Units: mg/L		Analysis Date: 8/28/2013 10:54 PM					
Client ID:	Run ID: ICS2100_130828C		SeqNo: 3337418		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								
Sulfate	ND	0.500								

LCS	Sample ID: WLCSW2-R152959		Units: mg/L		Analysis Date: 8/28/2013 11:09 PM					
Client ID:	Run ID: ICS2100_130828C		SeqNo: 3337419		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.39	0.500	20	0	102	90-110				
Sulfate	19.76	0.500	20	0	98.8	90-110				

MS	Sample ID: 13081020-17EMS		Units: mg/L		Analysis Date: 8/29/2013 03:02 AM					
Client ID: MW-8	Run ID: ICS2100_130828C		SeqNo: 3337435		Prep Date:		DF: 5			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	152.6	2.50	50	101.2	103	80-120		0	0	
Sulfate	181.4	2.50	50	129.2	104	80-120		0	0	

MSD	Sample ID: 13081020-17EMSD		Units: mg/L		Analysis Date: 8/29/2013 03:16 AM					
Client ID: MW-8	Run ID: ICS2100_130828C		SeqNo: 3337436		Prep Date:		DF: 5			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	153.3	2.50	50	101.2	104	80-120	152.6	0.451	20	
Sulfate	181.9	2.50	50	129.2	105	80-120	181.4	0.266	20	

The following samples were analyzed in this batch:

13081020-02E	13081020-03E	13081020-06E
13081020-07E	13081020-11E	13081020-13E
13081020-14E	13081020-15E	13081020-16E
13081020-17E	13081020-18E	13081020-21E
13081020-22E		

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152973** Instrument ID **ICS2100** Method: **E300** **(Dissolve)**

MBLK	Sample ID: WBLKW2-R152973				Units: mg/L		Analysis Date: 8/29/2013 11:16 AM			
Client ID:	Run ID: ICS2100_130829A				SeqNo: 3338031		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.200								

LCS	Sample ID: WLCSW1-R152973				Units: mg/L		Analysis Date: 8/29/2013 11:30 AM			
Client ID:	Run ID: ICS2100_130829A				SeqNo: 3338033		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	4.222	0.200	4	0	106	90-110				

MS	Sample ID: 13081020-17FMS				Units: mg/L		Analysis Date: 8/29/2013 08:36 AM			
Client ID: MW-8	Run ID: ICS2100_130829A				SeqNo: 3338019		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	31.83	1.00	20	9.489	112	80-120				

MSD	Sample ID: 13081020-17FMSD				Units: mg/L		Analysis Date: 8/29/2013 08:51 AM			
Client ID: MW-8	Run ID: ICS2100_130829A				SeqNo: 3338020		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	30.69	1.00	20	9.489	106	80-120	31.83	3.66	20	

MSD	Sample ID: 13081020-23FMS				Units: mg/L		Analysis Date: 8/29/2013 12:28 PM			
Client ID: MW-18	Run ID: ICS2100_130829A				SeqNo: 3338034		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	27.93	1.00	20	5.591	112	80-120	0			

MSD	Sample ID: 13081020-23FMSD				Units: mg/L		Analysis Date: 8/29/2013 12:43 PM			
Client ID: MW-18	Run ID: ICS2100_130829A				SeqNo: 3338035		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	29.02	1.00	20	5.591	117	80-120	0			

The following samples were analyzed in this batch:

13081020-01F	13081020-02F	13081020-03F
13081020-05F	13081020-06F	13081020-07F
13081020-08F	13081020-11F	13081020-12F
13081020-13F	13081020-14F	13081020-15F
13081020-16F	13081020-17F	13081020-18F
13081020-19F	13081020-20F	13081020-21F
13081020-22F	13081020-23F	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R152996** Instrument ID **Balance1** Method: **M2540C** **(Dissolve)**

MBLK	Sample ID: WBLK-082913-R152996				Units: mg/L		Analysis Date: 8/29/2013 11:10 AM			
Client ID:	Run ID: BALANCE1_130829D				SeqNo: 3338589		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	ND	10.0								

LCS	Sample ID: WLCS-082913-R152996				Units: mg/L		Analysis Date: 8/29/2013 11:10 AM			
Client ID:	Run ID: BALANCE1_130829D				SeqNo: 3338590		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	992	10.0	1000		0	99.2	85-115			

DUP	Sample ID: 13081020-34EDUP				Units: mg/L		Analysis Date: 8/29/2013 11:10 AM			
Client ID: MW-3	Run ID: BALANCE1_130829D				SeqNo: 3338568		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	456	10.0					456	0	20	

DUP	Sample ID: 1308968-10FDUP				Units: mg/L		Analysis Date: 8/29/2013 11:10 AM			
Client ID:	Run ID: BALANCE1_130829D				SeqNo: 3338588		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	792	10.0					776	2.04	20	

The following samples were analyzed in this batch:

13081020-34E	13081020-35E	13081020-36E
13081020-37E	13081020-38E	13081020-39E

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R153012** Instrument ID **ICS3000** Method: **E300** (Dissolve)

MBLK	Sample ID: WBLKW1-R153012				Units: mg/L		Analysis Date: 8/30/2013 10:44 AM			
Client ID:	Run ID: ICS3000_130829A				SeqNo: 3338869		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								
Fluoride	ND	0.100								
Sulfate	ND	0.500								

LCS	Sample ID: WLCSW1-R153012				Units: mg/L		Analysis Date: 8/30/2013 01:15 AM			
Client ID:	Run ID: ICS3000_130829A				SeqNo: 3338847		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	18.55	0.500	20	0	92.8	90-110				
Fluoride	3.765	0.100	4	0	94.1	90-110				
Sulfate	18.39	0.500	20	0	92	90-110				

MS	Sample ID: 13081020-24EMS				Units: mg/L		Analysis Date: 8/30/2013 02:07 AM			
Client ID: MW-25	Run ID: ICS3000_130829A				SeqNo: 3338849		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	410.3	5.00	100	323.7	86.6	80-120				
Fluoride	21.06	1.00	20	0.696	102	80-120				
Sulfate	166.8	5.00	100	74.65	92.1	80-120				

MS	Sample ID: 13081020-39EMS				Units: mg/L		Analysis Date: 8/30/2013 11:17 AM			
Client ID: EB-08-22-13-B	Run ID: ICS3000_130829A				SeqNo: 3338870		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	10.48	0.500	10	0.038	104	80-120				
Fluoride	2.047	0.100	2	0	102	80-120				
Sulfate	9.659	0.500	10	0.182	94.8	80-120				

MSD	Sample ID: 13081020-24EMSD				Units: mg/L		Analysis Date: 8/30/2013 02:33 AM			
Client ID: MW-25	Run ID: ICS3000_130829A				SeqNo: 3338850		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	414.3	5.00	100	323.7	90.6	80-120	410.3	0.973	20	
Fluoride	20.93	1.00	20	0.696	101	80-120	21.06	0.605	20	
Sulfate	168.2	5.00	100	74.65	93.5	80-120	166.8	0.835	20	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R153012** Instrument ID **ICS3000** Method: **E300** **(Dissolve)**

MSD Sample ID: **13081020-39EMSD** Units: **mg/L** Analysis Date: **8/30/2013 11:43 AM**
Client ID: **EB-08-22-13-B** Run ID: **ICS3000_130829A** SeqNo: **3338871** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	10.62	0.500	10	0.038	106	80-120	10.48	1.36	20	
Fluoride	2.08	0.100	2	0	104	80-120	2.047	1.6	20	
Sulfate	9.806	0.500	10	0.182	96.2	80-120	9.659	1.51	20	

The following samples were analyzed in this batch:

13081020-23E	13081020-24E	13081020-25E
13081020-26E	13081020-27E	13081020-28E
13081020-29E	13081020-30E	13081020-31E
13081020-32E	13081020-33E	13081020-34E
13081020-35E	13081020-36E	13081020-37E
13081020-38E	13081020-39E	

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

Client: Navajo Refining Company
Work Order: 13081020
Project: Navajo Lea Refinery Semi-Annual

QC BATCH REPORT

Batch ID: **R153028** Instrument ID **ICS3K2** Method: **E300** **(Dissolve)**

MBLK Sample ID: **WBLKW1-R153028** Units: **mg/L** Analysis Date: **8/30/2013 03:45 PM**
 Client ID: Run ID: **ICS3K2_130829B** SeqNo: **3339216** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	ND	0.200								

LCS Sample ID: **WLCSW1-R153028** Units: **mg/L** Analysis Date: **8/30/2013 04:09 PM**
 Client ID: Run ID: **ICS3K2_130829B** SeqNo: **3339217** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	7.369	0.200	8	0	92.1	90-110				

MS Sample ID: **13081020-24FMS** Units: **mg/L** Analysis Date: **8/30/2013 07:17 AM**
 Client ID: **MW-25** Run ID: **ICS3K2_130829B** SeqNo: **3339196** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	24.76	1.00	20	3.355	107	80-120				

MSD Sample ID: **13081020-24FMSD** Units: **mg/L** Analysis Date: **8/30/2013 07:41 AM**
 Client ID: **MW-25** Run ID: **ICS3K2_130829B** SeqNo: **3339197** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrate/Nitrite (as N)	25.04	1.00	20	3.355	108	80-120	24.76	1.13	20	

The following samples were analyzed in this batch:

13081020-24F	13081020-25F	13081020-26F
13081020-27F	13081020-28F	13081020-29F
13081020-30F	13081020-31F	13081020-32F
13081020-33F	13081020-34F	13081020-35F
13081020-36F	13081020-37F	13081020-38F
13081020-39F		

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

Client: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual
WorkOrder: 13081020

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
µmhos/cm	
mg/L	Milligrams per Liter
pH Units	

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **24-Aug-13 09:35**

Work Order: **13081020**

Received by: **RDH**

Checklist completed by Johanna B. Allen
eSignature

26-Aug-13
Date

Reviewed by:

eSignature

Date

Matrices: **water**

Carrier name: **FedEx Saturday Priority**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	0.9:0.7;1.2:0.2;2.2:1.2;1.0:1.7;0.4:1.3;2.2:0.6;1.1:0.4;0.1:0.5;0.7:0.2;1.4		0.3C ir1
Cooler(s)/Kit(s):	4668/2672/3135/3281/4694/3093/4328/3102/4582/5021/2514/4208/3974/3208/764		
Date/Time sample(s) sent to storage:	08/26/13 12:10		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:			

Login Notes: Coolers: 5410/4332/3910/3939/2810. Received 1 Vial broken for MW-15; Received 1 Amber broken for DUP-4. MW-19 both metal containers labeled dissolved. DUP 3 both metal containers labeled total.

Client Contacted:

Date Contacted:

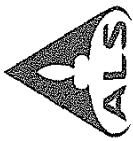
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



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Chain of Custody Form

Page 1 of 5

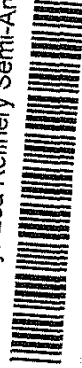
COC ID: 92752

Environmental

ALS Project Manager:

13081020

NAVAJO REFINING: Navajo Refining Company
Project: Navajo Lea Refinery Semi-Annual

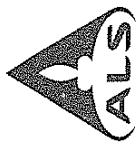


Customer Information				Project Information			
Purchase Order	152781			Project Name	Lovington Lea Refining Semi-Annual		
Work Order				Project Number			
Company Name	Navajo Refining Company			Bill To Company	Navajo Refining Company		
Send Report To	Robert Combs			Invoice Attn	Robert Combs		
Address	PO Box 159			Address	PO Box 159		
	501 East Main				501 East Main		
City/State/Zip	Artesia, NM 88211			City/State/Zip	Artesia, NM 88211		
Phone	(575) 748-6733			Phone	(575) 748-6733		
Fax	(575) 746-5421			Fax	(575) 746-5421		
e-Mail Address	Robert.Combs@phillyfrontier.com			e-Mail Address	B.Gilbert@resolutions.com		
No.	Sample Description	Date	Time	Matrix	Pres. # Bottles	Nitrate/Nitrite (300)	
1	MW-5	8/20/13	1513	W	1,2,3,8	9	X
2	MW-20	8/20/13	1726	W	1,2,3,8	9	X
3	MW-21	8/20/13	1938	W	1,2,3,8	9	X
4	AL-03-20-13	8/20/13	2014	W	1,3	3	X
5	MW-12R	8/21/13	954	W	1,2,3,8	9	X
6	MW-22	8/21/13	1343	W	1,2,3,8	9	X
7	MW-23	8/21/13	1608	W	1,2,3,8	9	X
8	MW-24	8/21/13	1804	W	1,2,3,8	9	X
9	AL-08-21-13	8/21/13	2200	W	1,3	3	X
10	MW-14	8/22/13	1013	W	1,3	3	X

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)		Results Due Date:	
John Allen		Fed Ex		☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		☐ Other	
Relinquished by:	Date: 8-23-13	Time: 930	Received by:	Notes: 10 Day TAT.			
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			☒ Level II Std QC ☐ TRRP Checklist	
Preservative Key:	1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₃ 7-Other 8-4°C 9-50/35					☐ Level III Std QC/Raw Data ☐ TRRP Level IV	
						☐ Level IV SW846/CLP ☐ Other / EDD	

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Page 2 of 5

COC ID: 92749

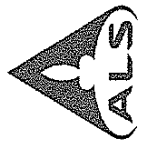
ALS Project Manager: 13081320

ALS Work Order #: 13081320

Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order	152781			Project Name	Lovington Lea Refining Semi-Annual			A VOC (8260) Select											
Work Order				Project Number				B SVOC (8270) Select											
Company Name	Navajo Refining Company			Bill To Company	Navajo Refining Company			C Total Metals (6020/7000) & Hg											
Send Report To	Robert Combs			Invoice Attn	Robert Combs			D Dissolved Metals (6020/7000) Select											
Address	PO Box 159 501 East Main			Address	PO Box 159 501 East Main			E Anions (300) Cl, F, SO4											
City/State/Zip	Artesia, NM 88211			City/State/Zip	Artesia, NM 88211			F Alkalinity											
Phone	(575) 748-6733			Phone	(575) 748-6733			G pH											
Fax	(575) 748-5421			Fax	(575) 748-5421			H Specific Conductance											
e-Mail Address	Robert.Combs@hollyfranklin.com			e-Mail Address	Robert.Combs@hollyfranklin.com			I TDS											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	mw-2	8/20/13	1450	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
2	mw-28	8/20/13	1625	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
3	mw-29	8/20/13	1810	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
4	mw-27	8/20/13	1940	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
5	mw-11	8/21/13	940	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
6	Dup-2	8/21/13	940	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
7	mw-8	8/21/13	1130	W	1,2,3,8	27	X	X	X	X	X	X	X	X	X	X	X		
8	mw-13	8/21/13	1410	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
9	mw-1	8/21/13	1545	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		
10	RW-1	8/21/13	1705	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X		

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)		Results Due Date:	
John Allen [Signature]		Fed Ex		☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour			
Relinquished by:	Date: 8-23-13	Time: 9:30	Received by:				
Relinquished by:	Date:	Time:	Received by:				
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035		Cooler ID		Cooler Temp		QC Package: (Check One Box Below)	
						☒ Level II Std QC ☐ TRRP Checklist	
						☐ Level III Std QC/Raw Data ☐ TRRP Level IV	
						☐ Level IV SW/846/CLP ☐ Other / EDD	

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COC ID: 92750

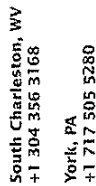
Environmental

ALS Project Manager: 13281020

ALS Work Order #: 13281020

Customer Information				Project Information				Parameter/Method Request for Analysis												
Purchase Order	152781			Project Name	Lovington Lea Refining Semi-Annual			A	VOC (8260) Select											
Work Order				Project Number				B	SVOC (8270) Select											
Company Name	Navajo Refining Company			Bill To Company	Navajo Refining Company			C	Total Metals (6020/7000) & Hg											
Send Report To	Robert Combs			Invoice Attn	Robert Combs			D	Dissolved Metals (6020/7000) Select											
Address	PO Box 159 501 East Main			Address	PO Box 159 501 East Main			E	Anions (300) Cl, F, SO4											
City/State/Zip	Artesia, NM 88211			City/State/Zip	Artesia, NM 88211			F	Alkalinity											
Phone	(505) 748-5733			Phone	(505) 748-5733			G	pH											
Fax	(505) 746-5421			Fax	(505) 746-5421			H	Specific Conductance											
e-Mail Address	Robert.Combs@hollingsfron.com			e-Mail Address	Robert.Combs@hollingsfron.com			I	TDS											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	mw-19	8/22/13	1142	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
2	Dup-3	8/22/13	1142	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
3	mw-18	8/22/13	1422	W	1,2,3,8	27	X	X	X	X	X	X	X	X	X	X	ms/nd			
4	mw-25	8/22/13	1732	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
5	Dup-4	8/22/13	1732	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
6	mw-15	8/20/13	935	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
7	Dup-1	8/20/13	935	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
8	mw-16	8/20/13	1050	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
9	mw-4	8/20/13	1150	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
10	mw-30	8/20/13	1325	W	1,2,3,8	9	X	X	X	X	X	X	X	X	X	X	X			
Sampler(s) Please Print & Sign				Shipment Method				Required Turnaround Time: (Check Box)												
John Allen				Fed Ex				☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour												
Relinquished by:				Received by:				Notes: 10 Day TAT.												
Date: 8-22-13				Date: 8-22-13				Cooler ID												
Relinquished by:				Checked by (Laboratory):				Cooler Temp												
Date:				Date:				QC Package: (Check One Box Below)												
Date:				Date:				☒ Level II Std QC ☐ TRRP Checklist												
Date:				Date:				☐ Level III Std QC/Raw Data ☐ TRRP Level IV												
Date:				Date:				☐ Level IV SW/64/CLP ☐ Other / EDD												
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035																				

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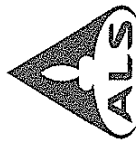
cocid: 92748

Alic Project Manager:

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Page 5 of 5

COC ID: 92742

Customer Information				Project Information				ALS Work Order #			
Purchase Order				ALS Project Manager:				Parameter/Method Request for Analysis			
Work Order				Lovingston Lea Refining Semi-Annual				VOC (8260) Select			
Company Name				Navajo Refining Company				SVOG (8270) Select			
Send Report To				Robert Corbys				Total Metals (6020/7000) & Hg			
Address				PO Box 159				Dissolved Metals (6020/7000) Select			
City/State/Zip				Artesia, NM 88211				Anions (300) Cl, F, SO4			
Phone				(505) 748-6733				Alkalinity			
Fax				(505) 748-5421				pH			
e-Mail Address				e-Mail Address				Specific Conductance			
Sample Description				Time				TDS			
No.				Date				Nitrate/Nitrite (300)			
1 TB-073113-74				-				2 X			
2											
3											
4											
5											
6											
7											
8											
9											
10											

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)		Results Due Date:	
Sam Allen		Fed Ex		☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		Other	
Relinquished by:		Received by:		Notes:		10 Day TAT.	
Date: 8-23-13		Date: 9-13-13		Cooler ID		Cooler Temp.	
Relinquished by:		Received by:		Cooler ID		Cooler Temp.	
Date:		Date:		Cooler ID		Cooler Temp.	
Logged by (Laboratory):		Checked by (Laboratory):		Cooler ID		Cooler Temp.	
Date:		Date:		Cooler ID		Cooler Temp.	
Preservative Key:		1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035		Cooler ID		Cooler Temp.	

QC Package: (Check One Box Below)	
☒ Level II Std QC	☐ TRRP Checklist
☐ Level III Std QC/Flow Data	☐ TRRP Level IV
☐ Level IV SW846/CLP	☐ Other / EDD

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AK# 8041 1922 5063 SATURDAY 12:00P
75 PRIORITY OVERNIGHT
XO SGRA 77099
TX-US
IAH



942271 24AUG 0



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Fax. +1 281 530 5887

4608

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TBC

Seal Broken By:

9/24/13



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CI

JSTODY SEAL

Date: 8-23 Time: 9:30
Name: John Allen
Company: TBC

Seal Broken By:

9/24/13



8989 8856 7280

FedEx
Express

MPS Label

8989 8856 7280 8989 8856 7280

FedEx Tracking Number for Shipper

Form ID No. 0260



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Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TBC

Seal Broken By:

9/24/13

14 of 20
7965 3251 9371
8041 1922 5063

0215

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO SGRA

77099

TX-US IAH

3B5

JSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TBC

Seal Broken By:

9/24/13



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CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TBC

Seal Broken By:

9/24/13

12 of 20
7965 3251 9350
8041 122 5063

SATURDAY 12.
PRIORITY OVERNIGHT

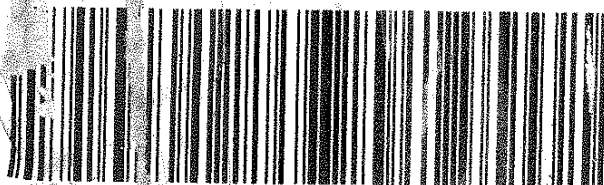
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0 SGRA

77099

TX-US IAH

3281



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Houston, Texas 77099
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Fax. +1 281 530 5887

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TRC

Seal Broken By:

4/24/13



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Houston, Texas 77099
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Fax. +1 281 530 5887

CUSTODY

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TRC

12 of 20
7965 3251 9349
8041 1922 5063

SATURDAY 12:00P
PRIORITY OVERNIGHT

0215

0 SGRA

77099

TX-US IAH

464



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Fax. +1 281 530 5887

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TRC

Seal Broken By:

4/24/13



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Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: John Allen
Company: TRC

Seal Broken By:

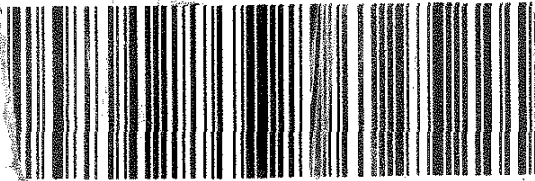
Date:

20 of 20
S# 7965 3251 9430
Tr# 8041 1922 5063

SATURDAY 12:00
PRIORITY OVERNIGHT

0 SGRA

77099
TX-US IAH



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	Houston, Texas 77099
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CUSTODY SEAL		Seal Broken By:
Date: 8-23-13	Time: 9:36	Date: 8/23/13
Name: John Allen		
Company: TRC		

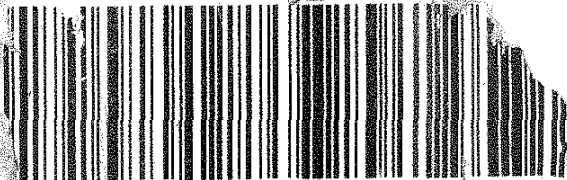
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	Houston, Texas 77099
	Tel. +1 281 530 5656 Fax. +1 281 530 5887

CUSTODY SEAL		Seal Broken By:
Date: 8-23-13	Time: 9:20	Date: 8/23/13
Name: John Allen		
Company: TRC		

13 of 20
S# 7965 3251 9360
Tr# 8041 1922 5063

PRIO

0 SGRA



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CUSTODY SEAL		Seal Broken By:
Date: 8-23-13	Time: 9:10	Date: 8/23/13
Name: John Allen		
Company: TRC		

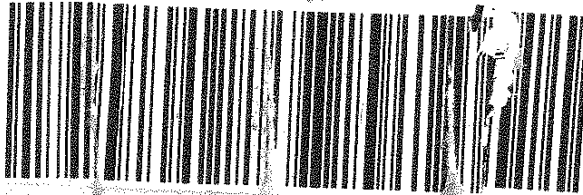
of 20
MPS# 7965 3251 9279
0681
Mstr# 8041 1922 5063

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PRIORITY OVERNIGHT

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Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TRC

Seal Broken By:

Date:



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TRC

Seal Broken By:

Date:

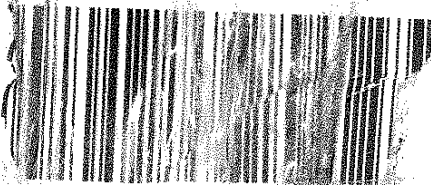
of 20
3251 9420
1922 5063

SATURDAY
PRIORITY OI

0215

SGRA

TX



ALS Environmental

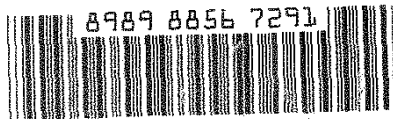
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TRC

Seal Broken By:

Date:



FedEx Express

MPS Label

8989 8856 7291 8989 8856 7291

FedEx Tracking Number for Shipper

Form ID No. 0260

ALS Environmental

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Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Seal Broken By:

Date:
Name:
Company:

Date: 8-23-13 Time: 9:30
Name: Tora Allen
Company: TRC

Date:

SATURDAY 12:00P
PRIORITY OVERNIGHT

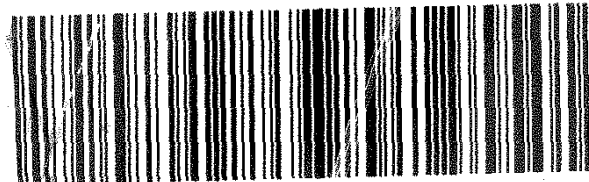
15 of 20
MP 765 3251 9382
OF 31
Mstr# 4041 1922 3063

0215

XO SGRA

77099

TX-US IAH



CUSTODY SEAL

Seal Broken By:

Date:
Name:
Company:

Date: 8-23-13 Time: 9:30
Name: Tora Allen
Company: TRC

Date:



ALS Environmental

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

CUSTODY SEAL

Seal Broken By:

Date:
Name:
Company:

Date: 8-23-13 Time: 9:30
Name: Tora Allen
Company: TRC

Date:



ALS Environmental

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

CUSTODY SEAL

Seal Broken By:

Date:
Name:
Company:

Date: 8-23-13 Time: 9:30
Name: Tora Allen
Company: TRC

Date:

7 of 20
MPS# 7965 3251 9305
0681
Metr# 8041 1922 5063

12:00P
PRIORITY OVERNIGHT

XO SGRA

77009
IAH



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Son Allen
Company: TRC

Seal Broken By:

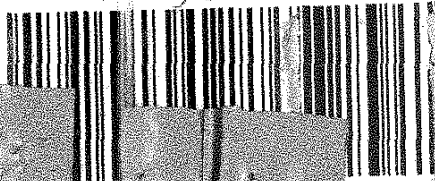
Date:

17 of 20
MPS# 7965 3251 9408
0681
Metr# 8041 1922 5063

SATUR
PRIORITY

XO SGRA

3268



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Son Allen
Company: TRC



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Son Allen
Company: TRC

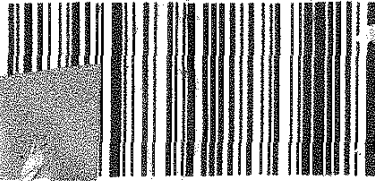
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Date:

9 of 20
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0681
Mstr# 8041 1922 5063

PK

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ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time:
Name: John Allen
Company: TRE



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TRE

Seal Broken By:

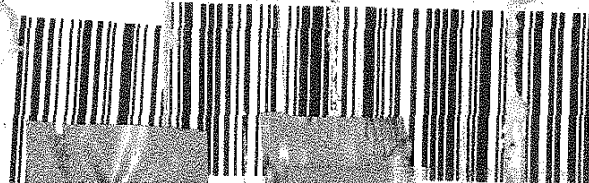
5 of 20
MPS# 7965 3251 020
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Mstr# 8041 1922

PRIORITY OVERNIGHT

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TX US LAH



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 430
Name: John Allen
Company: TRE

Seal Broken By:

2 of 20
MPS# 7965 3251 9257
0681
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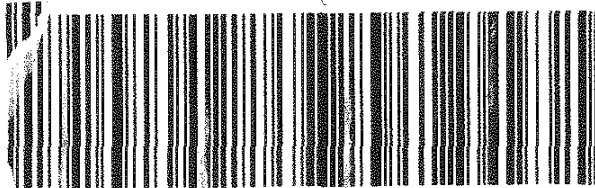
SATURDAY 12:00P
PRIORITY OVERNIGHT

XO SGRA

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TX-US IAH

4332



Environmental

Stancilff Rd., Suite 210
Texas 77099
530 5656
J1 530 5887

CUST

Date: 8-23-13
Name: John Allen
Company: TAC

ODY SEAL

Time: 830
Name: John Allen
Company: TAC

Seal Broken By:

Date: 8/23/13



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TAC

Seal Broken By:

Date: 8/23/13

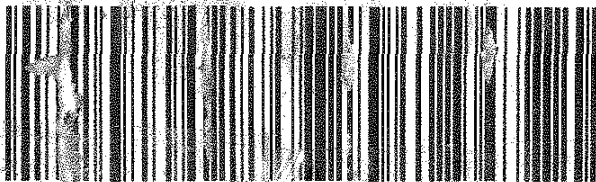
3 of 20
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Metr# 8041 1922 5063

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO SGRA

0215

77099
TX-US IAH



ALS Environmental

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

3910

CUSTODY SEAL

Date: 8-23-13 Time: 930
Name: John Allen
Company: TAC

Seal Broken By:

Date: 8/23/13

8 of 20
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Met# 8041 1922 5063

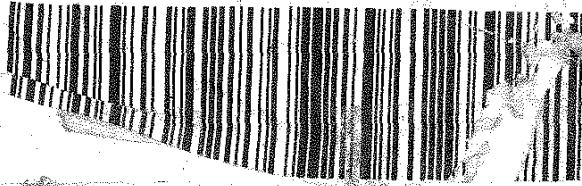
SATURDAY 12:00
PRIORITY OVERNIGHT

XO SGRA

77099

TX-US IAH

0215



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Sam Allen
Company: TRC

Seal Broken By:

Date:

Time:

Signature



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Sam Allen
Company: TRC

Seal Broken By:

Date:

Time:

Signature

6 of 20
MP# 7965 3251 9290
0681
Met# 8041 1922 5063

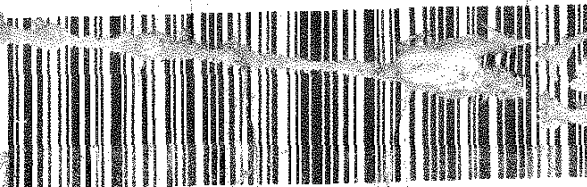
PRIORITY OVERNIGHT

XO SGRA

77099

TX-US IAH

0215



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Sam Allen
Company: TRC

Seal Broken By:

Date:

Time:

Signature



ALS Environmental

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

CUSTODY SEAL

Date: 8-23-13 Time: 9:30
Name: Sam Allen
Company: TRC

Seal Broken By:

Date:

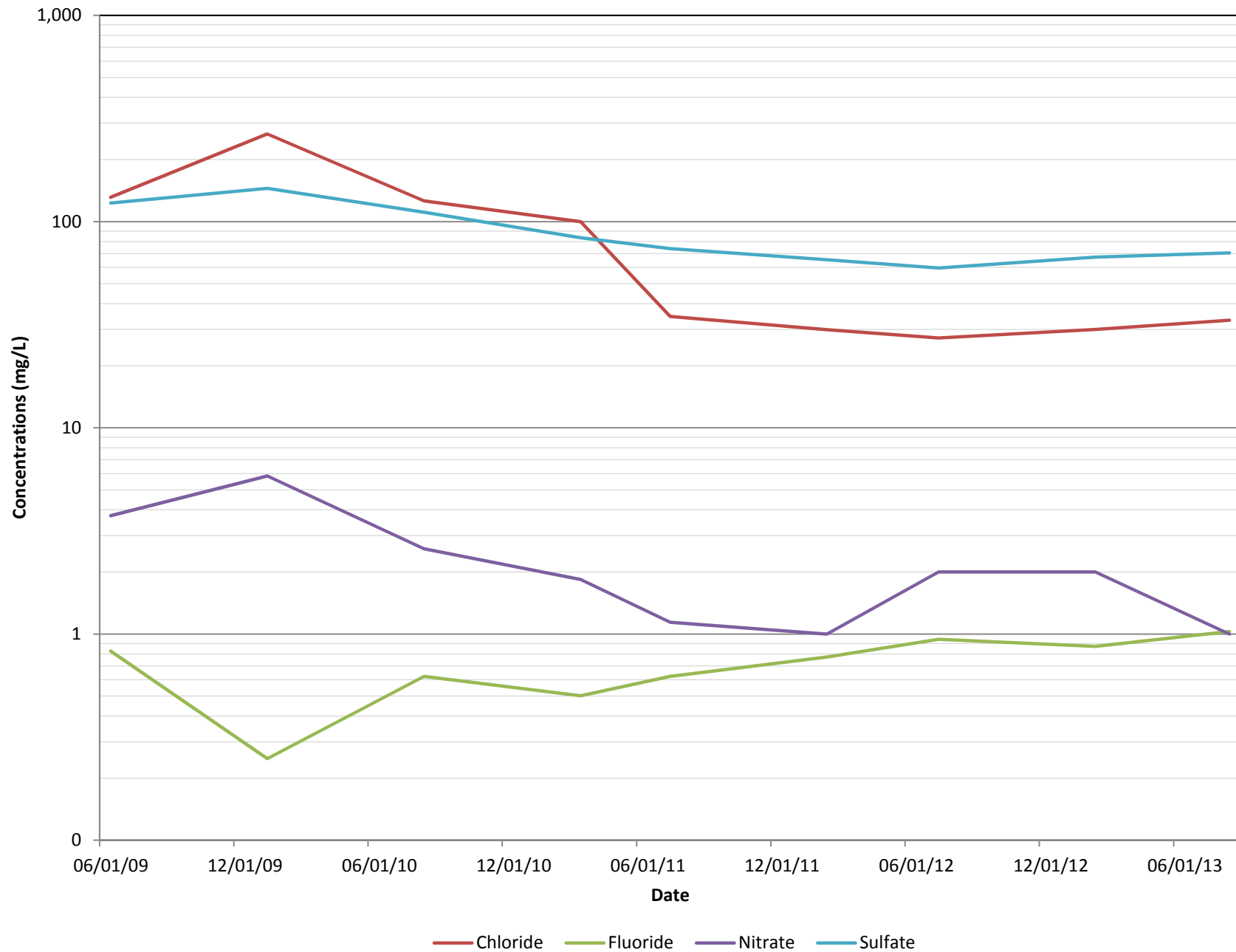
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Signature

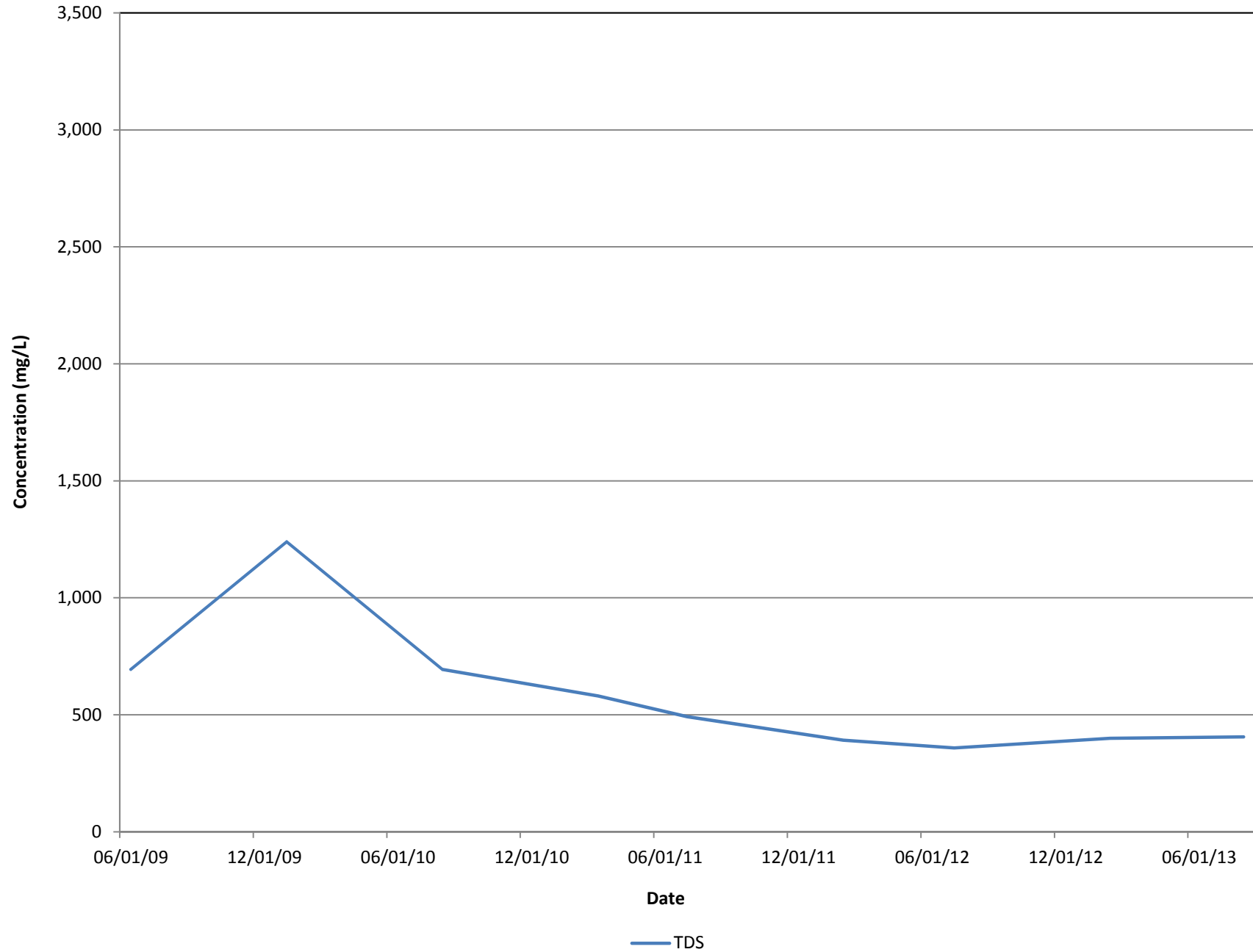
APPENDIX D

PLOTS OF GROUNDWATER CONCENTRATIONS OVER TIME

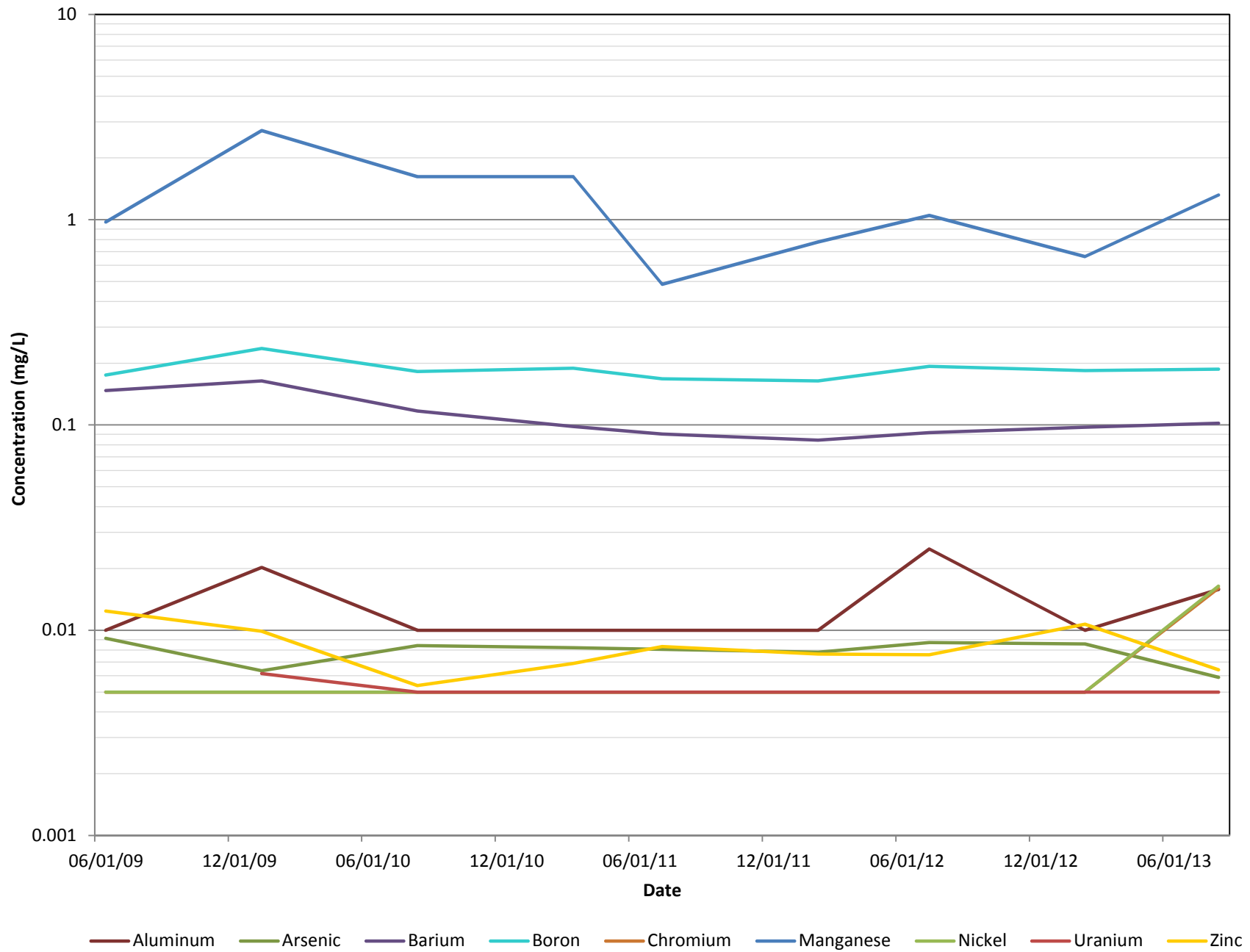
MW-1: ANION CONCENTRATIONS OVER TIME



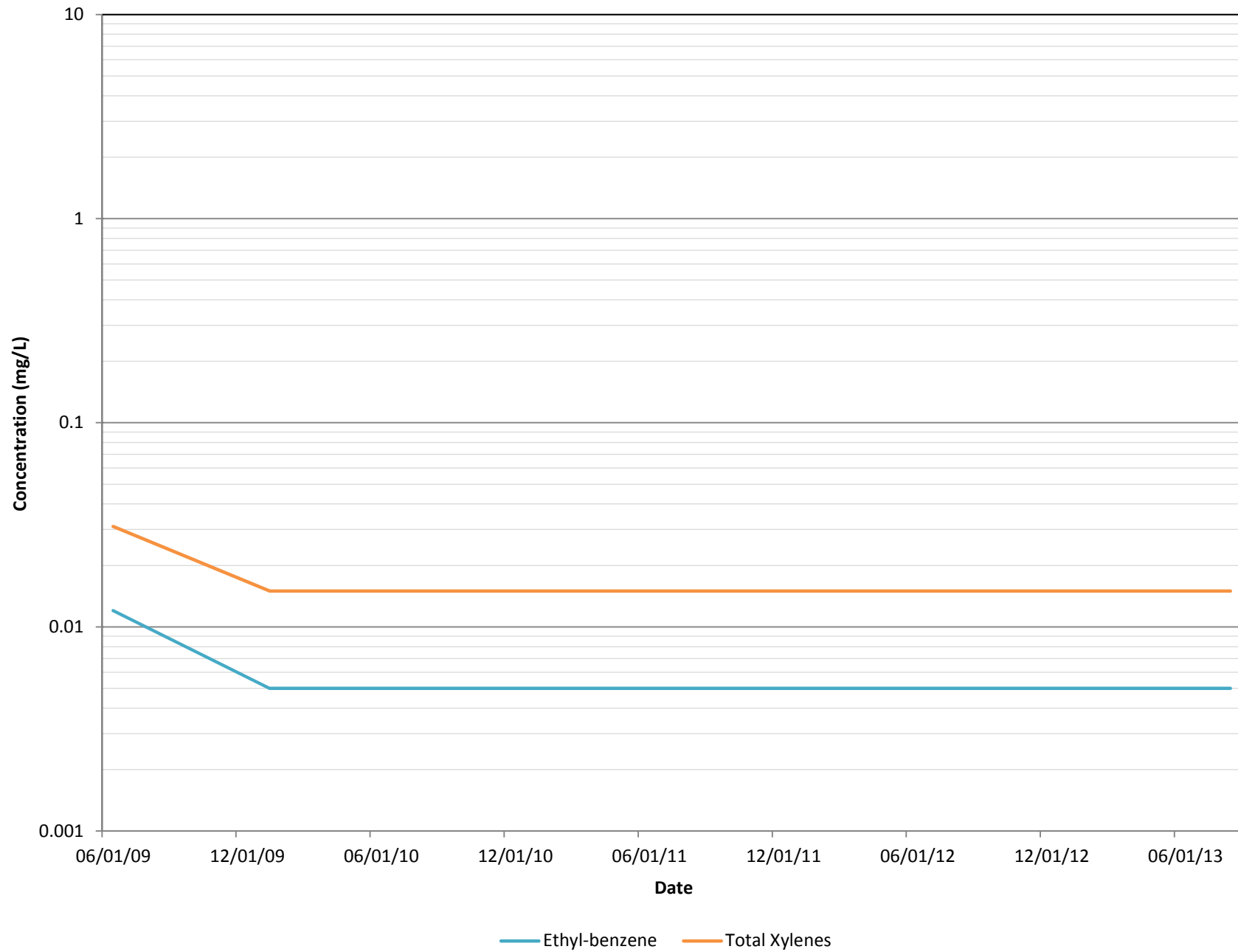
MW-1: TDS CONCENTRATIONS OVER TIME



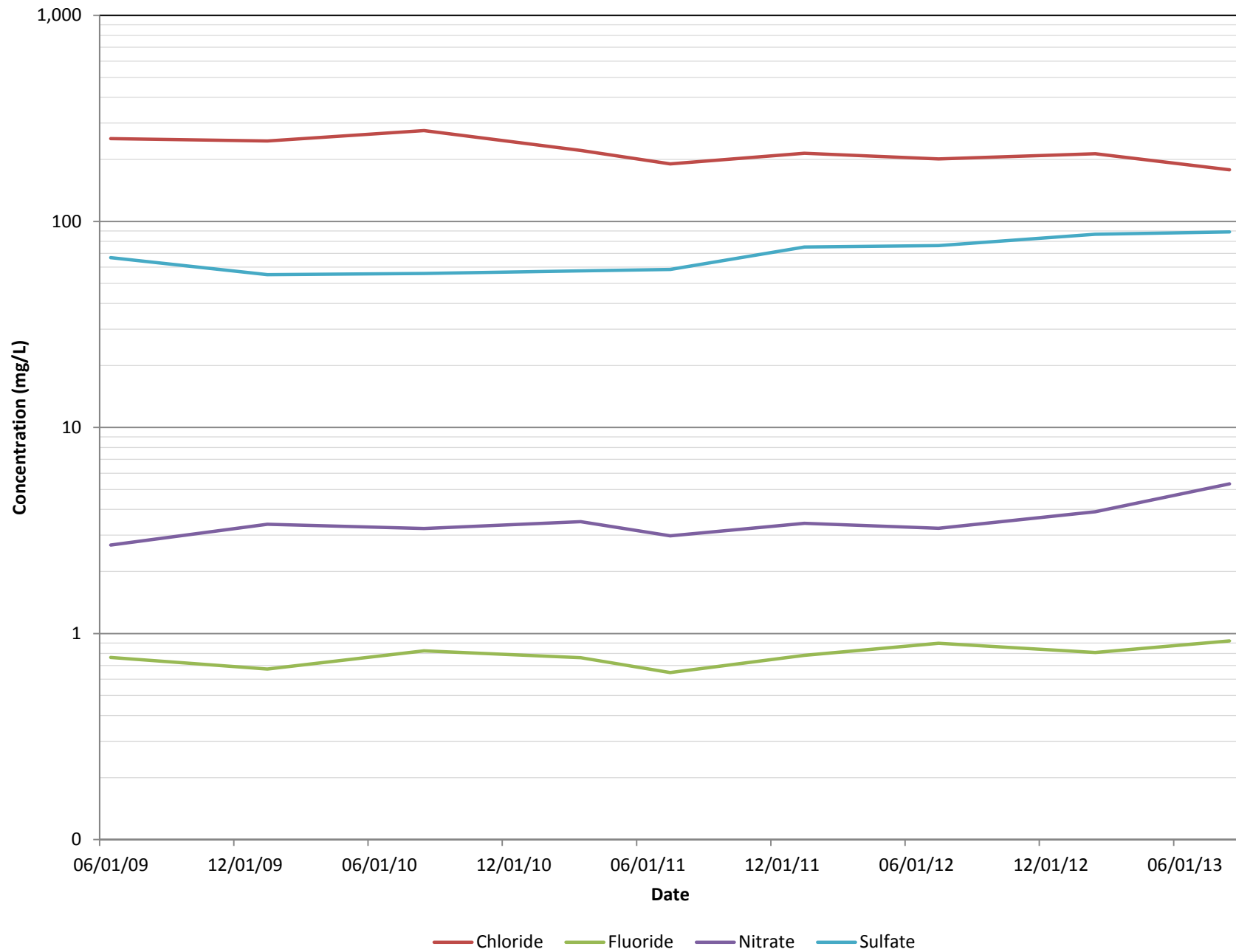
MW-1: METAL CONCENTRATIONS OVER TIME



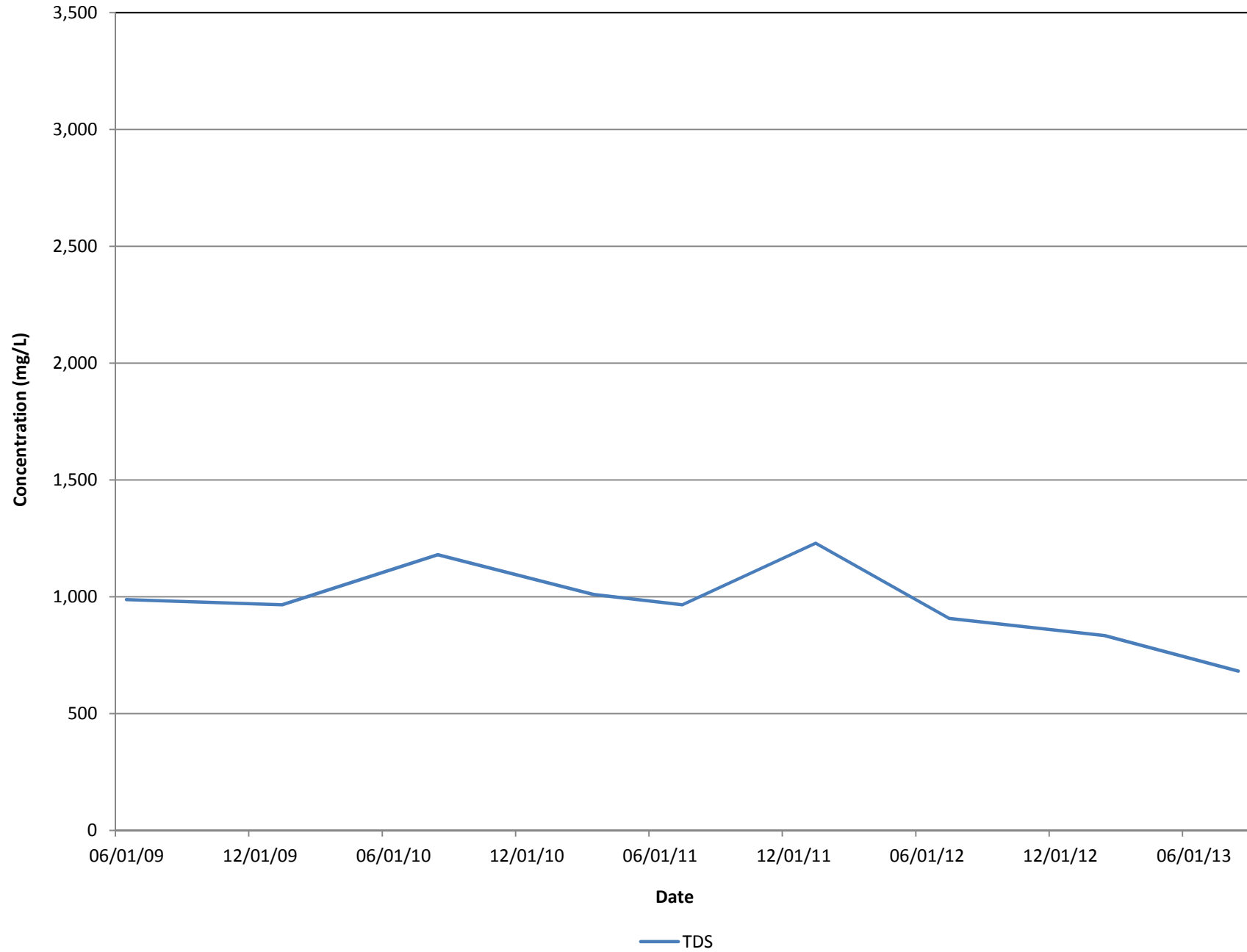
MW-1: VOC CONCENTRATIONS OVER TIME



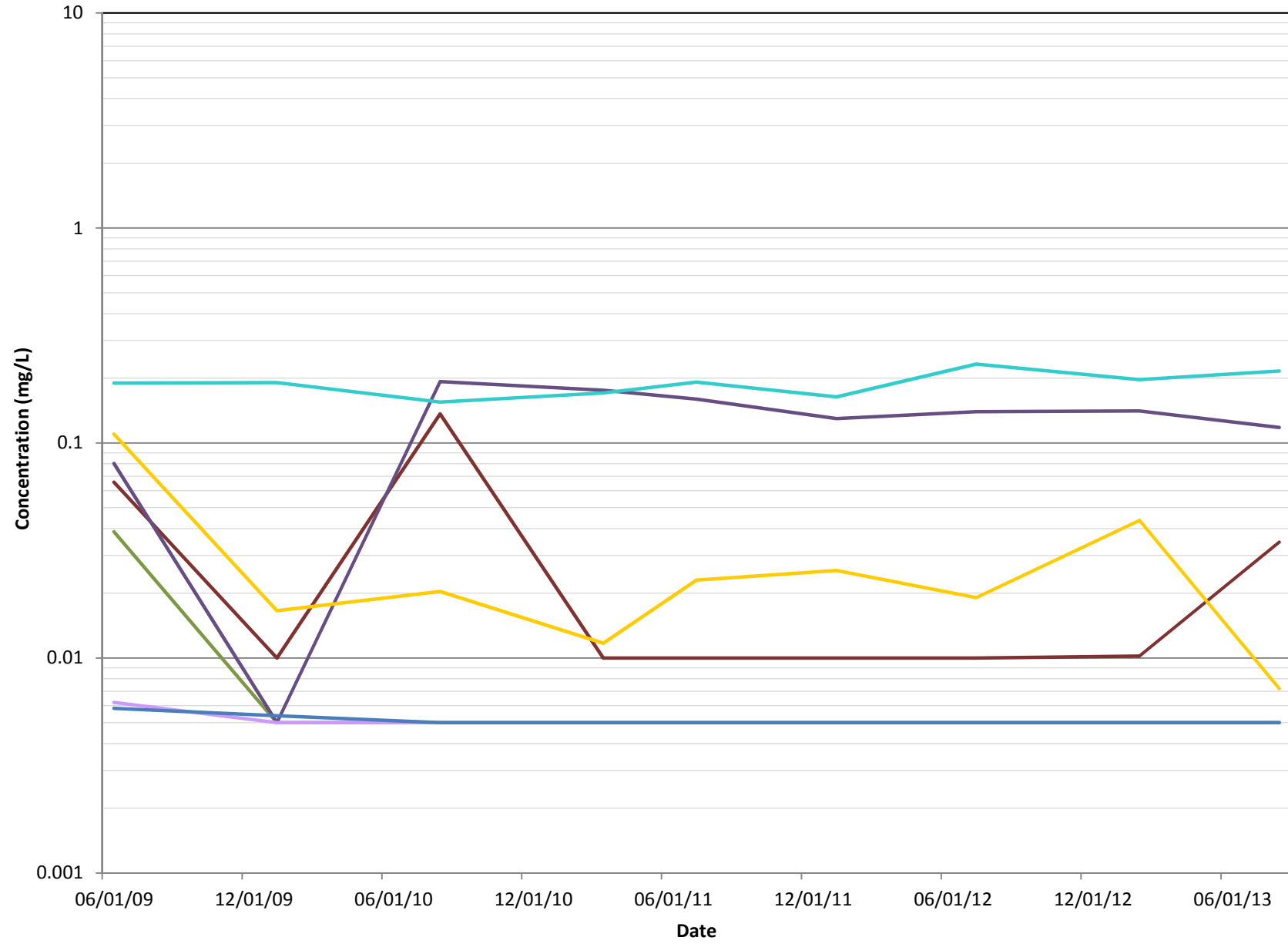
MW-2: ANION CONCENTRATIONS OVER TIME



MW-2: TDS CONCENTRATIONS OVER TIME

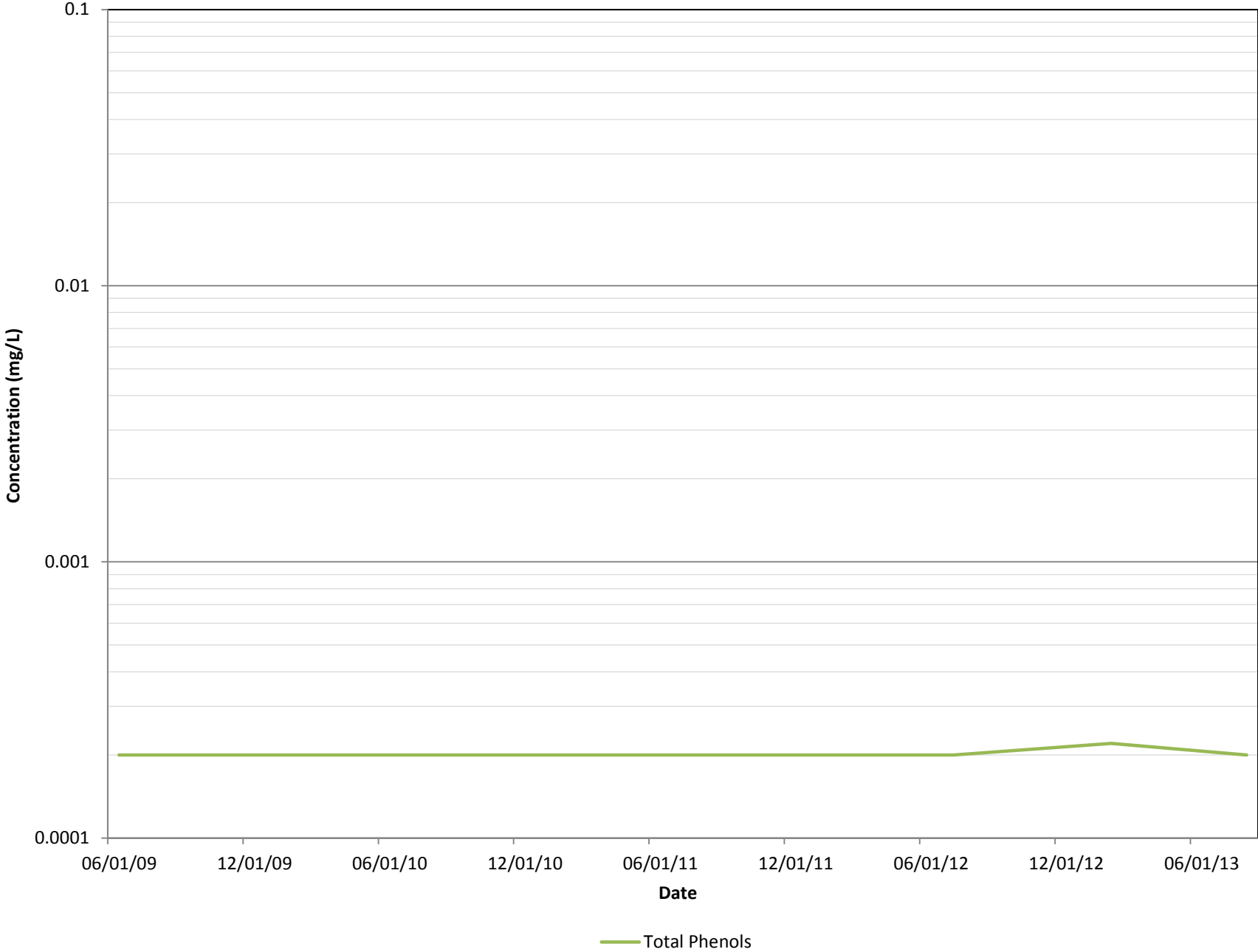


MW-2: METAL CONCENTRATIONS OVER TIME

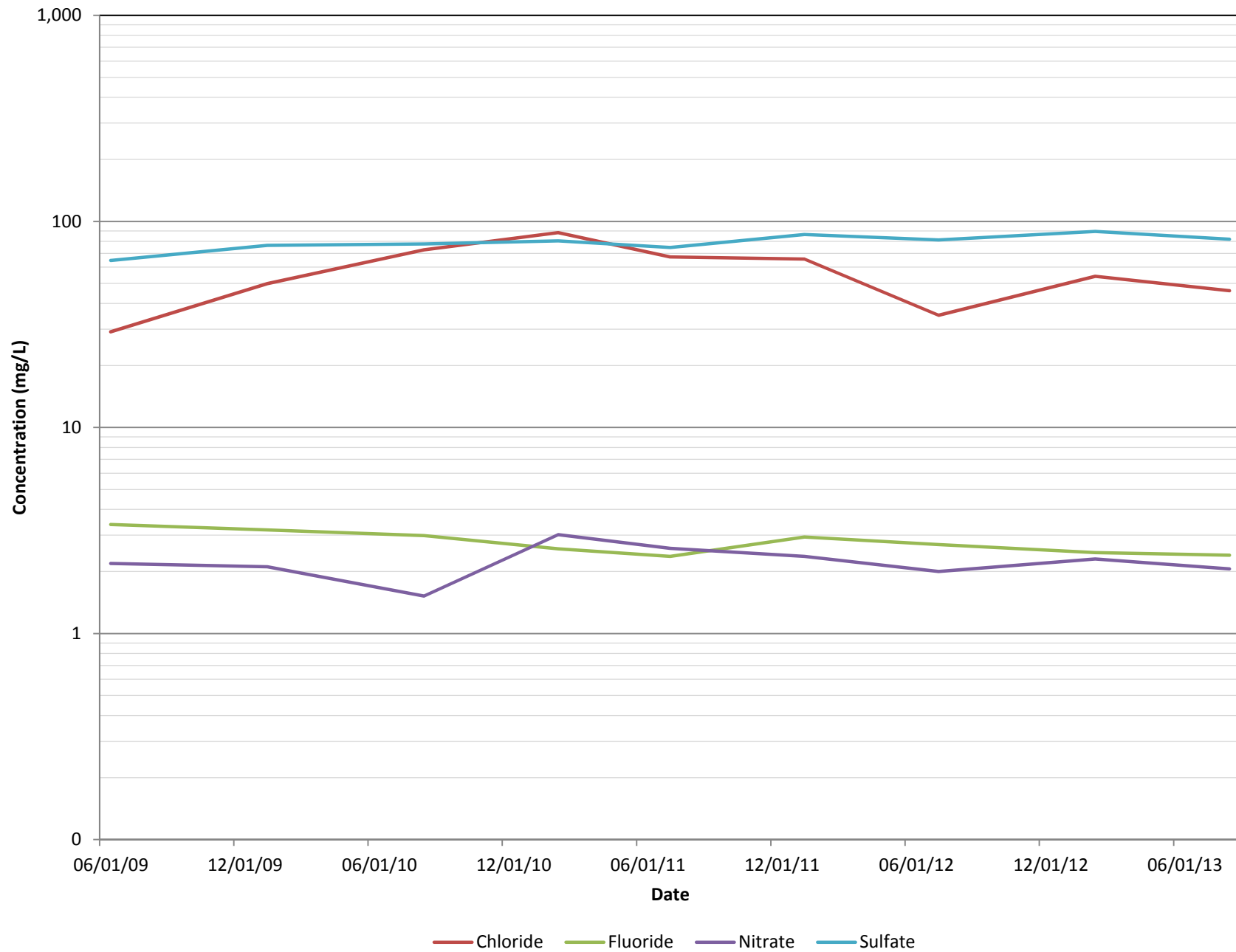


Aluminum Arsenic Barium Boron Copper Manganese Zinc

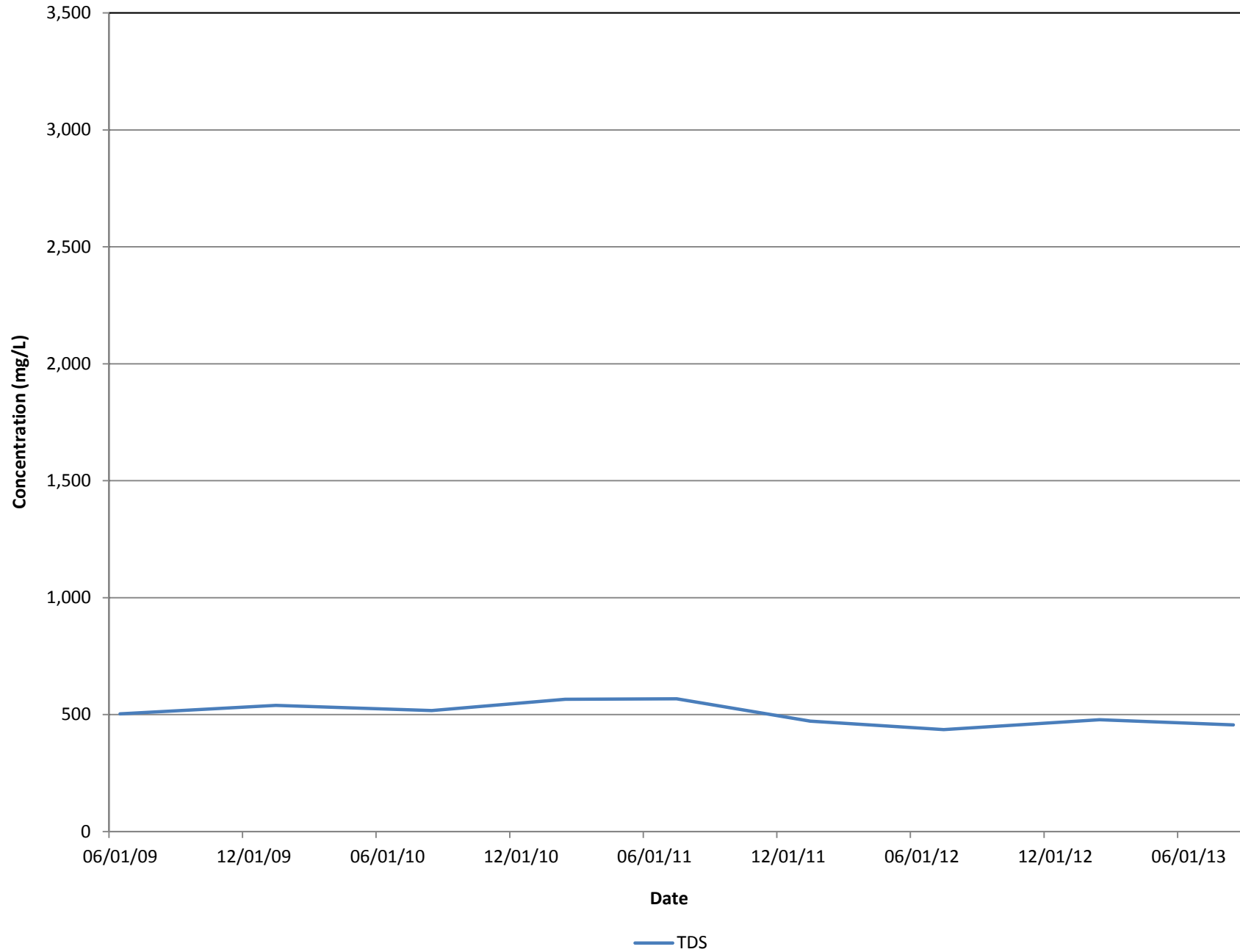
MW-2: SVOC CONCENTRATIONS OVER TIME



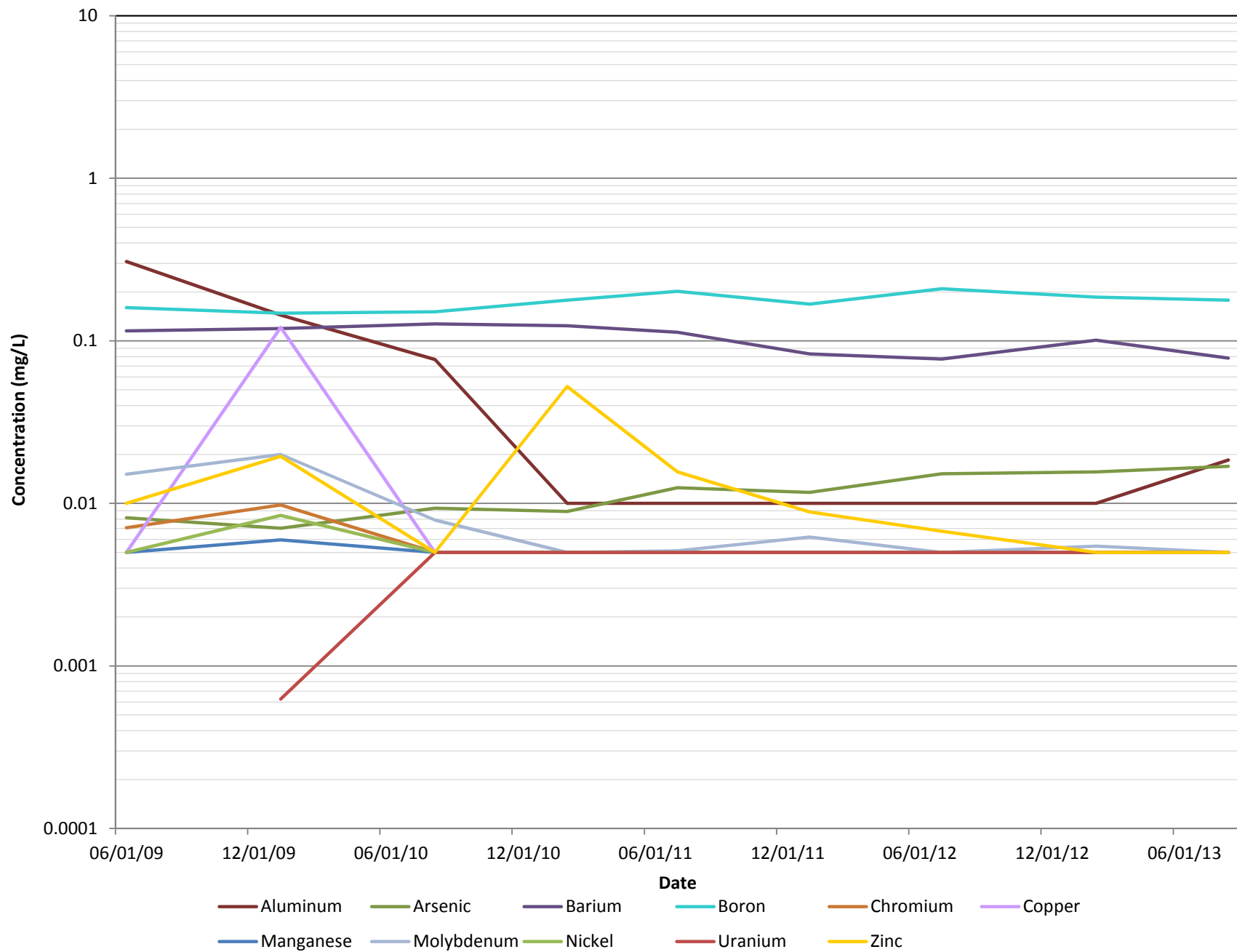
MW-3: ANION CONCENTRATIONS OVER TIME



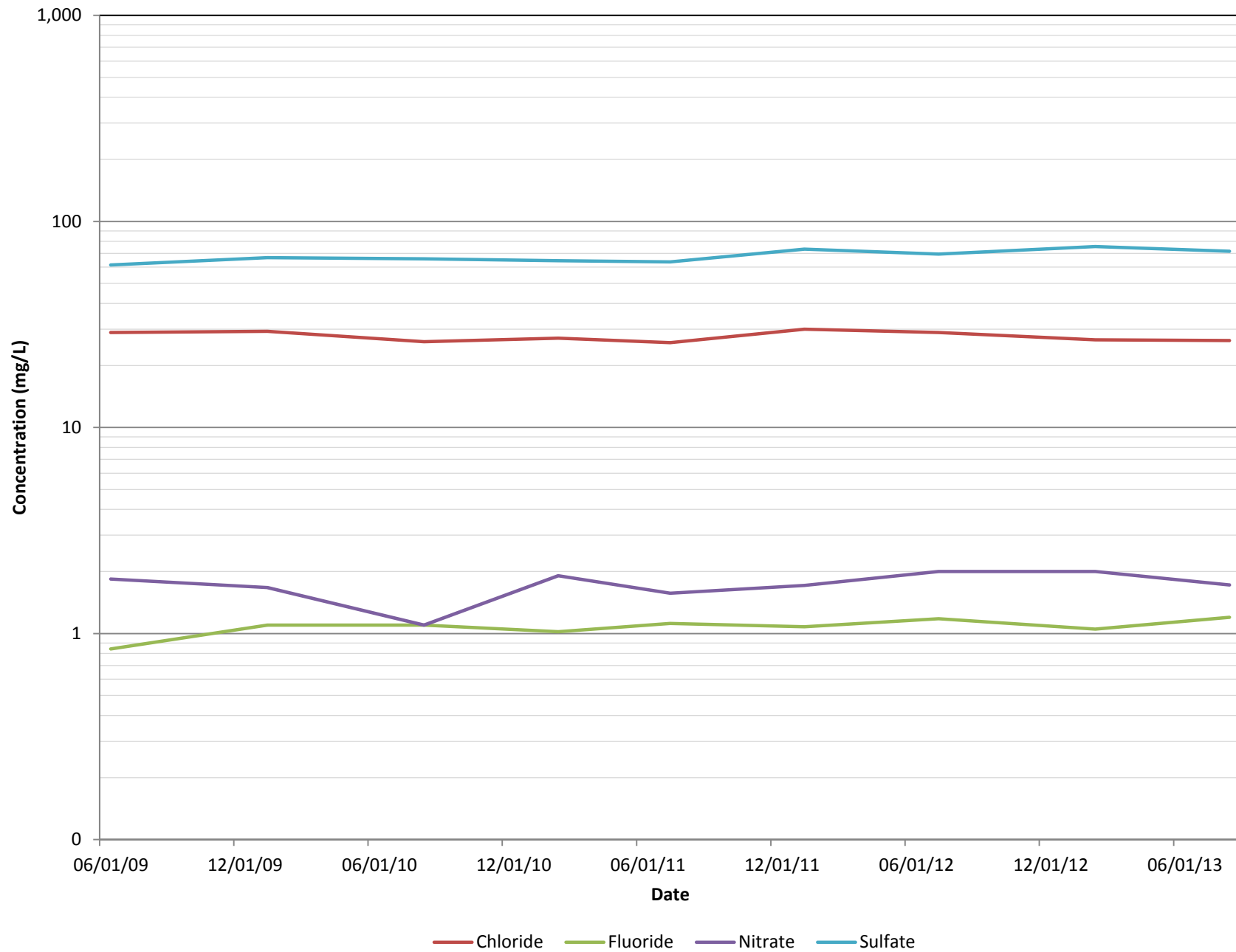
MW-3: TDS CONCENTRATIONS OVER TIME



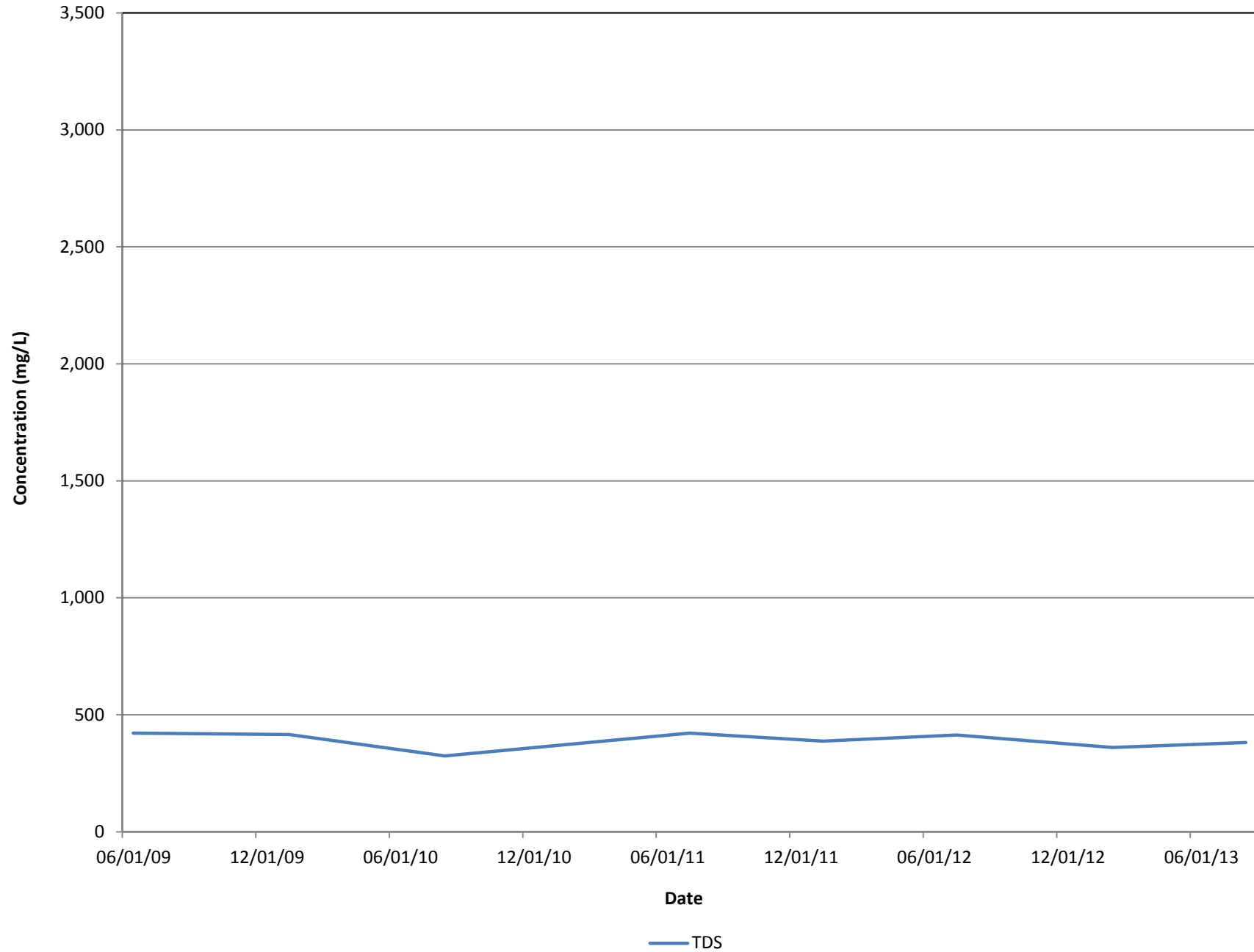
MW-3: METAL CONCENTRATIONS OVER TIME



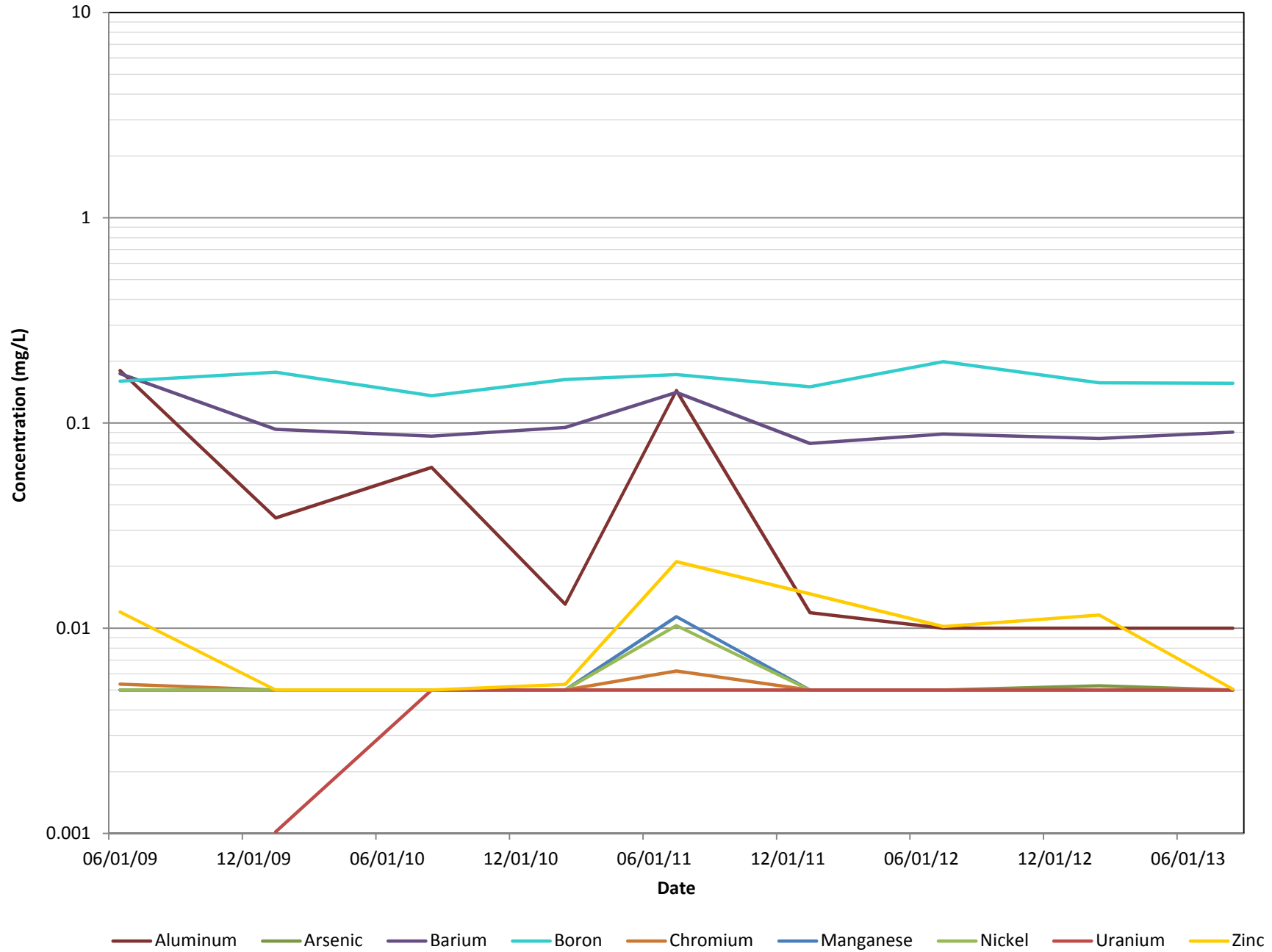
MW-4: ANION CONCENTRATIONS OVER TIME



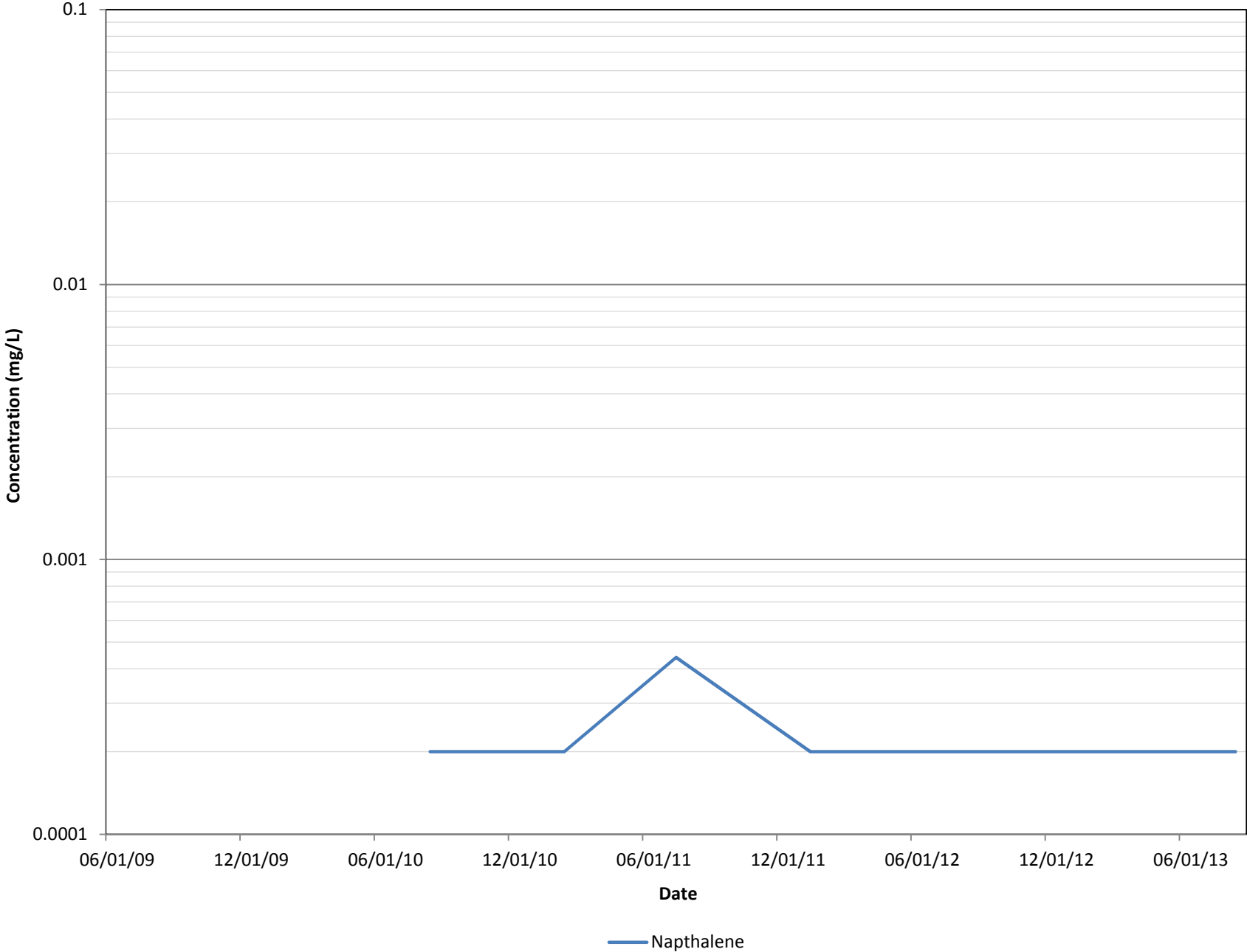
MW-4: TDS CONCENTRATIONS OVER TIME



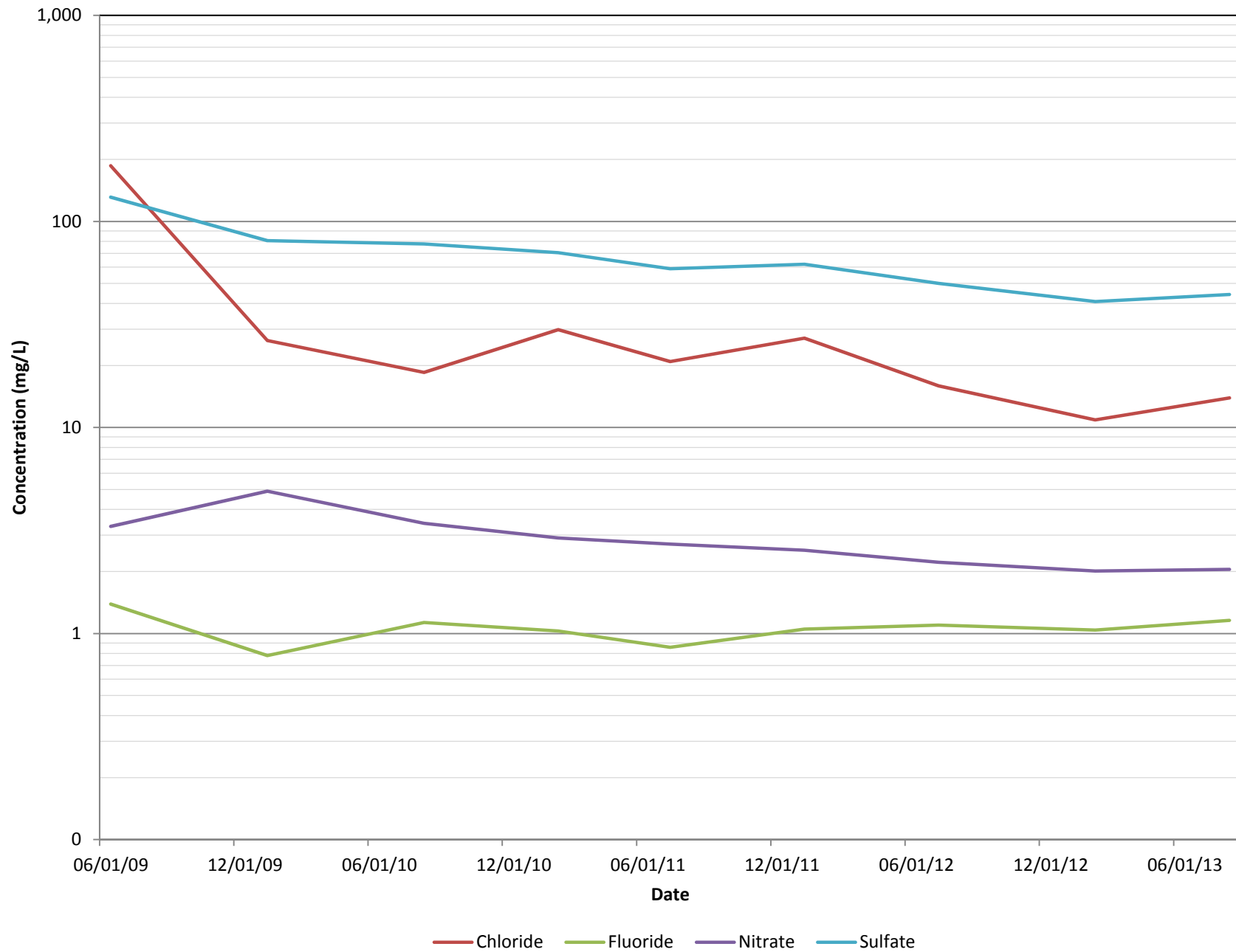
MW-4: METAL CONCENTRATIONS OVER TIME



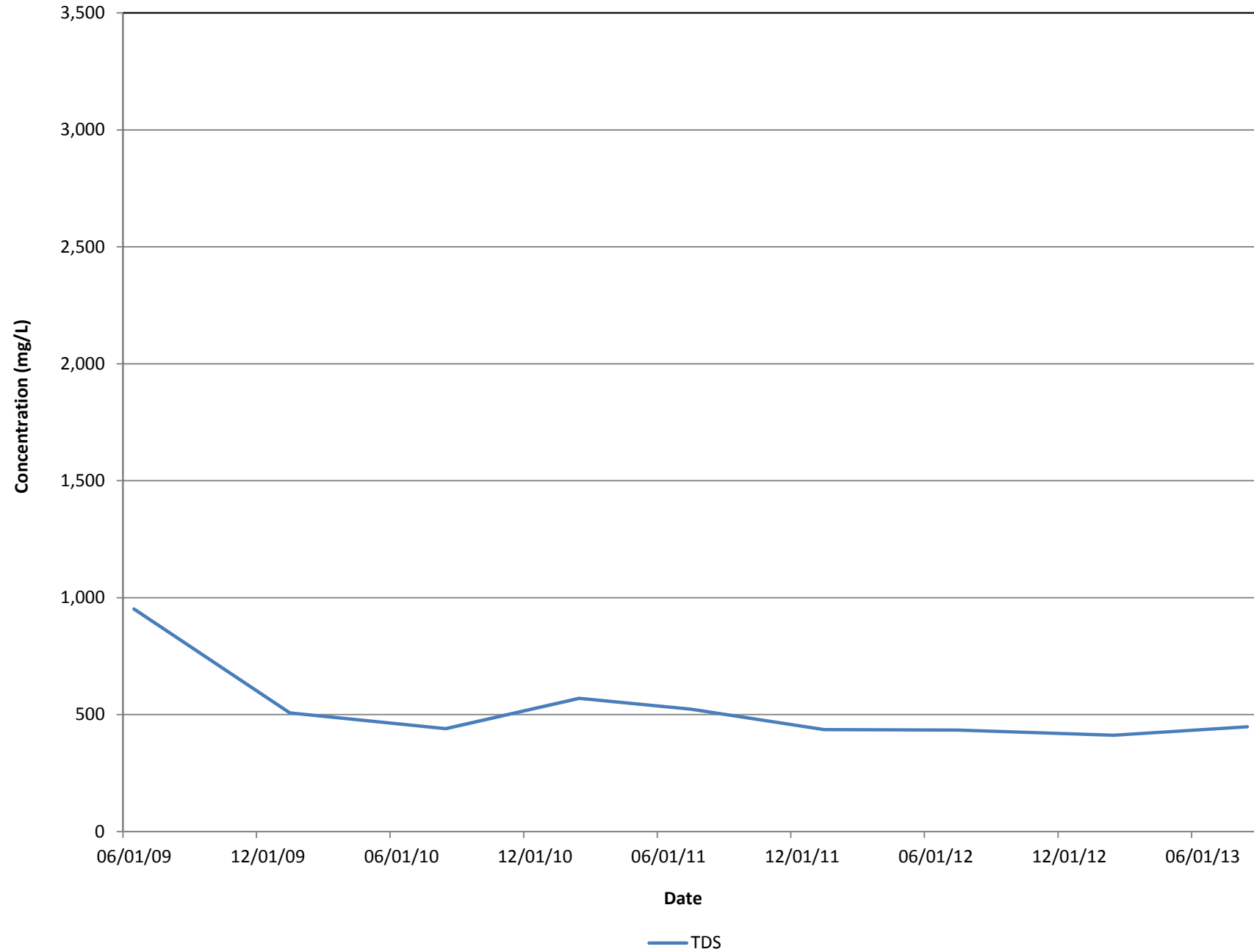
MW-4: SVOC CONCENTRATIONS OVER TIME



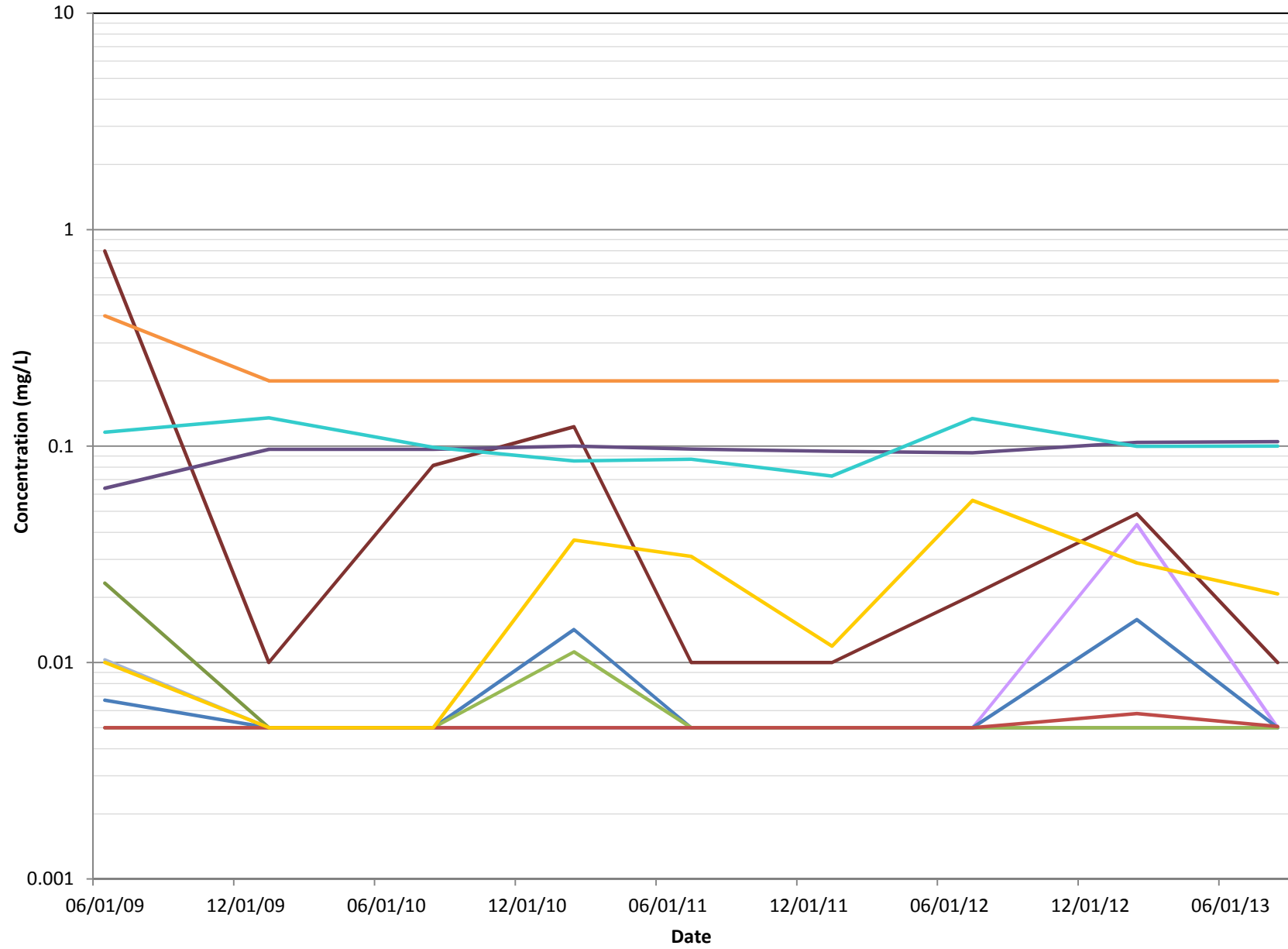
MW-5: ANION CONCENTRATIONS OVER TIME



MW-5: TDS CONCENTRATIONS OVER TIME

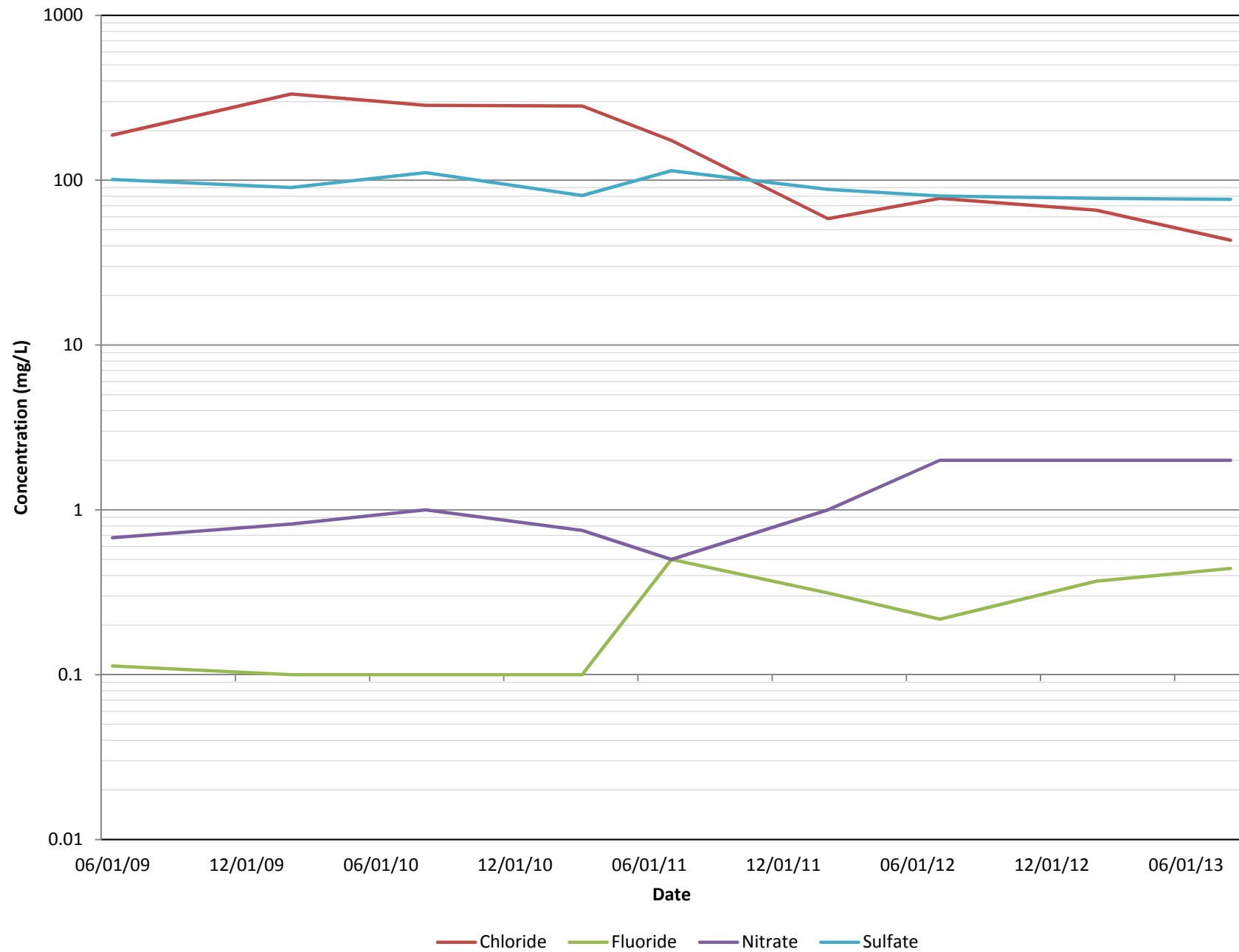


MW-5: METAL CONCENTRATIONS OVER TIME

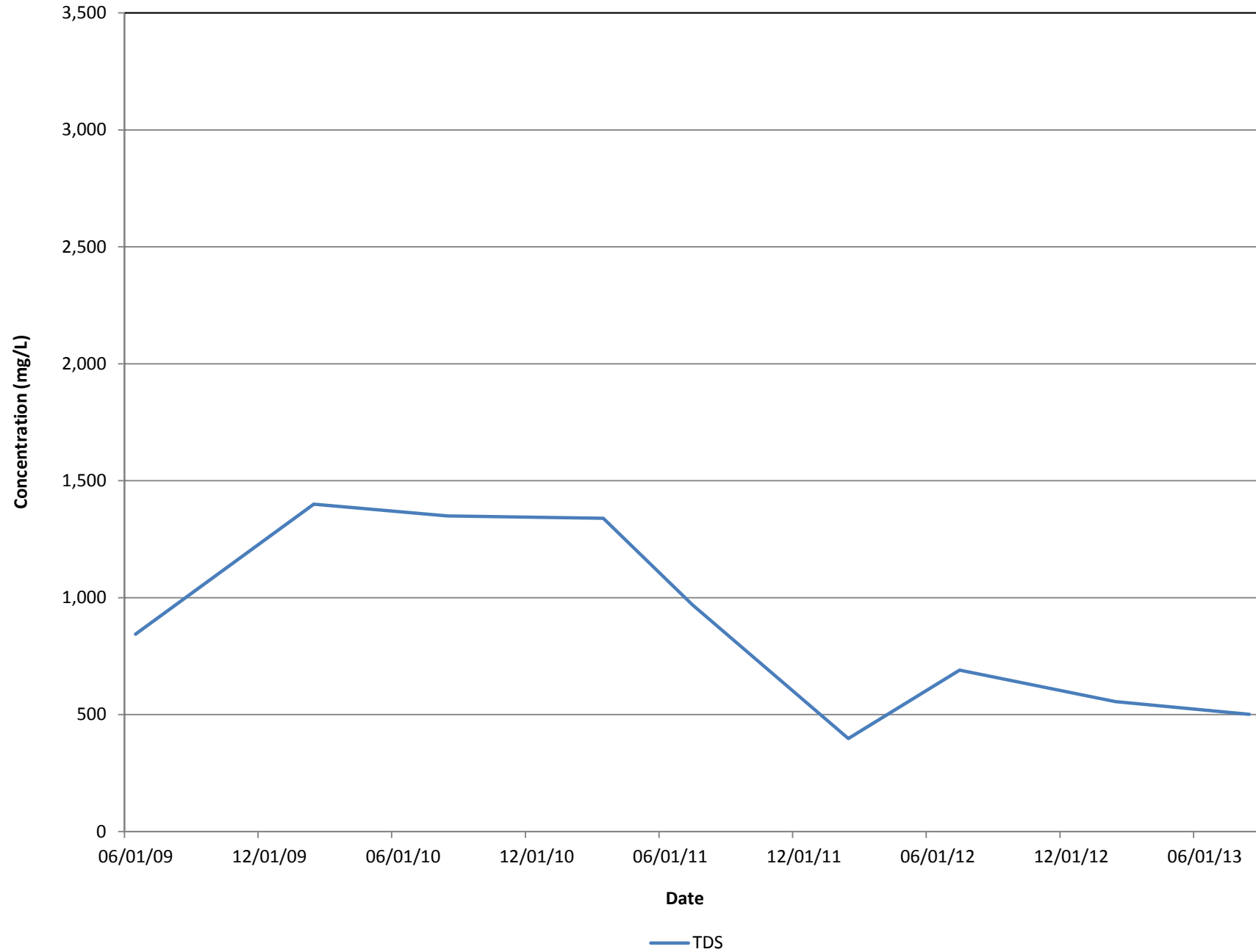


Aluminum Arsenic Barium Boron Copper Iron Manganese Molybdenum Nickel Uranium Zinc

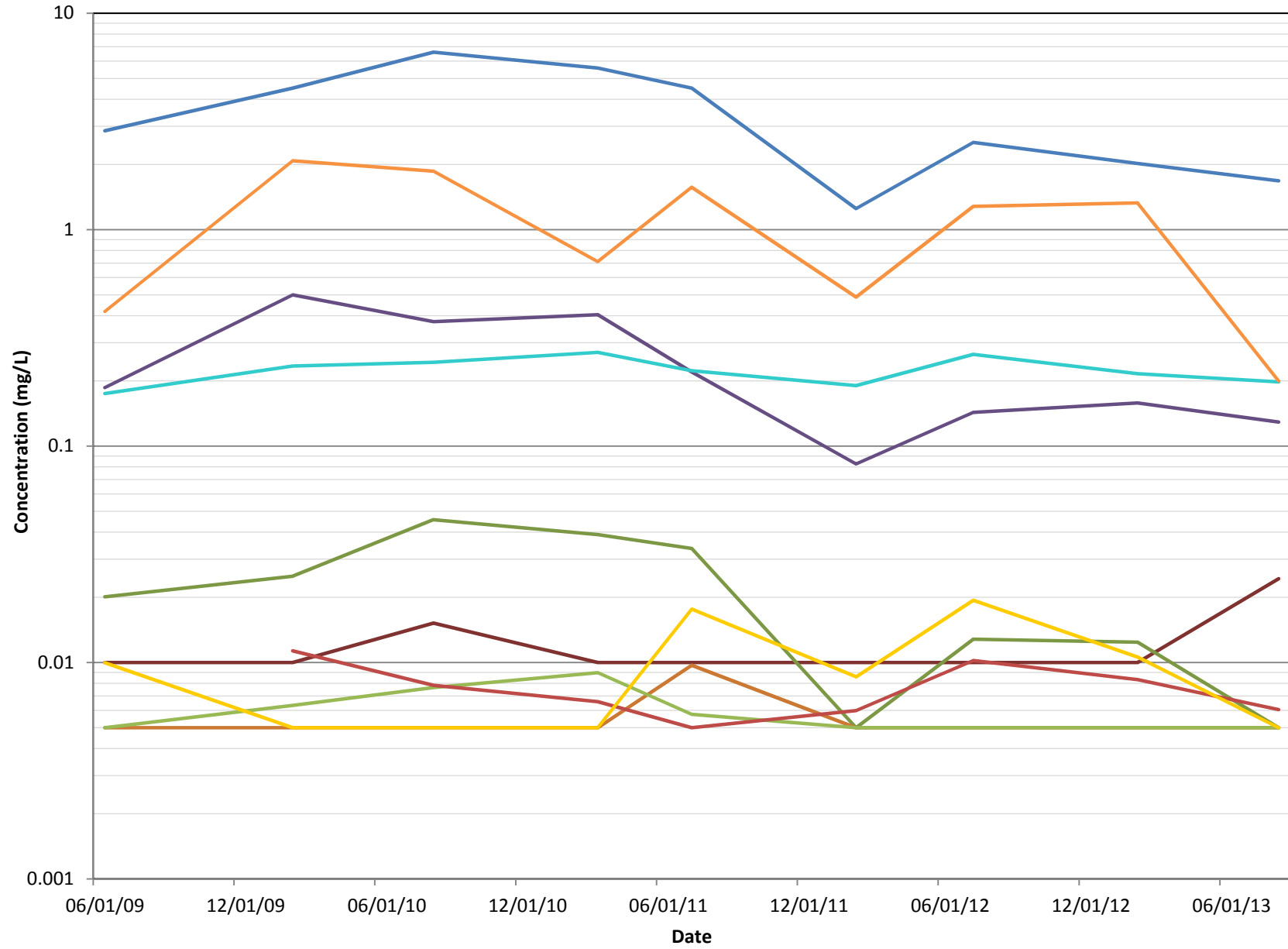
MW-6: ANION CONCENTRATIONS OVER TIME



MW-6: TDS CONCENTRATIONS OVER TIME

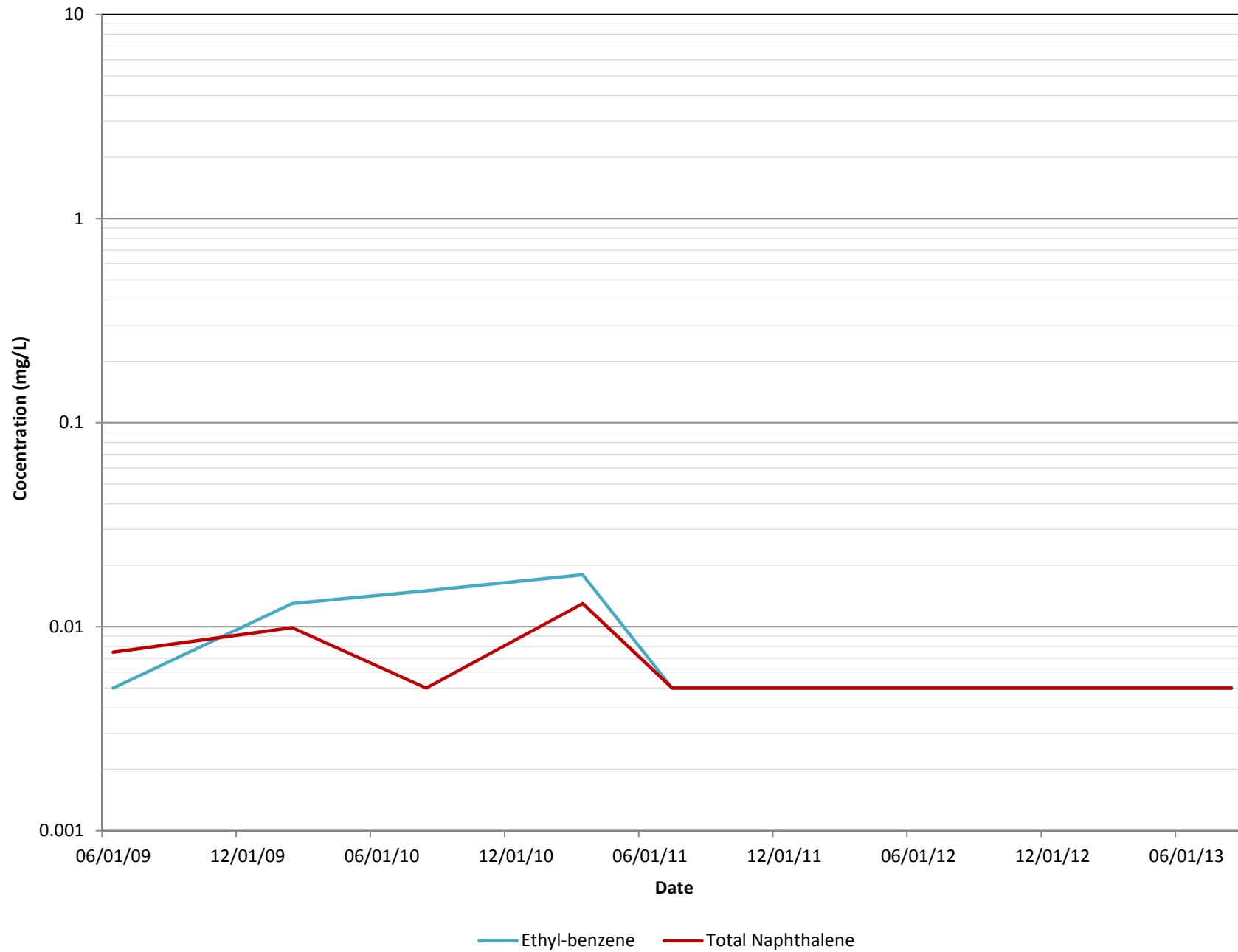


MW-6: METAL CONCENTRATIONS OVER TIME

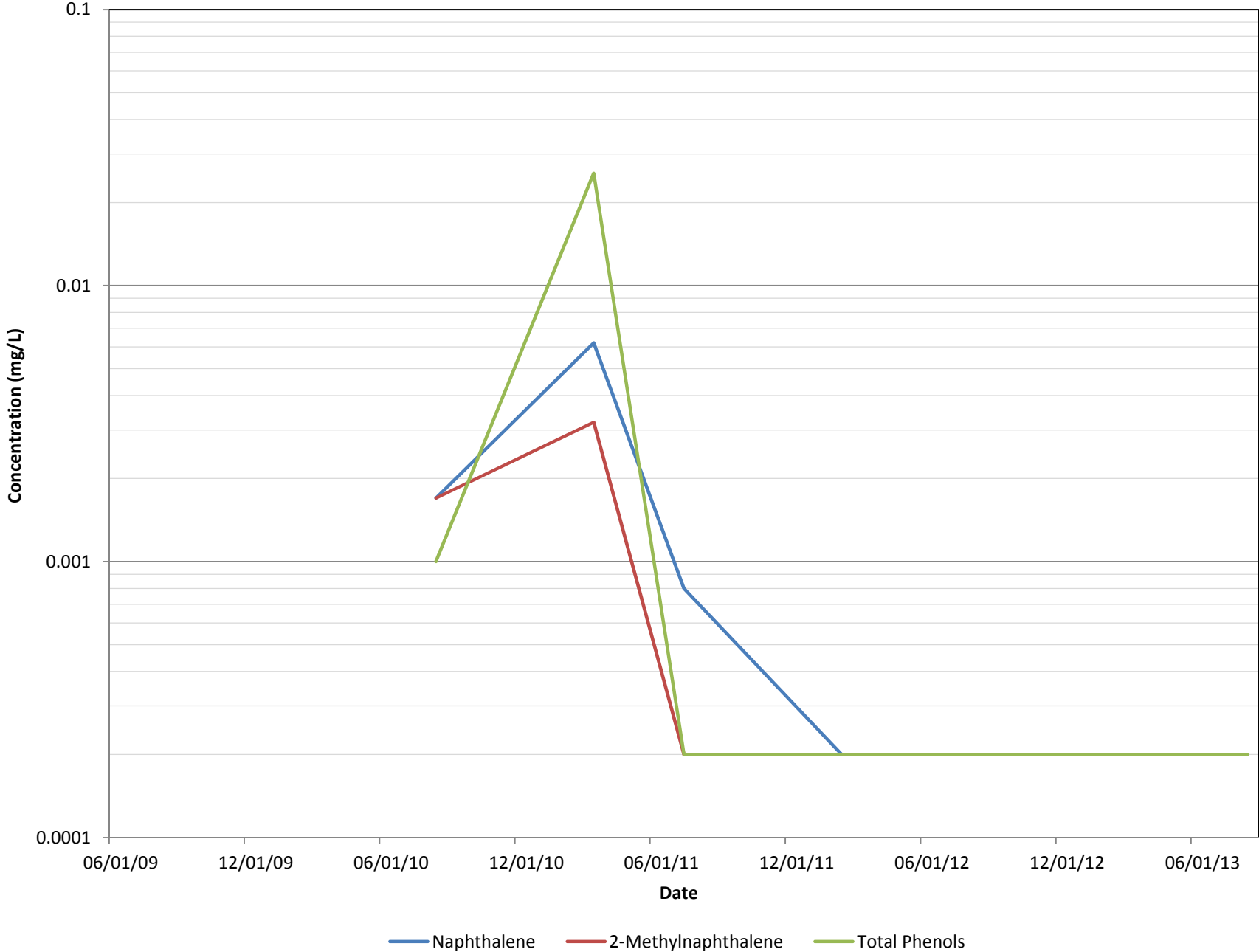


— Aluminum — Arsenic — Barium — Boron — Chromium — Iron — Manganese — Nickel — Uranium — Zinc

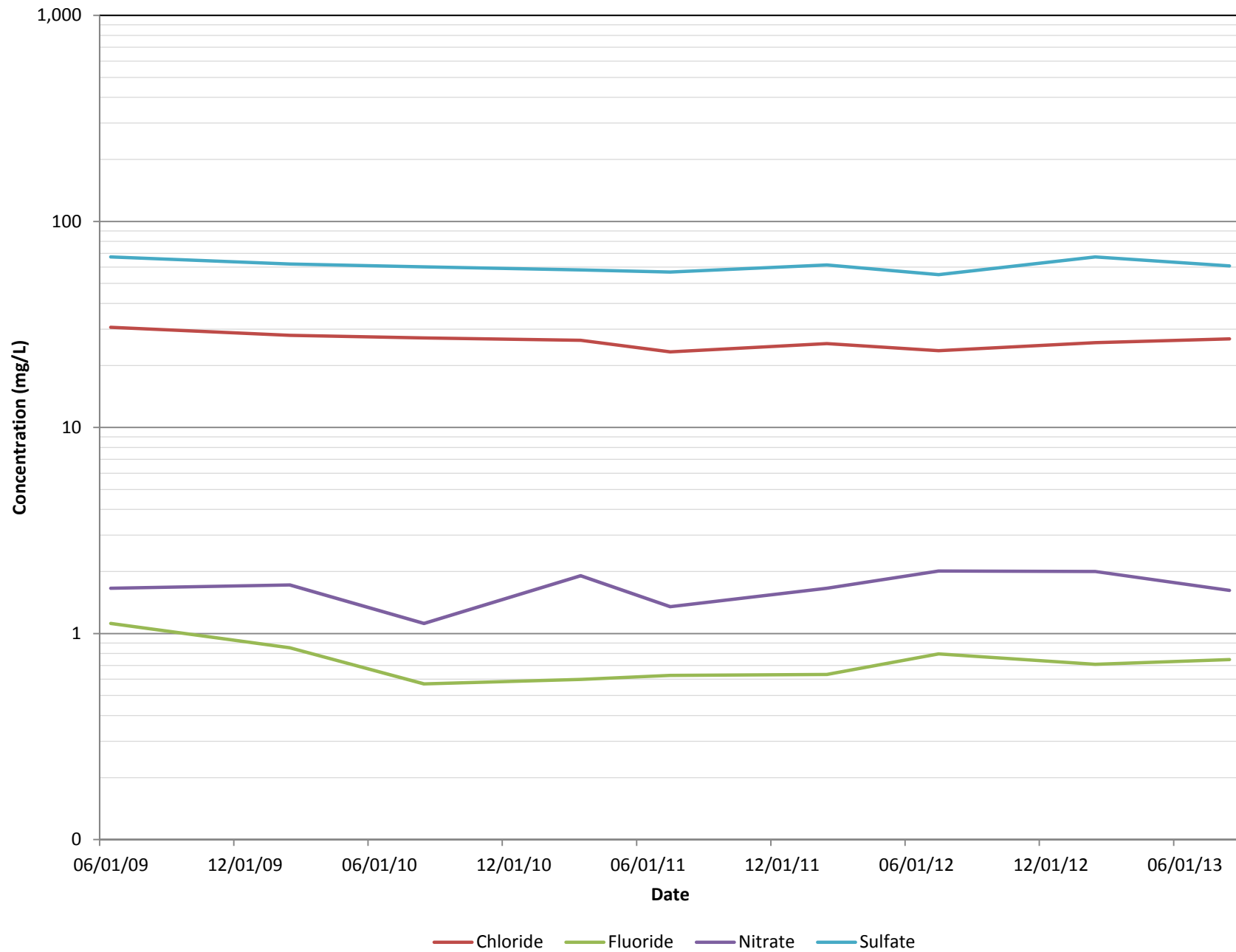
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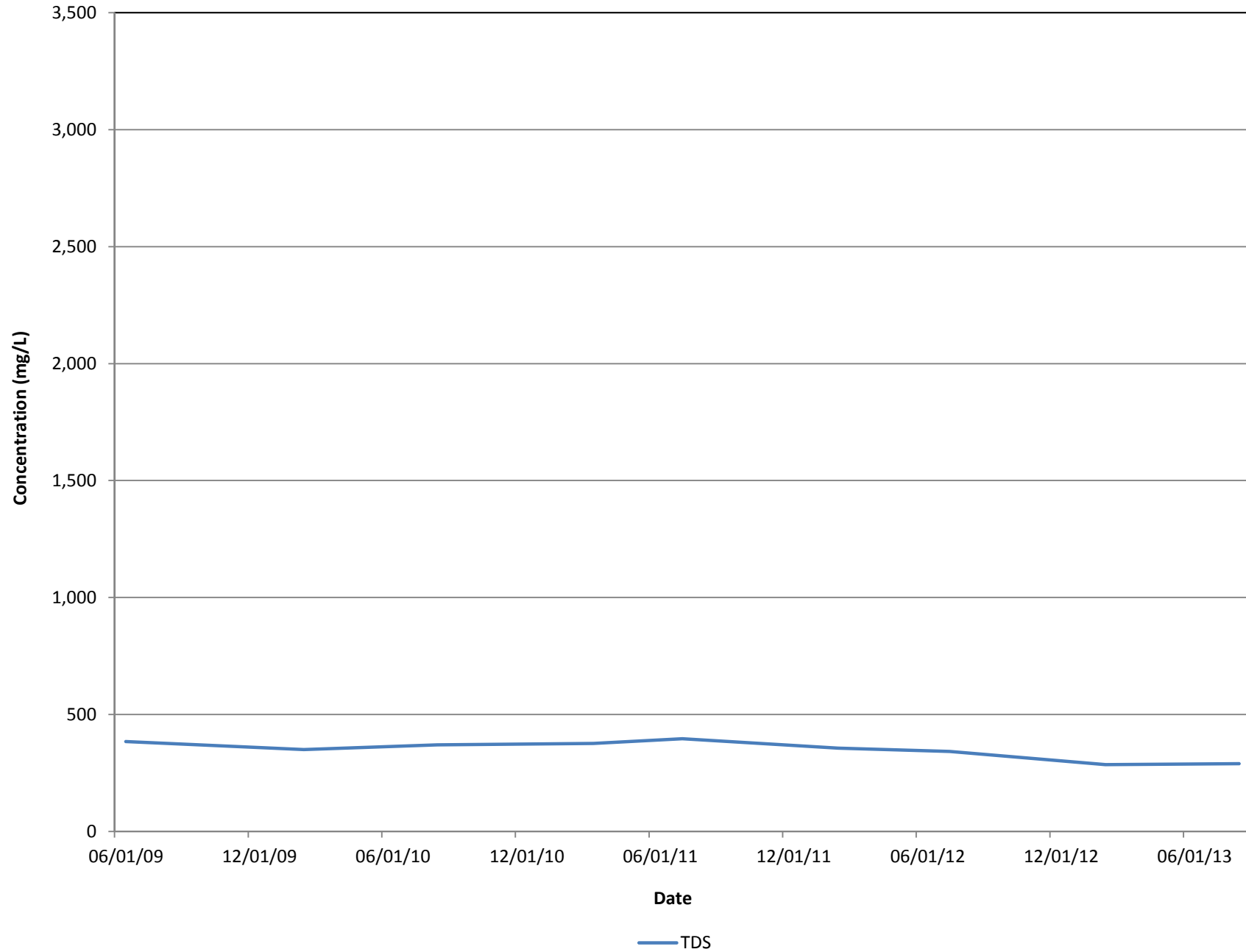
MW-6: SVOC CONCENTRATIONS OVER TIME



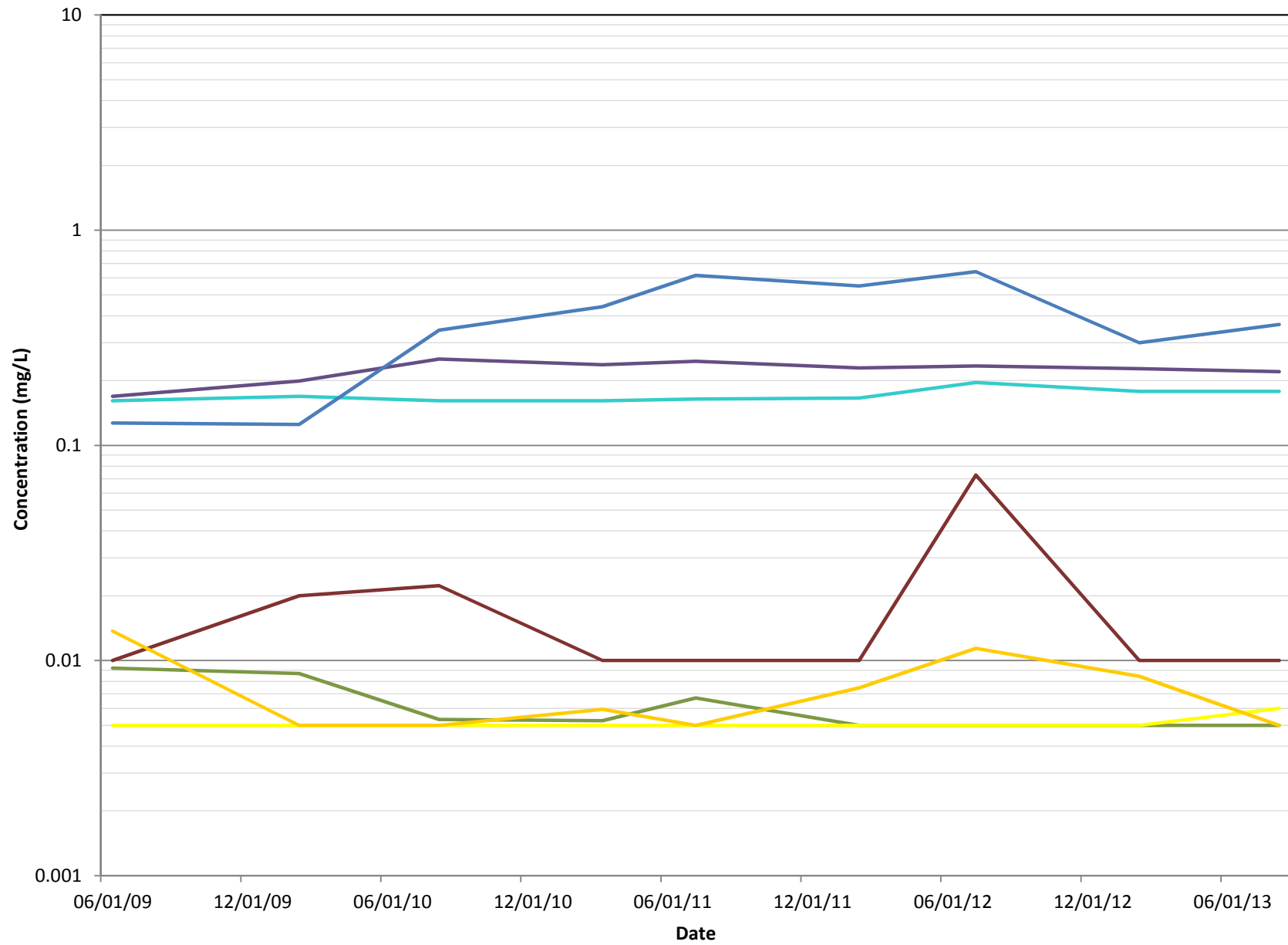
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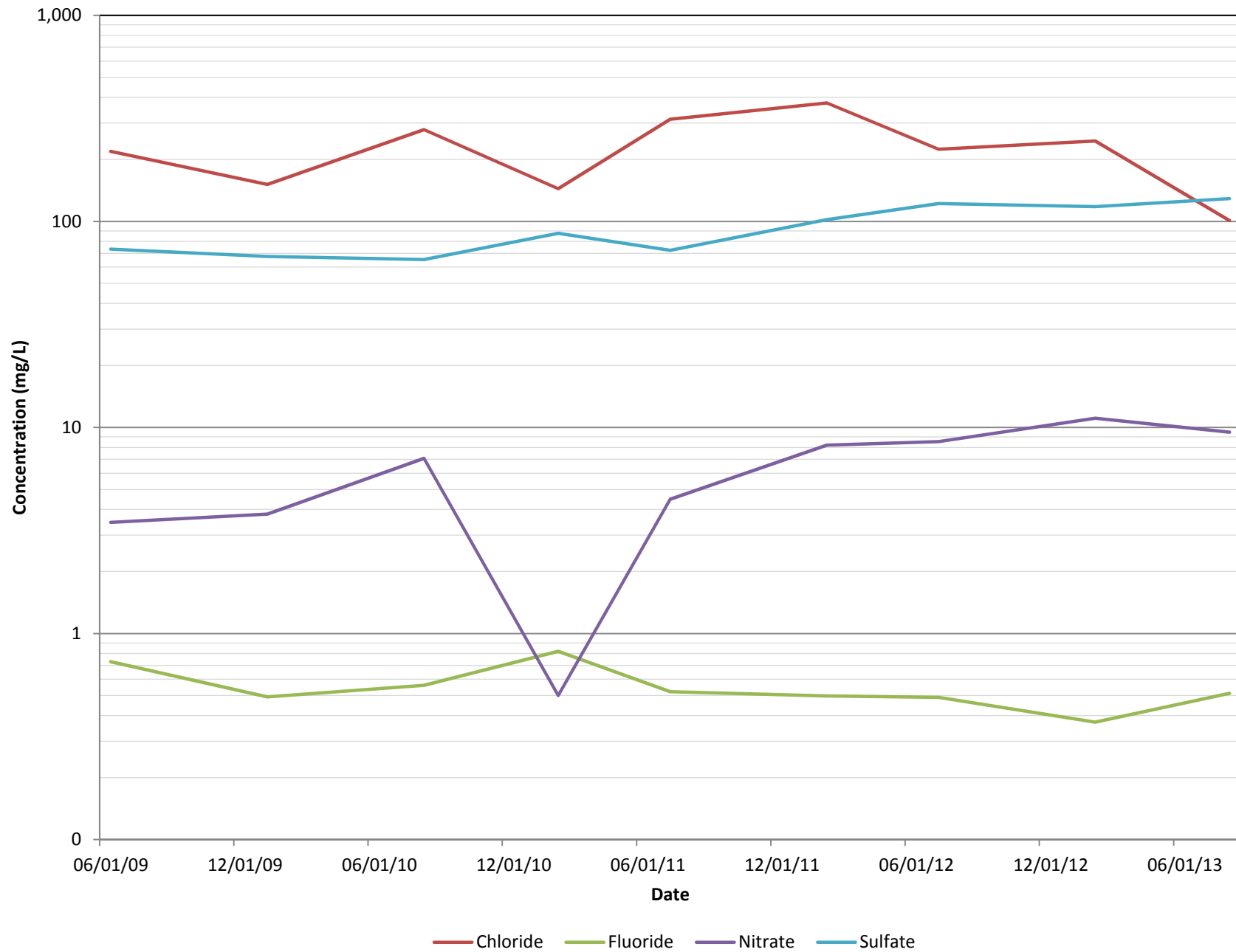
MW-7: TDS CONCENTRATIONS OVER TIME



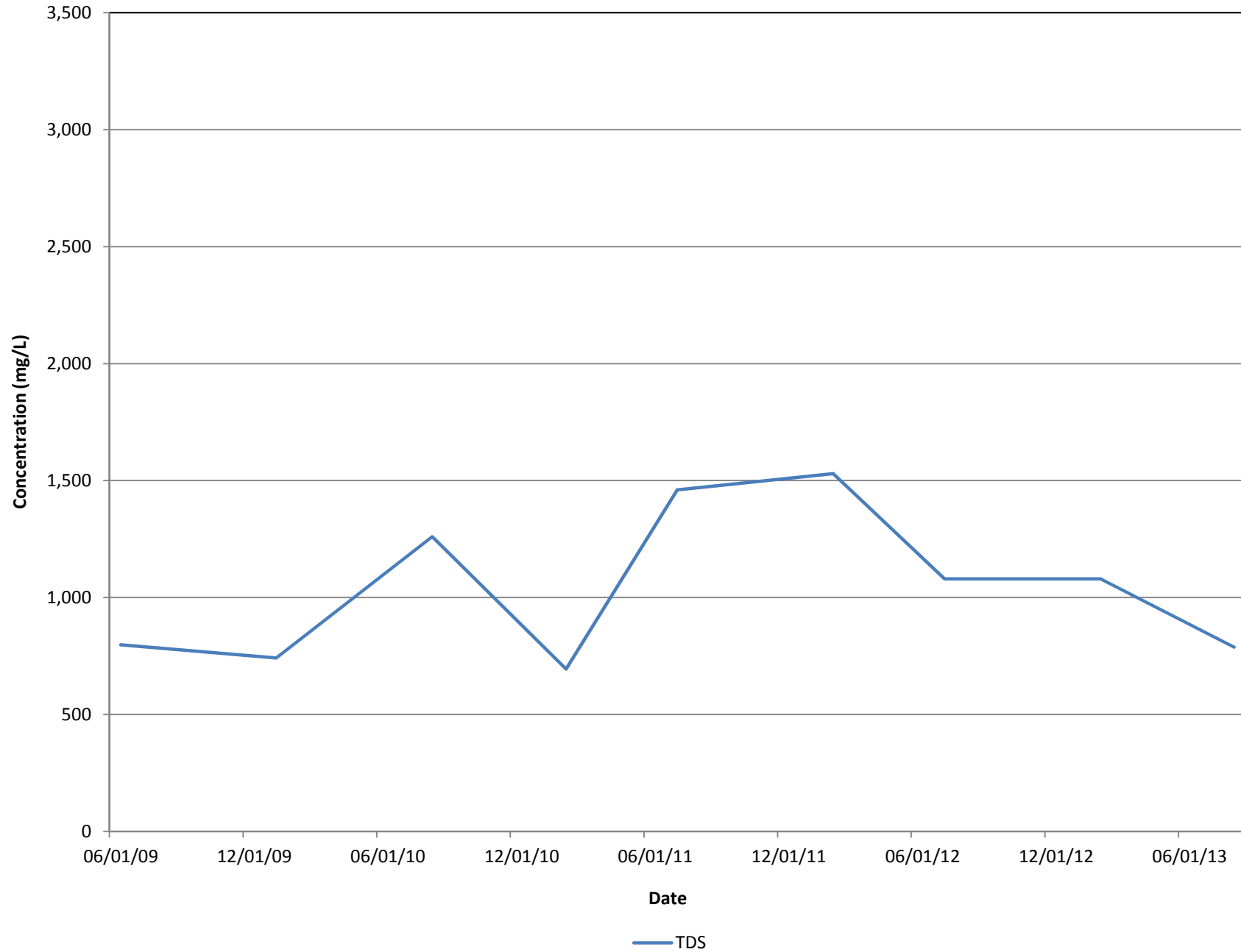
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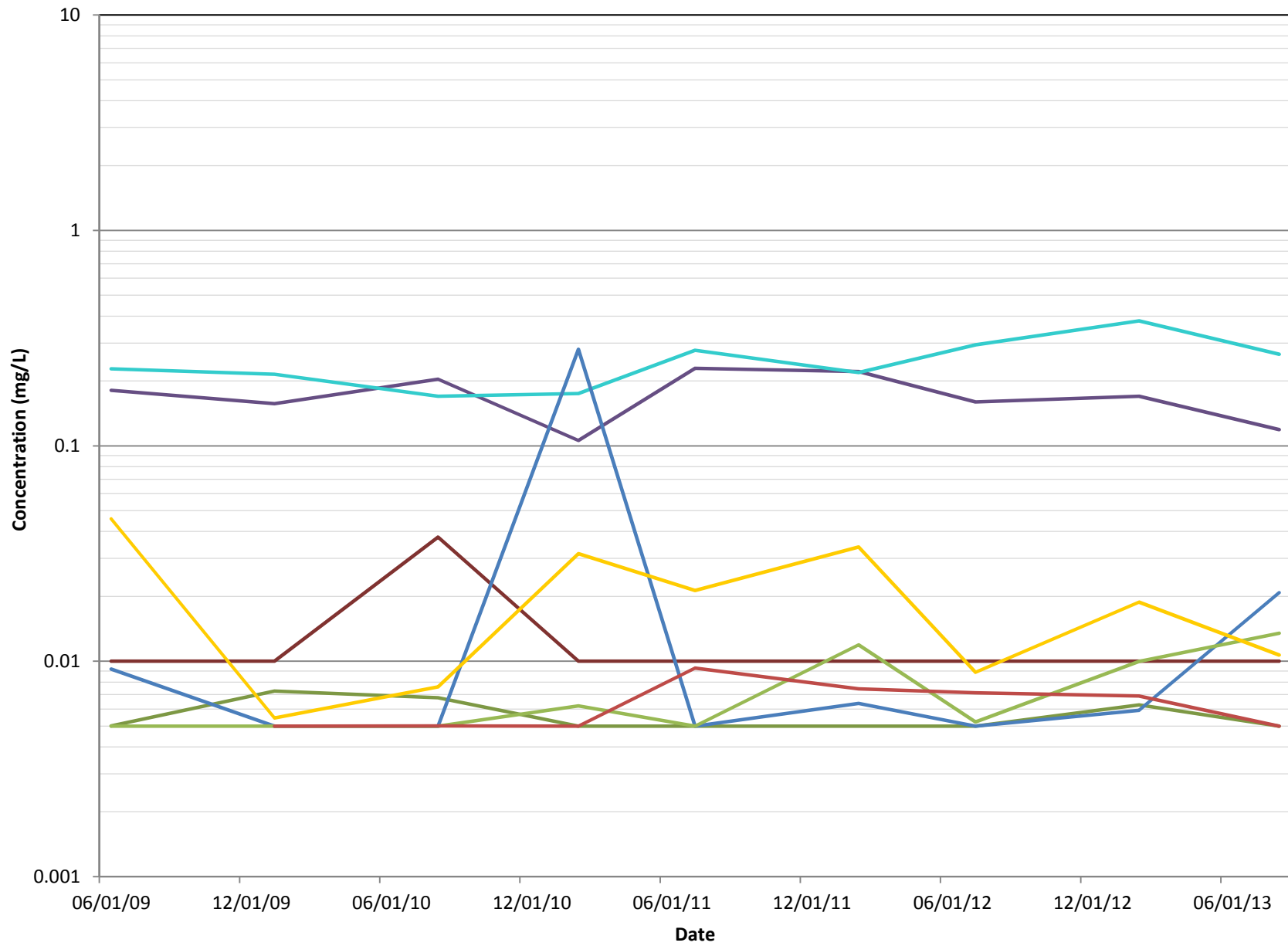
MW-8: ANION CONCENTRATIONS OVER TIME



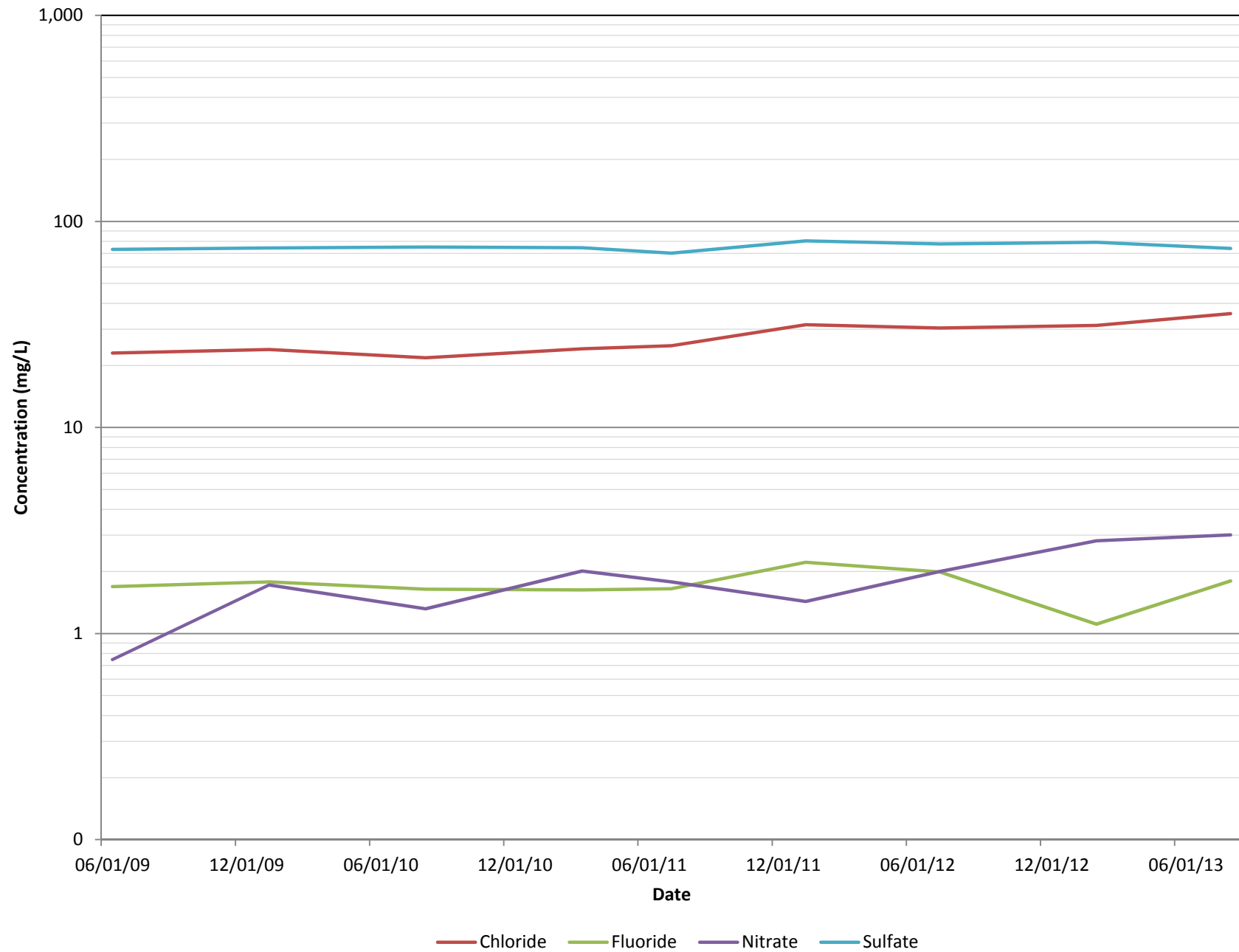
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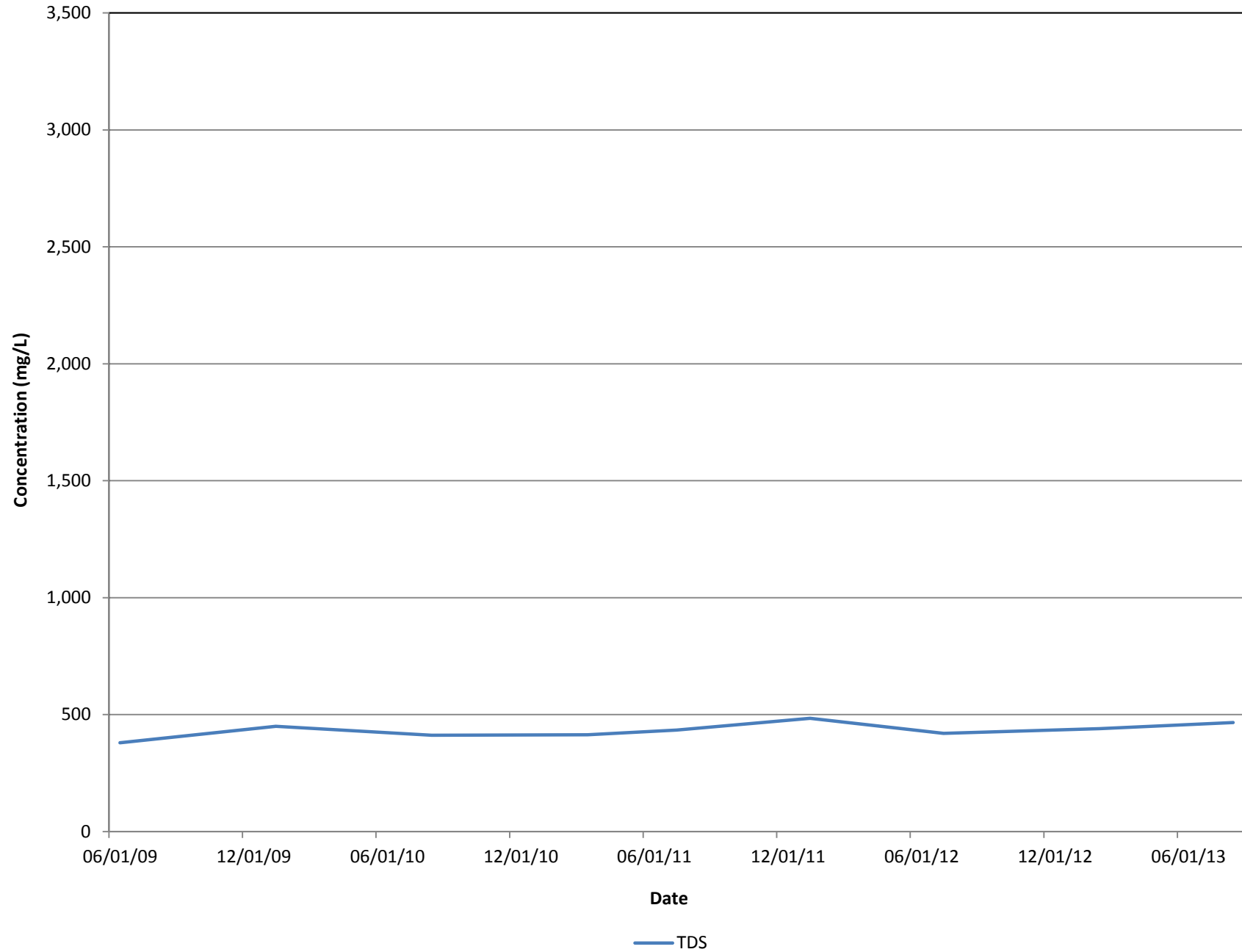
MW-8: METAL CONCENTRATIONS OVER TIME



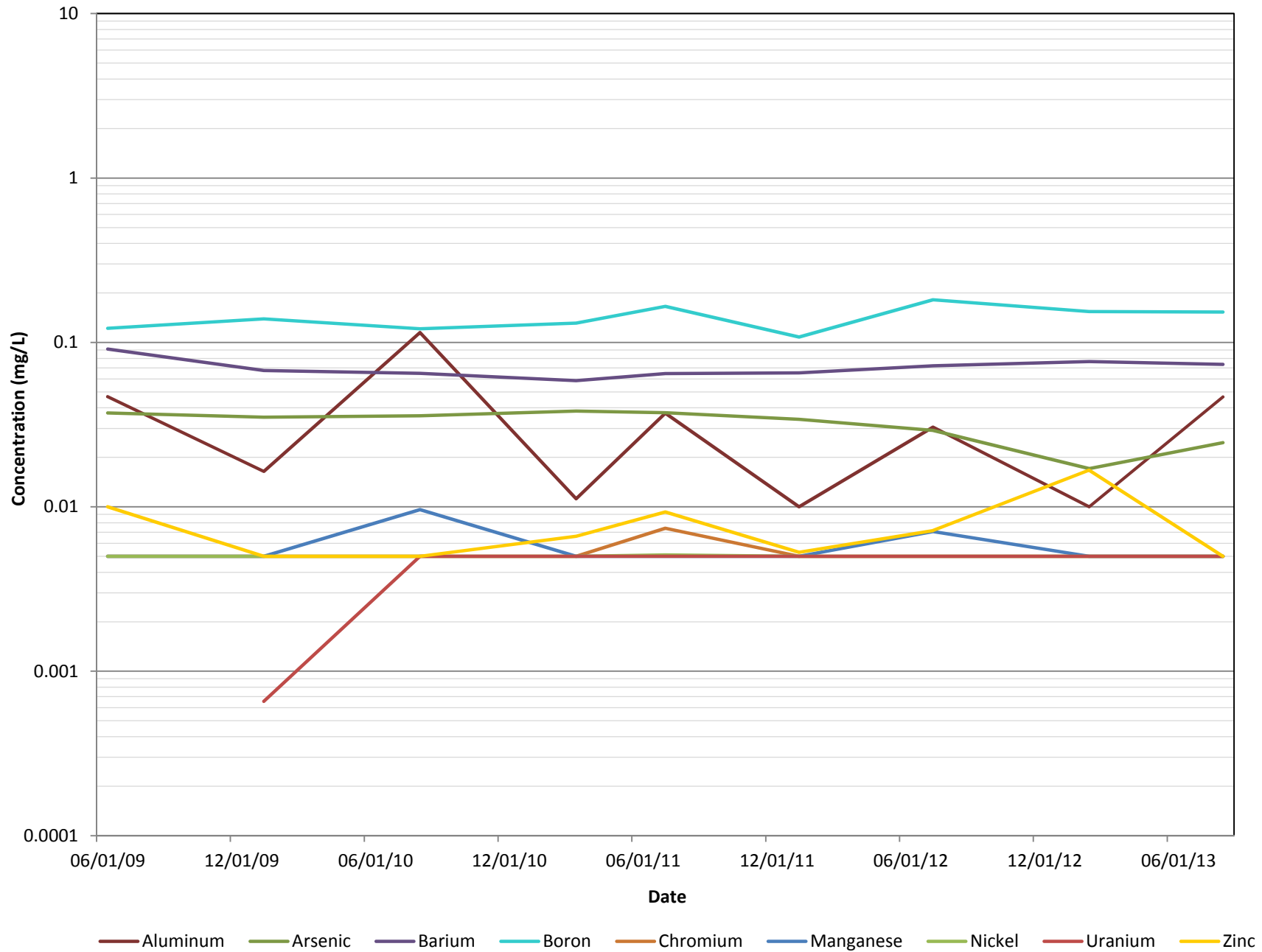
MW-9: ANION CONCENTRATIONS OVER TIME



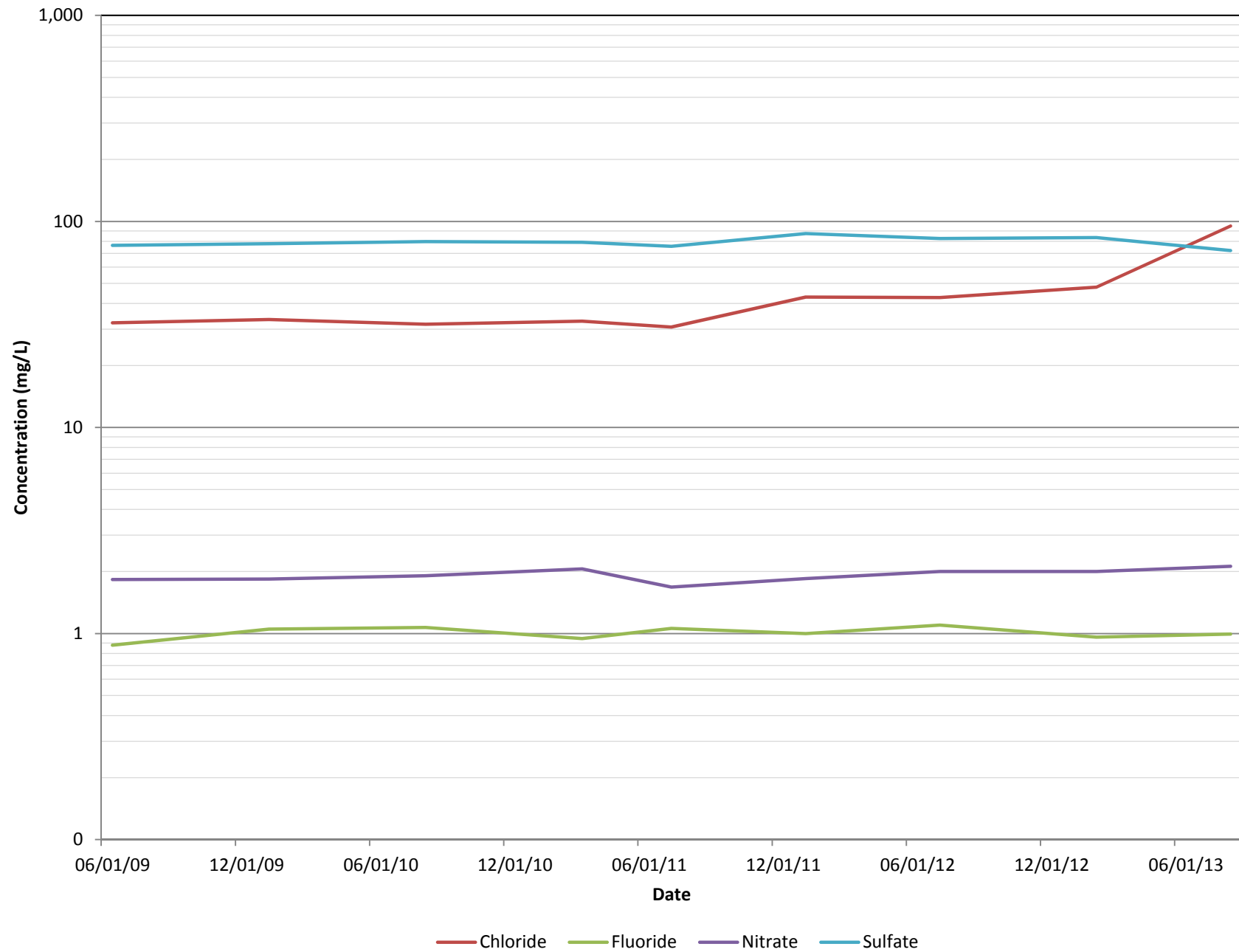
MW-9: TDS CONCENTRATIONS OVER TIME



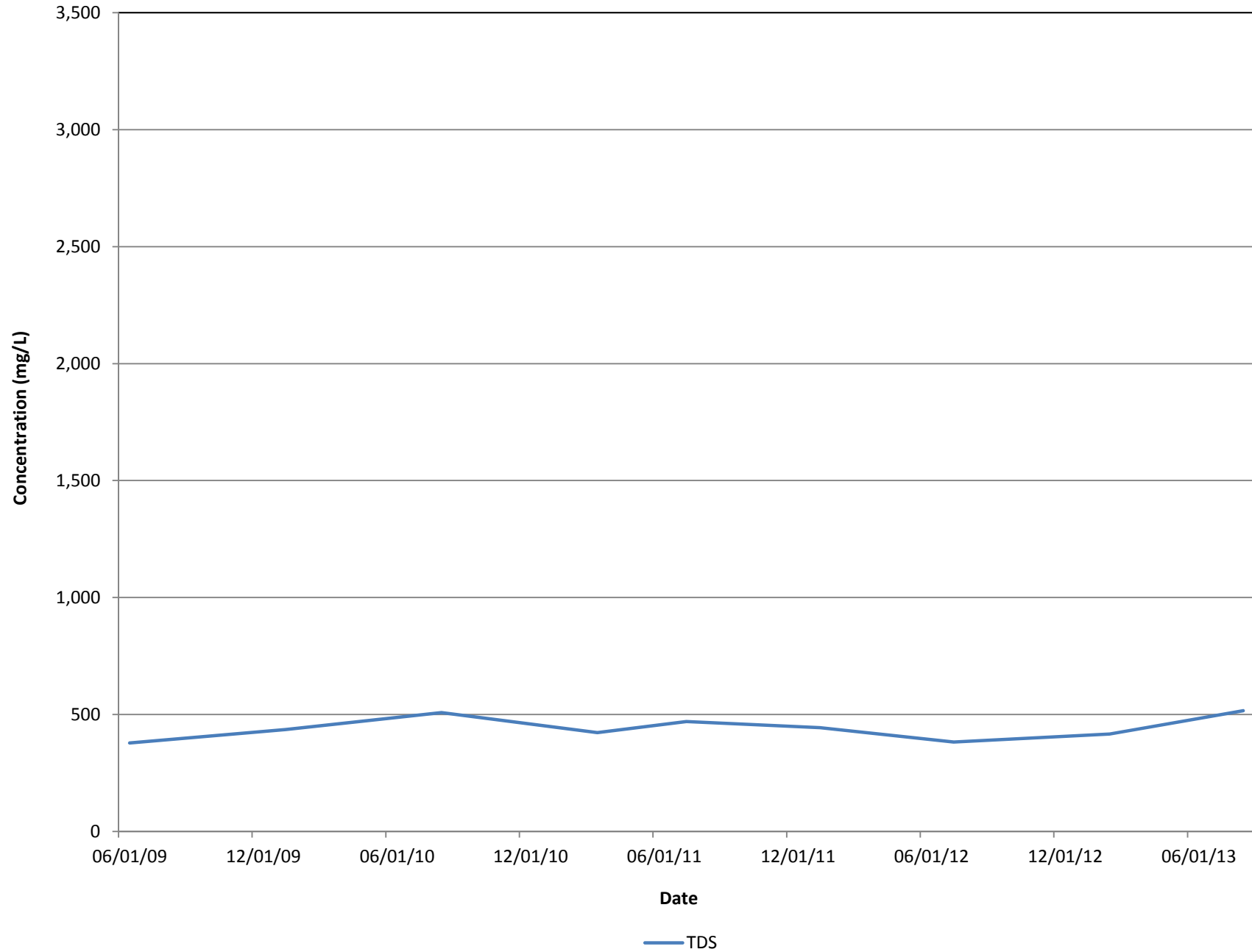
MW-9: METAL CONCENTRATIONS OVER TIME



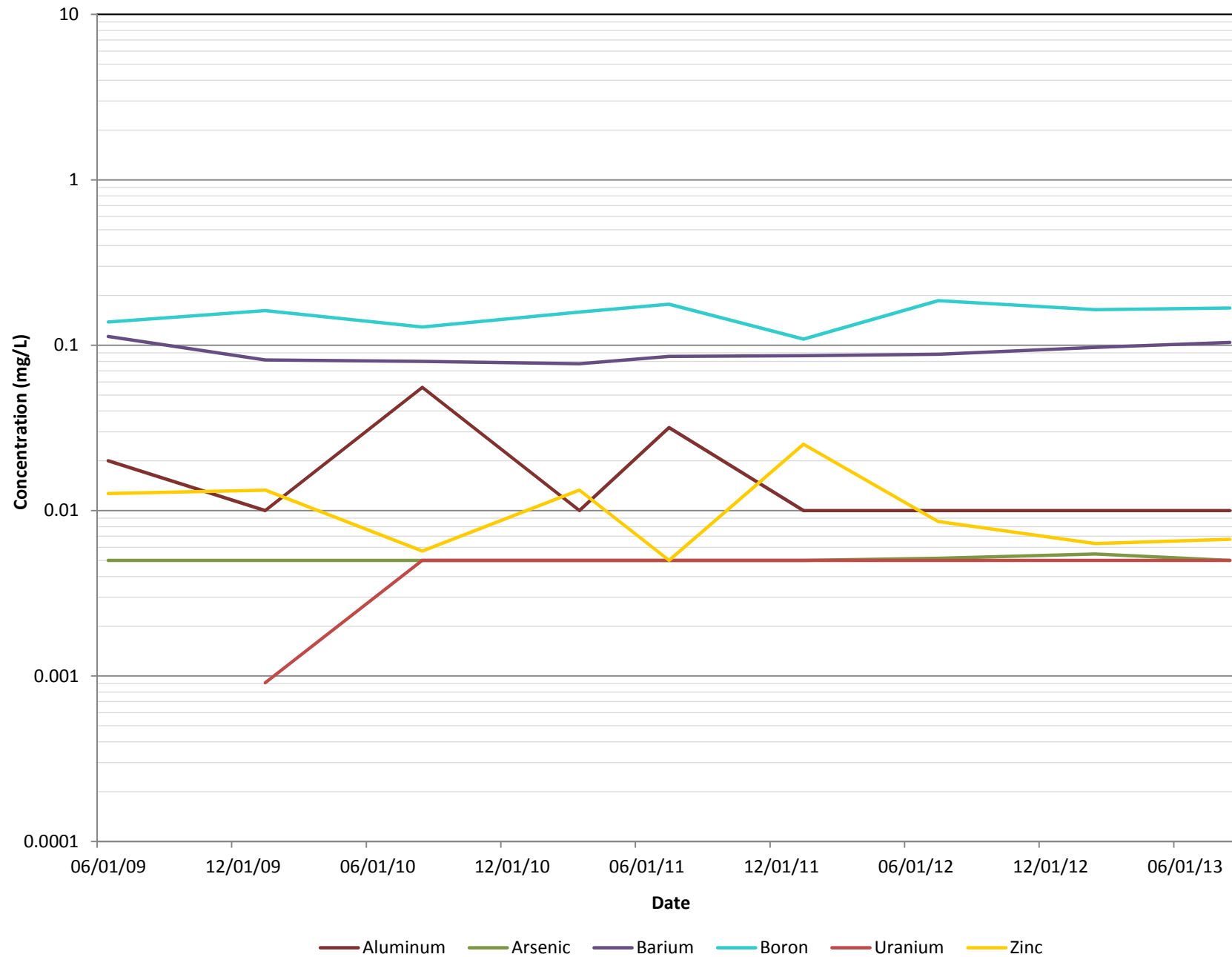
MW-10: ANION CONCENTRATIONS OVER TIME



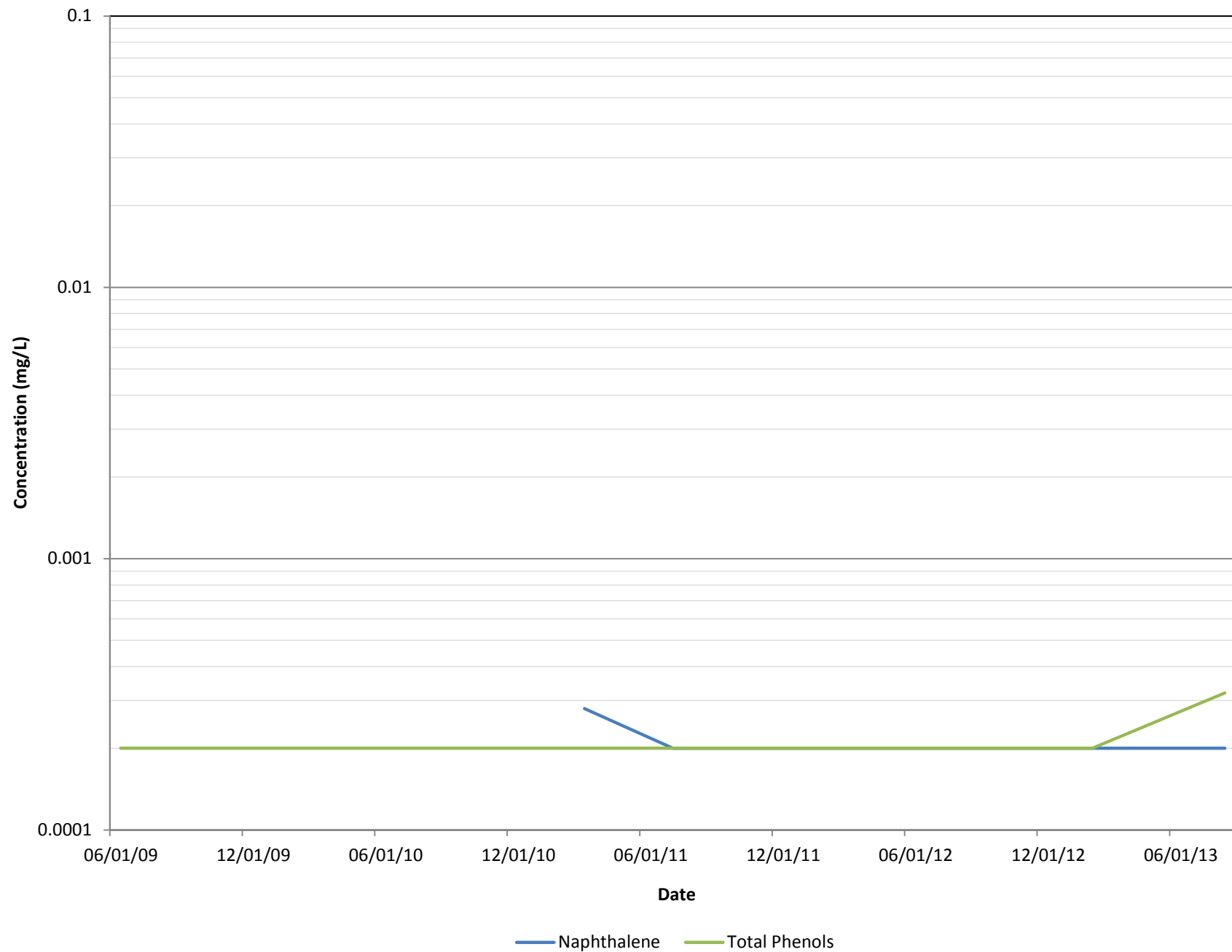
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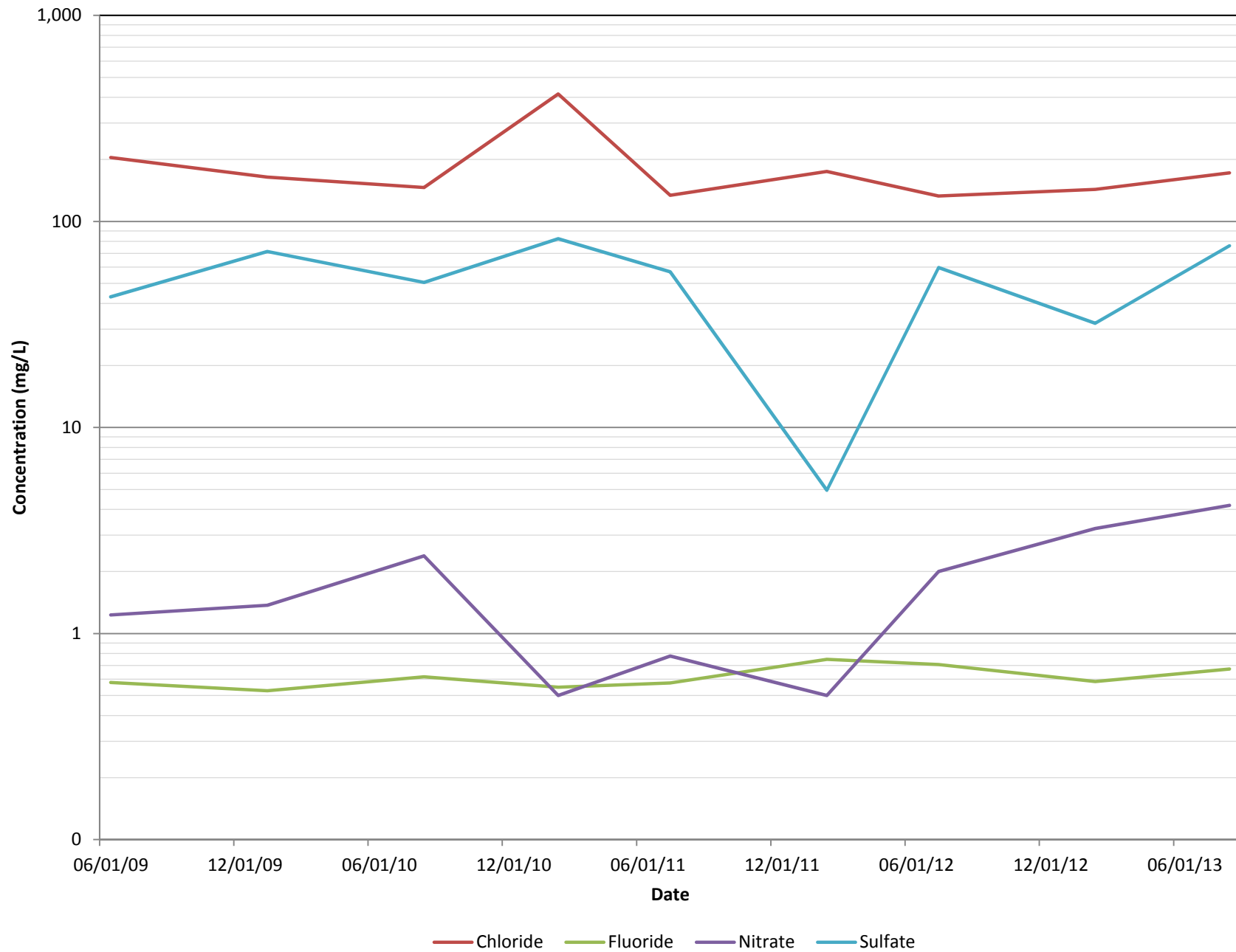
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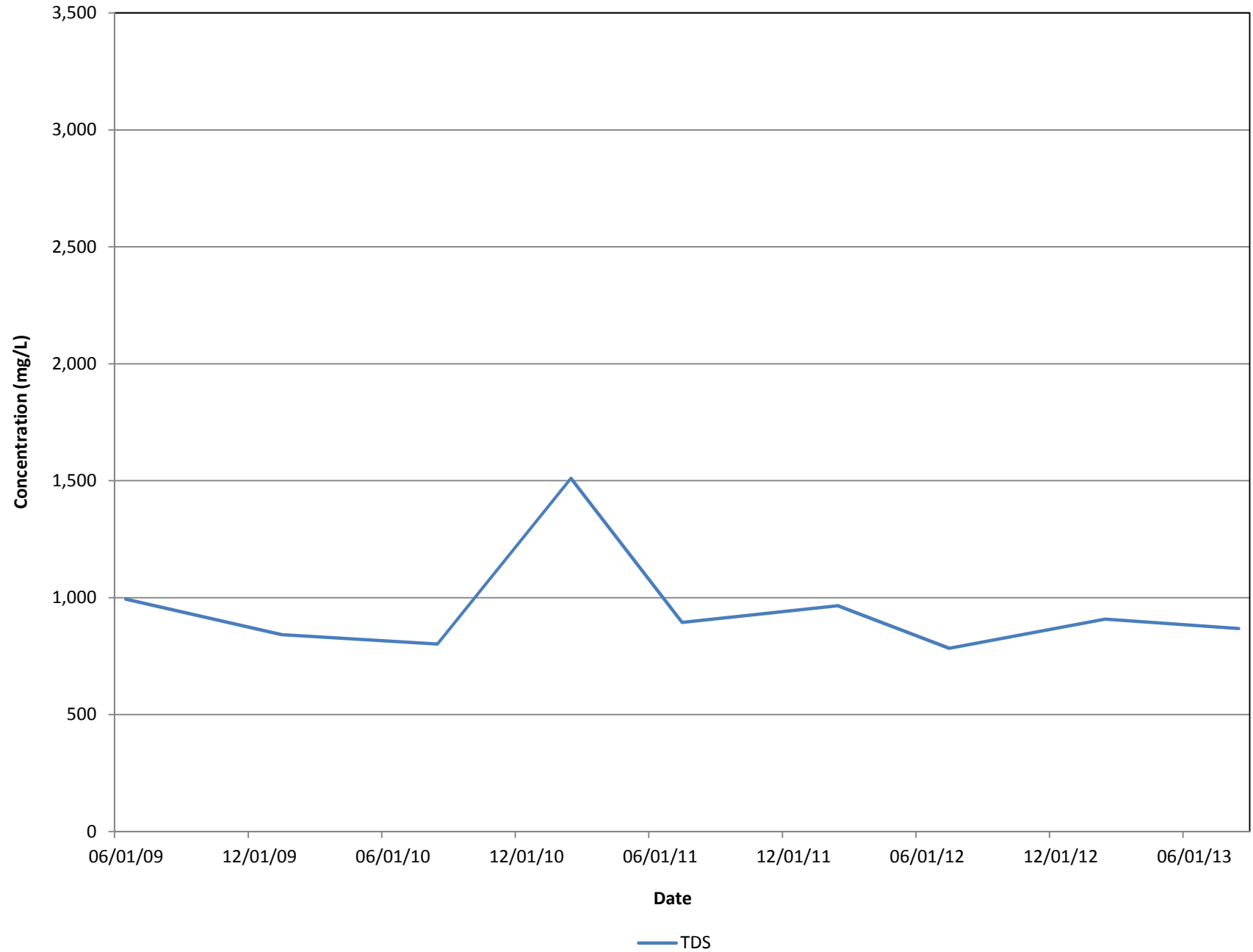
MW-10: SVOC CONCENTRATIONS OVER TIME



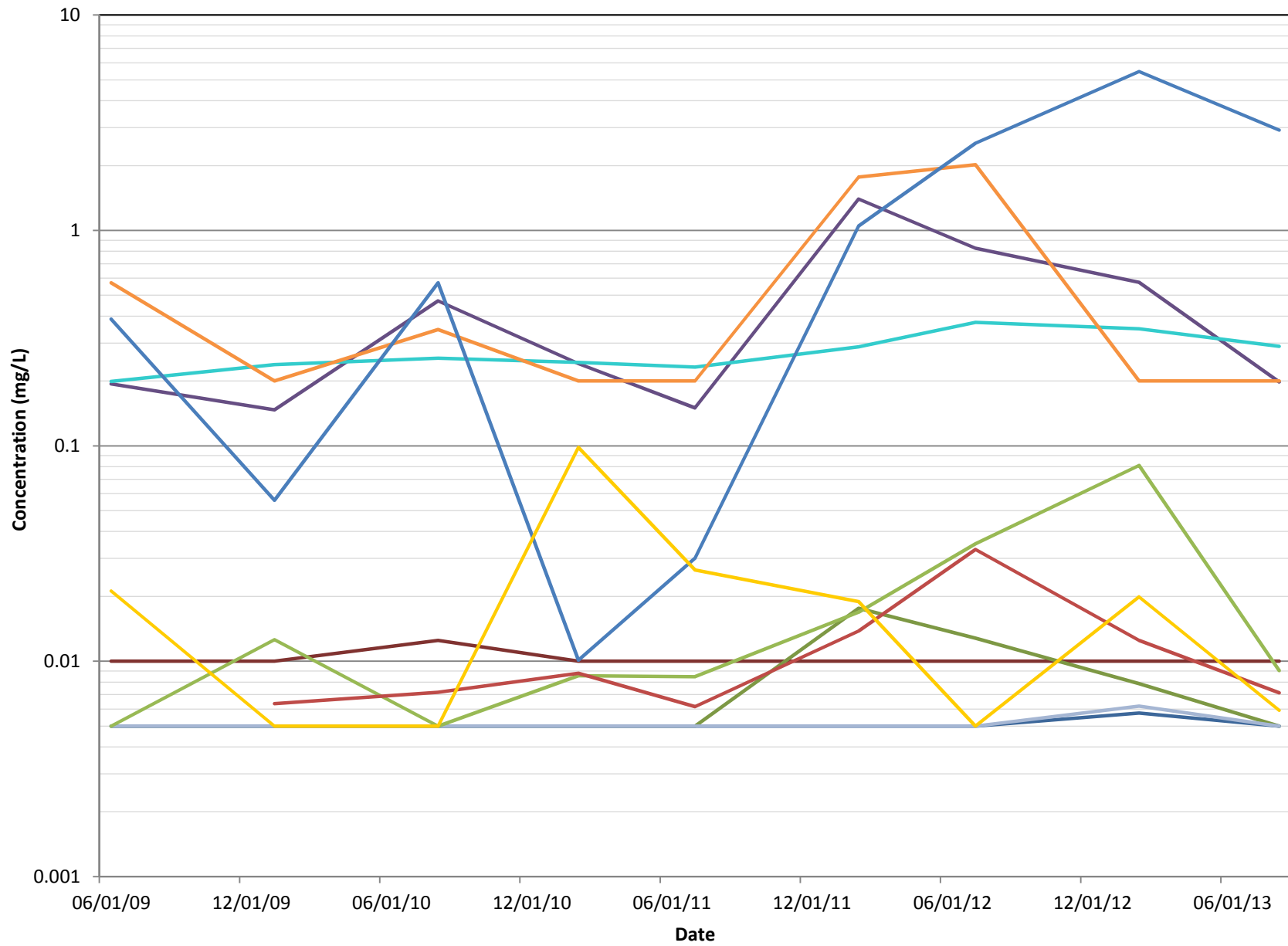
MW-11: ANION CONCENTRATIONS OVER TIME



MW-11: TDS CONCENTRATIONS OVER TIME

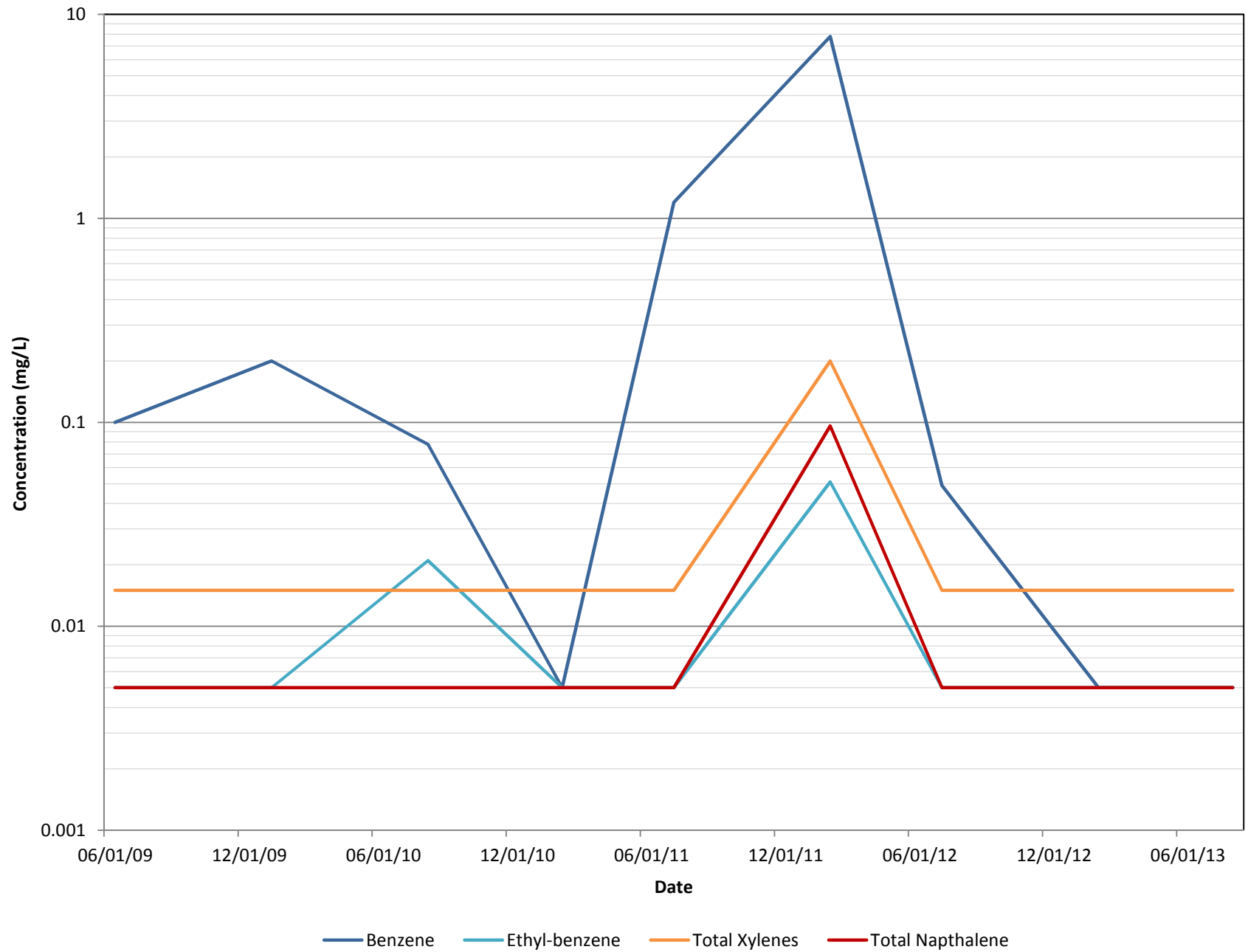


MW-11: METAL CONCENTRATIONS OVER TIME

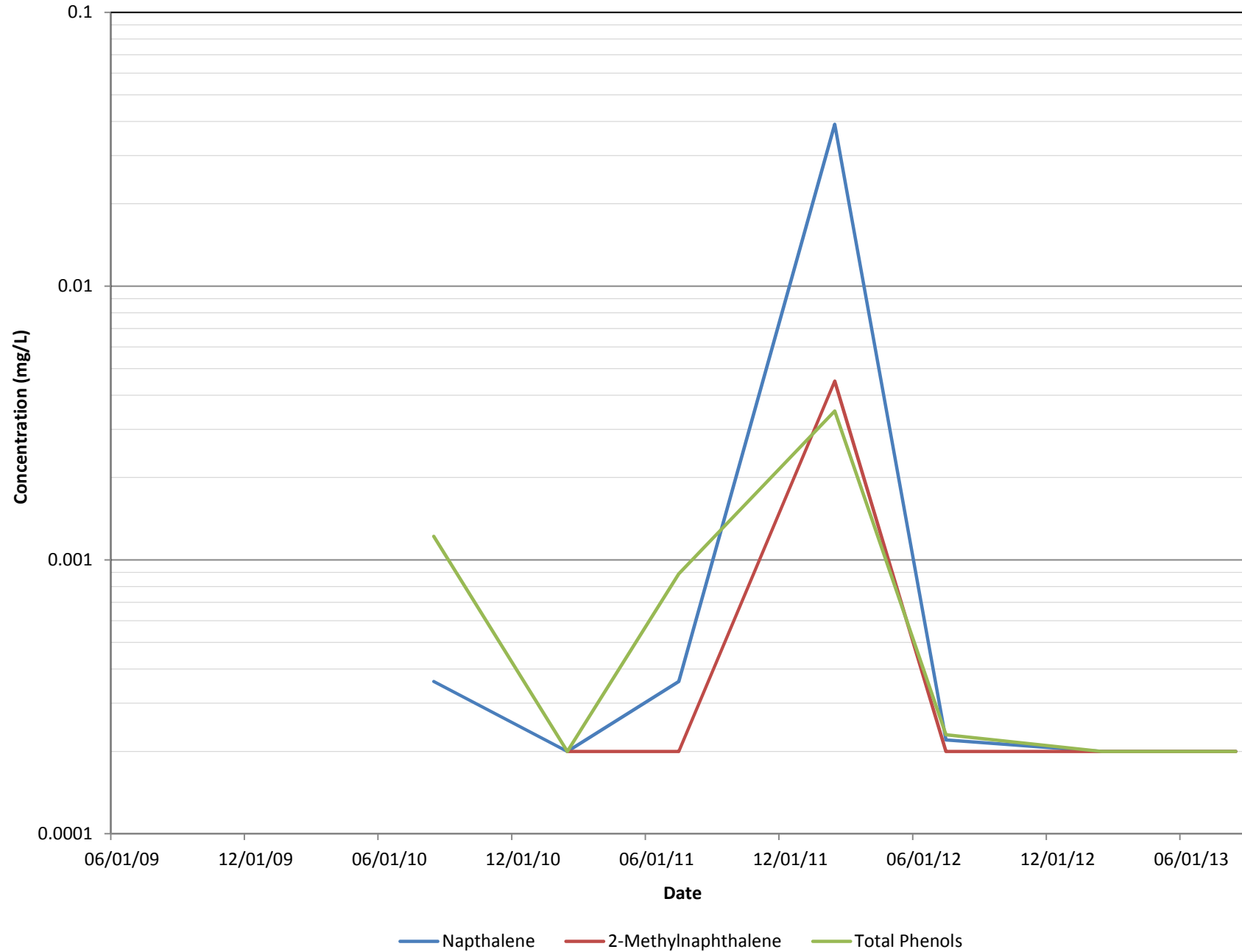


— Aluminum — Arsenic — Barium — Boron — Cobalt — Iron — Manganese — Molybdenum — Nickel — Uranium — Zinc

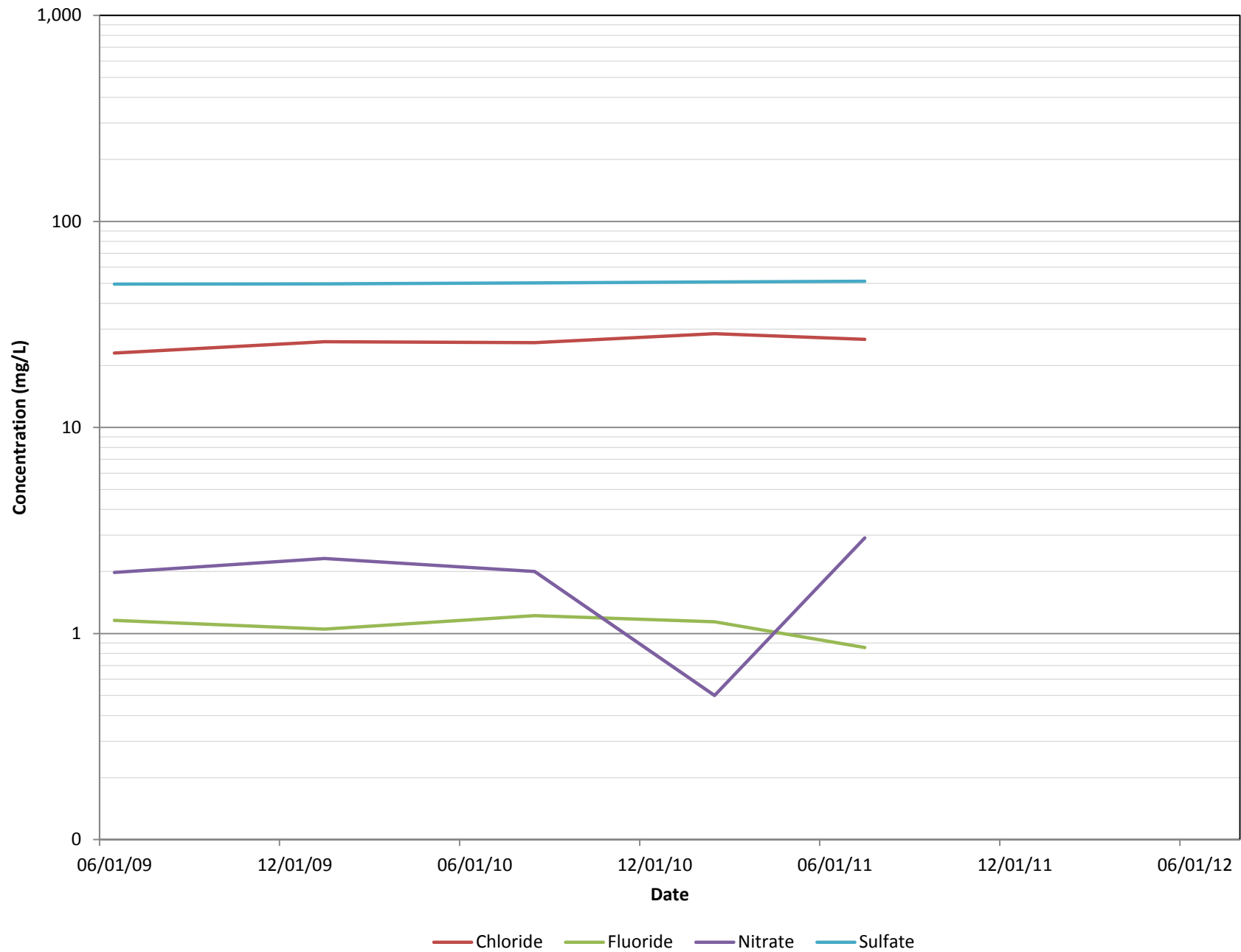
MW-11: VOC CONCENTRATIONS OVER TIME



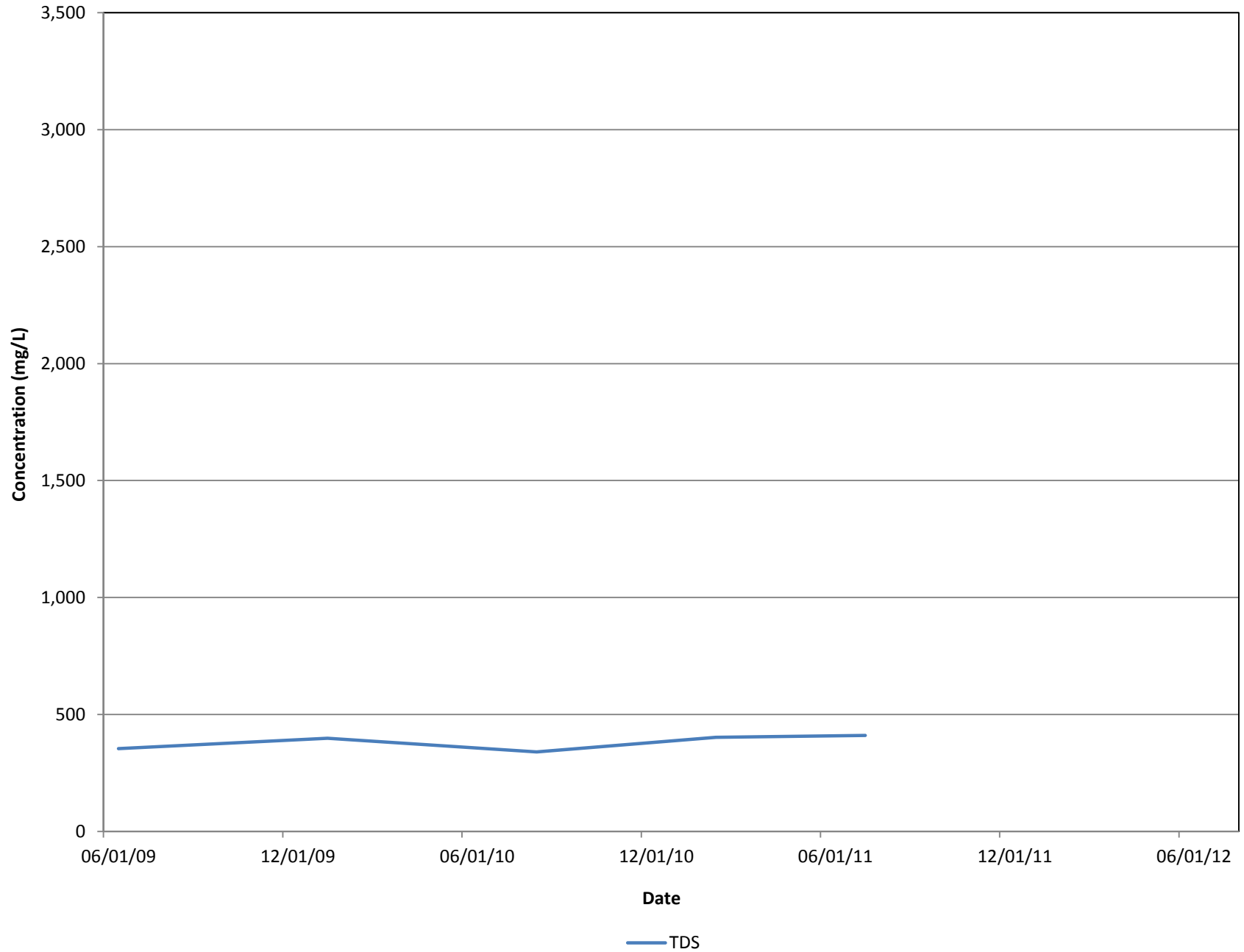
MW-11: SVOC CONCENTRATIONS OVER TIME



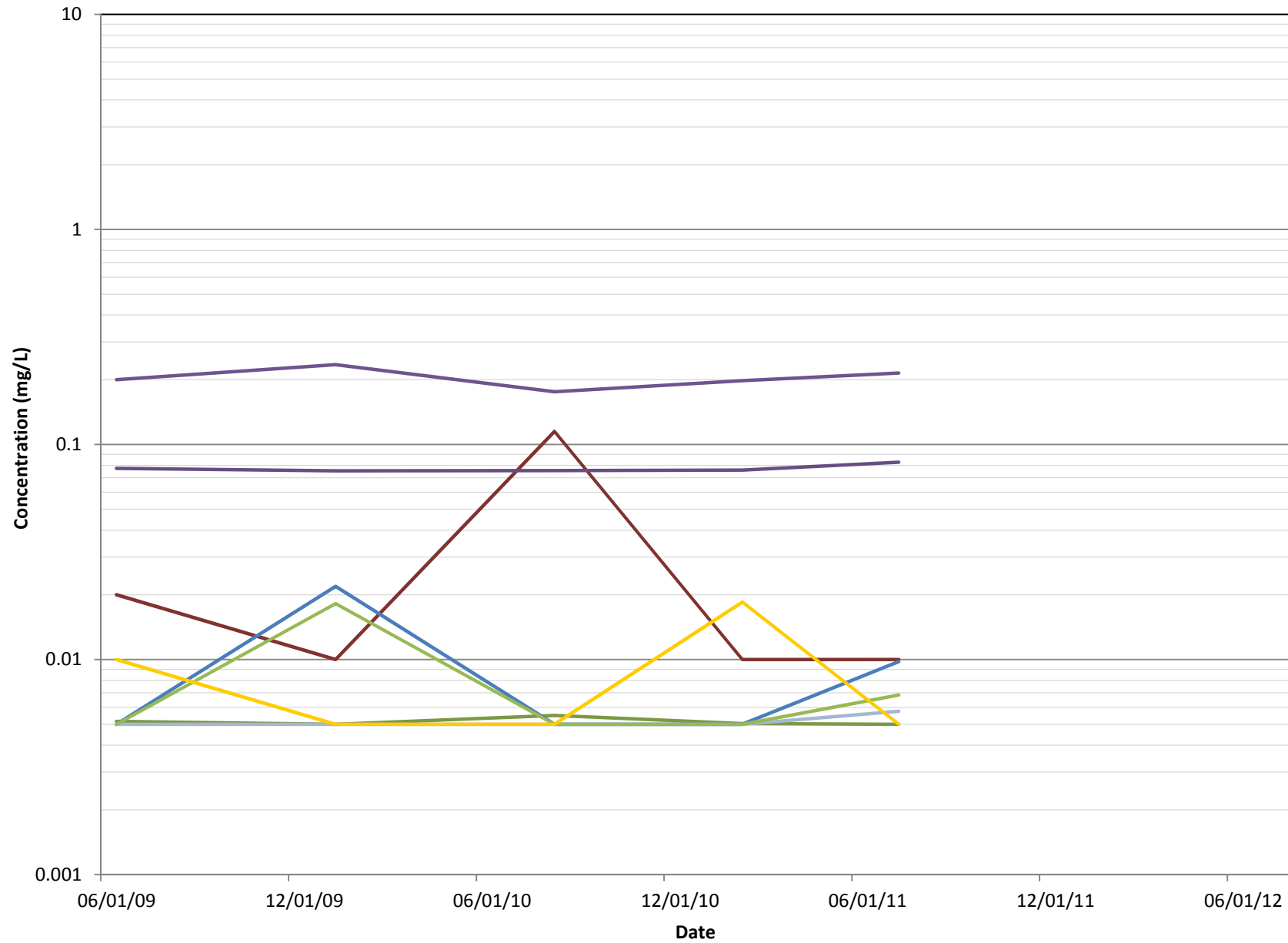
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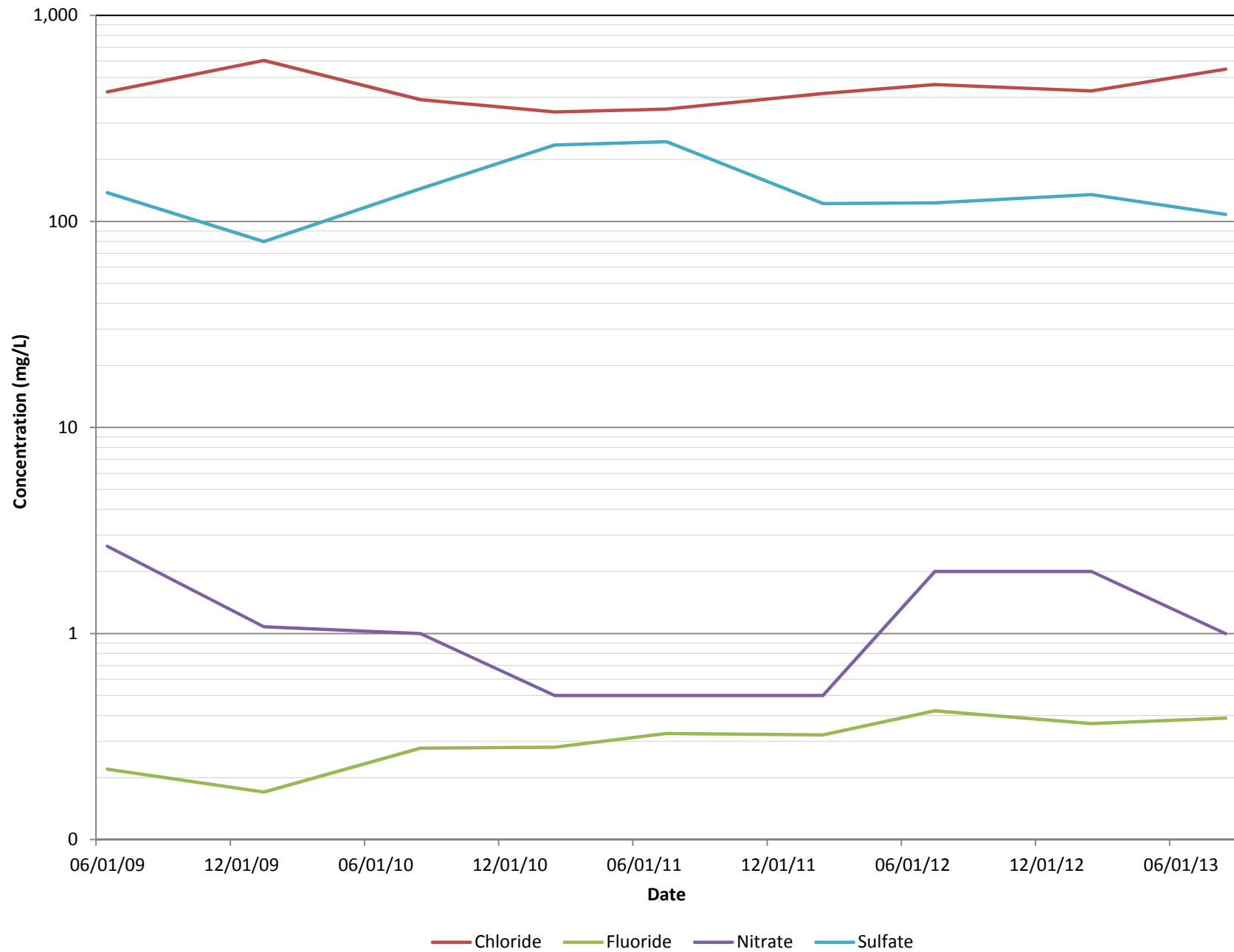
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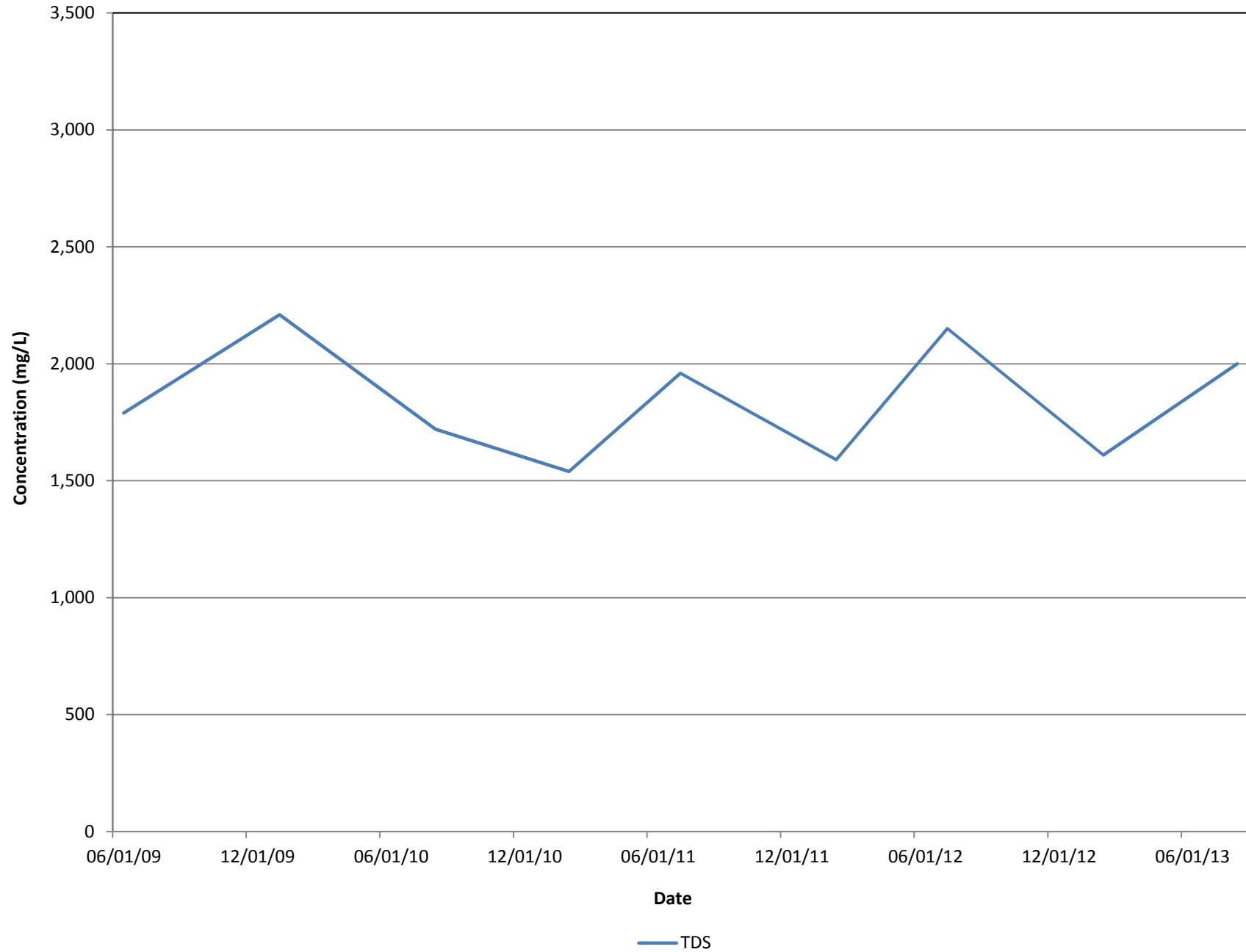
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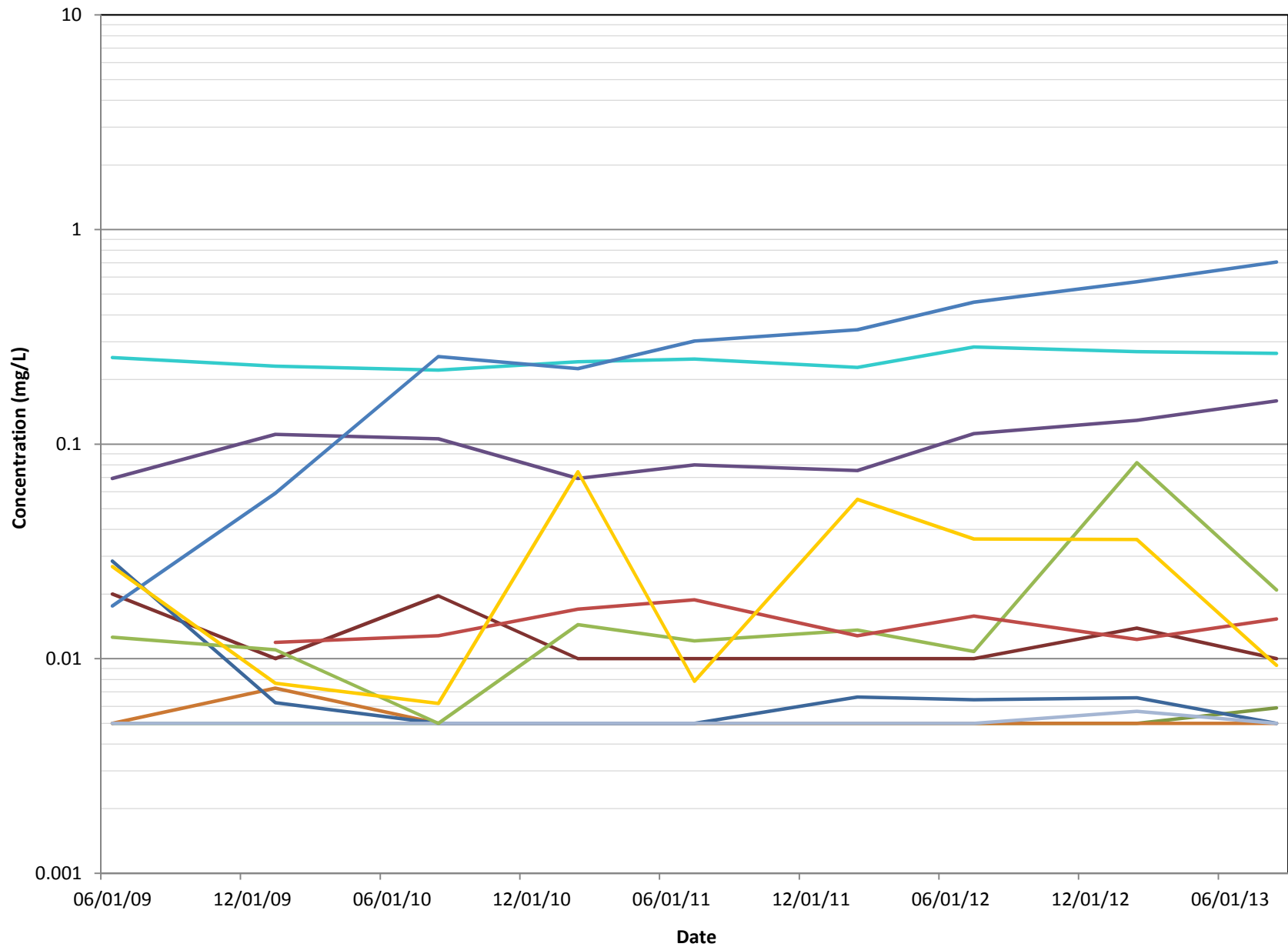
MW-13: ANION CONCENTRATIONS OVER TIME



MW-13: TDS CONCENTRATIONS OVER TIME

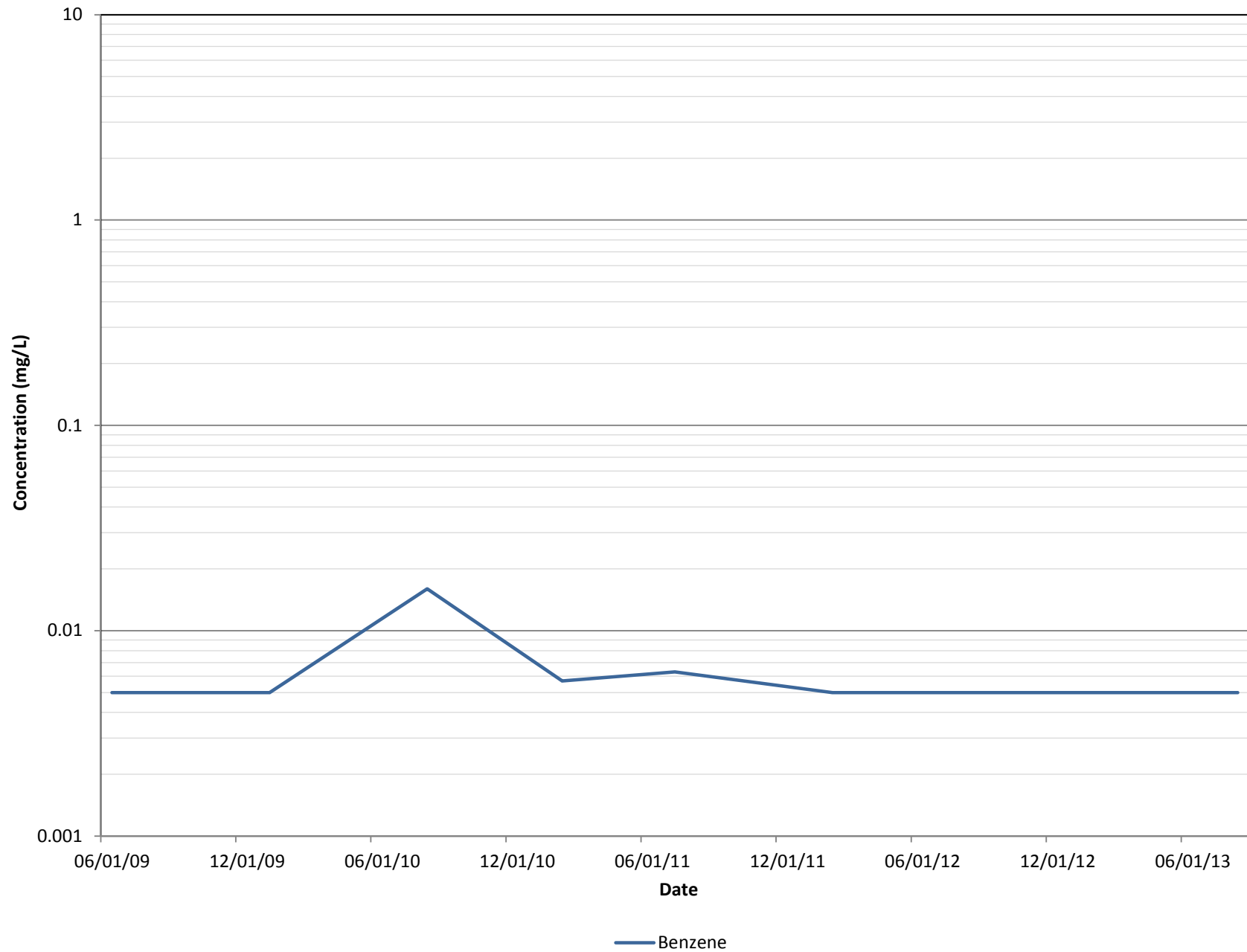


MW-13: METAL CONCENTRATIONS OVER TIME

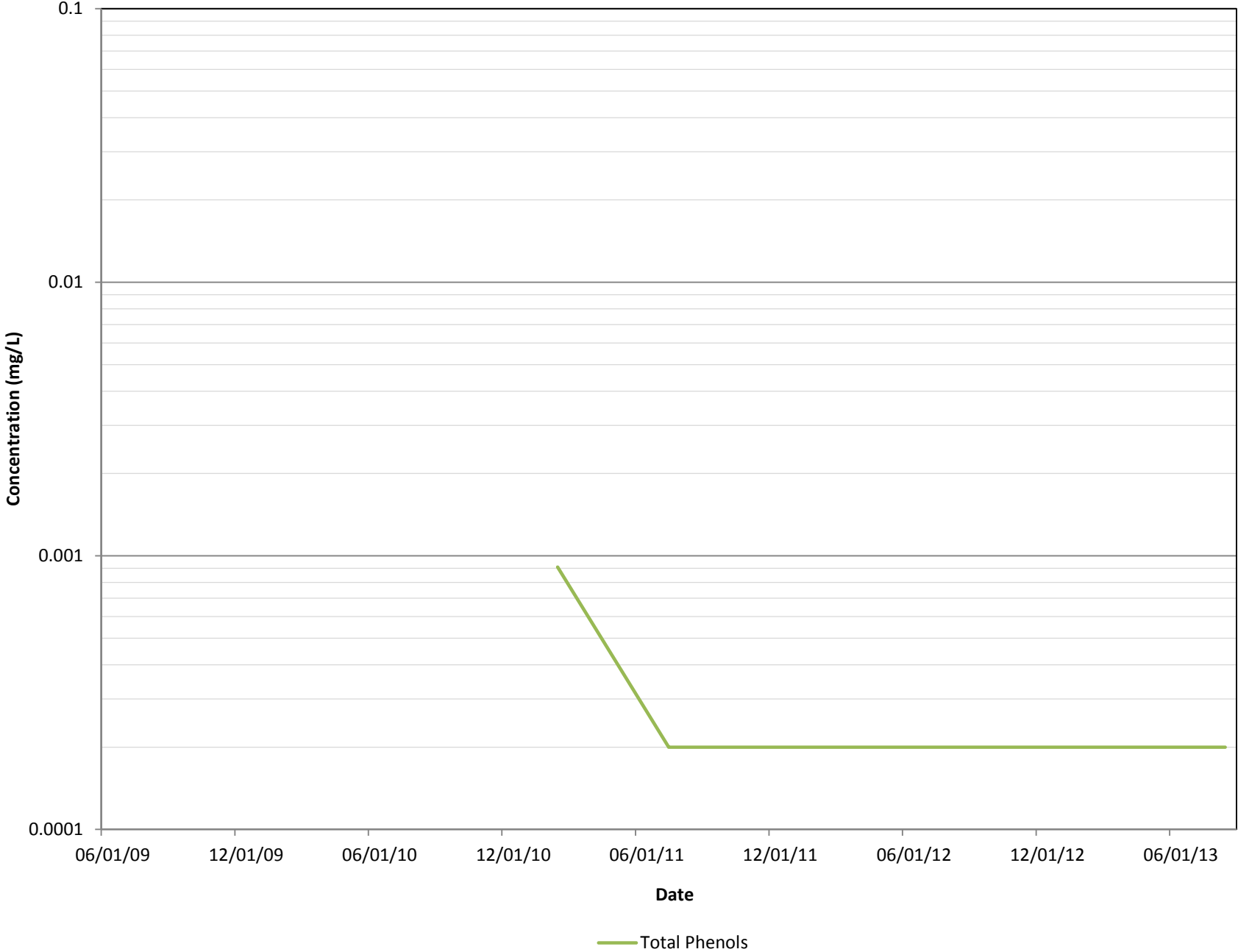


Aluminum Arsenic Barium Boron Chromium Cobalt Manganese Molybdenum Nickel Uranium Zinc

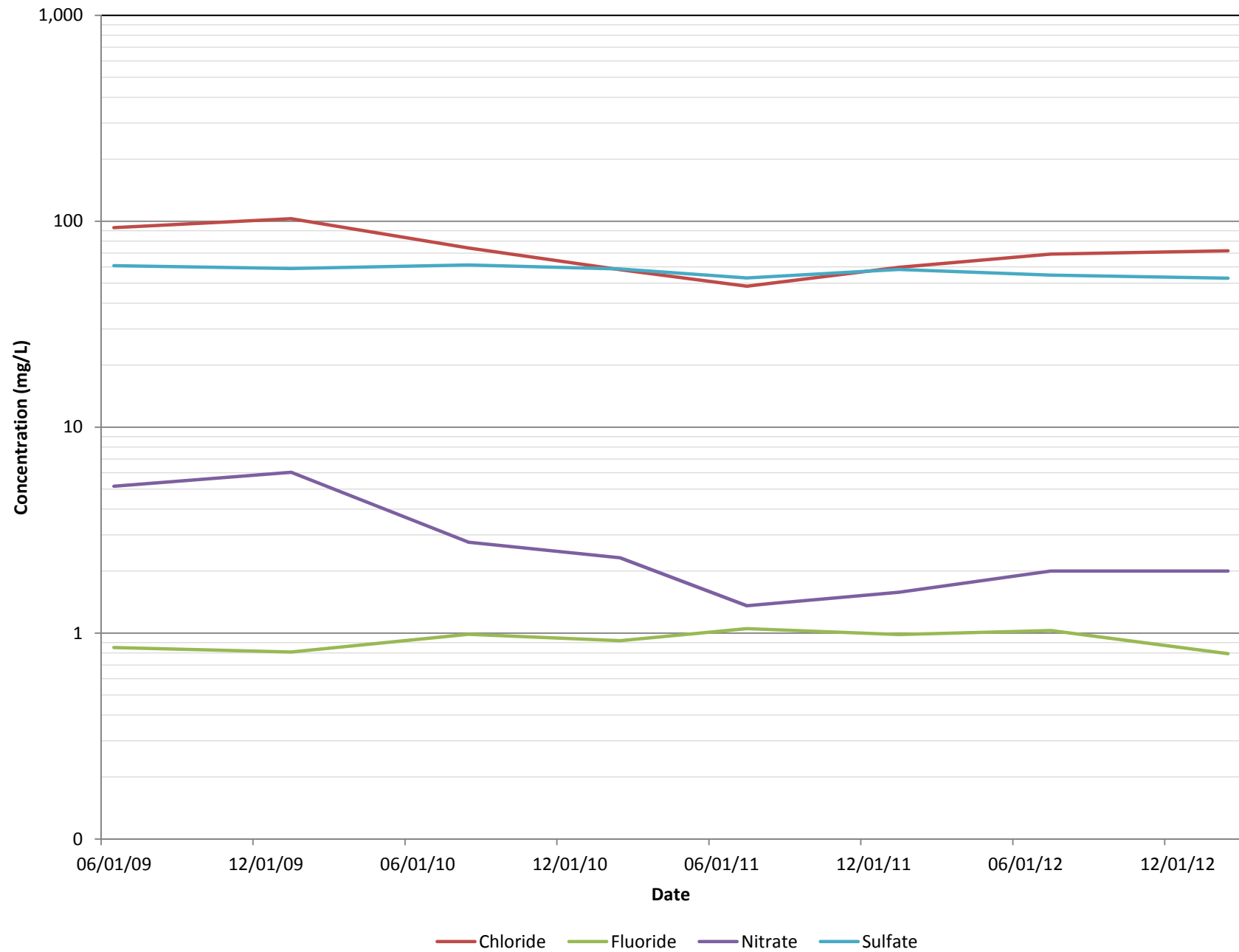
MW-13: VOC CONCENTRATIONS OVER TIME



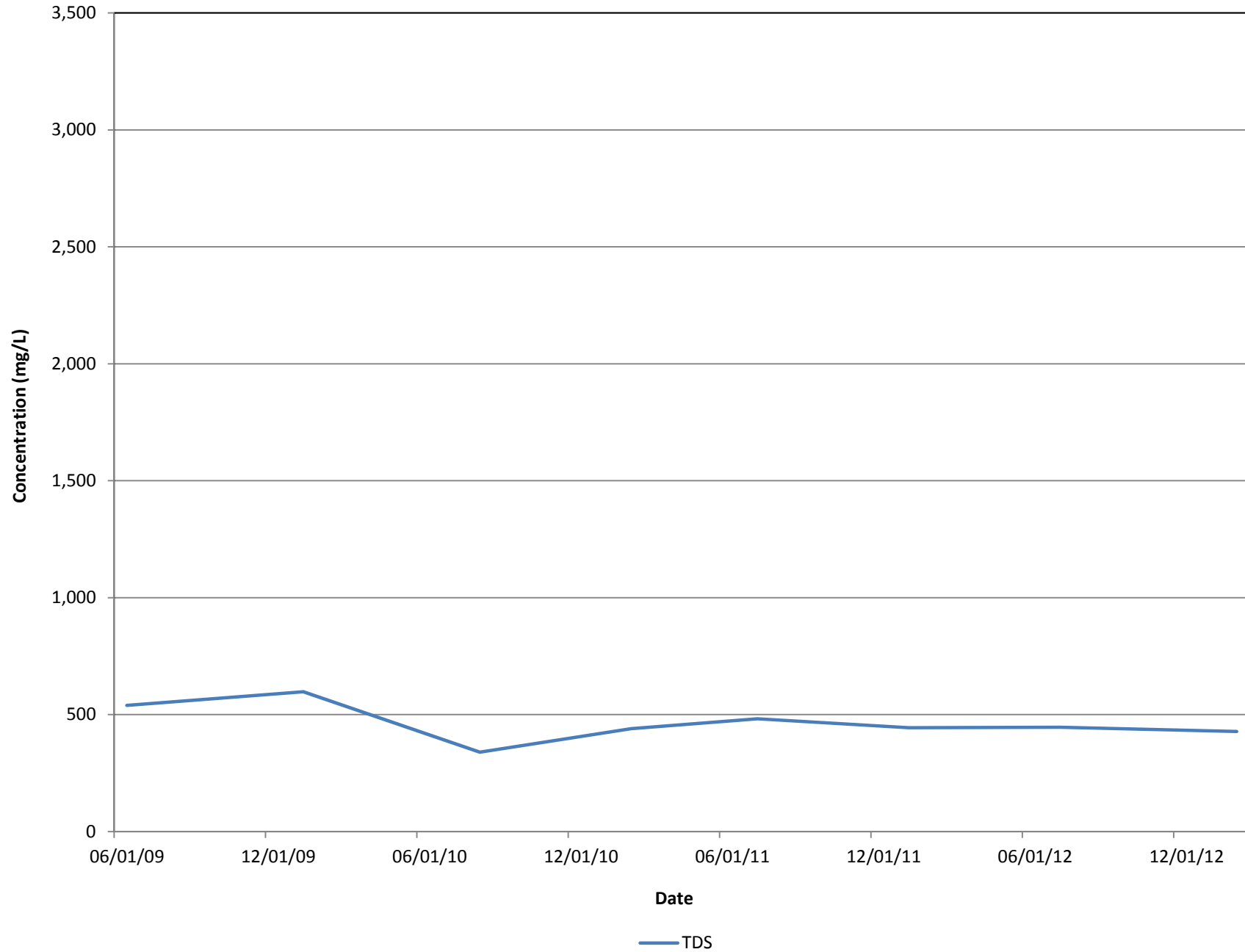
MW-13: SVOC CONCENTRATIONS OVER TIME



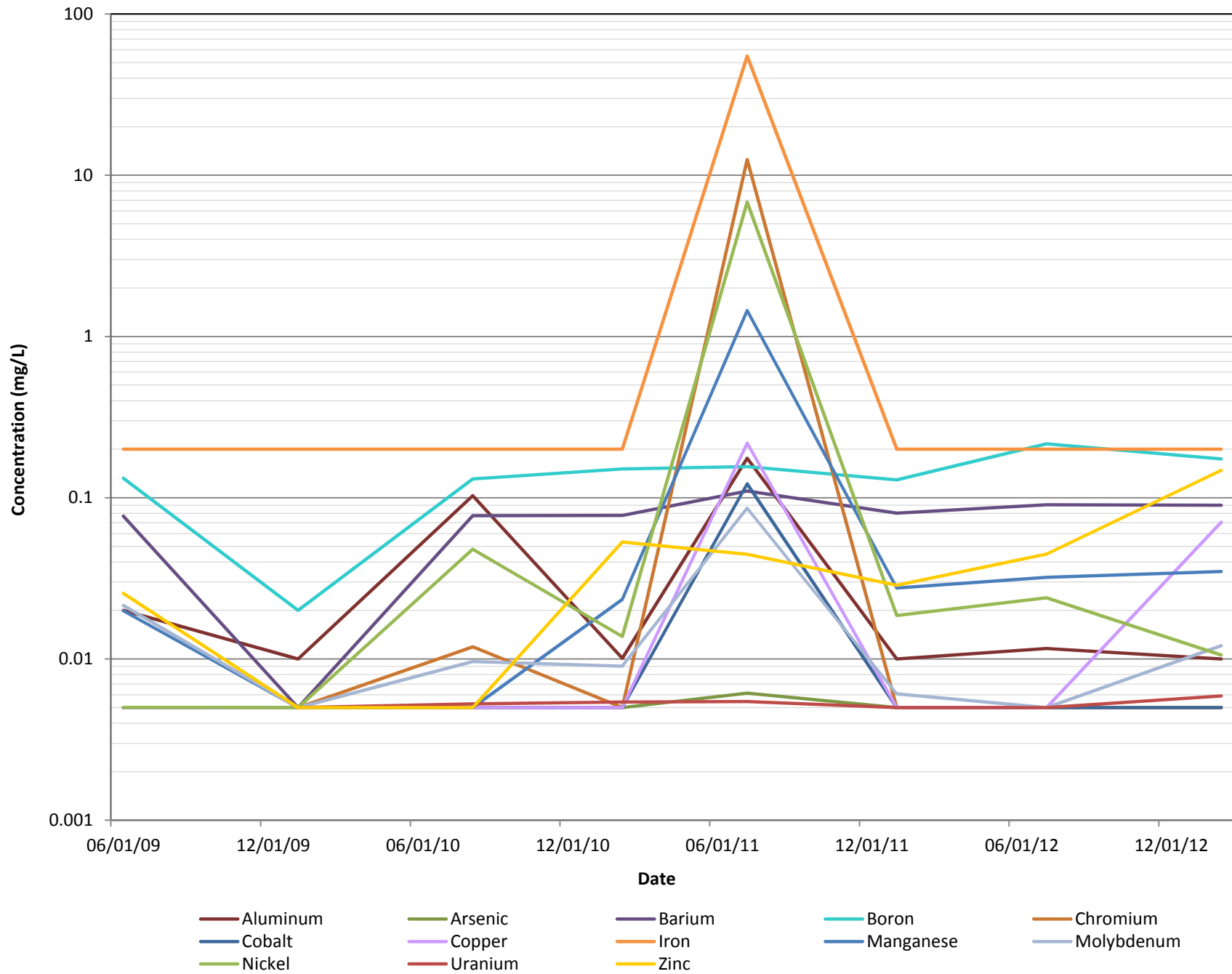
MW-14: ANION CONCENTRATIONS OVER TIME



MW-14: TDS CONCENTRATIONS OVER TIME



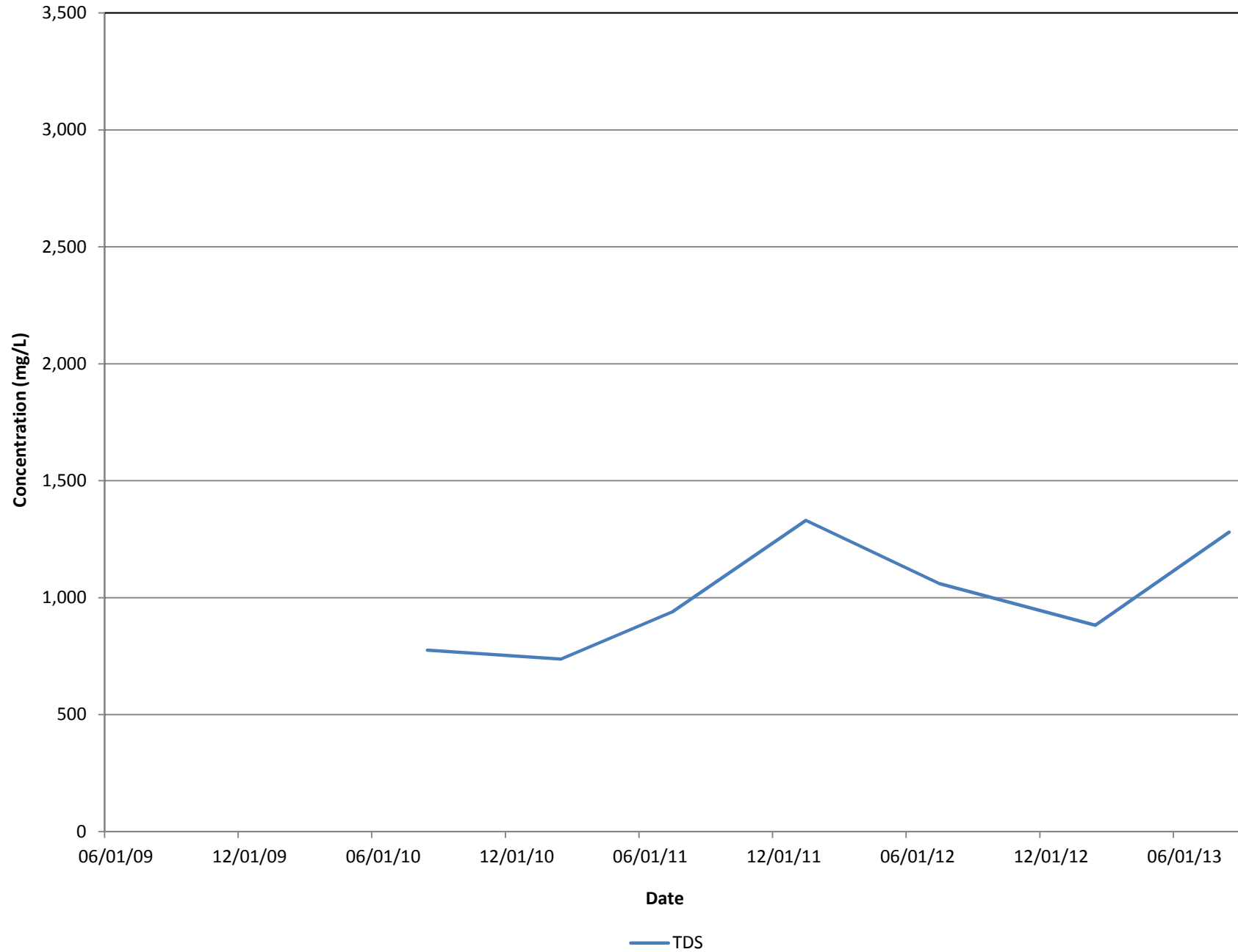
MW-14: METAL CONCENTRATIONS OVER TIME



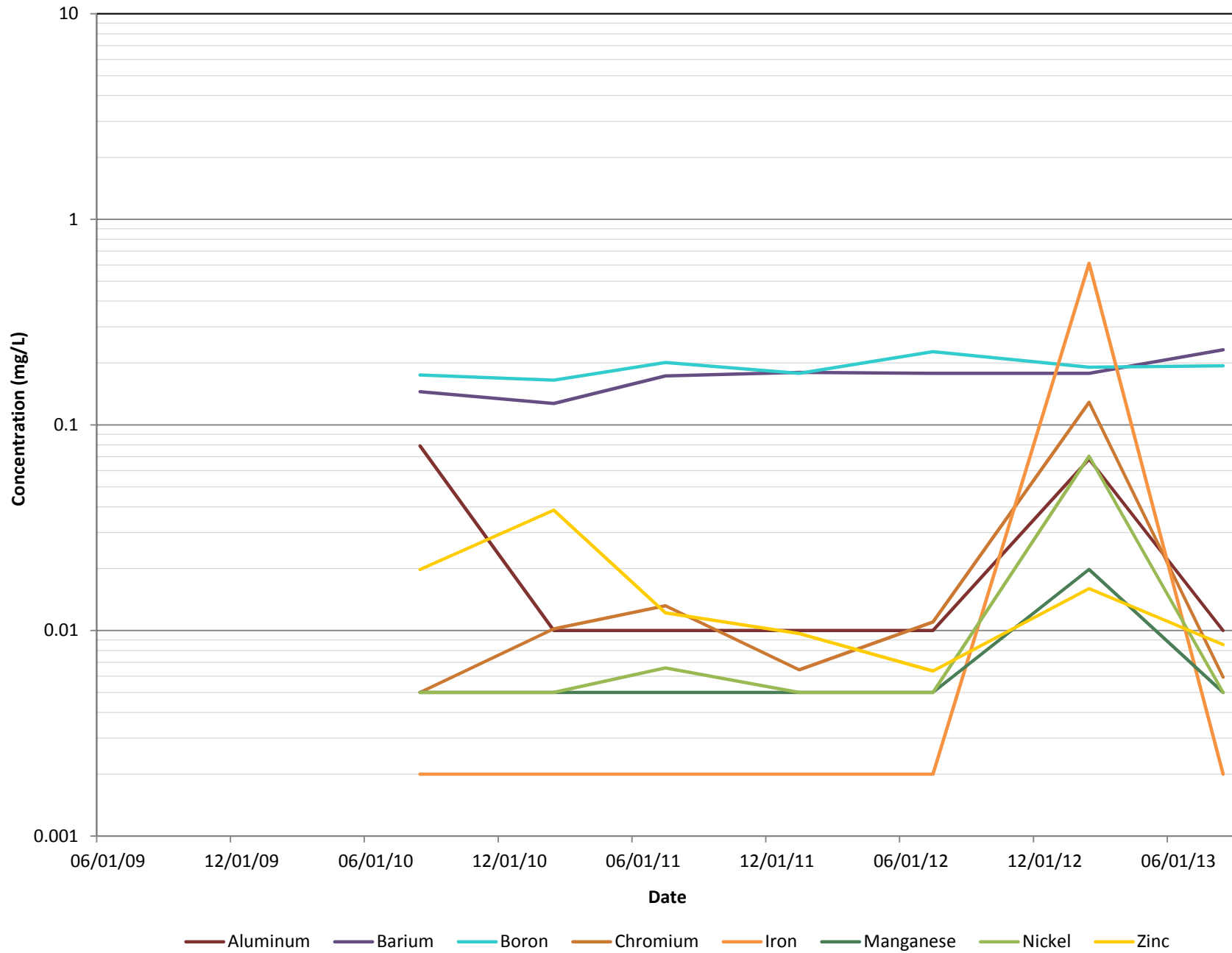
MW-15: ANION CONCENTRATIONS OVER TIME



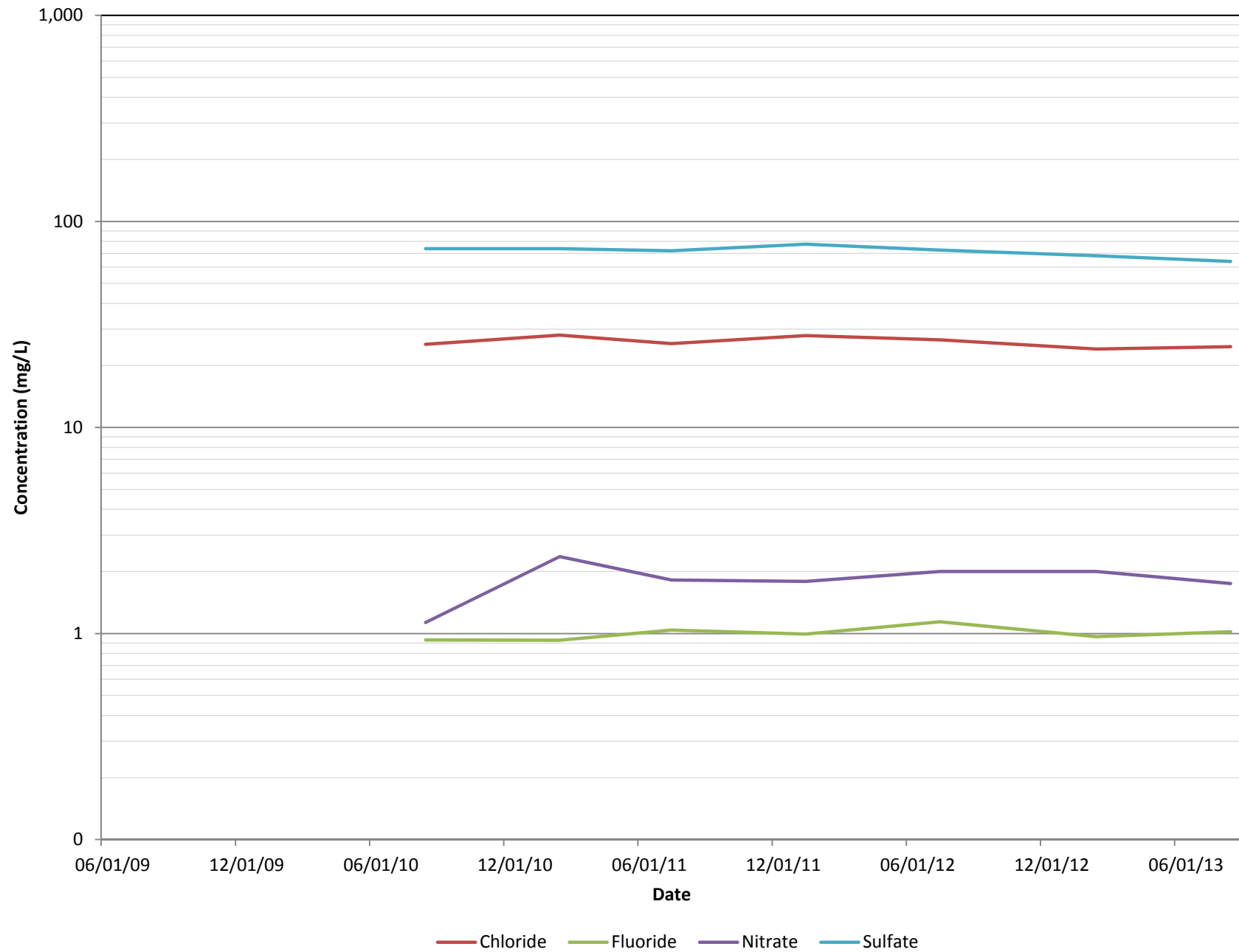
MW-15: TDS CONCENTRATIONS OVER TIME



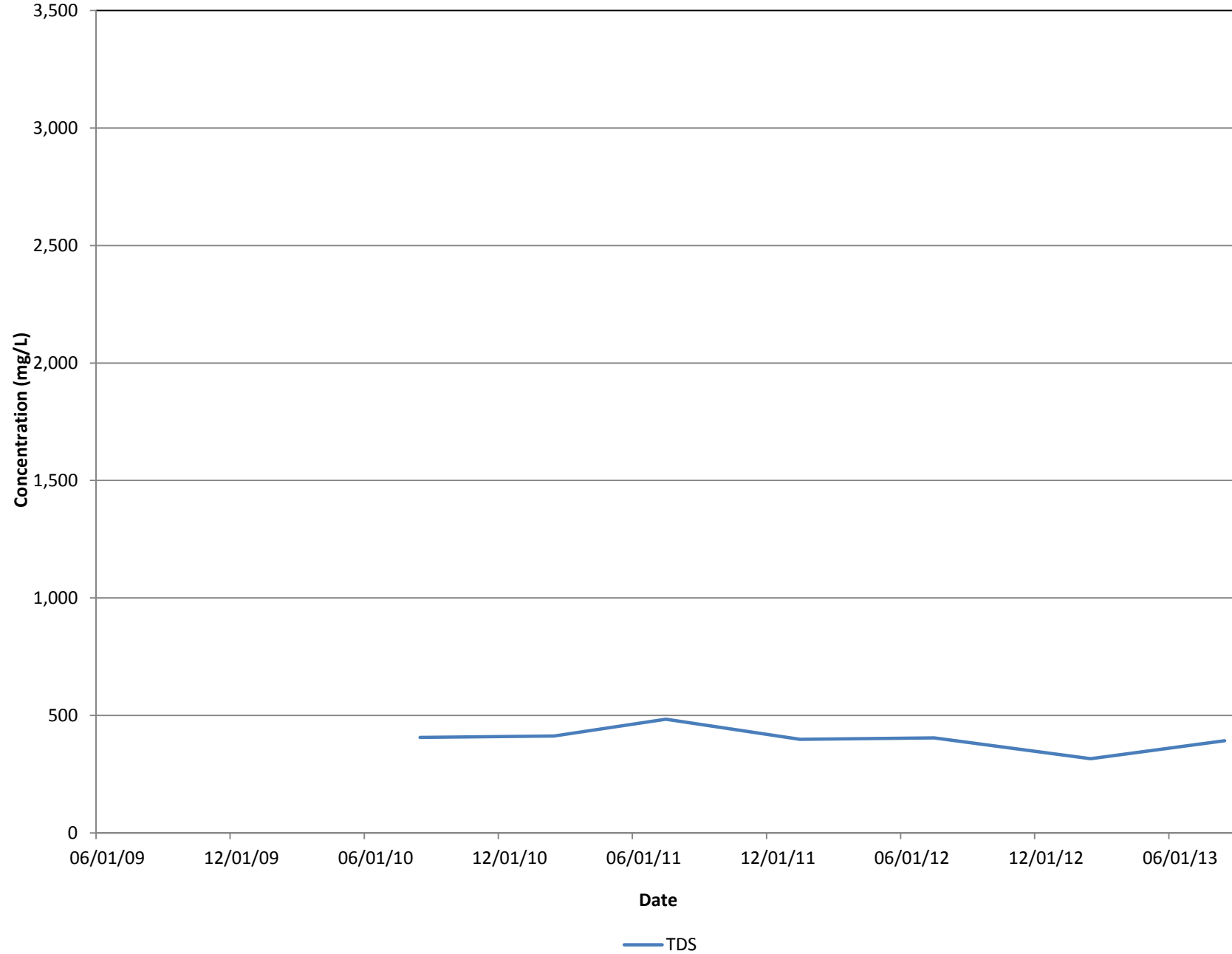
MW-15: METAL CONCENTRATIONS OVER TIME



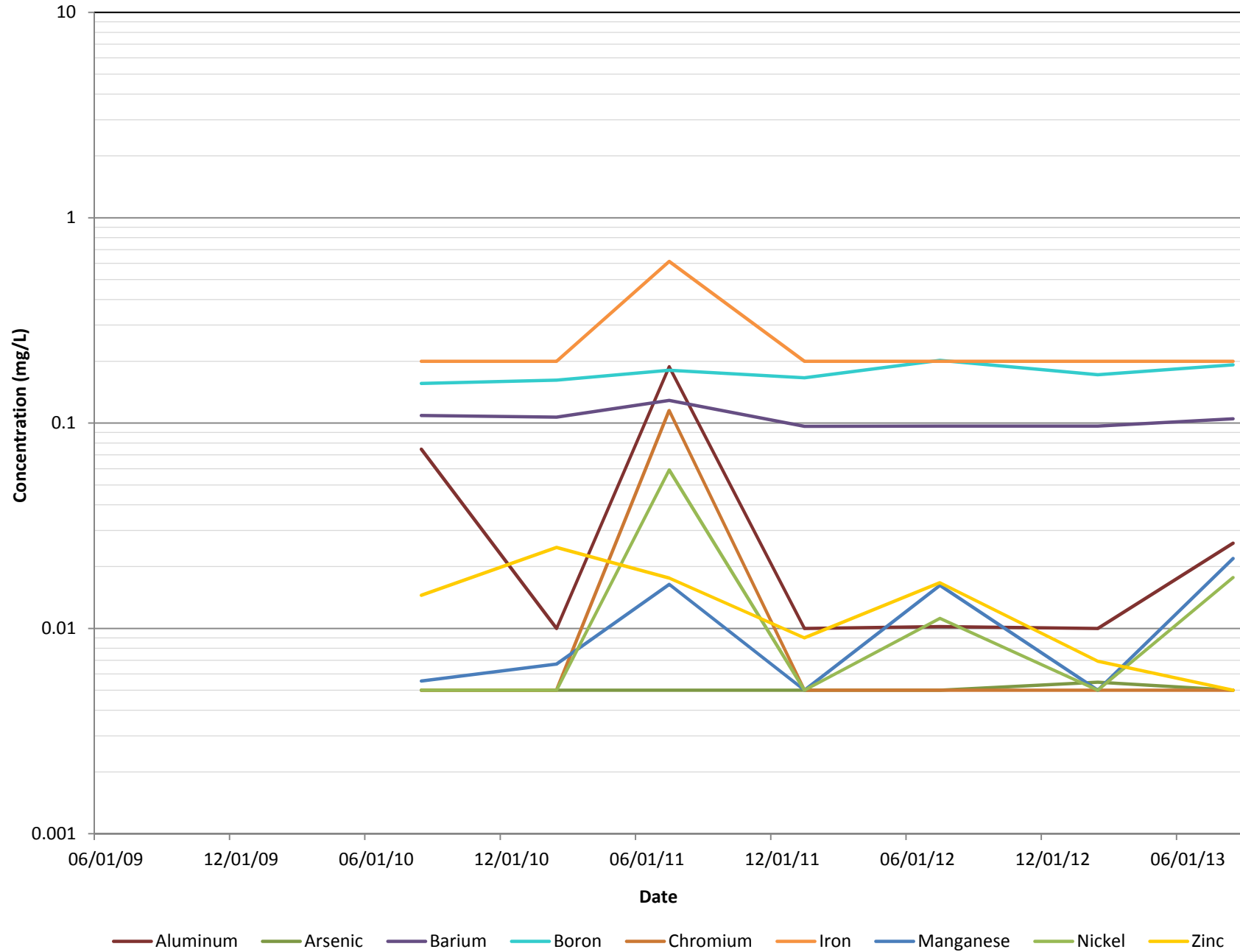
MW-16: ANION CONCENTRATIONS OVER TIME



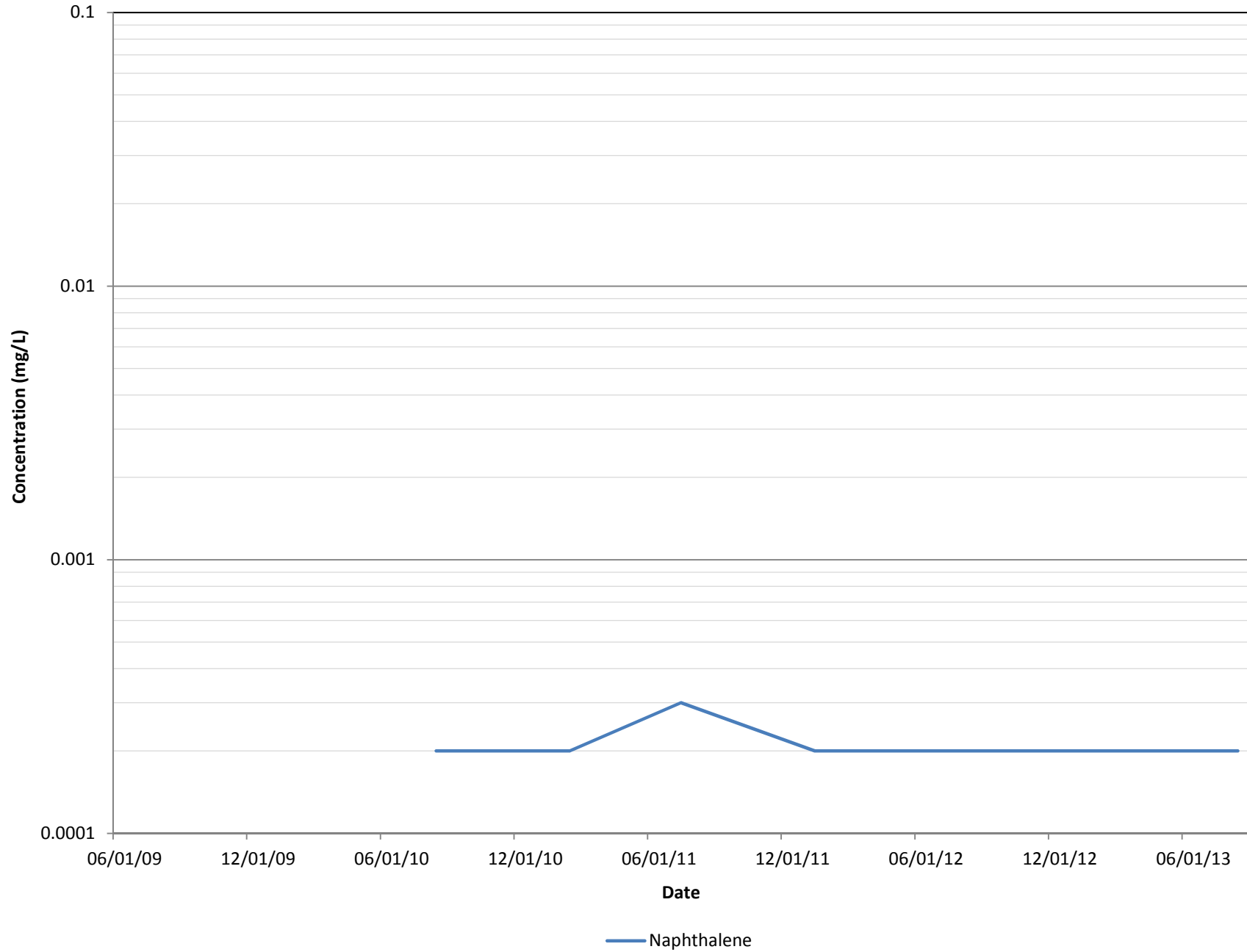
MW-16: TDS CONCENTRATIONS OVER TIME



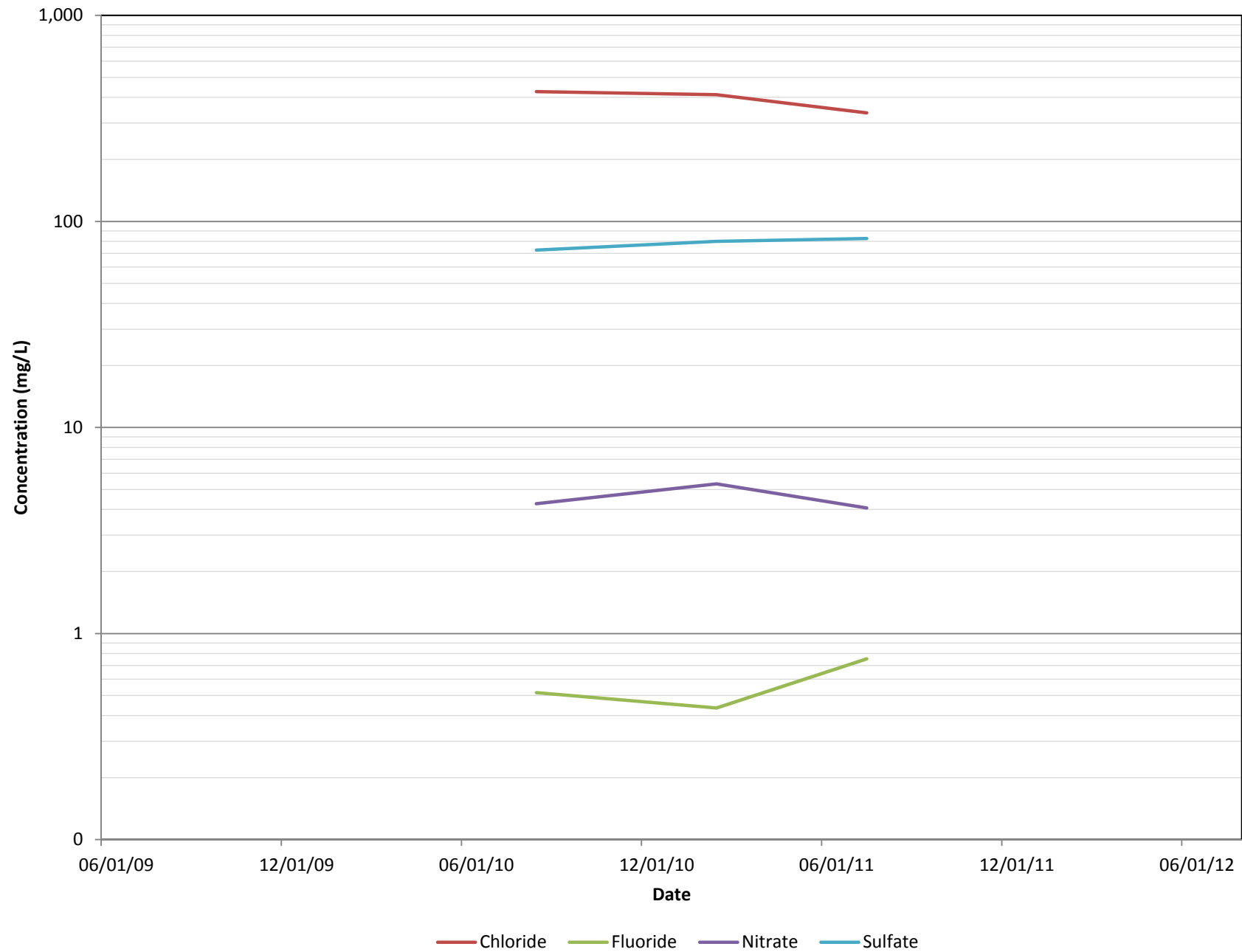
MW-16: METAL CONCENTRATIONS OVER TIME



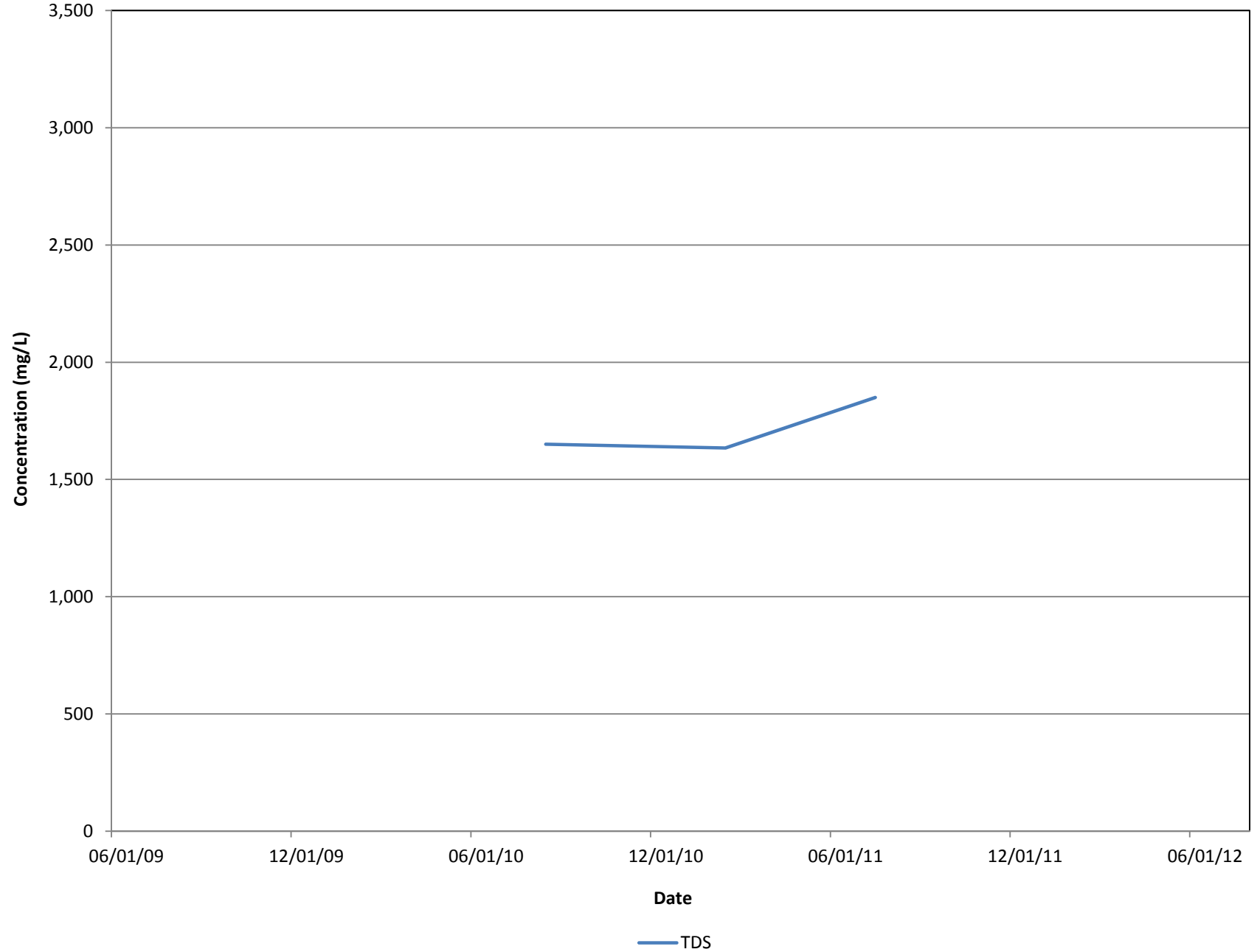
MW-16: SVOC CONCENTRATIONS OVER TIME



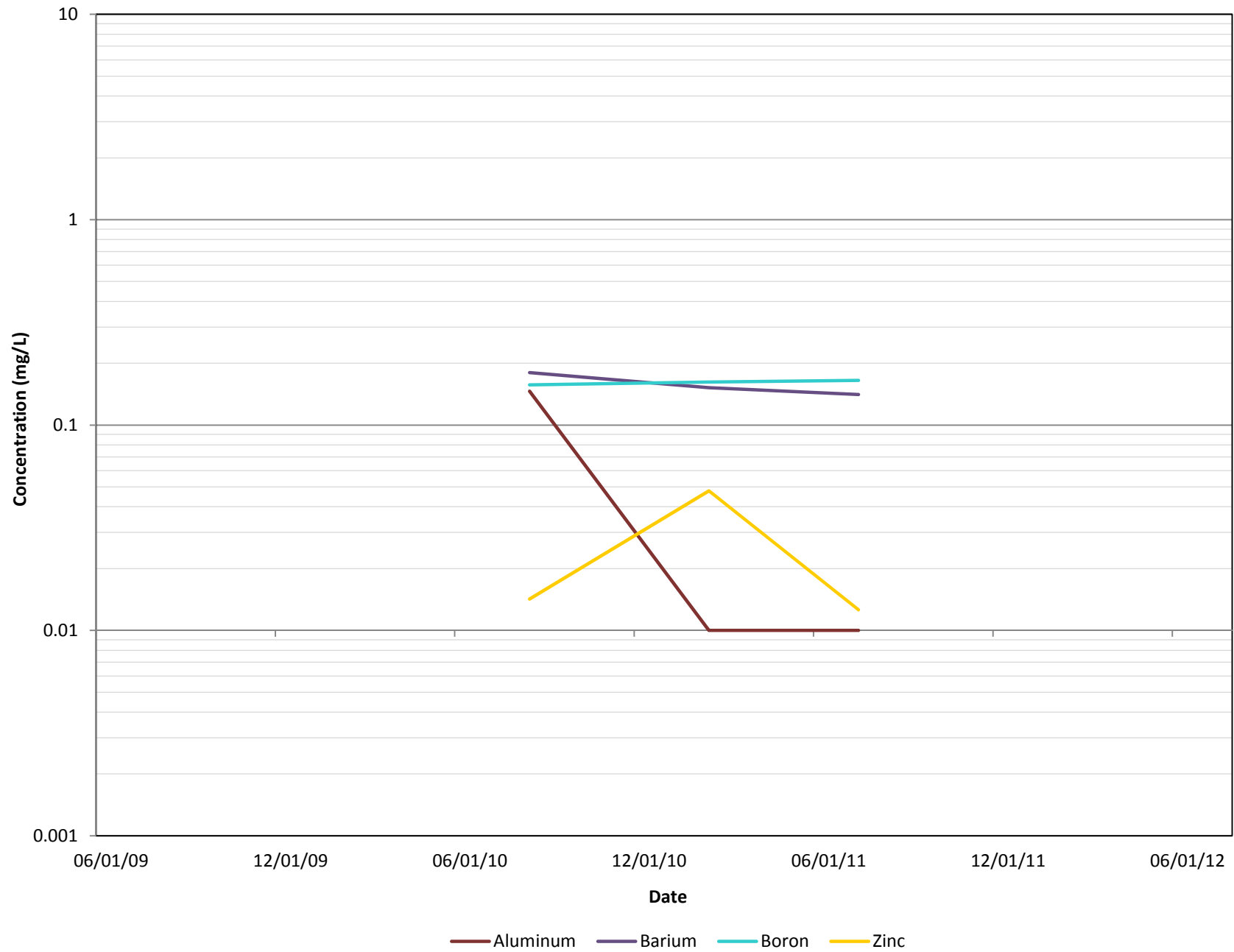
MW-17: ANION CONCENTRATIONS OVER TIME



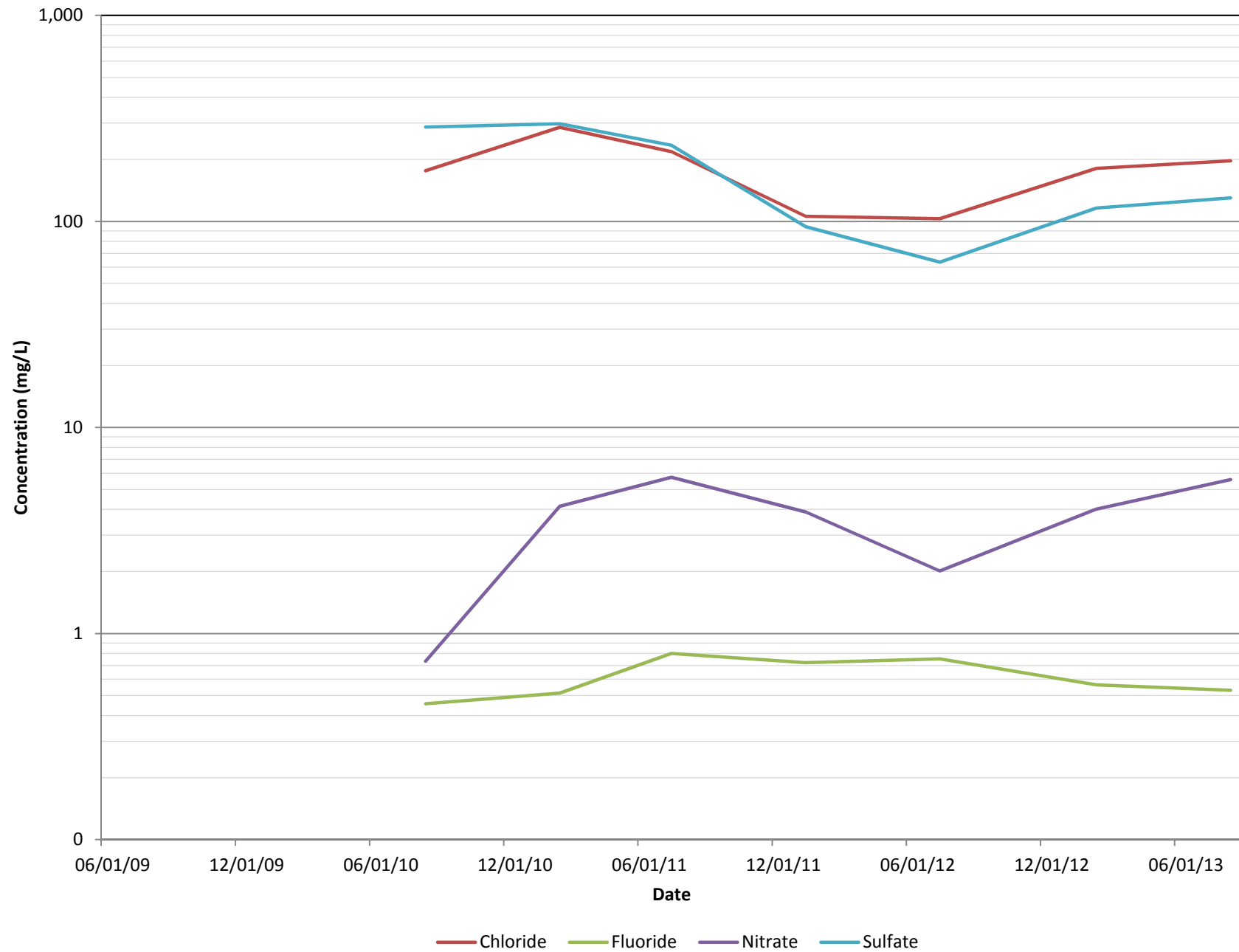
MW-17: TDS CONCENTRATIONS OVER TIME



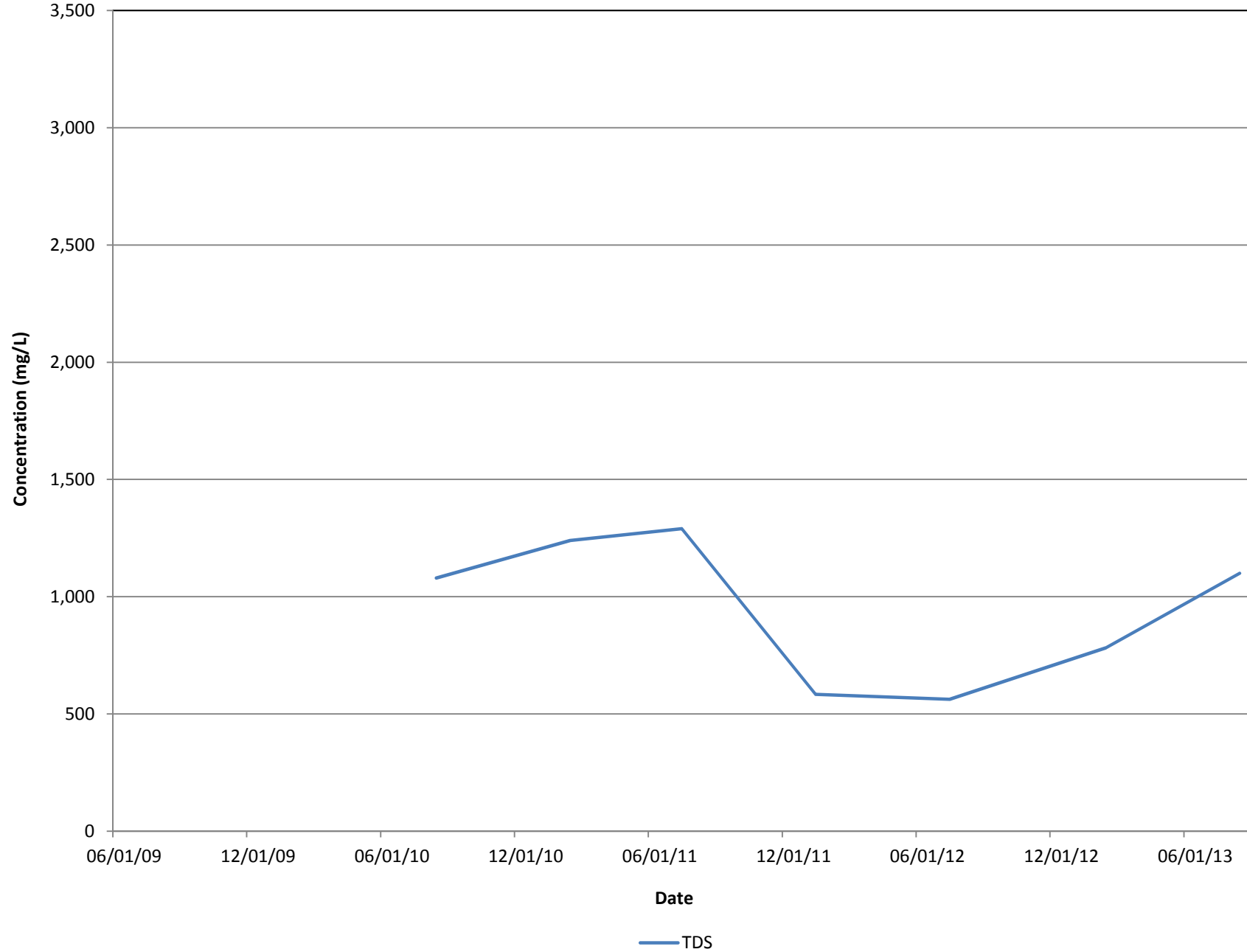
MW-17: METAL CONCENTRATIONS OVER TIME



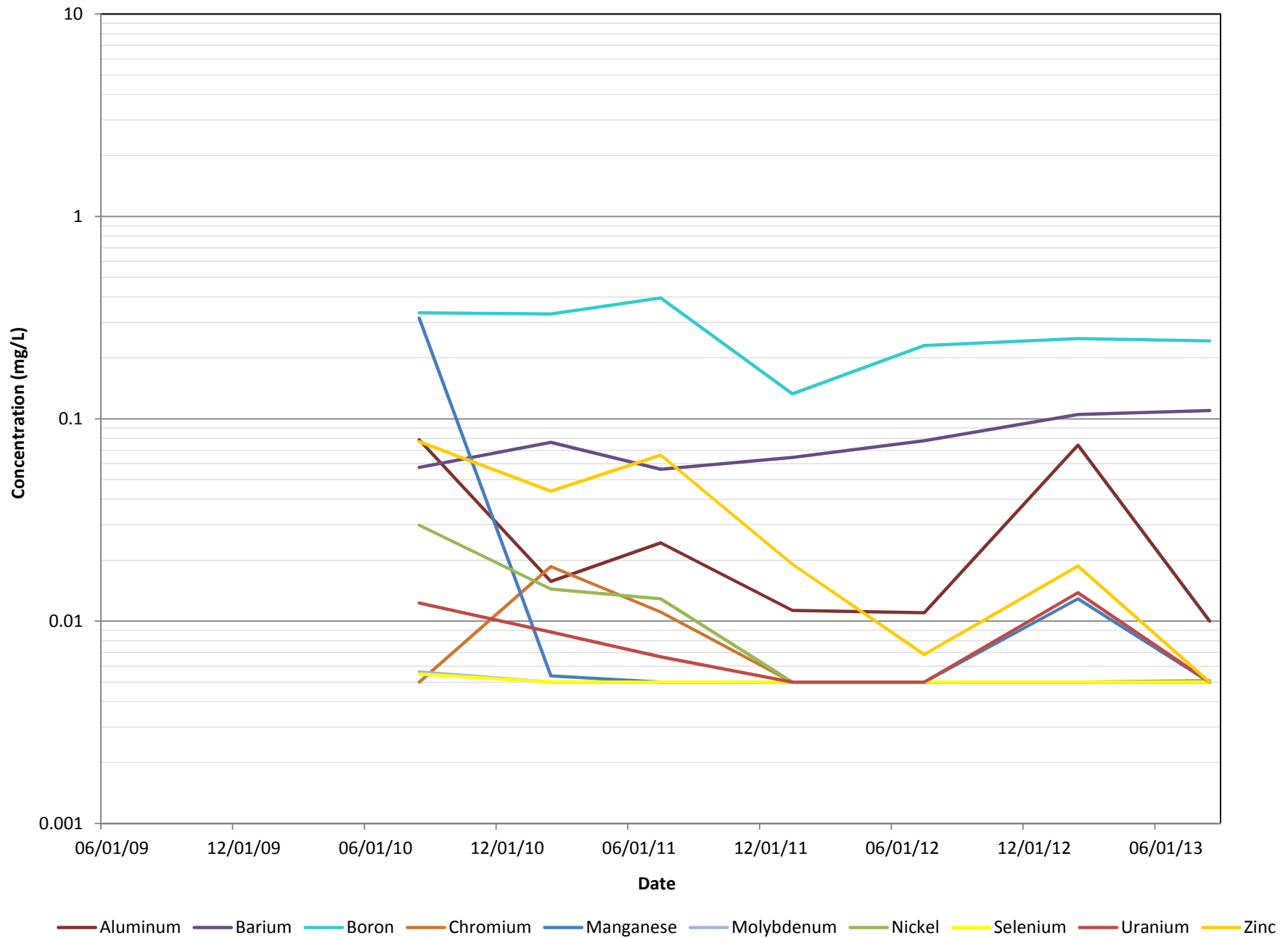
MW-18: ANION CONCENTRATIONS OVER TIME



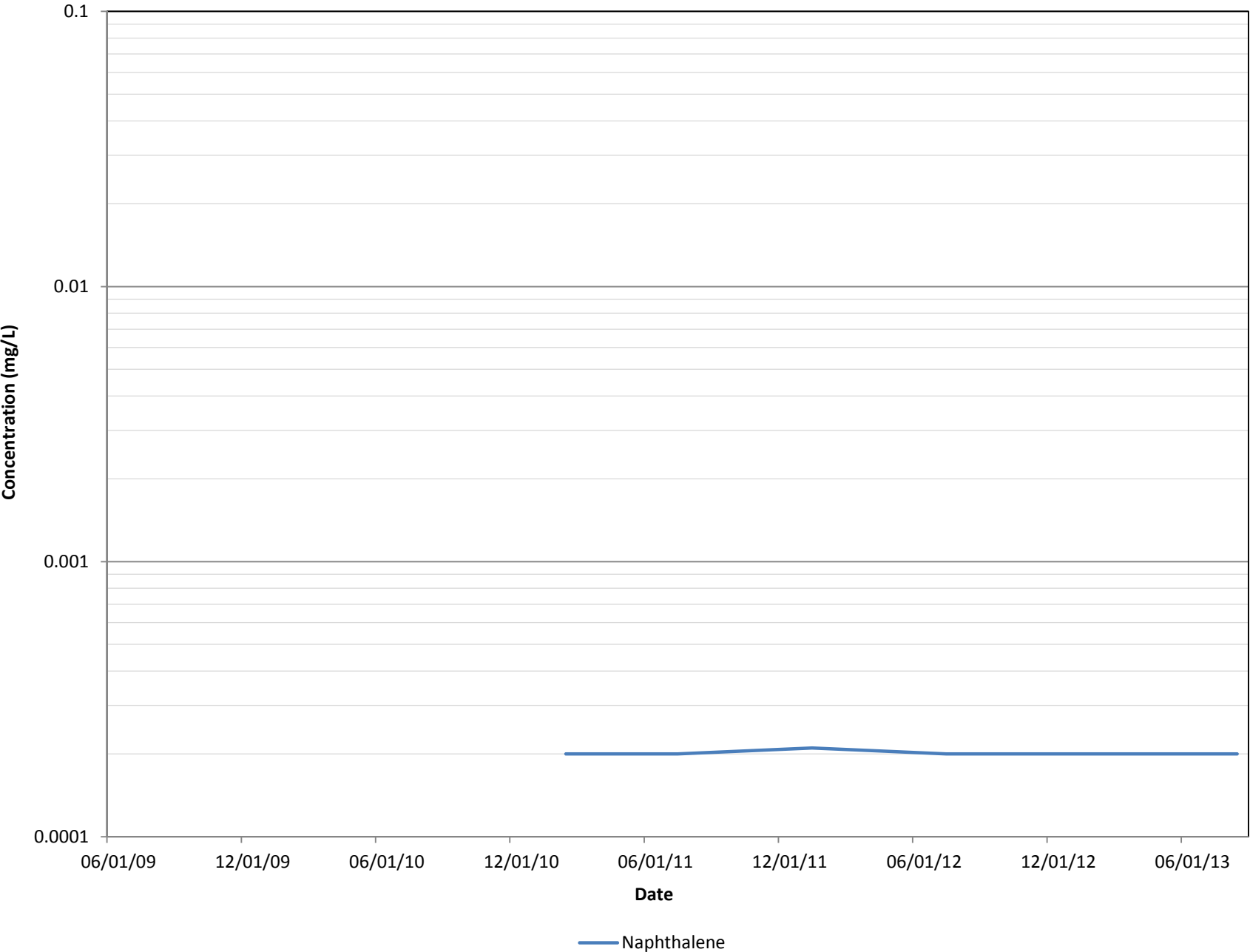
MW-18: TDS CONCENTRATIONS OVER TIME



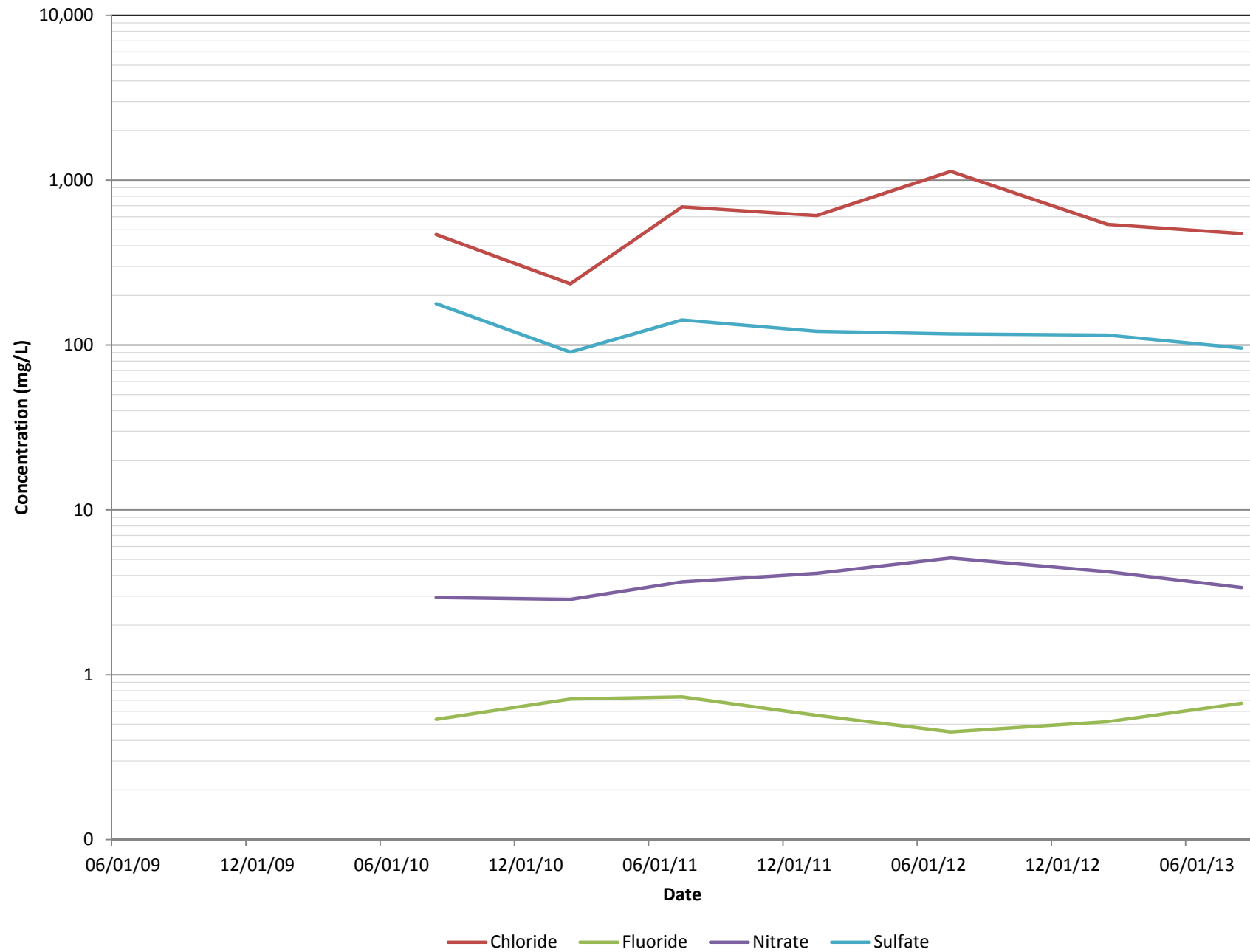
MW-18: METAL CONCENTRATIONS OVER TIME



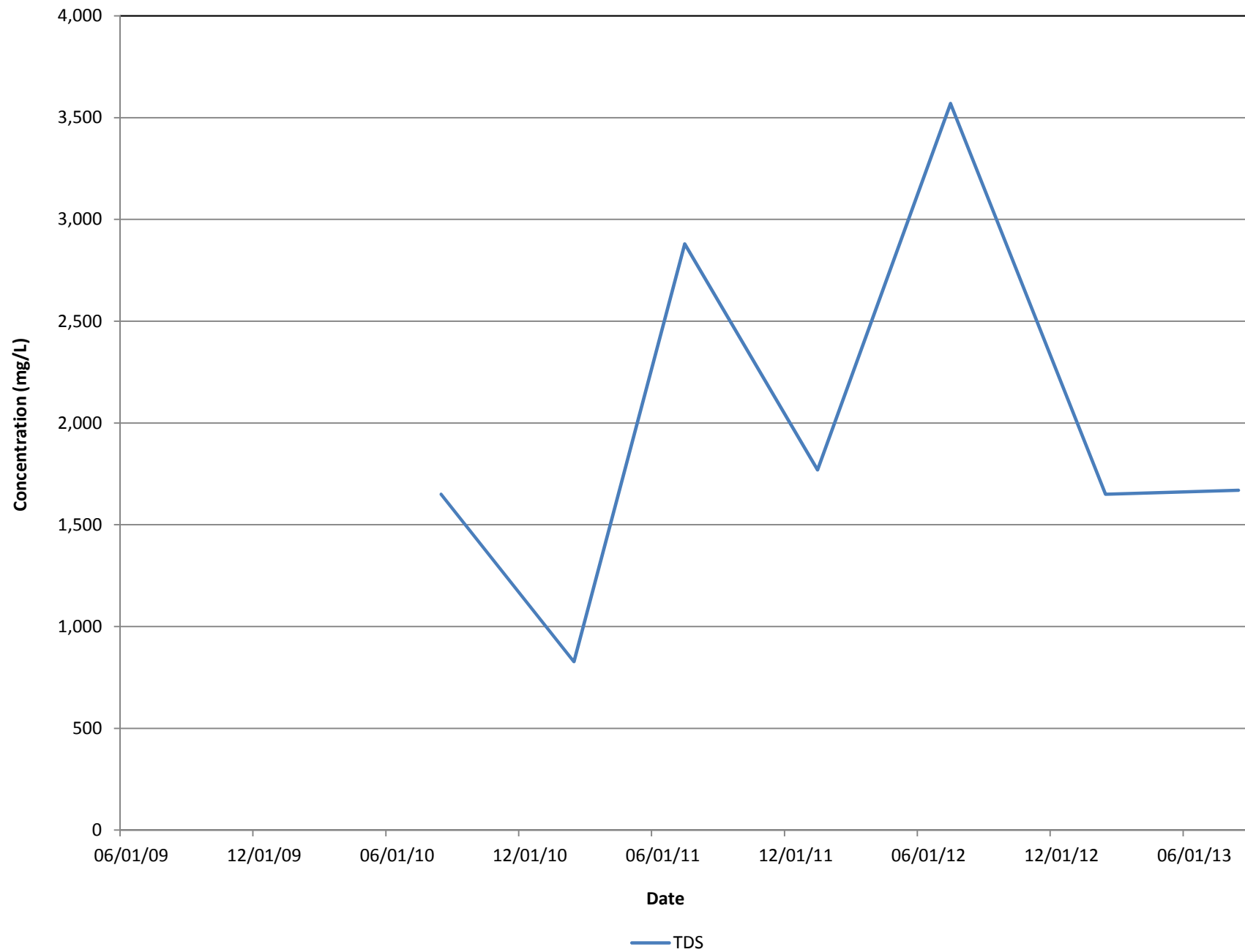
MW-18: SVOC CONCENTRATIONS OVER TIME



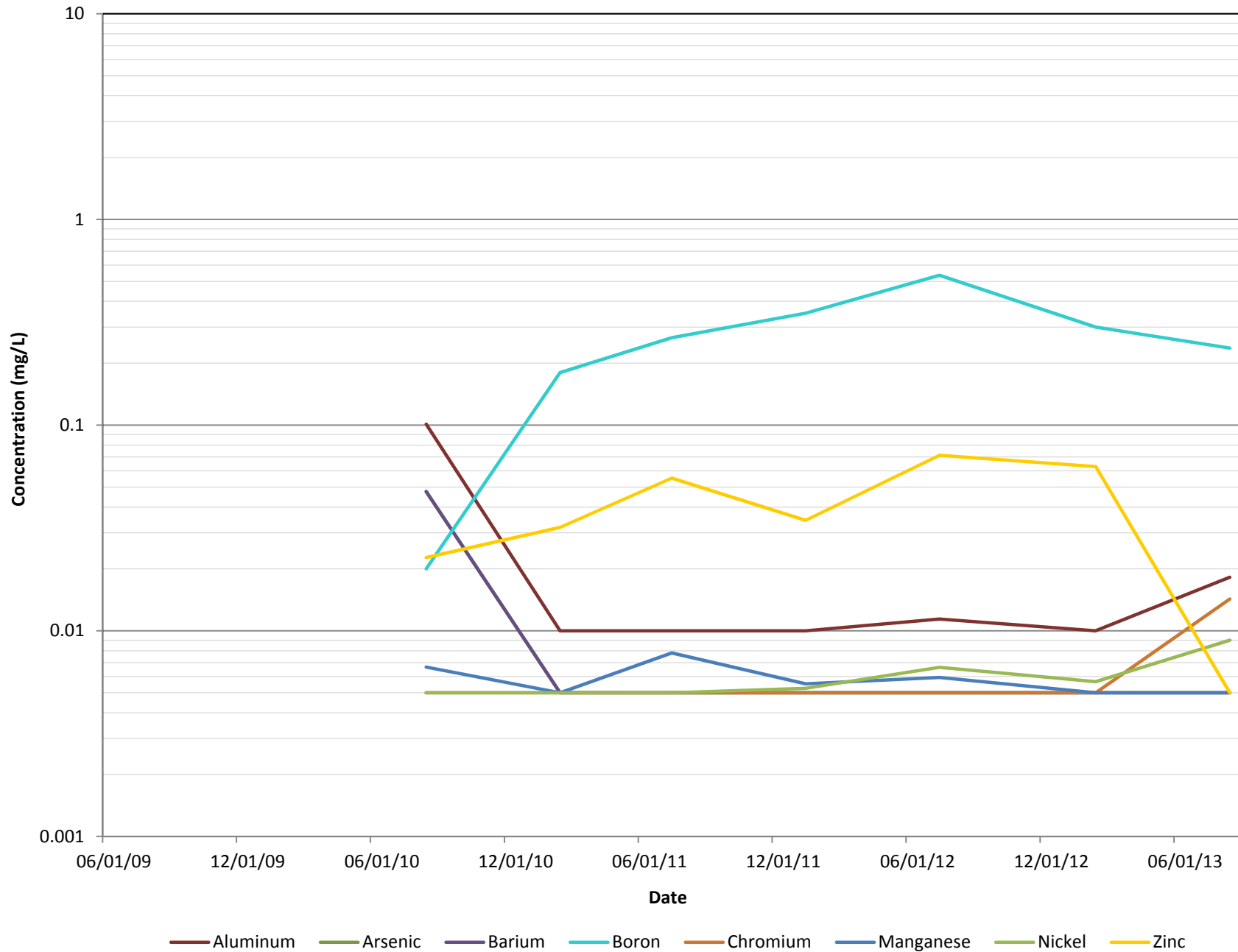
MW-19: ANION CONCENTRATIONS OVER TIME



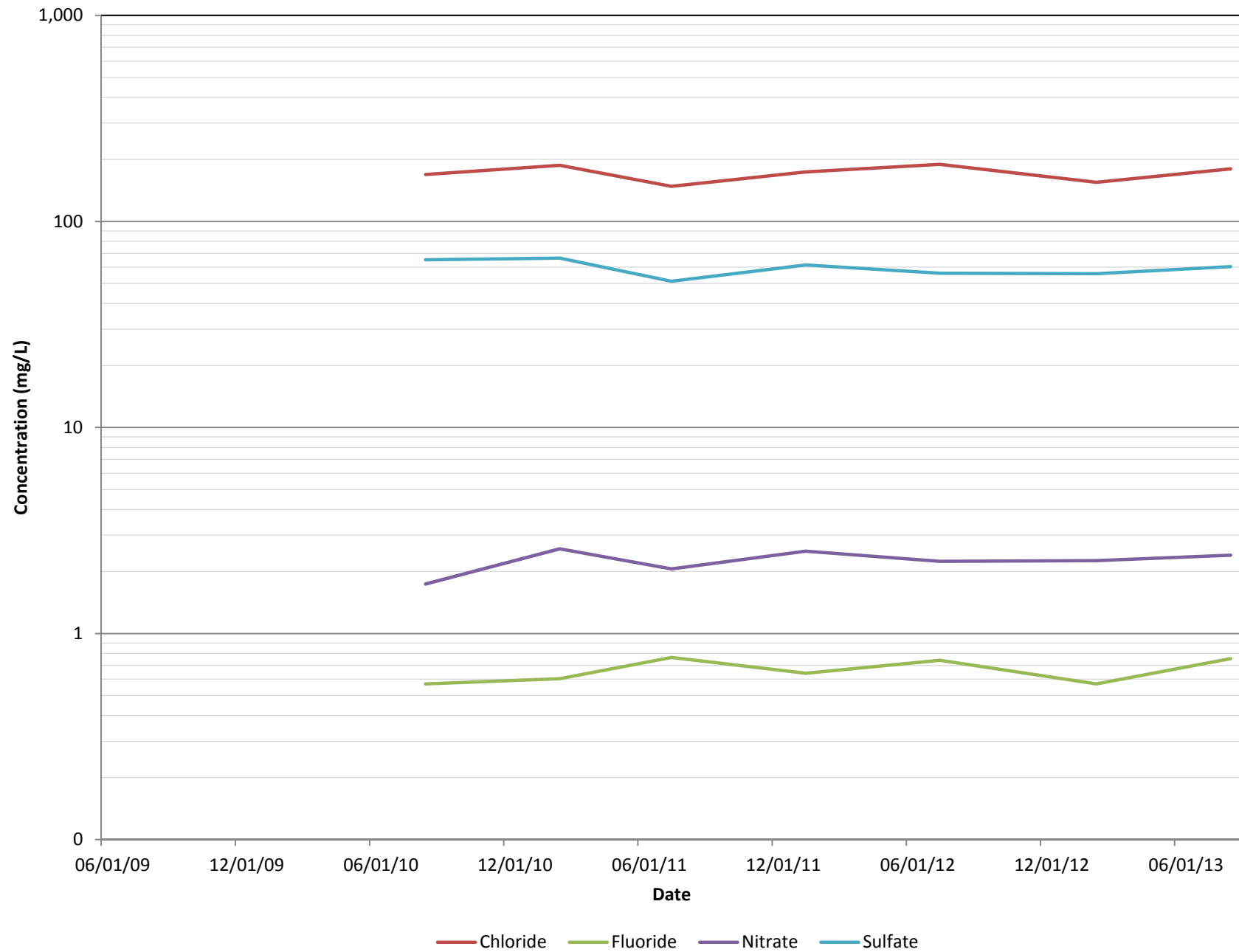
MW-19: TDS CONCENTRATIONS OVER TIME



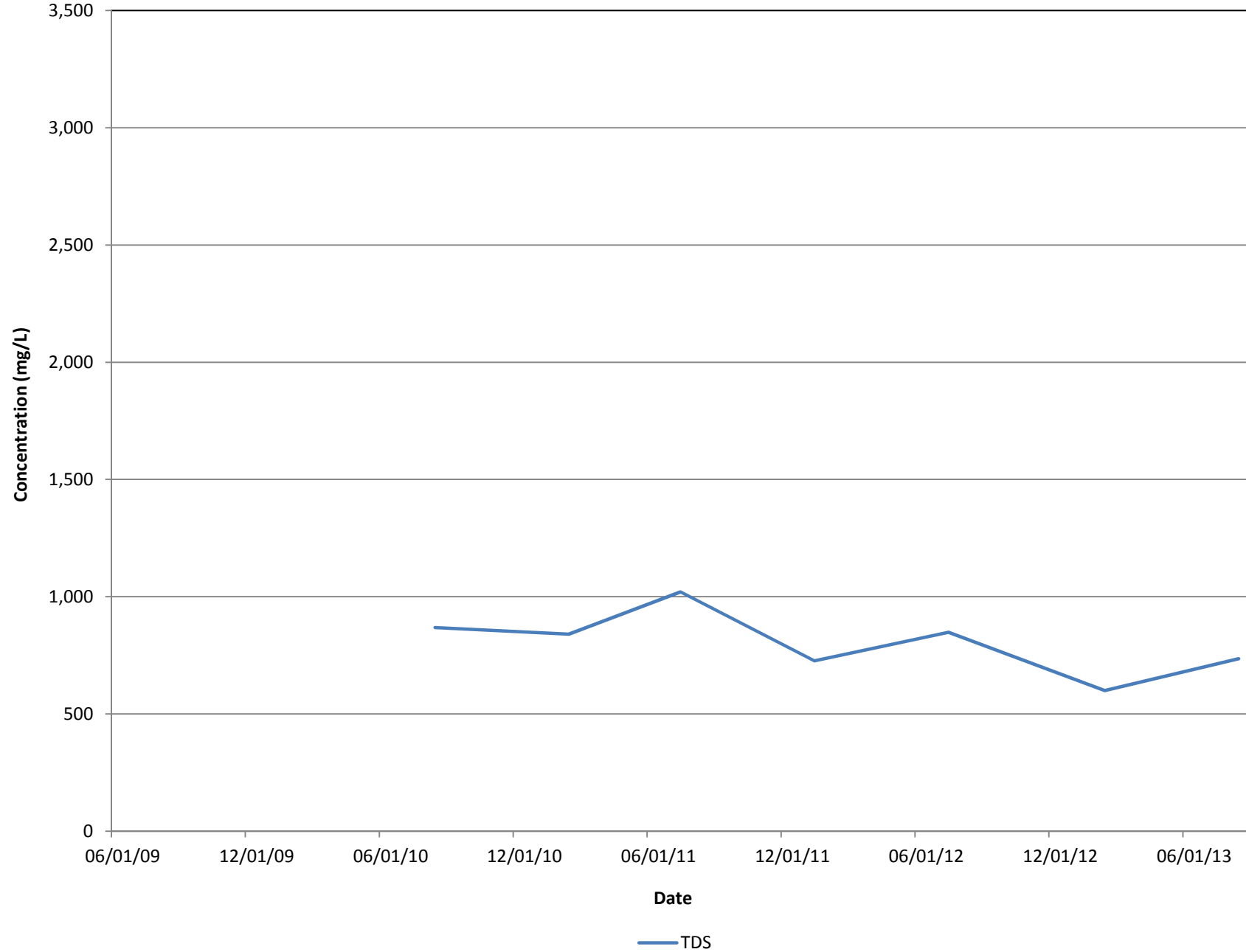
MW-19: METAL CONCENTRATIONS OVER TIME



MW-20: ANION CONCENTRATIONS OVER TIME



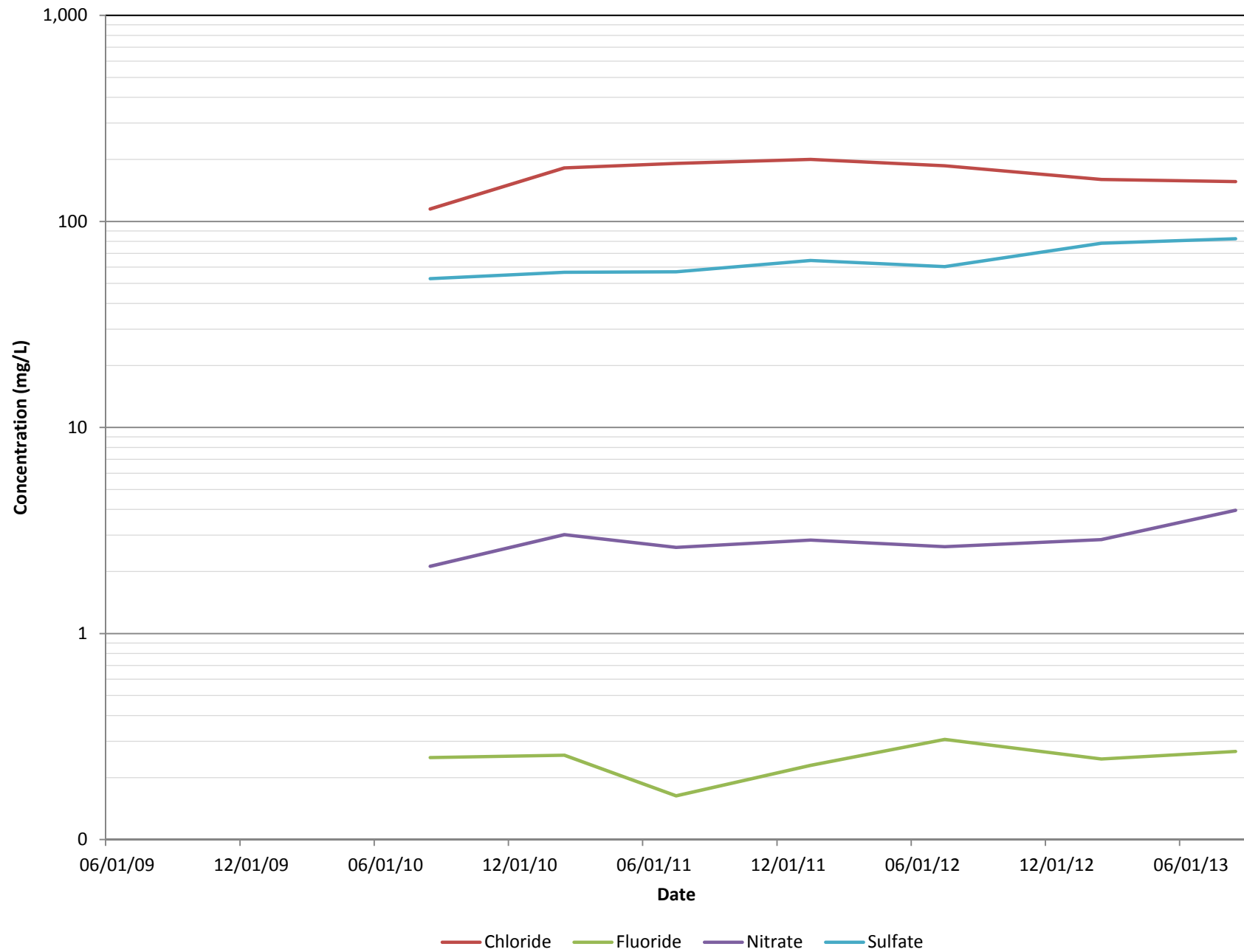
MW-20: TDS CONCENTRATIONS OVER TIME



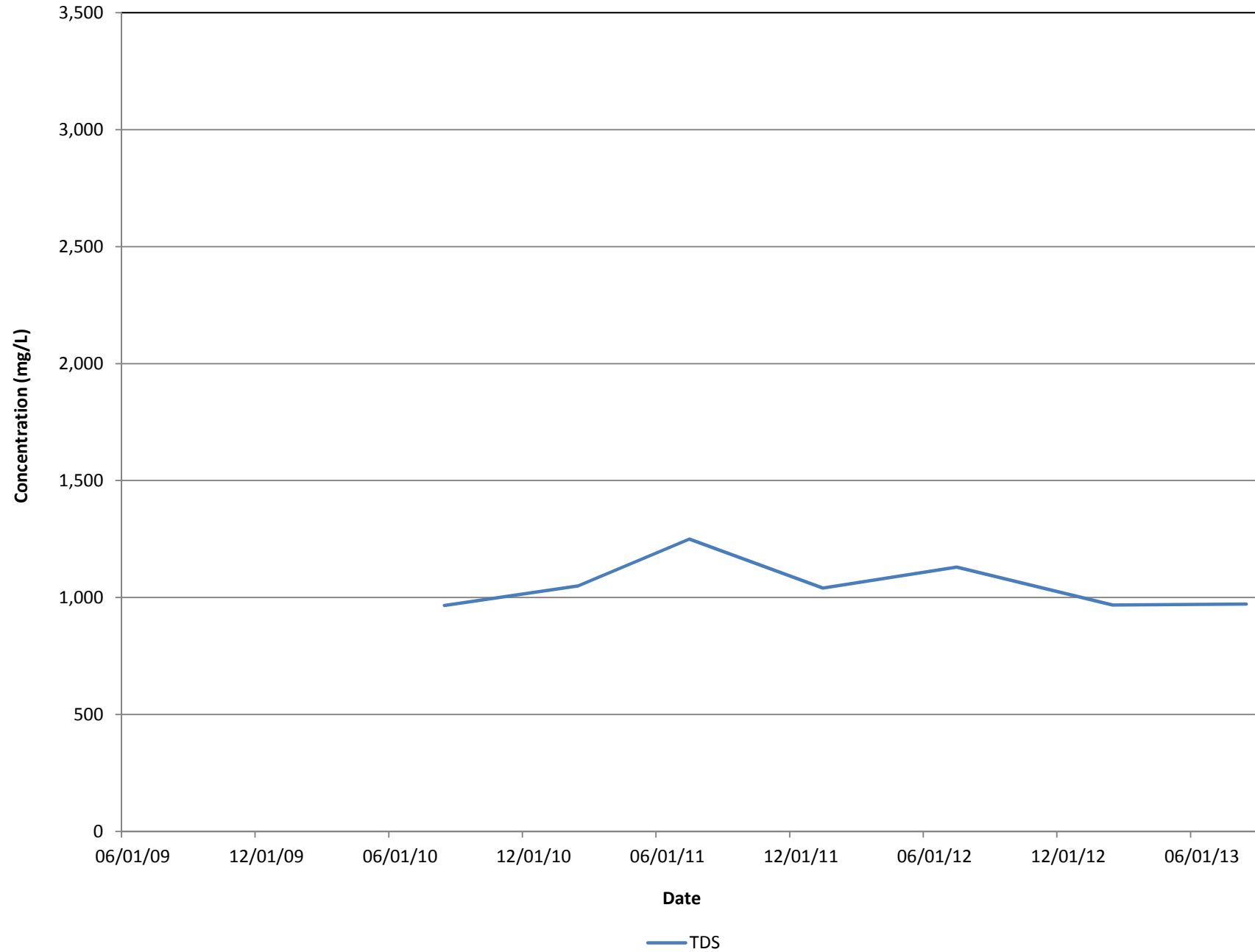
MW-20: METAL CONCENTRATIONS OVER TIME



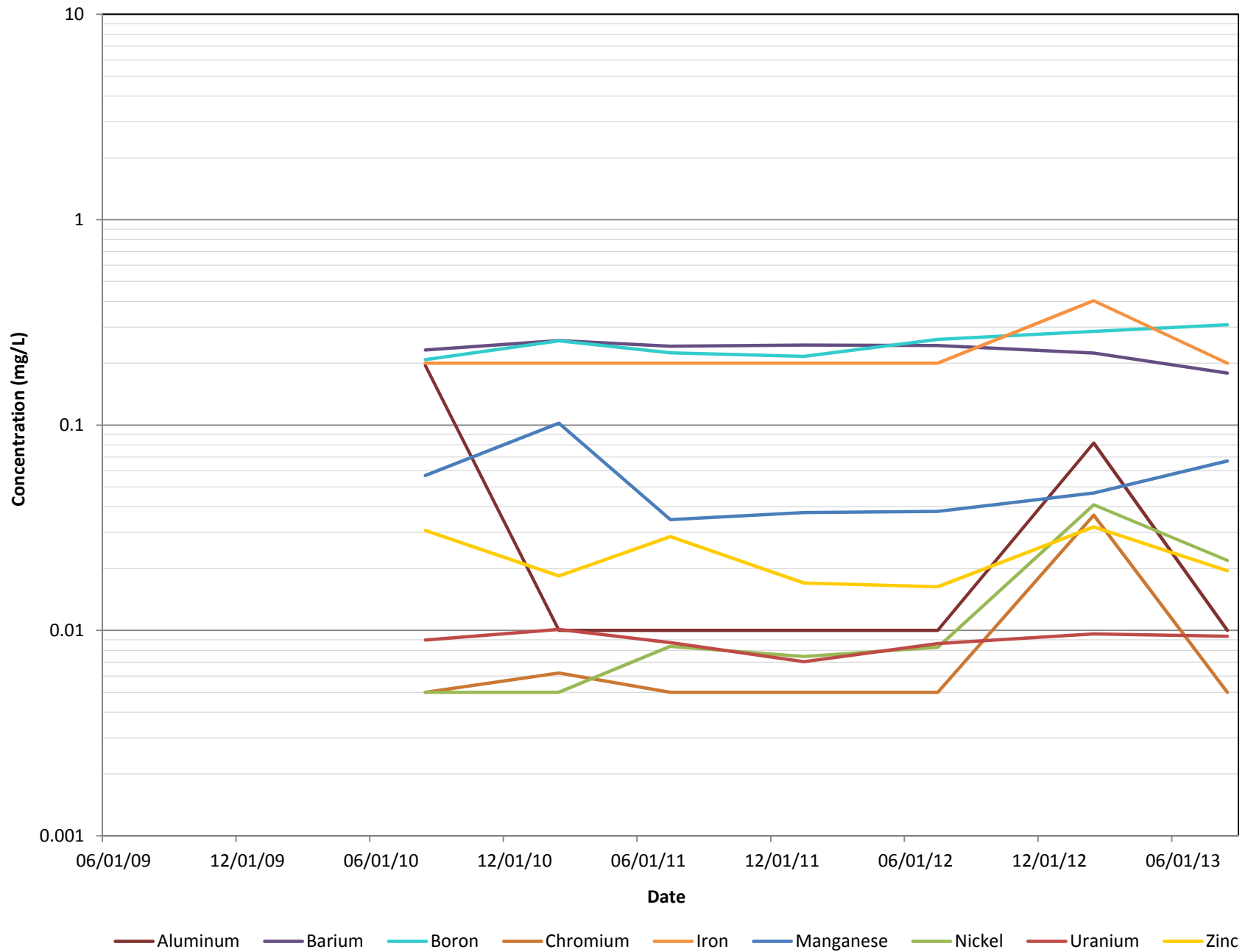
MW-21: ANION CONCENTRATIONS OVER TIME



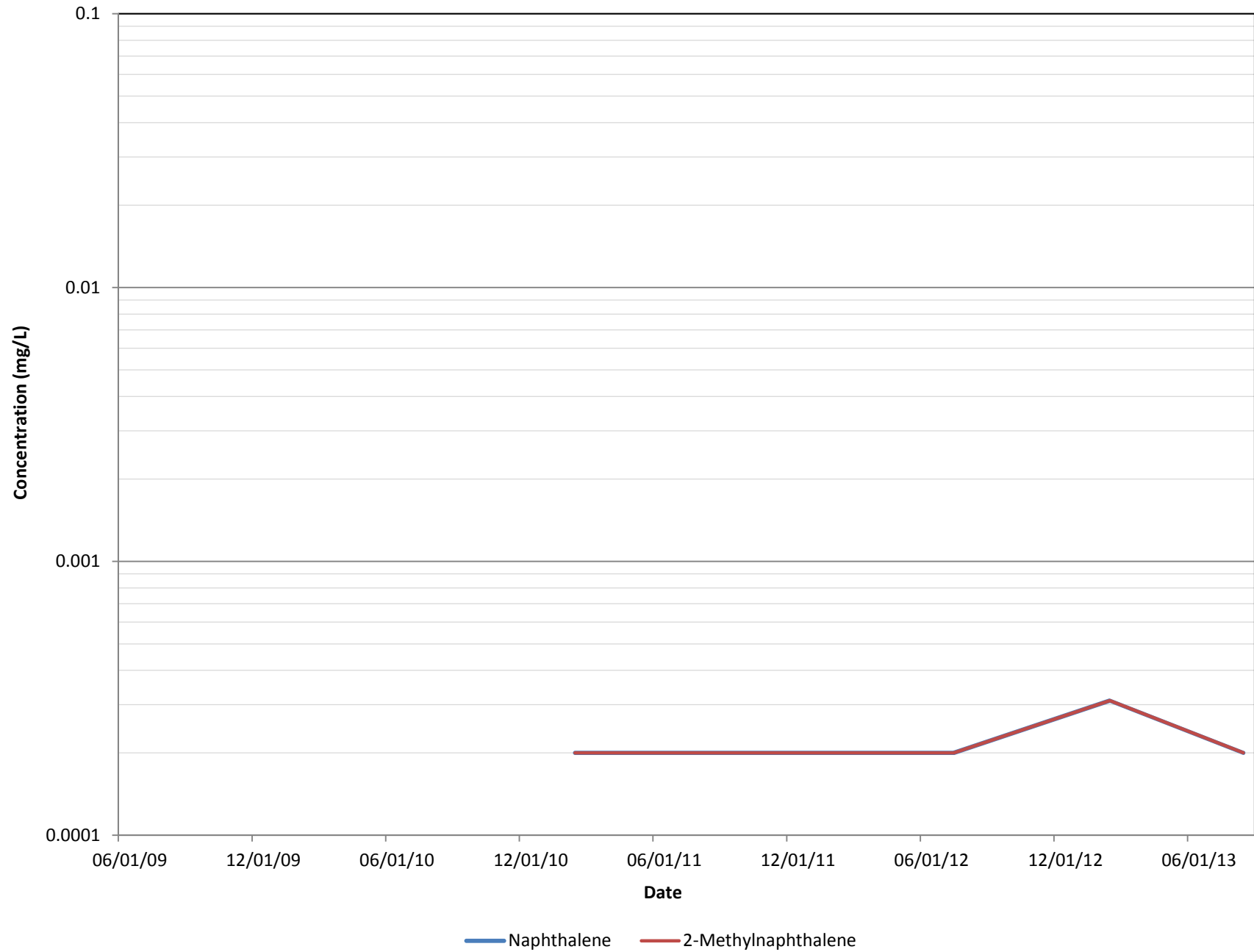
MW-21: TDS CONCENTRATIONS OVER TIME



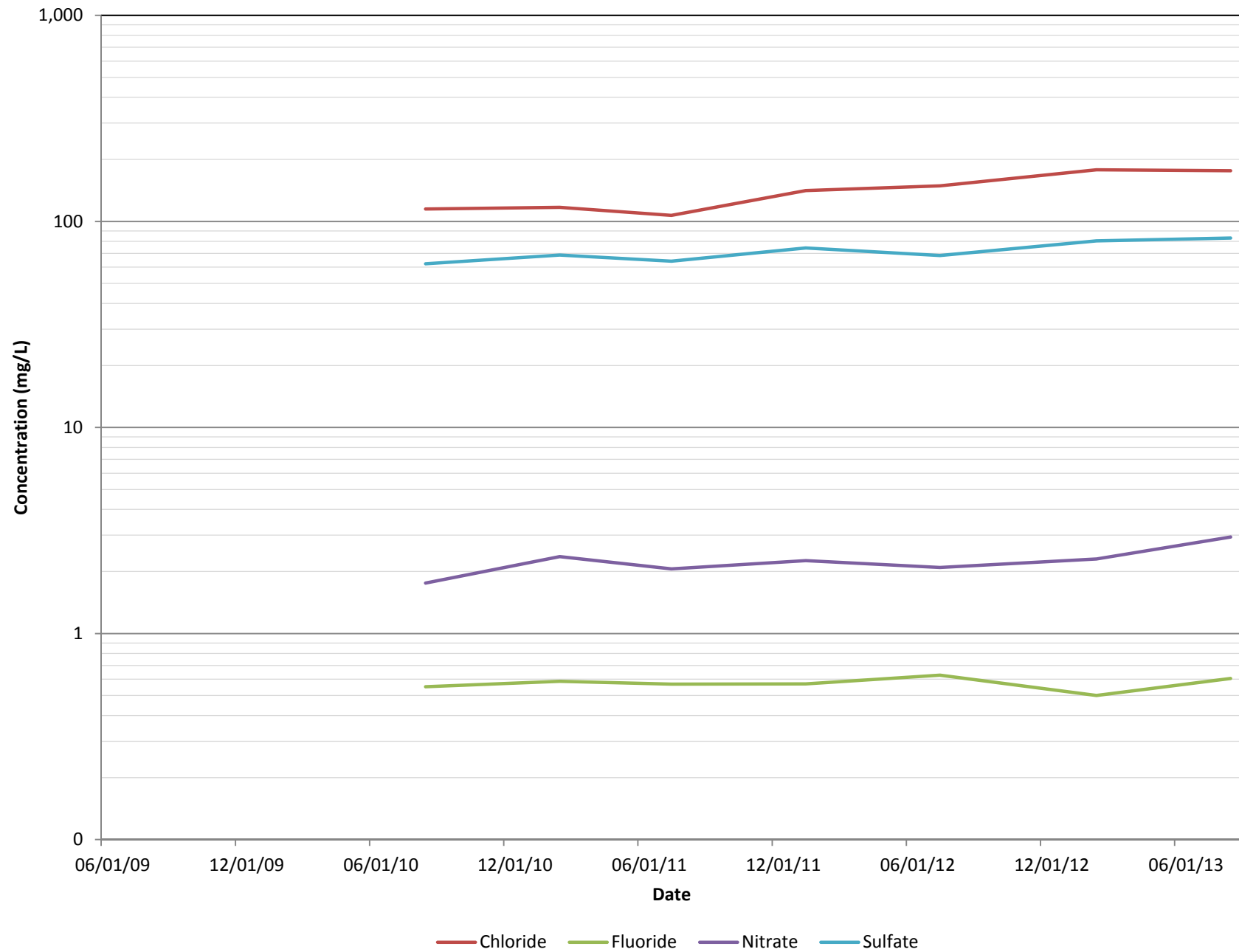
MW-21: METAL CONCENTRATIONS OVER TIME



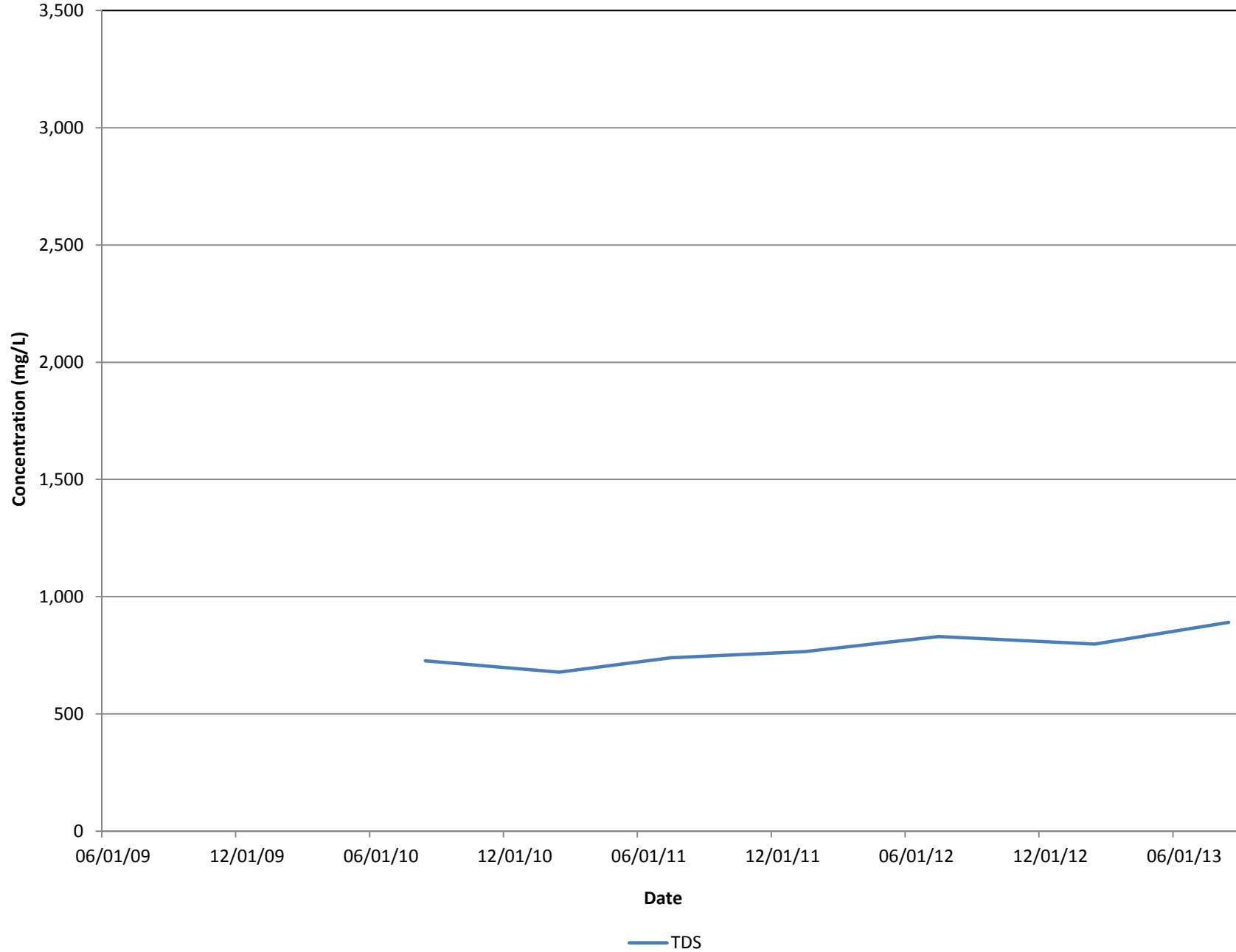
MW-21: SVOC CONCENTRATIONS OVER TIME



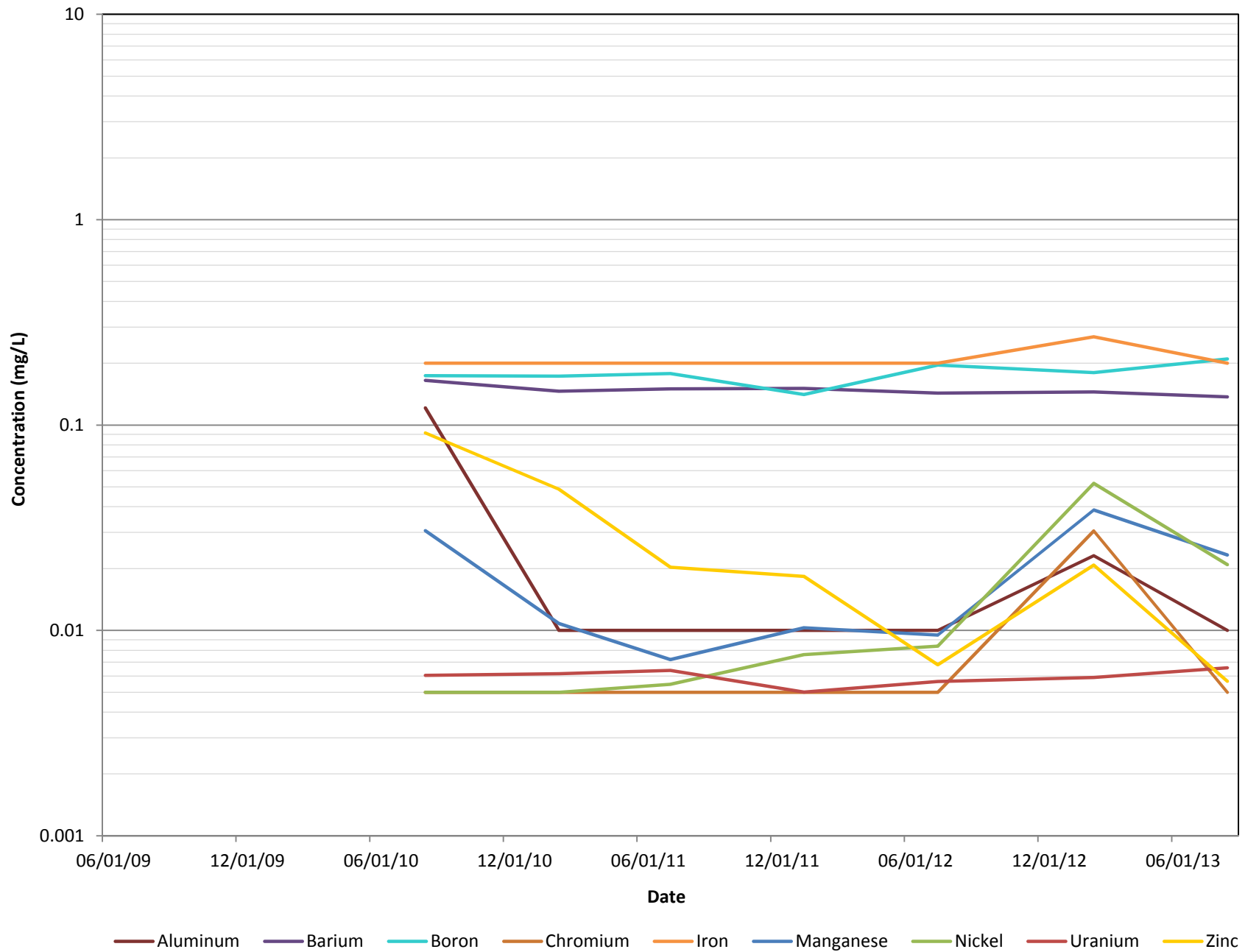
MW-22: ANION CONCENTRATIONS OVER TIME



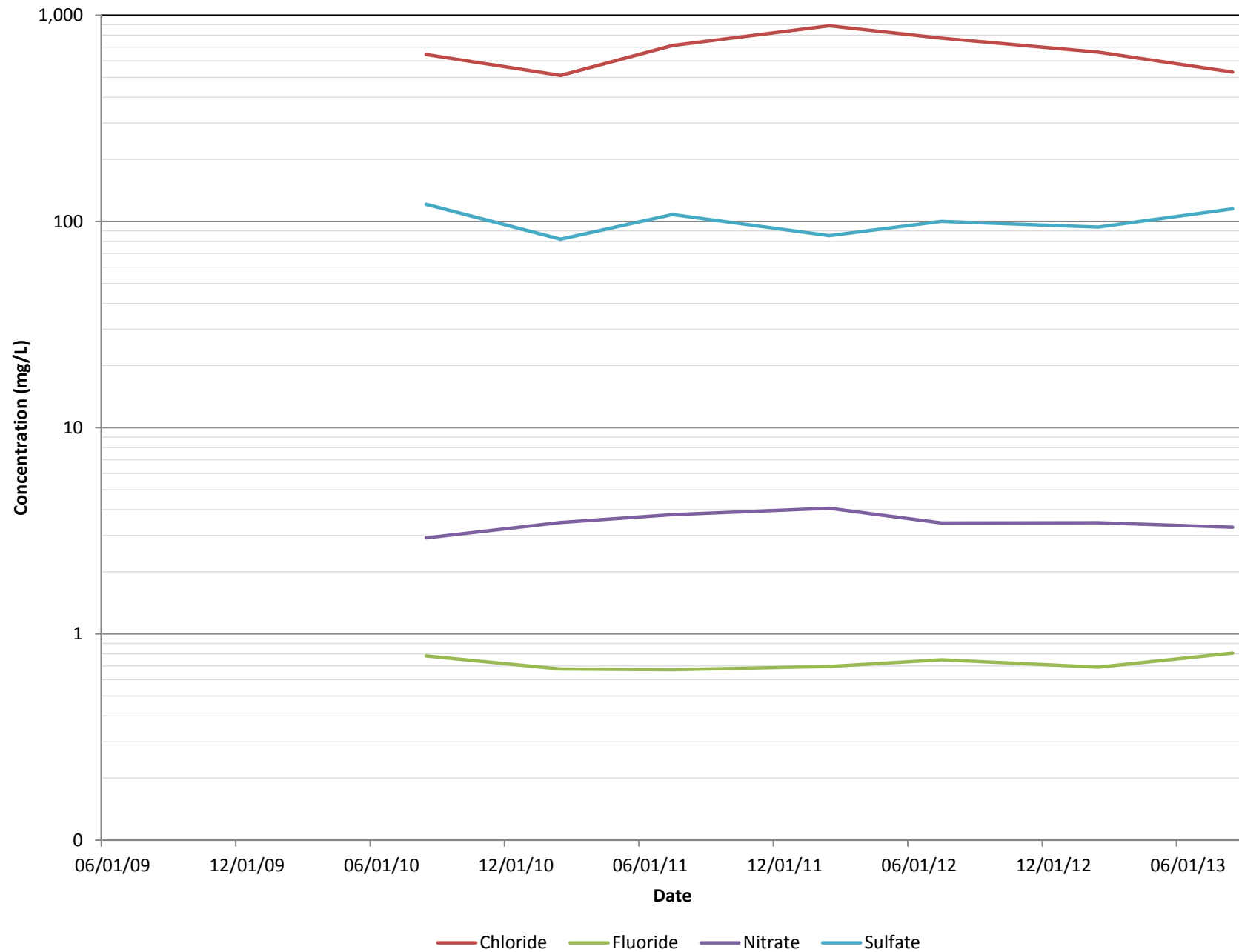
MW-22: TDS CONCENTRATIONS OVER TIME



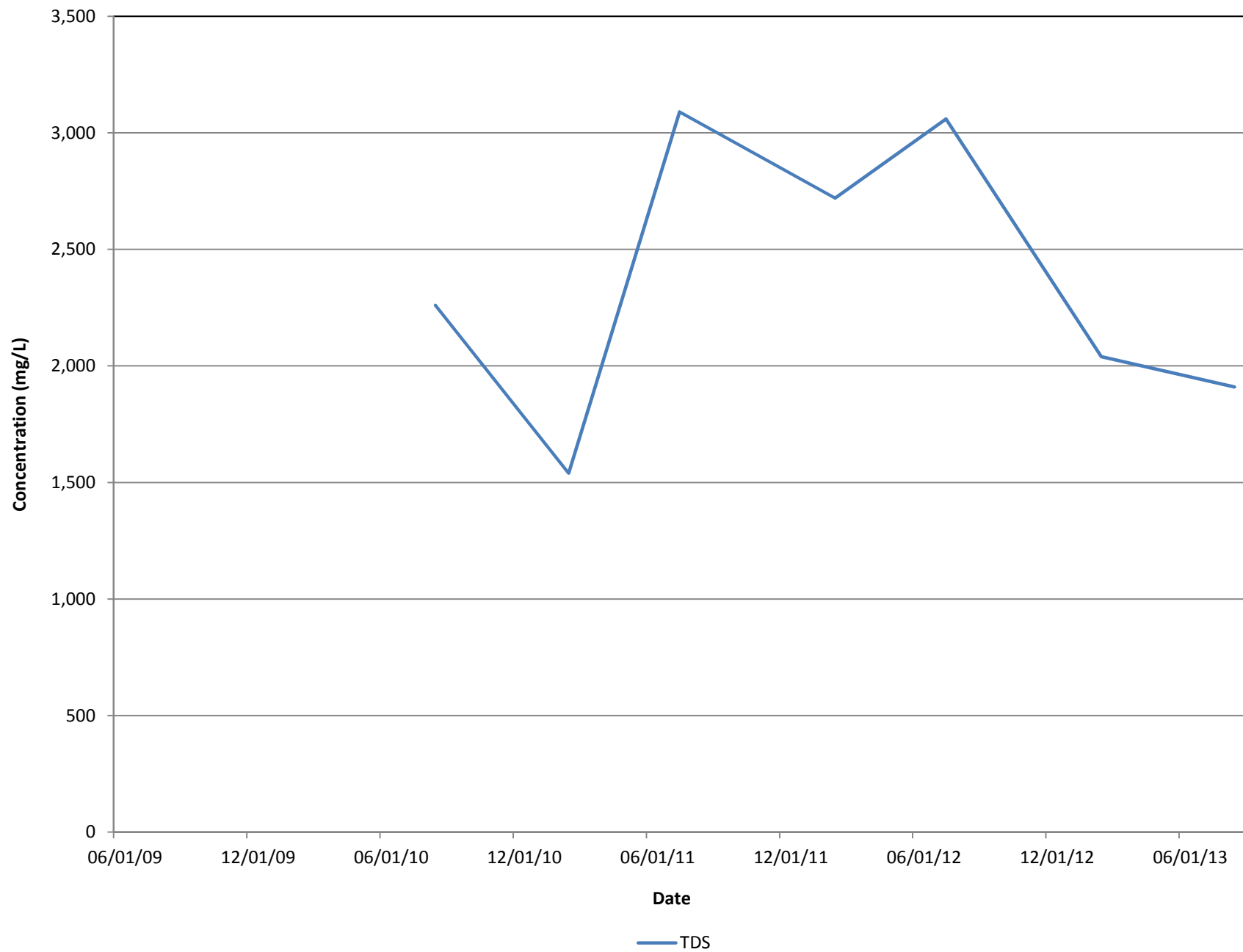
MW-22: METAL CONCENTRATIONS OVER TIME



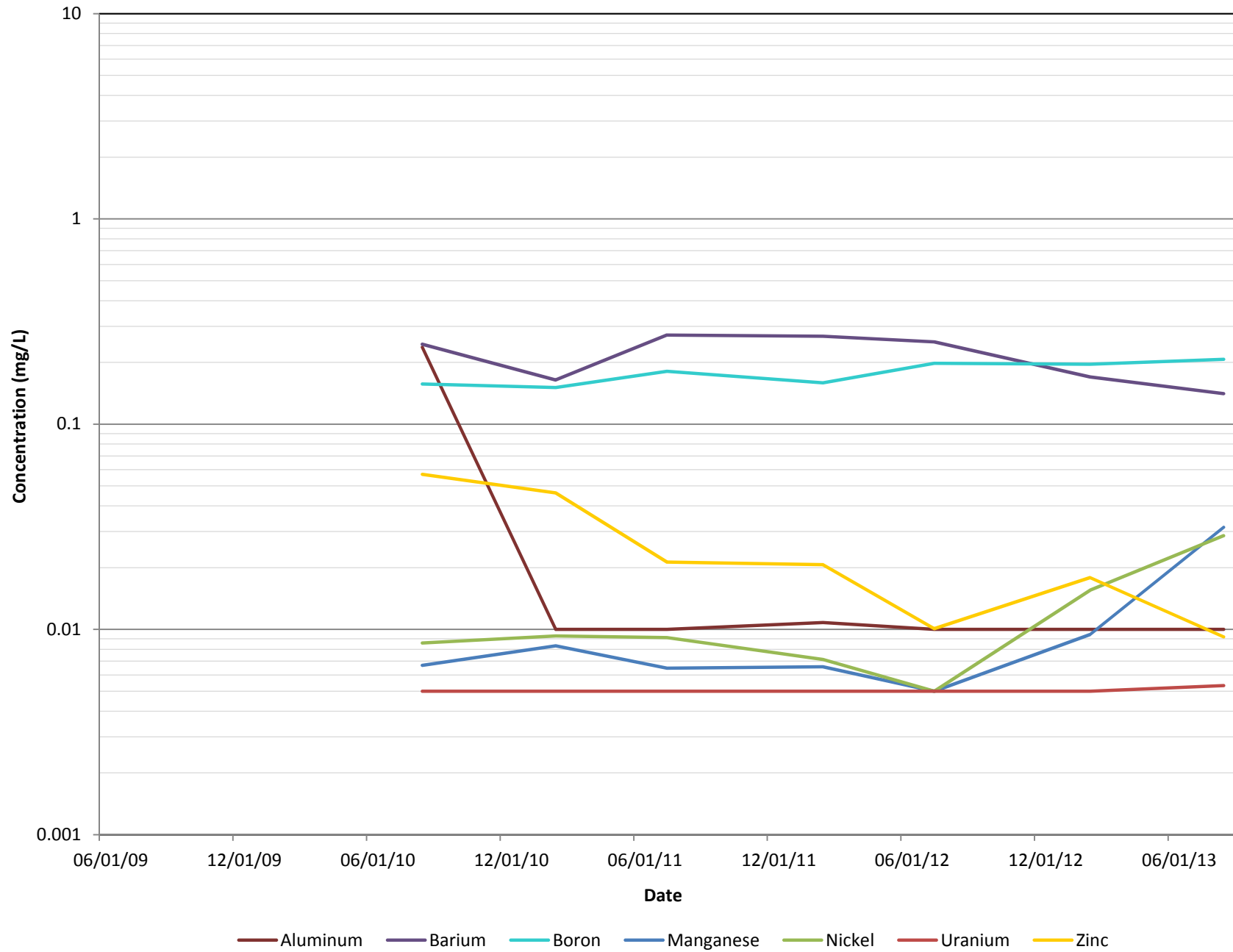
MW-23: ANION CONCENTRATIONS OVER TIME



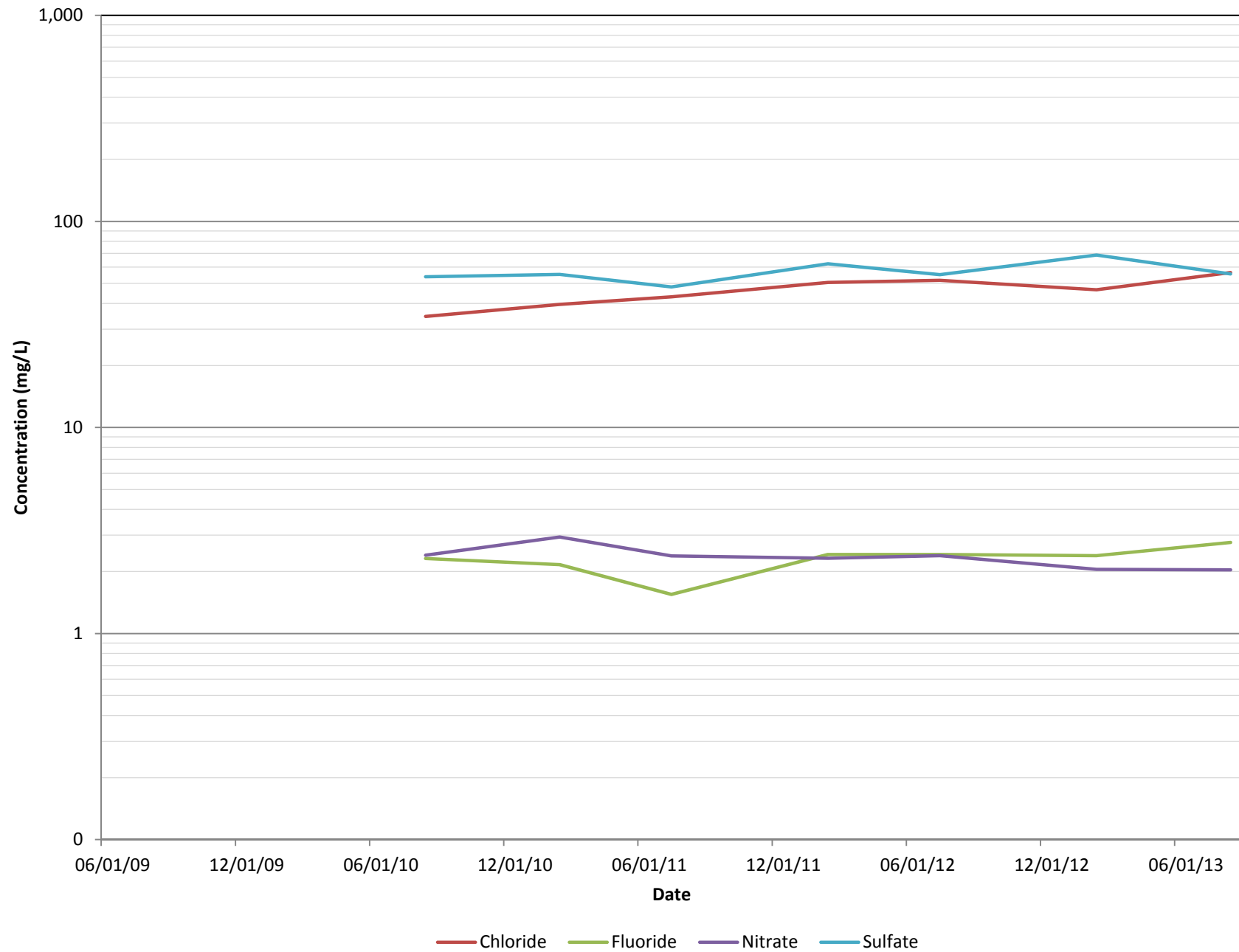
MW-23: TDS CONCENTRATIONS OVER TIME



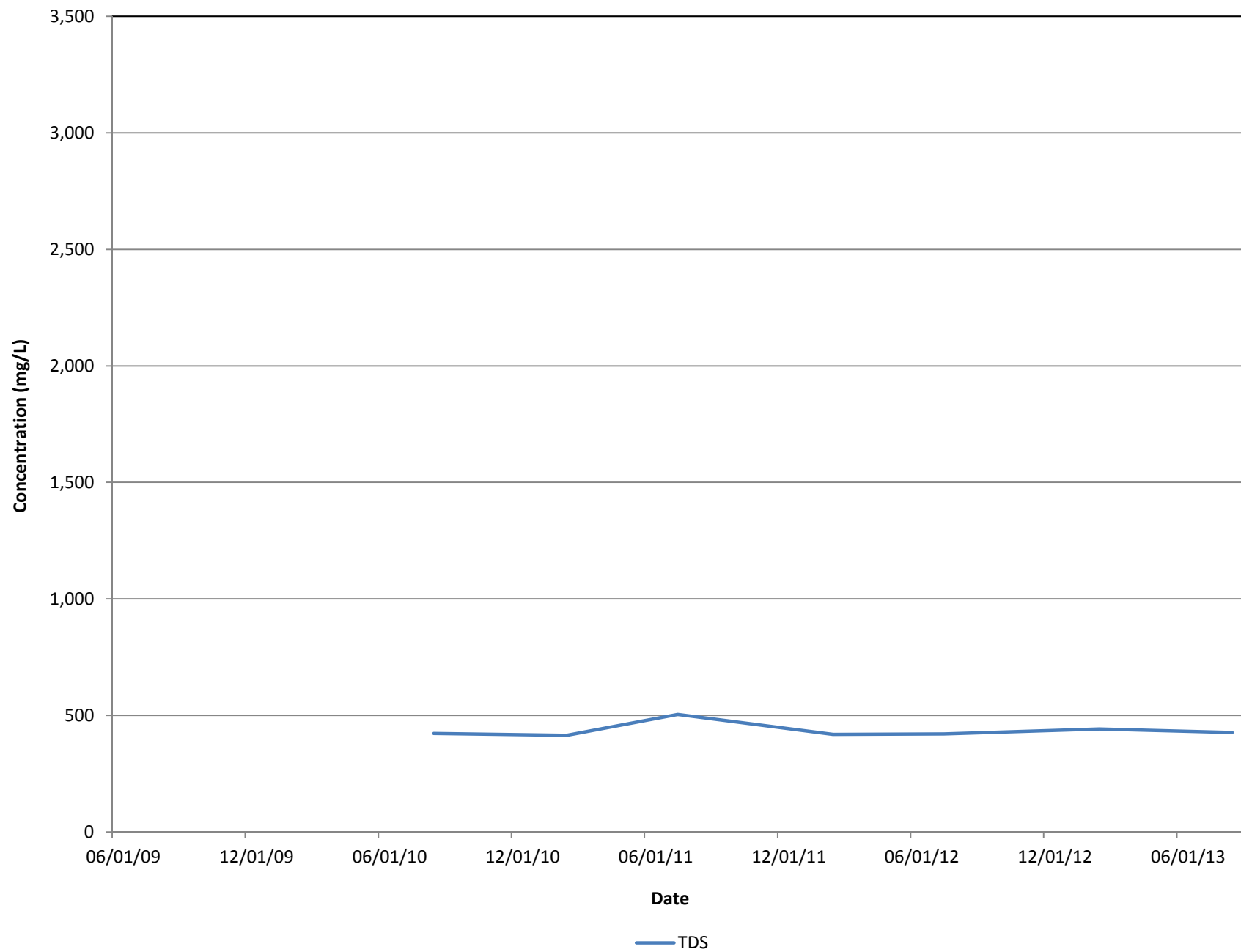
MW-23: METAL CONCENTRATIONS OVER TIME



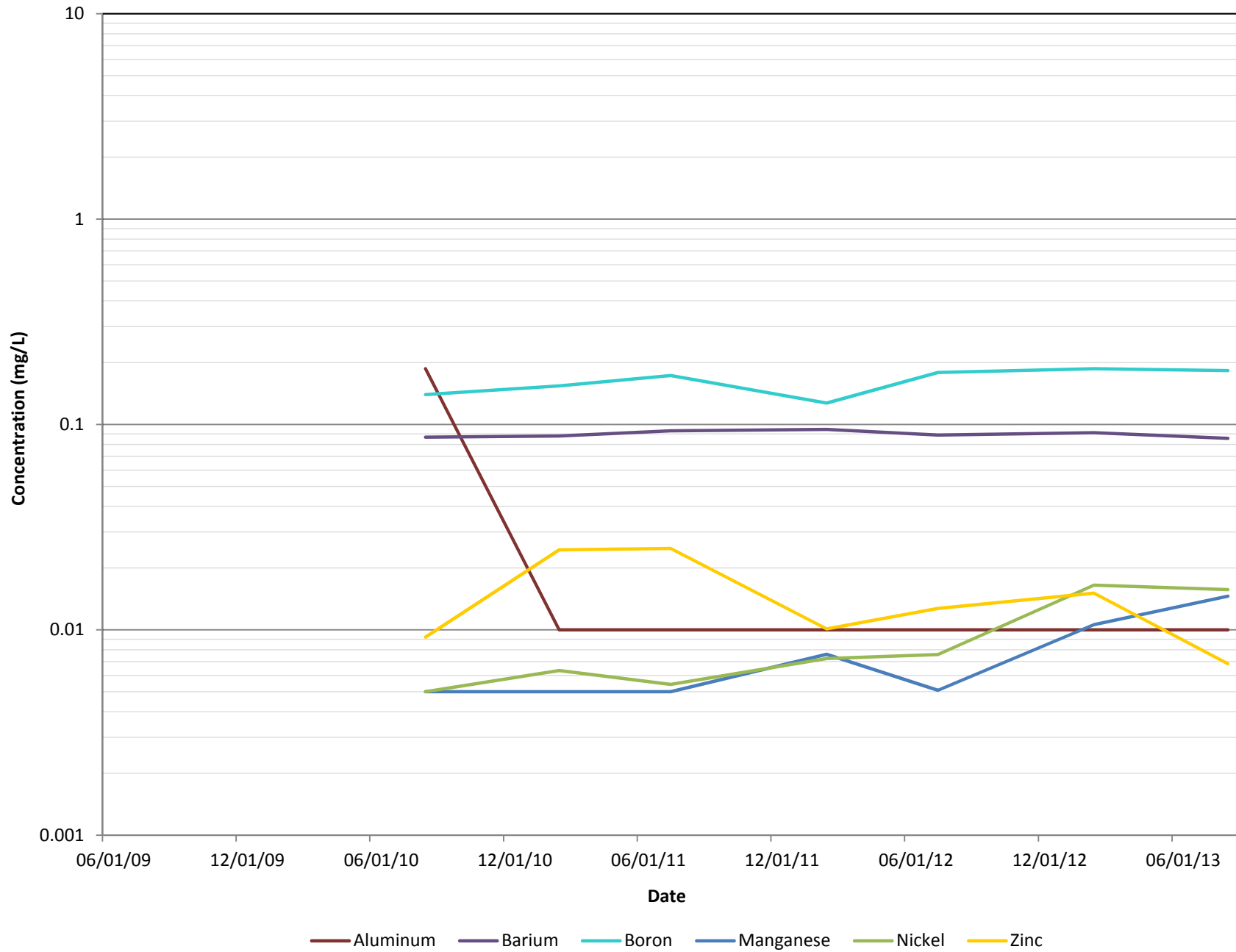
MW-24: ANION CONCENTRATIONS OVER TIME



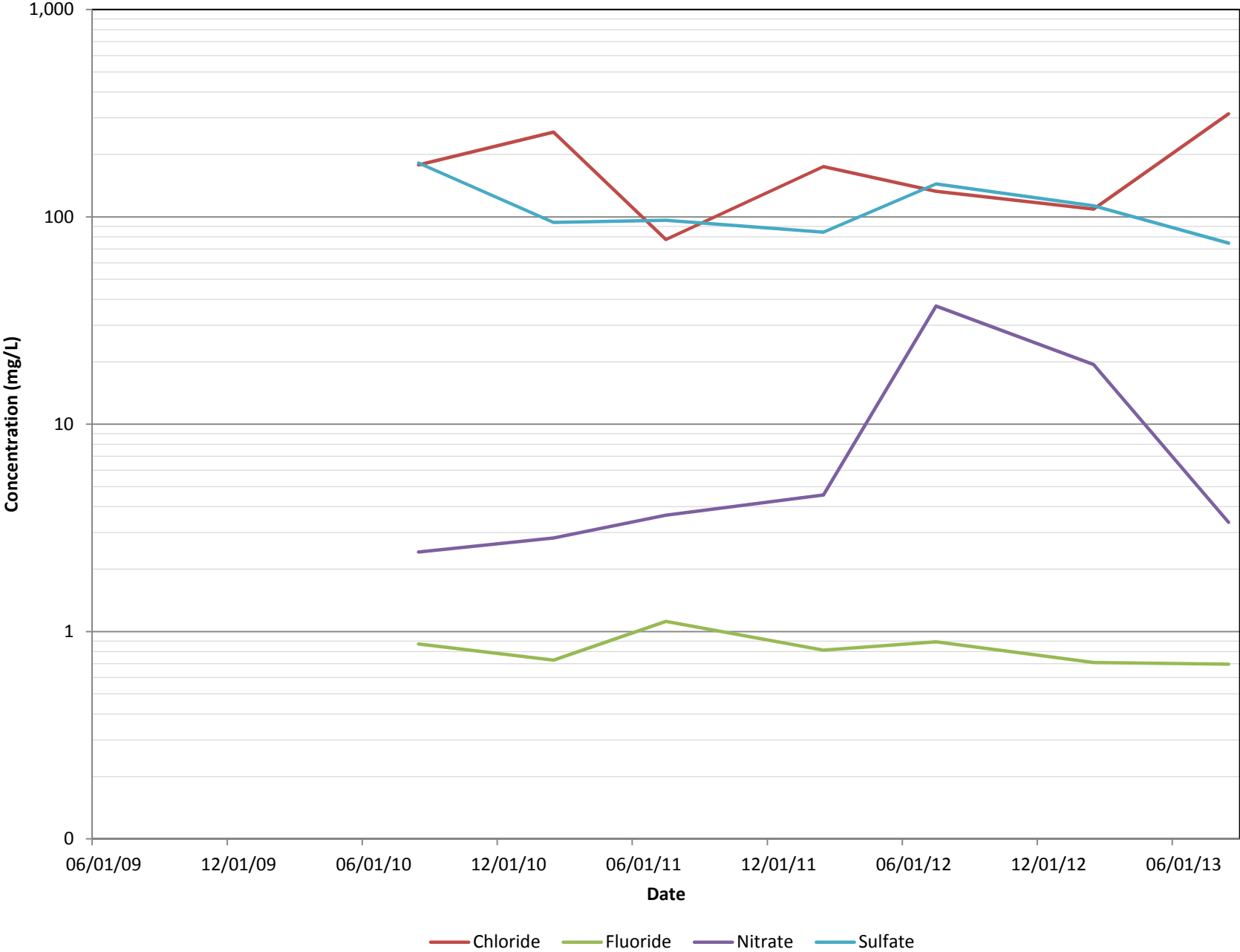
MW-24: TDS CONCENTRATIONS OVER TIME



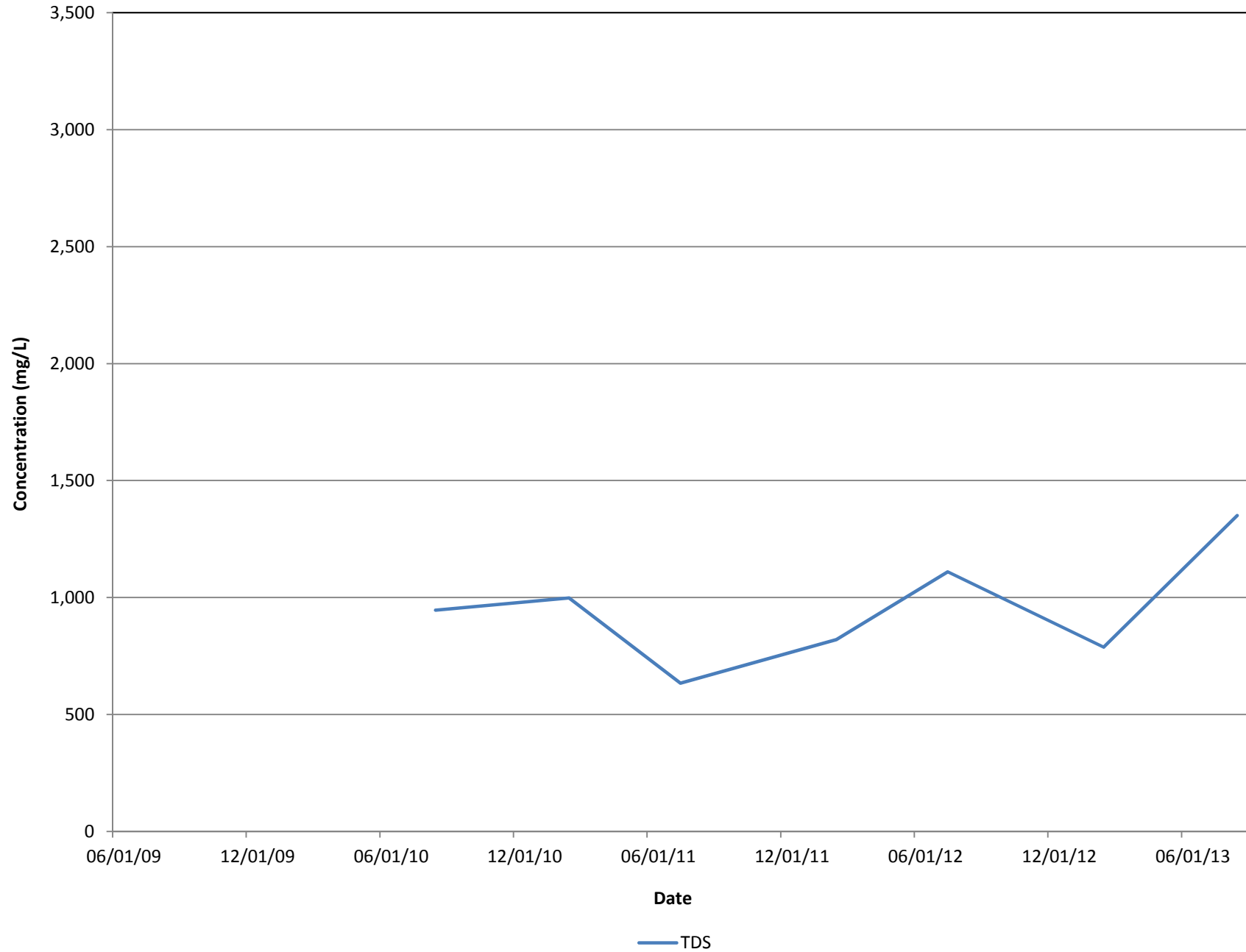
MW-24: METAL CONCENTRATIONS OVER TIME



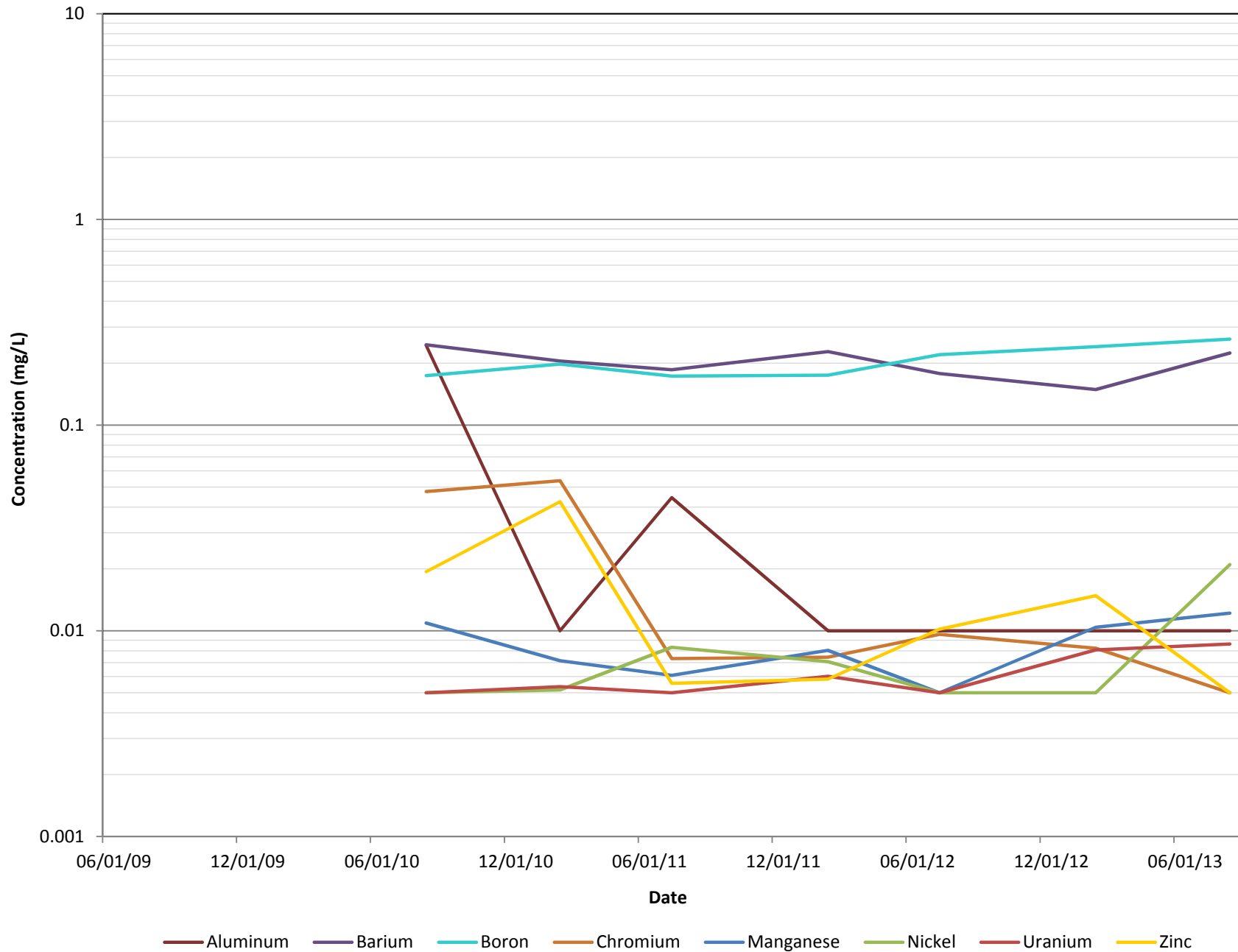
MW-25: ANION CONCENTRATIONS OVER TIME



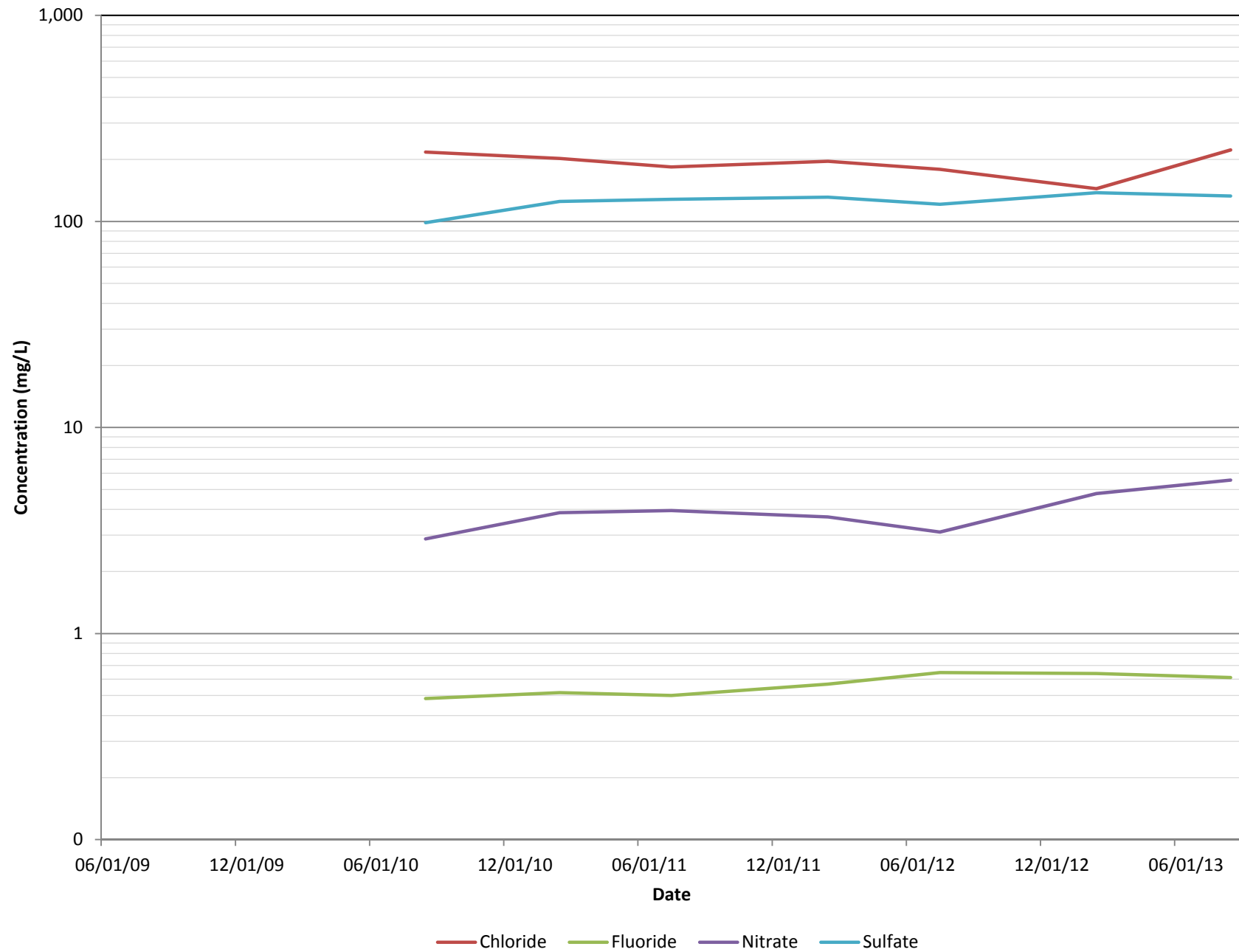
MW-25: TDS CONCENTRATIONS OVER TIME



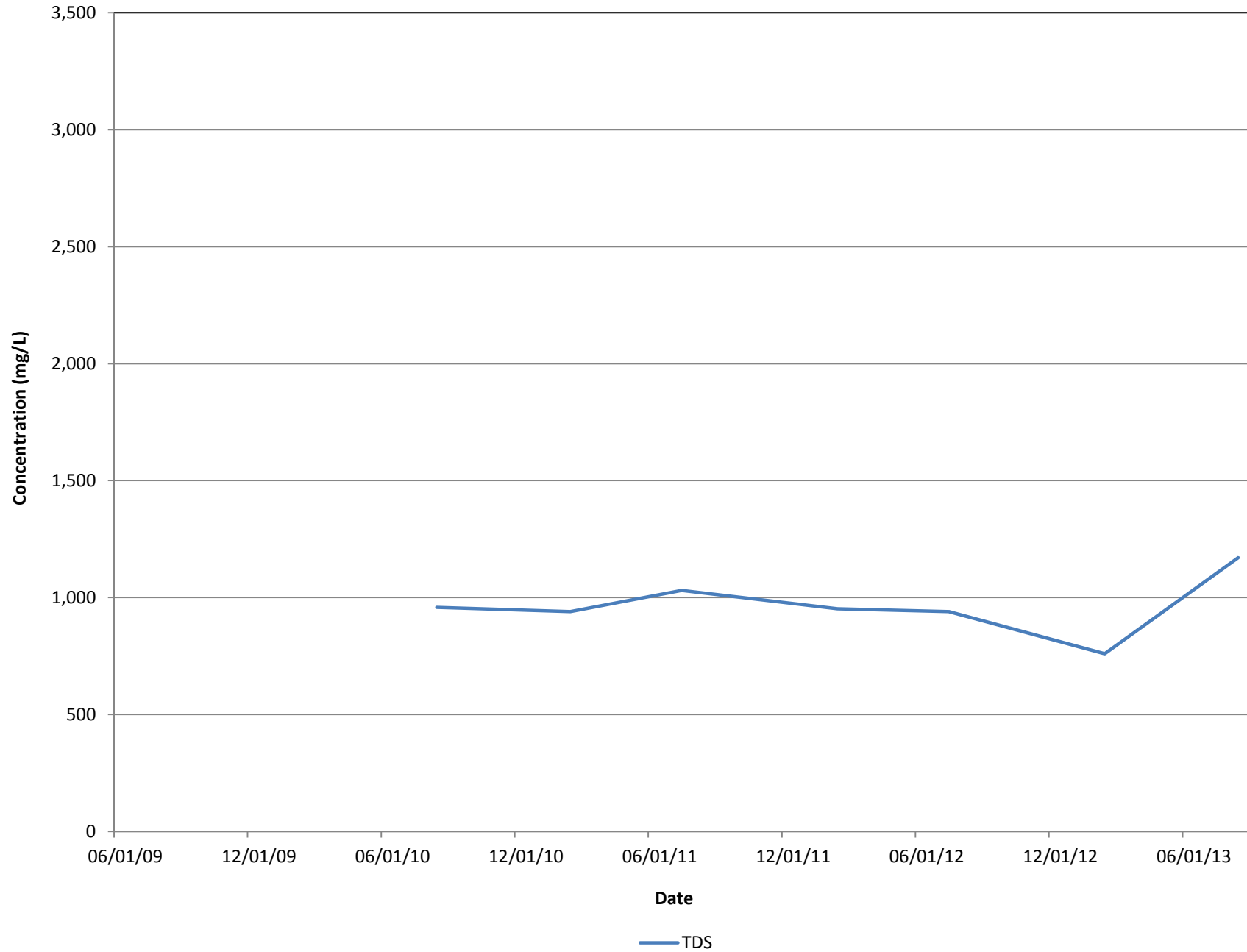
MW-25: METAL CONCENTRATIONS OVER TIME



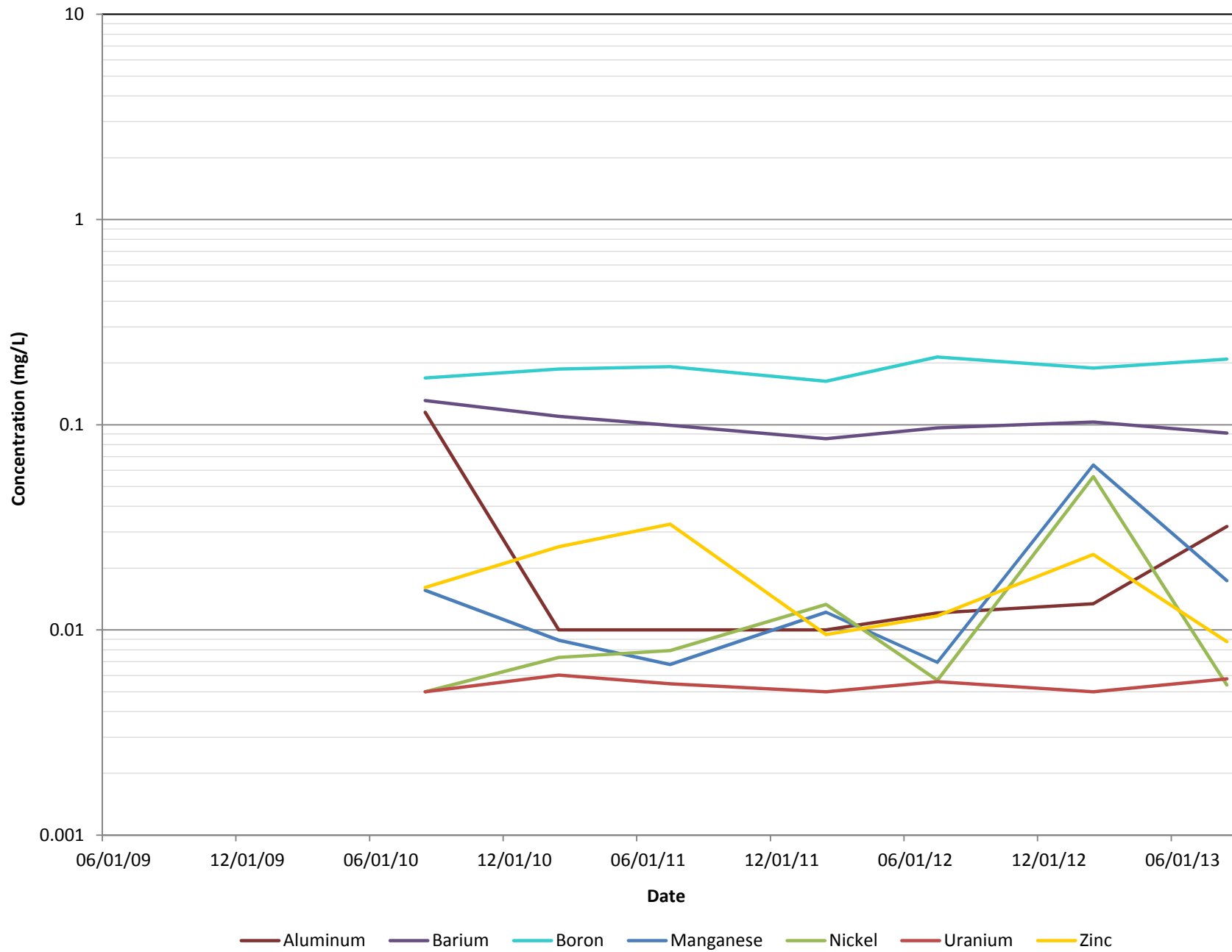
MW-26: ANION CONCENTRATIONS OVER TIME



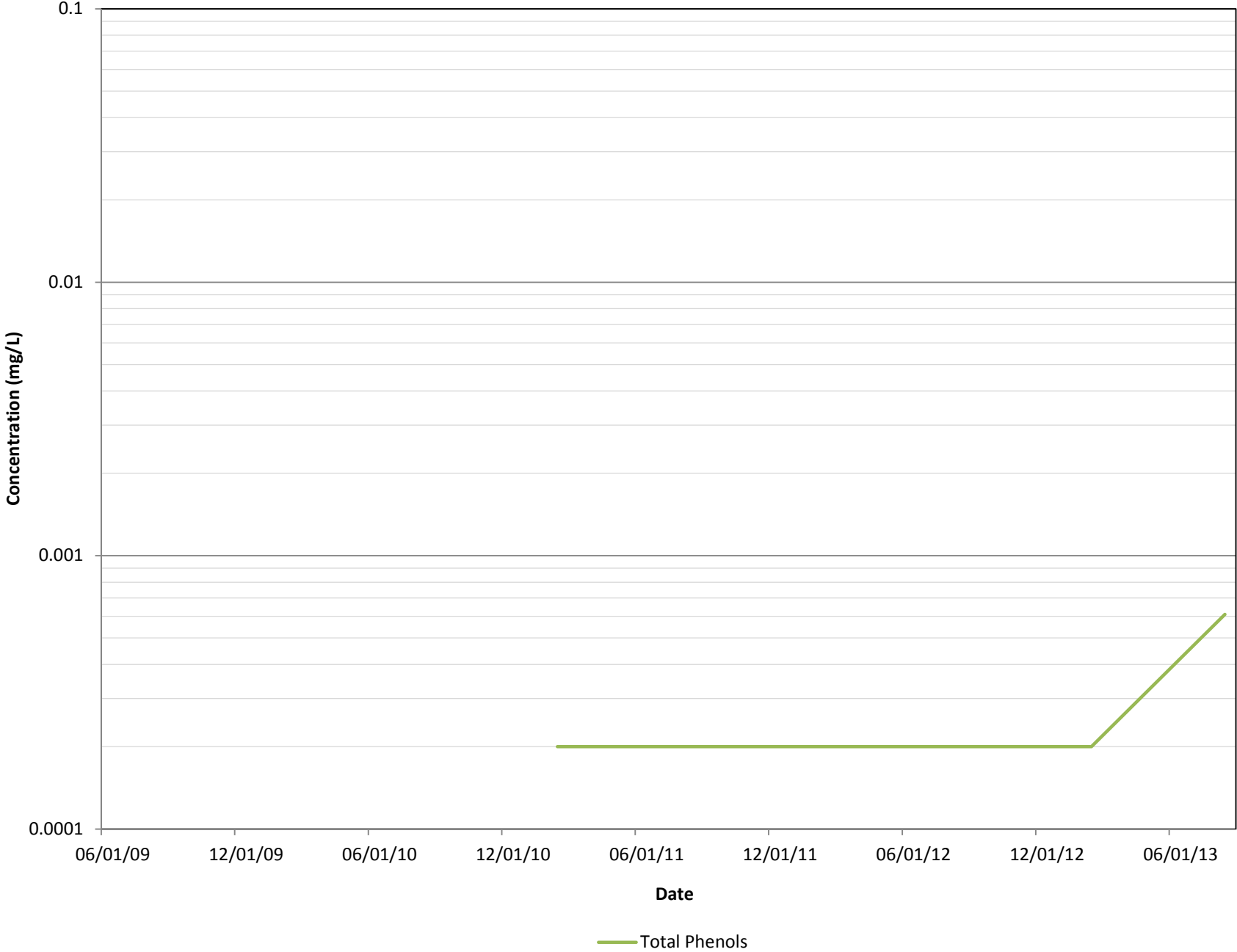
MW-26: TDS CONCENTRATIONS OVER TIME



MW-26: METAL CONCENTRATIONS OVER TIME



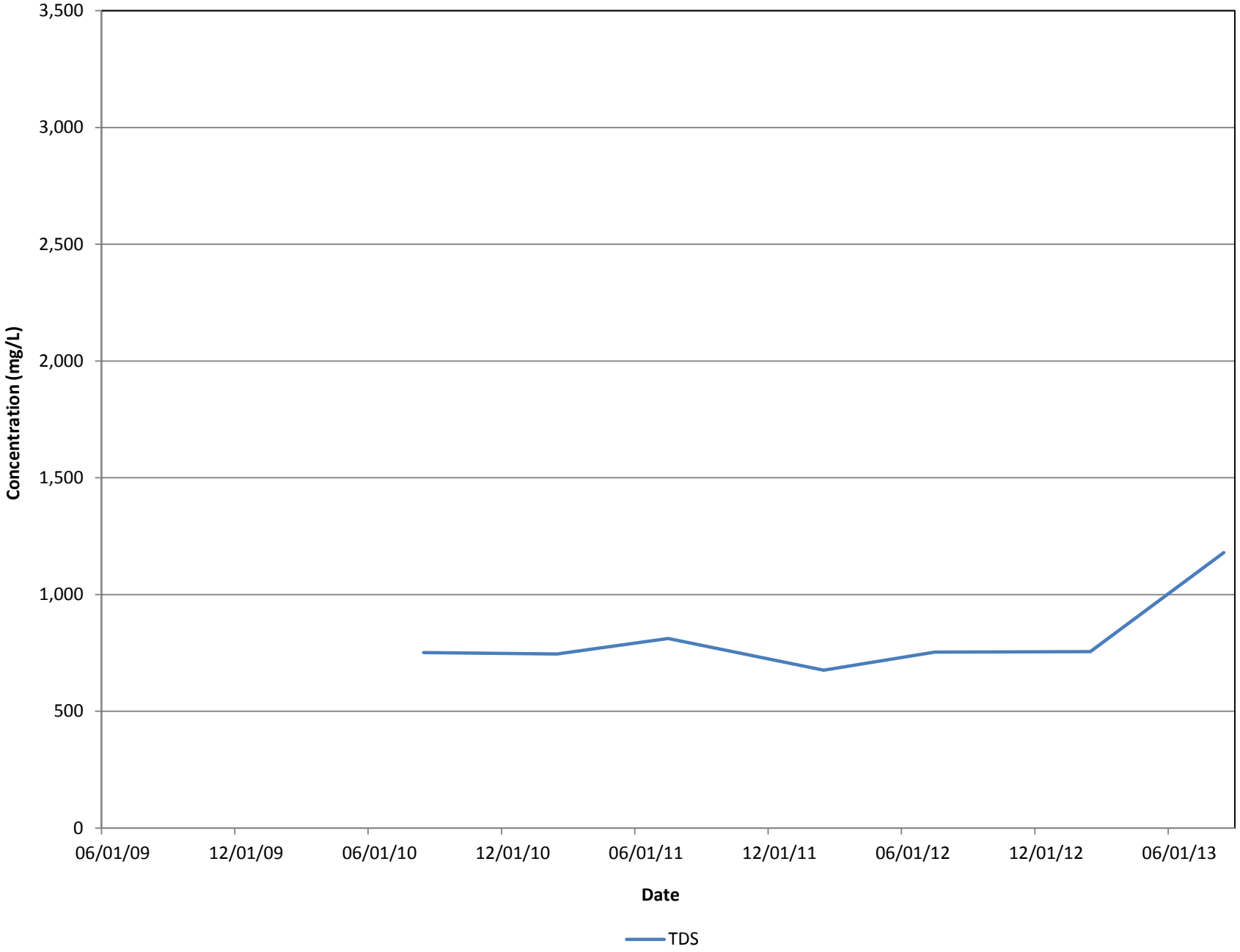
MW-26: SVOC CONCENTRATIONS OVER TIME



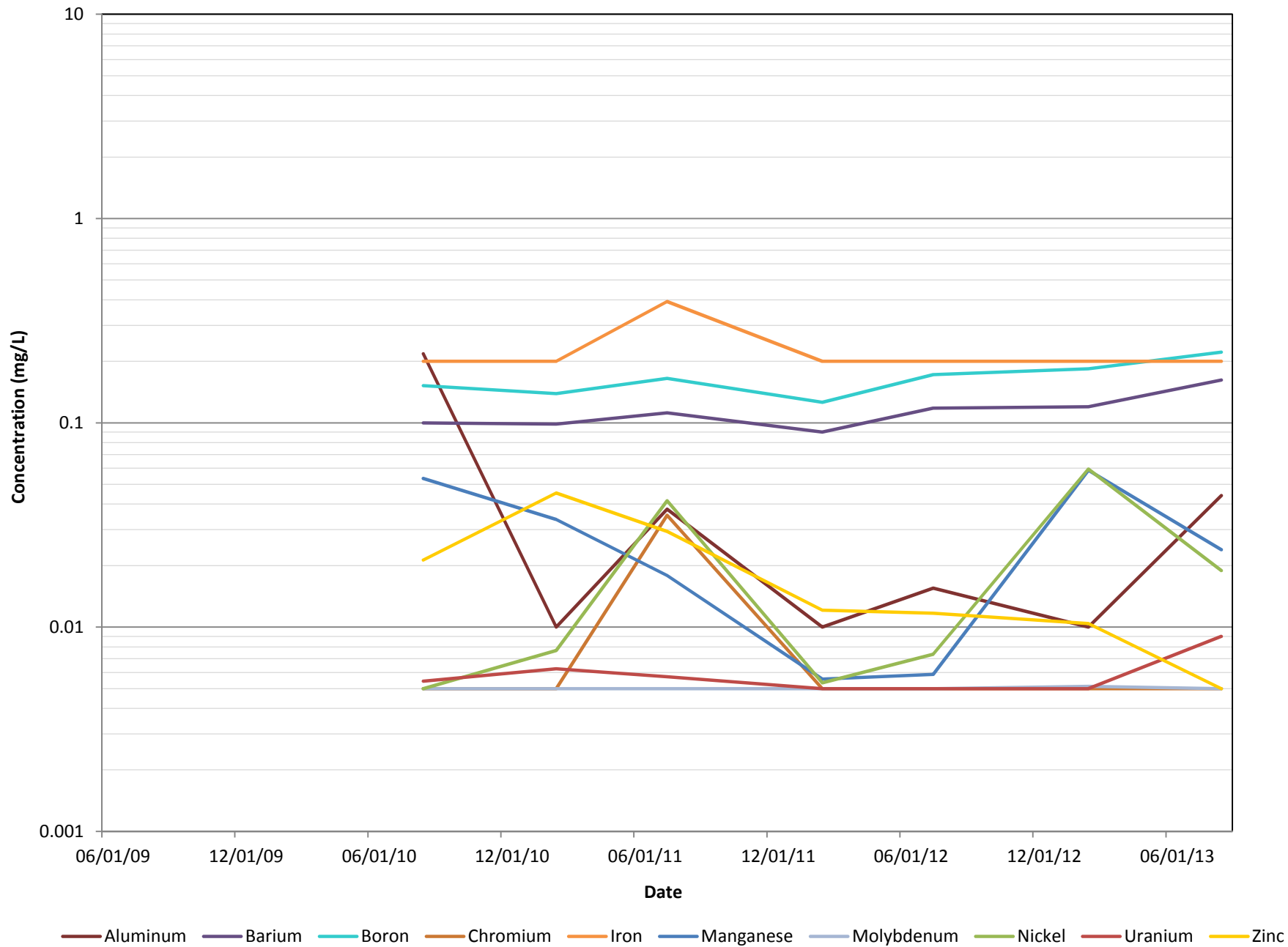
MW-27: ANION CONCENTRATIONS OVER TIME



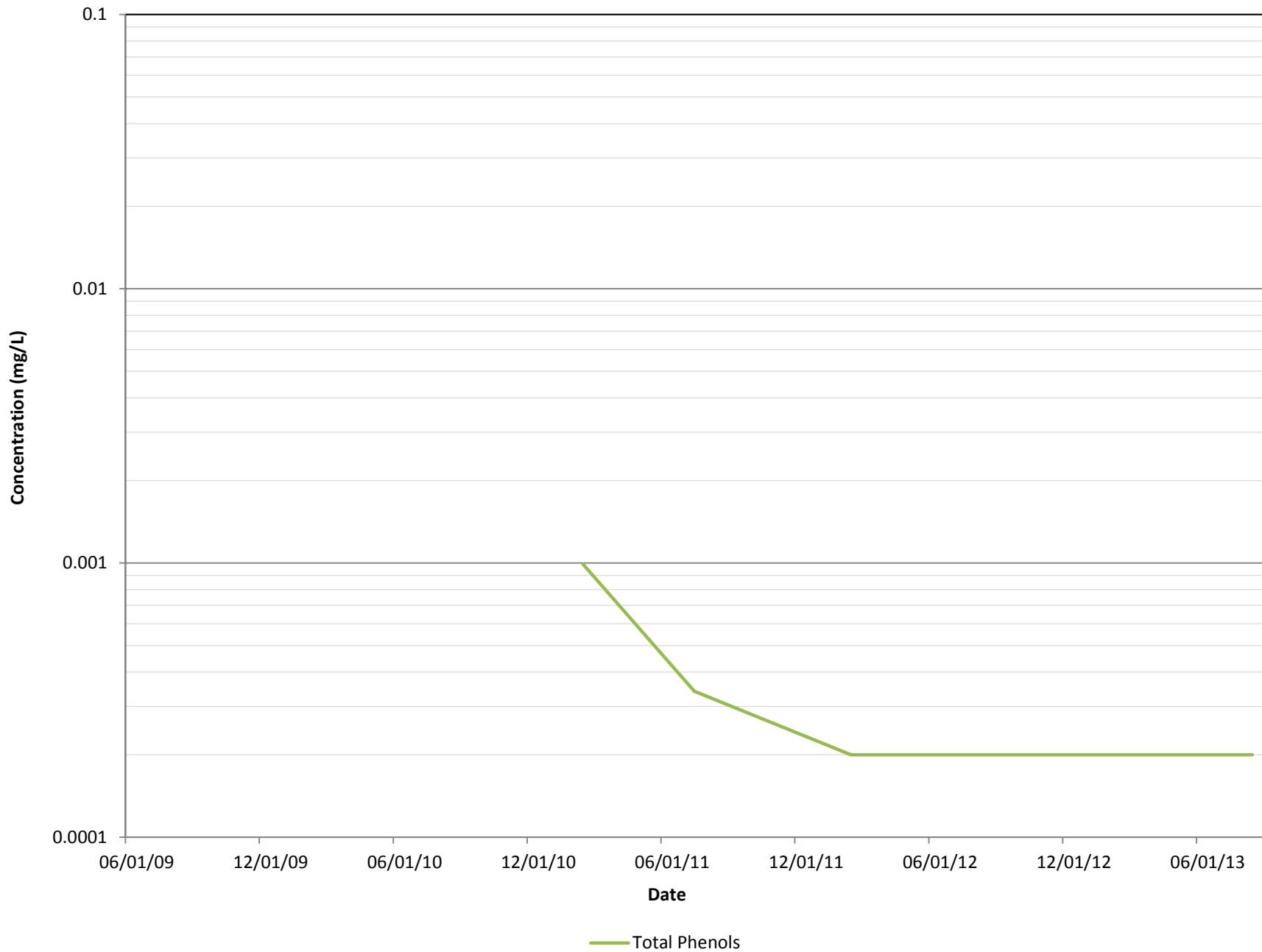
MW-27: TDS CONCENTRATIONS OVER TIME



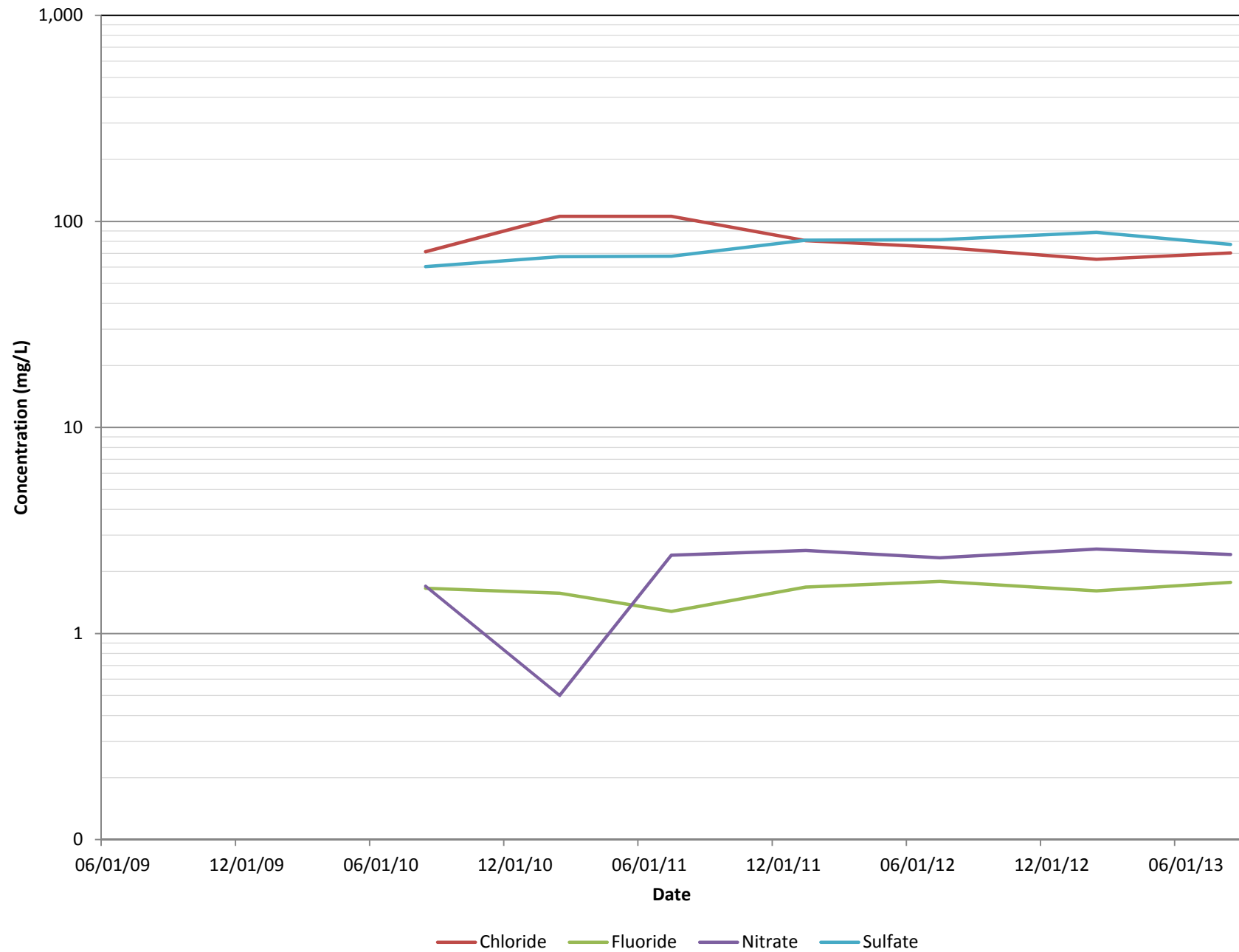
MW-27: METAL CONCENTRATIONS OVER TIME



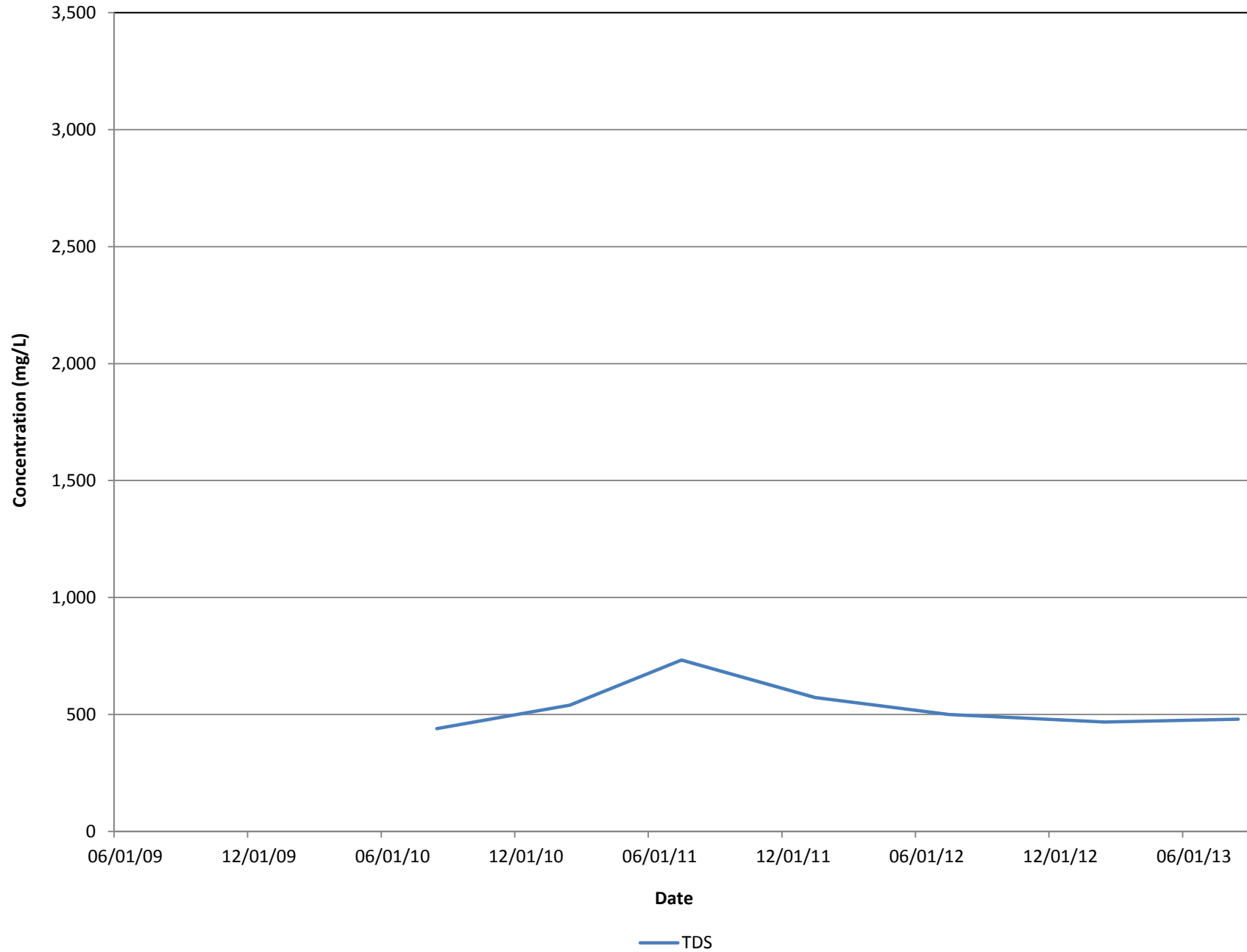
MW-27: SVOC CONCENTRATIONS OVER TIME



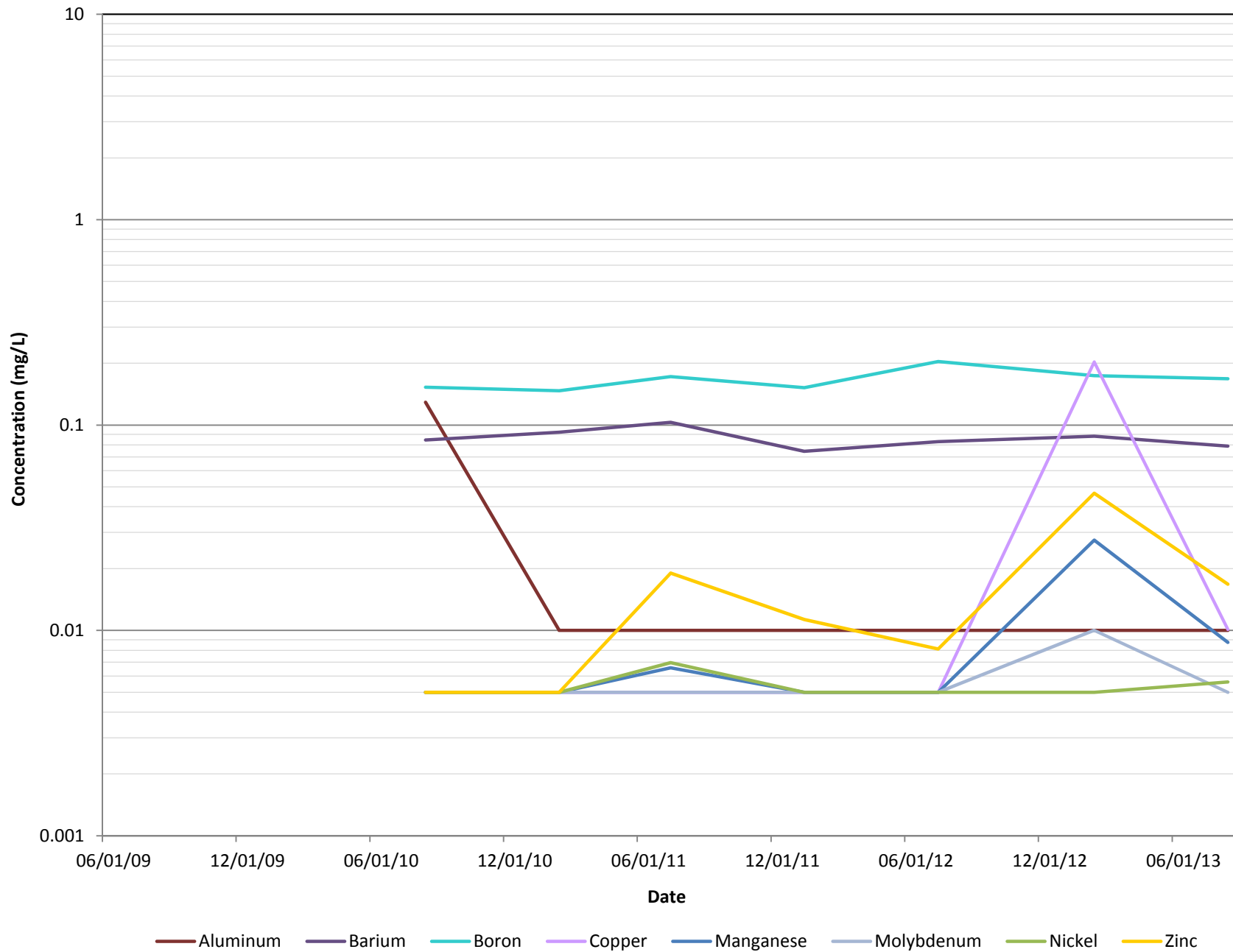
MW-28: ANION CONCENTRATIONS OVER TIME



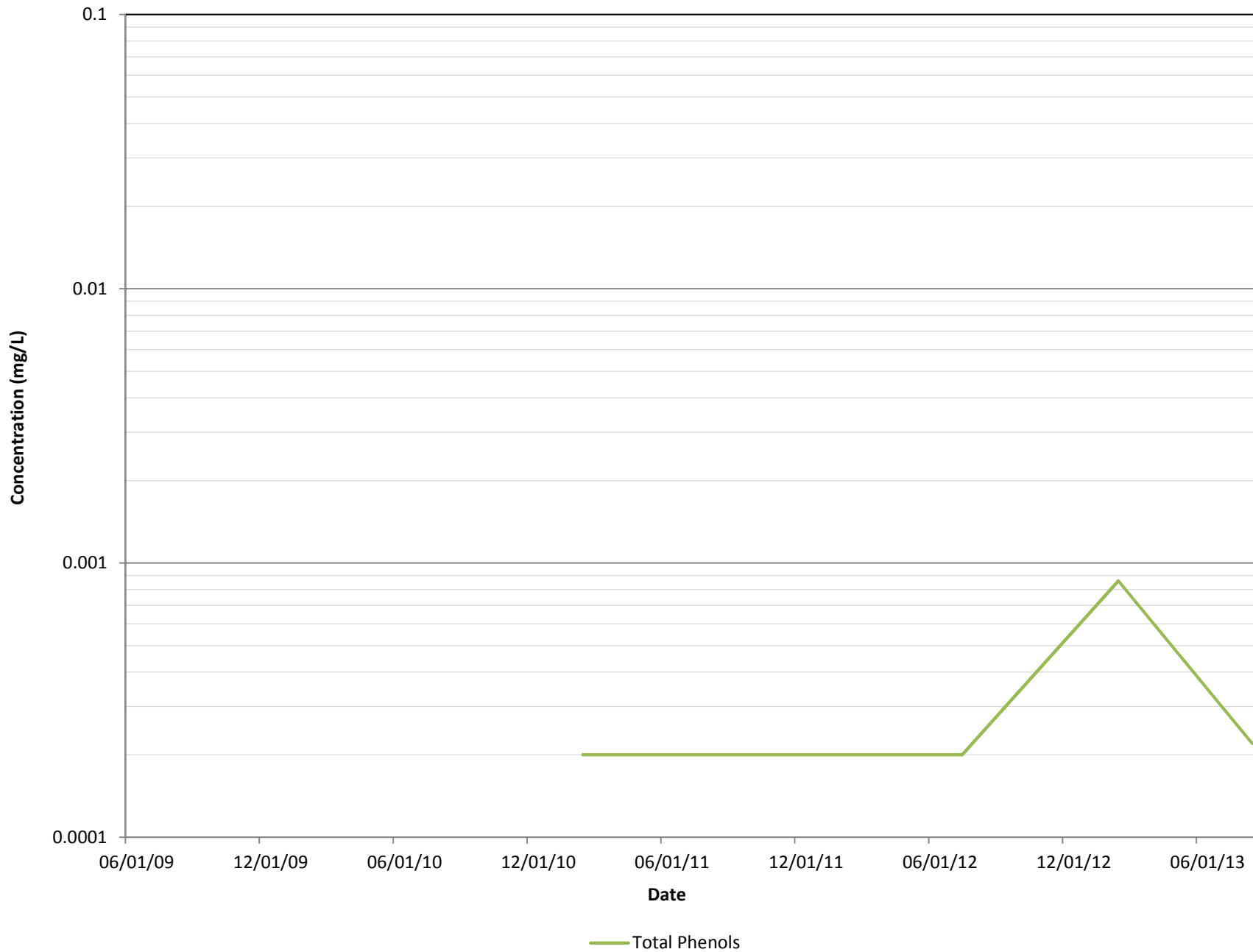
MW-28: TDS CONCENTRATIONS OVER TIME



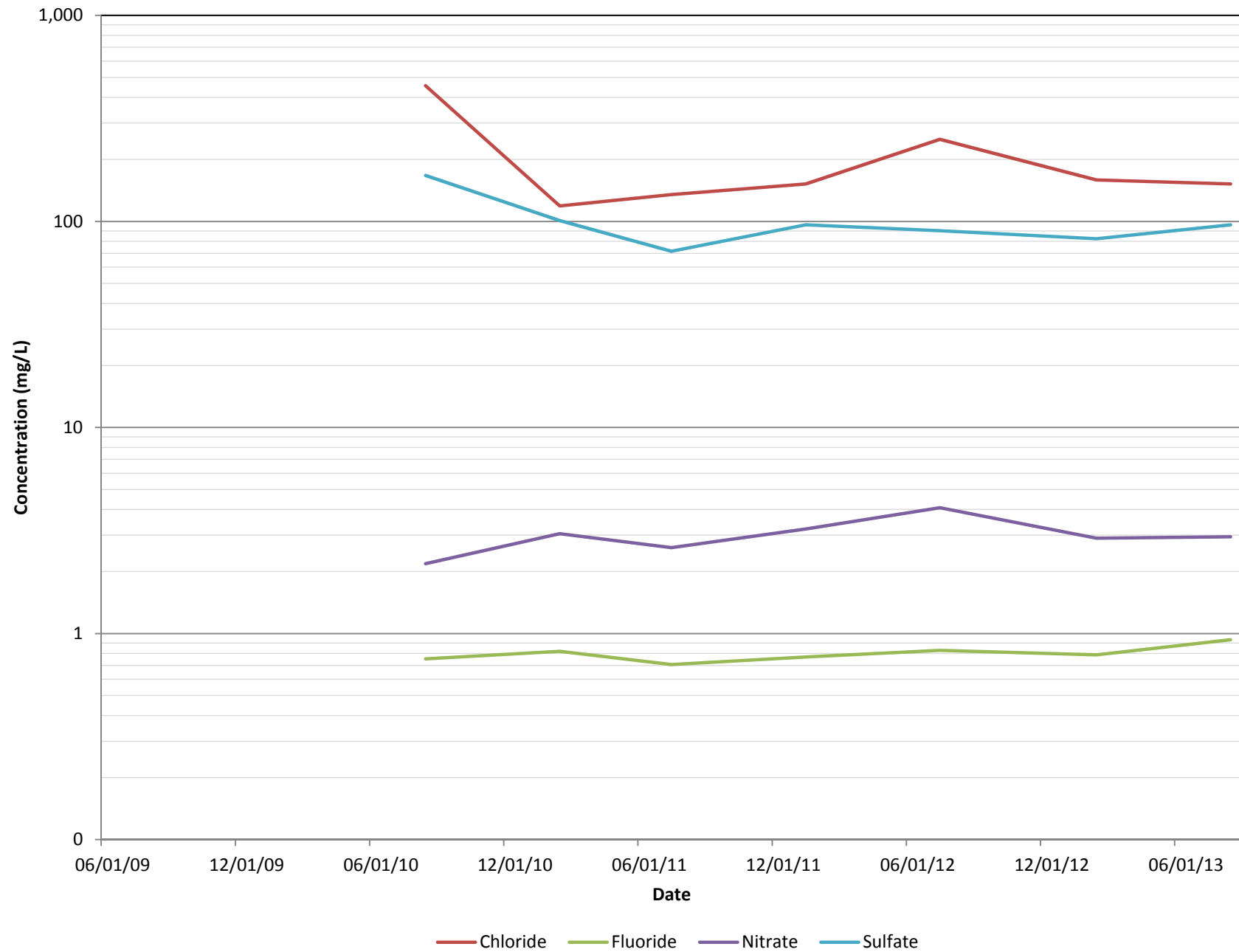
MW-28: METAL CONCENTRATIONS OVER TIME



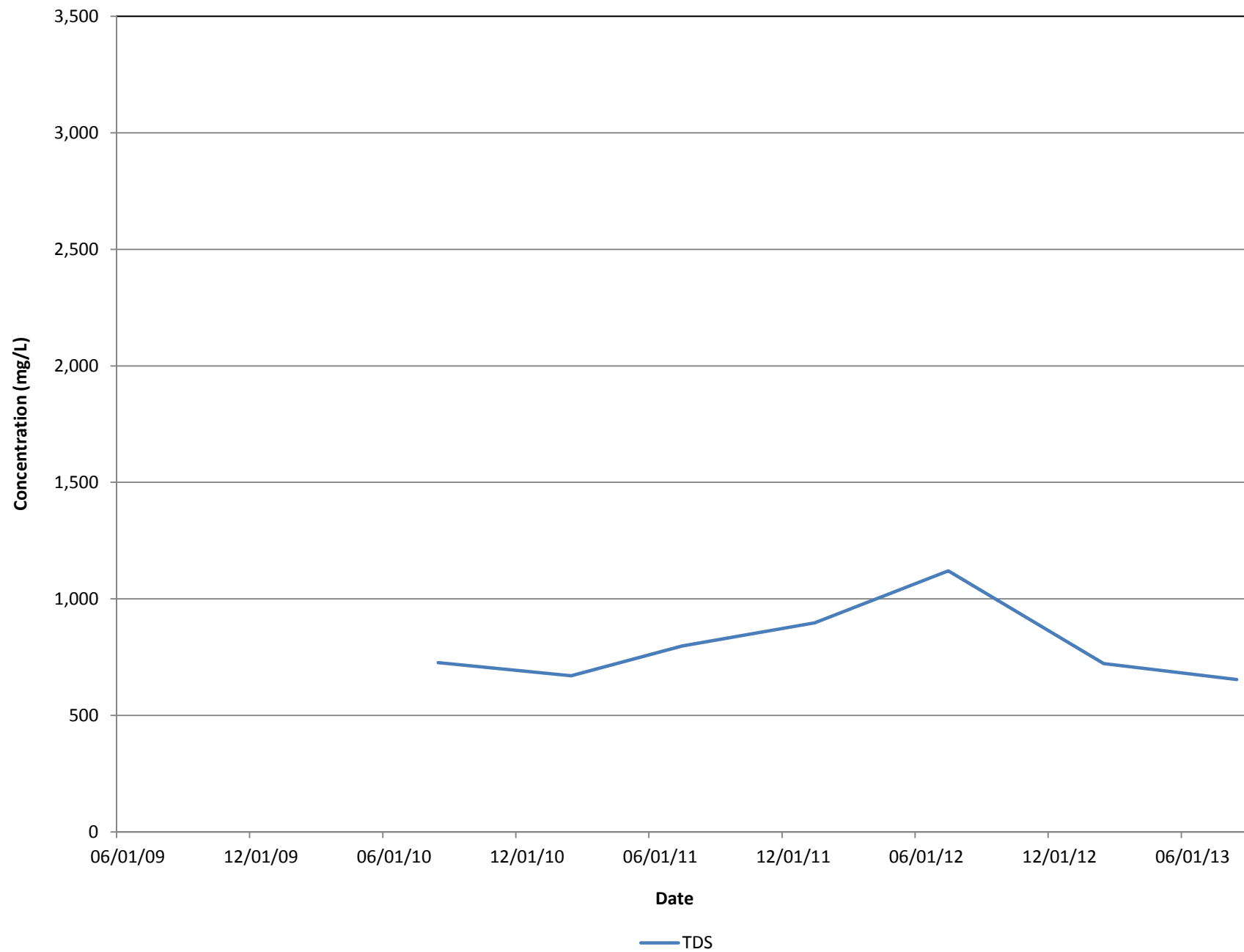
MW-28: SVOC CONCENTRATIONS OVER TIME



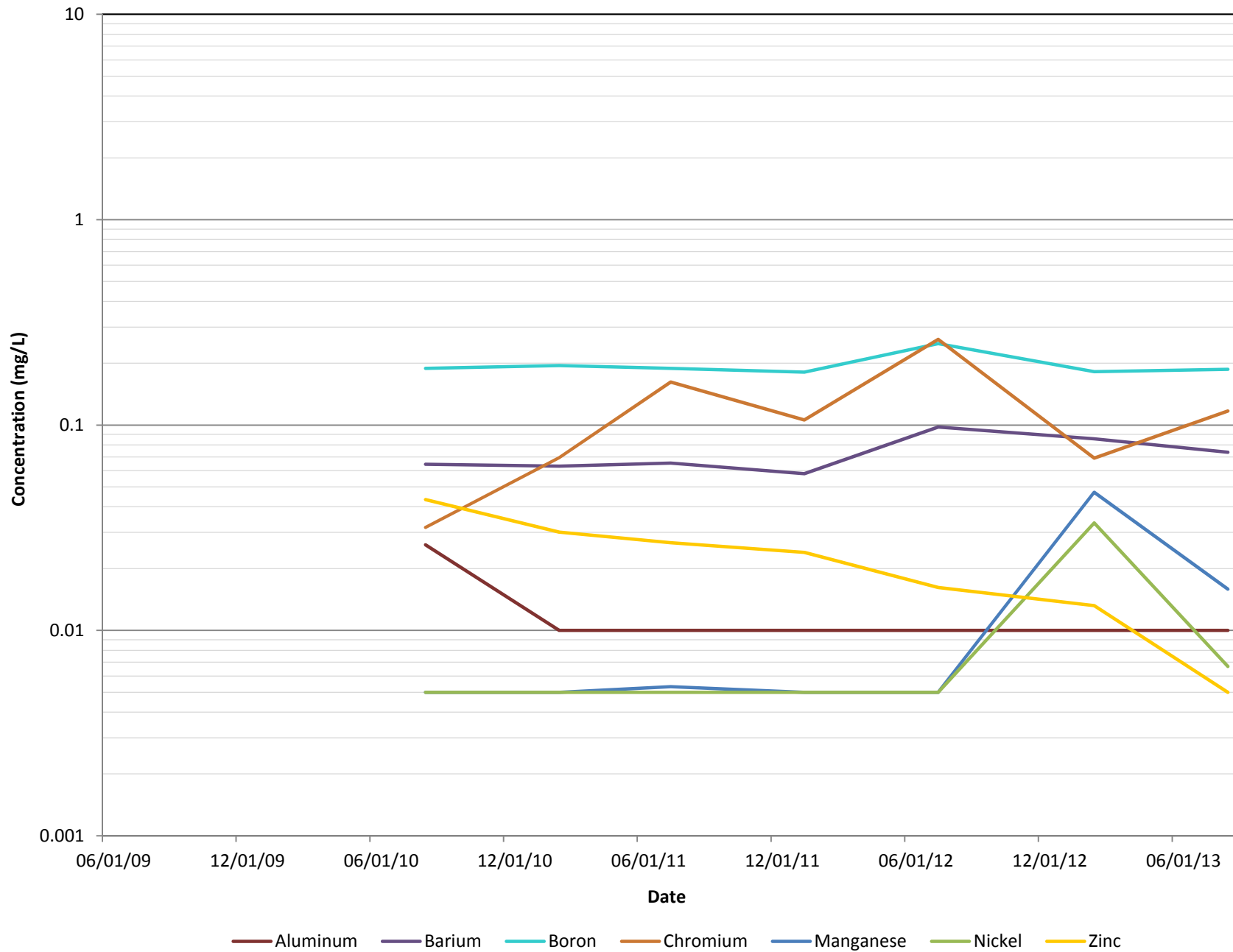
MW-29: ANION CONCENTRATIONS OVER TIME



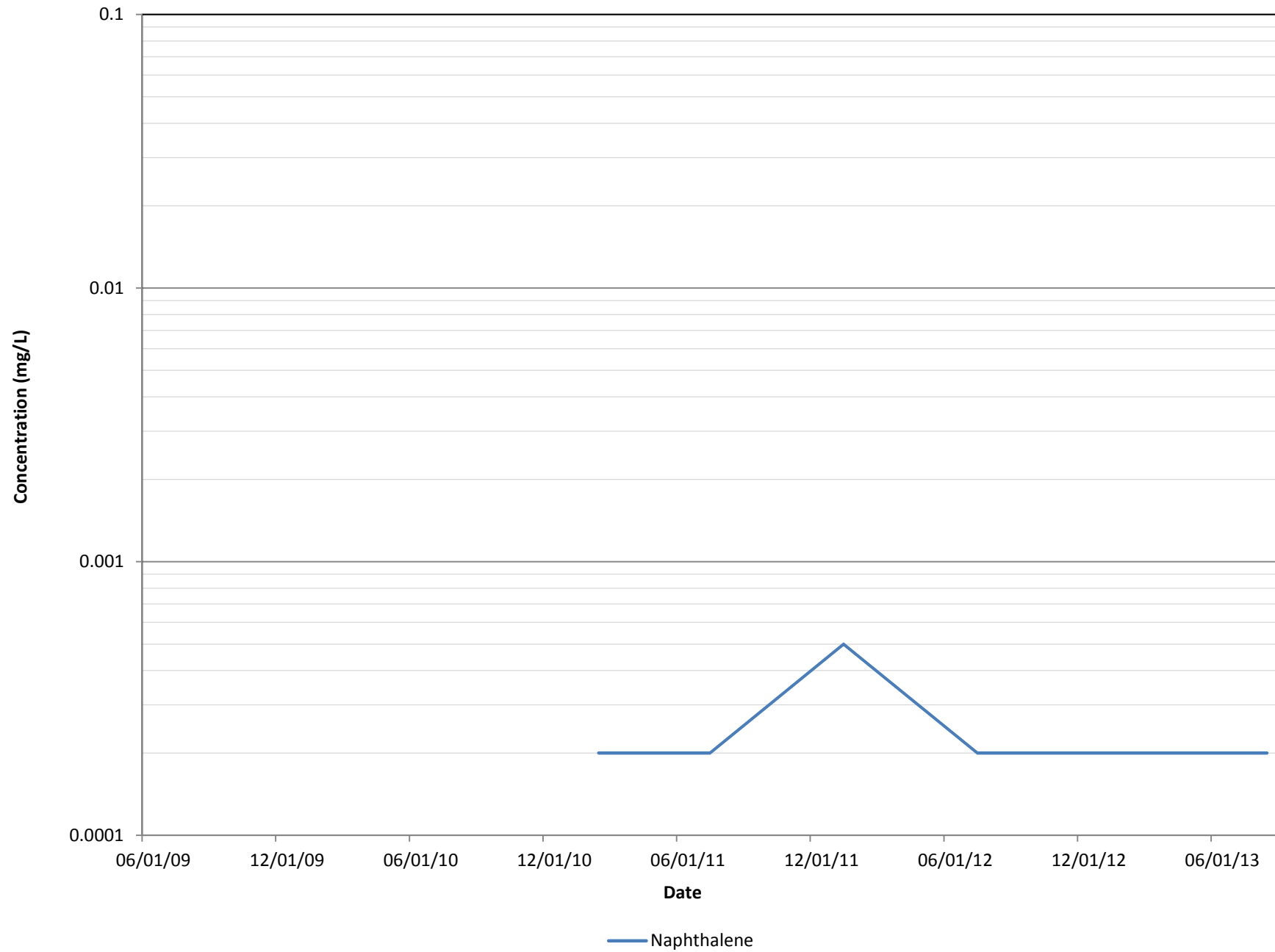
MW-29: TDS CONCENTRATIONS OVER TIME



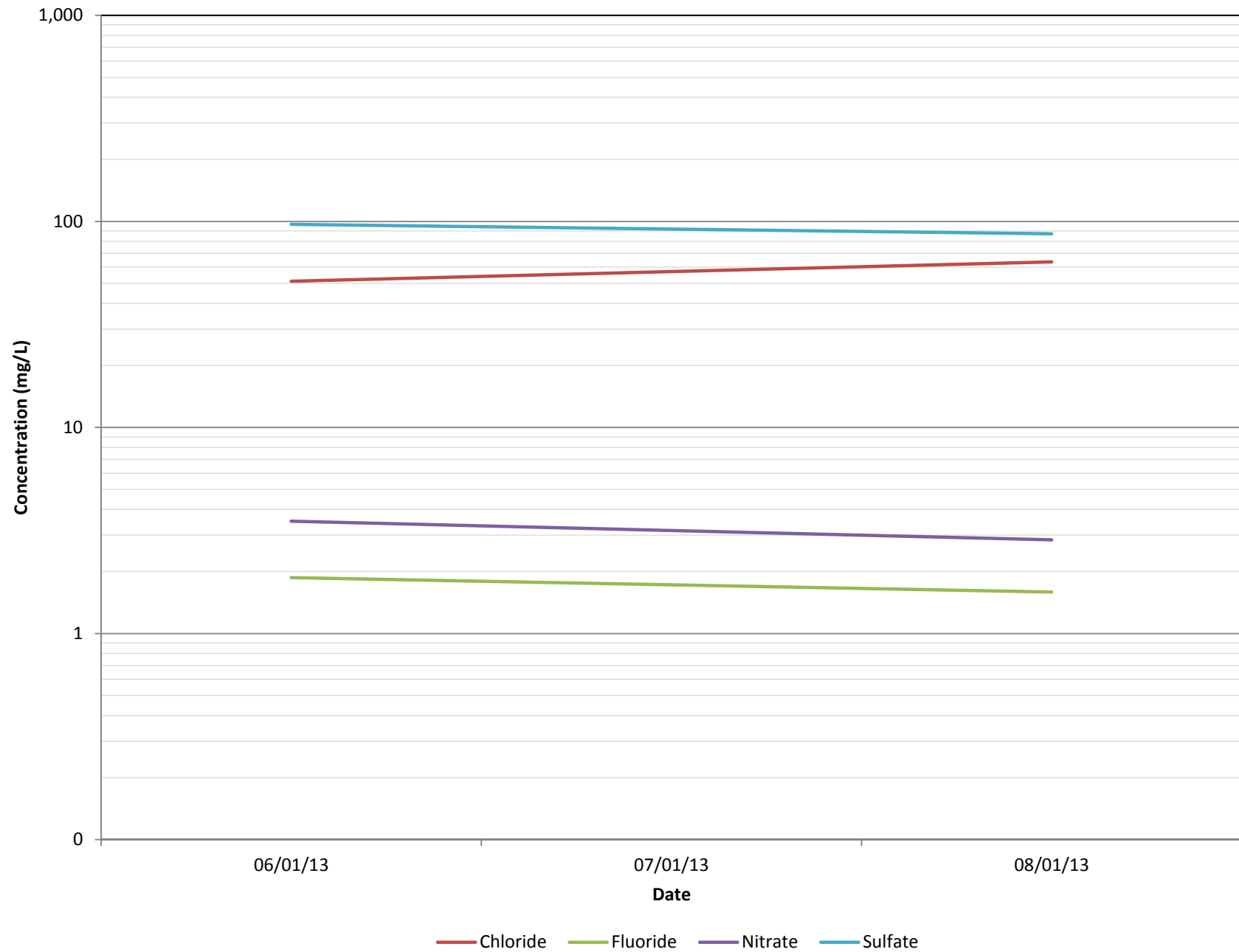
MW-29: METAL CONCENTRATIONS OVER TIME



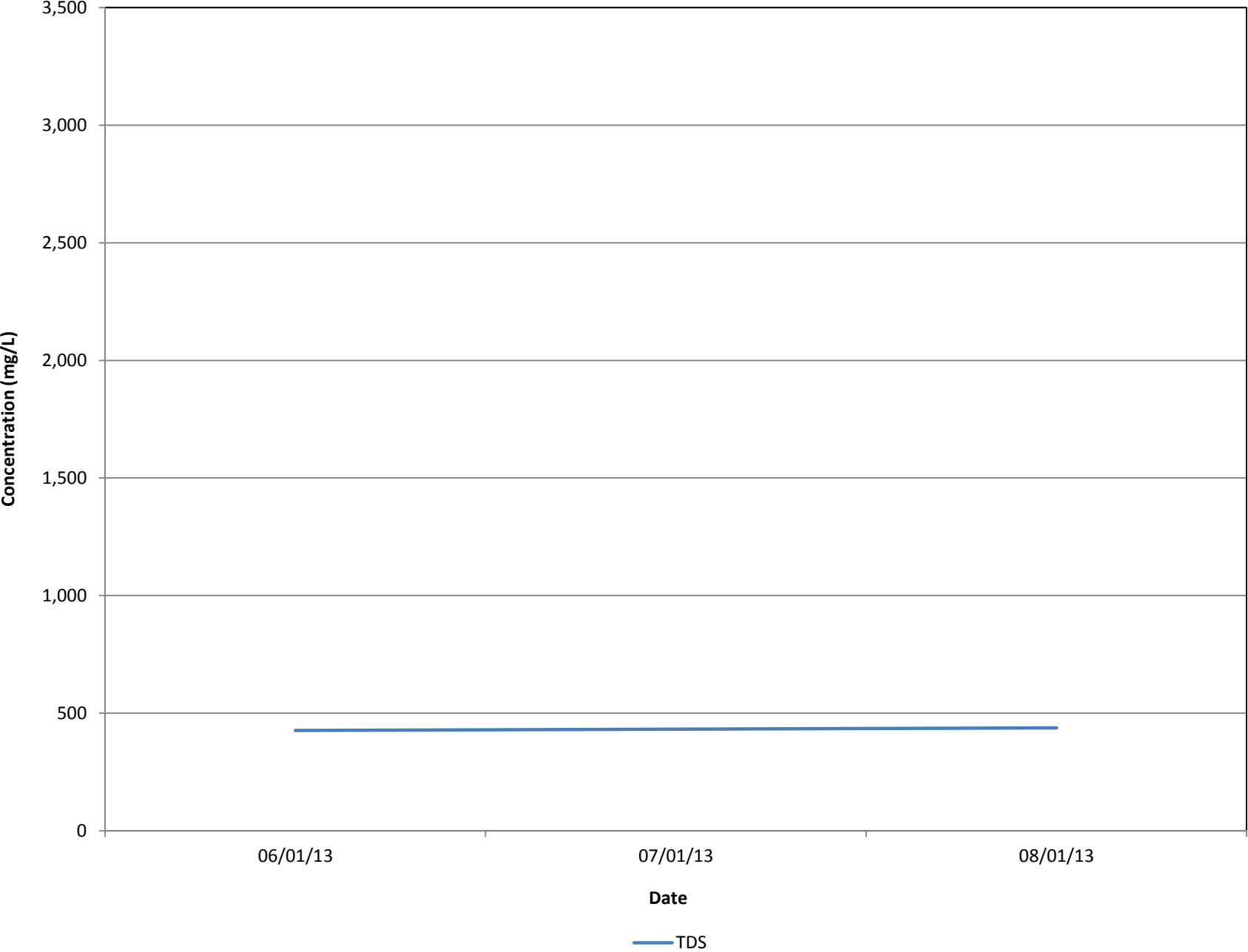
MW-29: SVOC CONCENTRATIONS OVER TIME



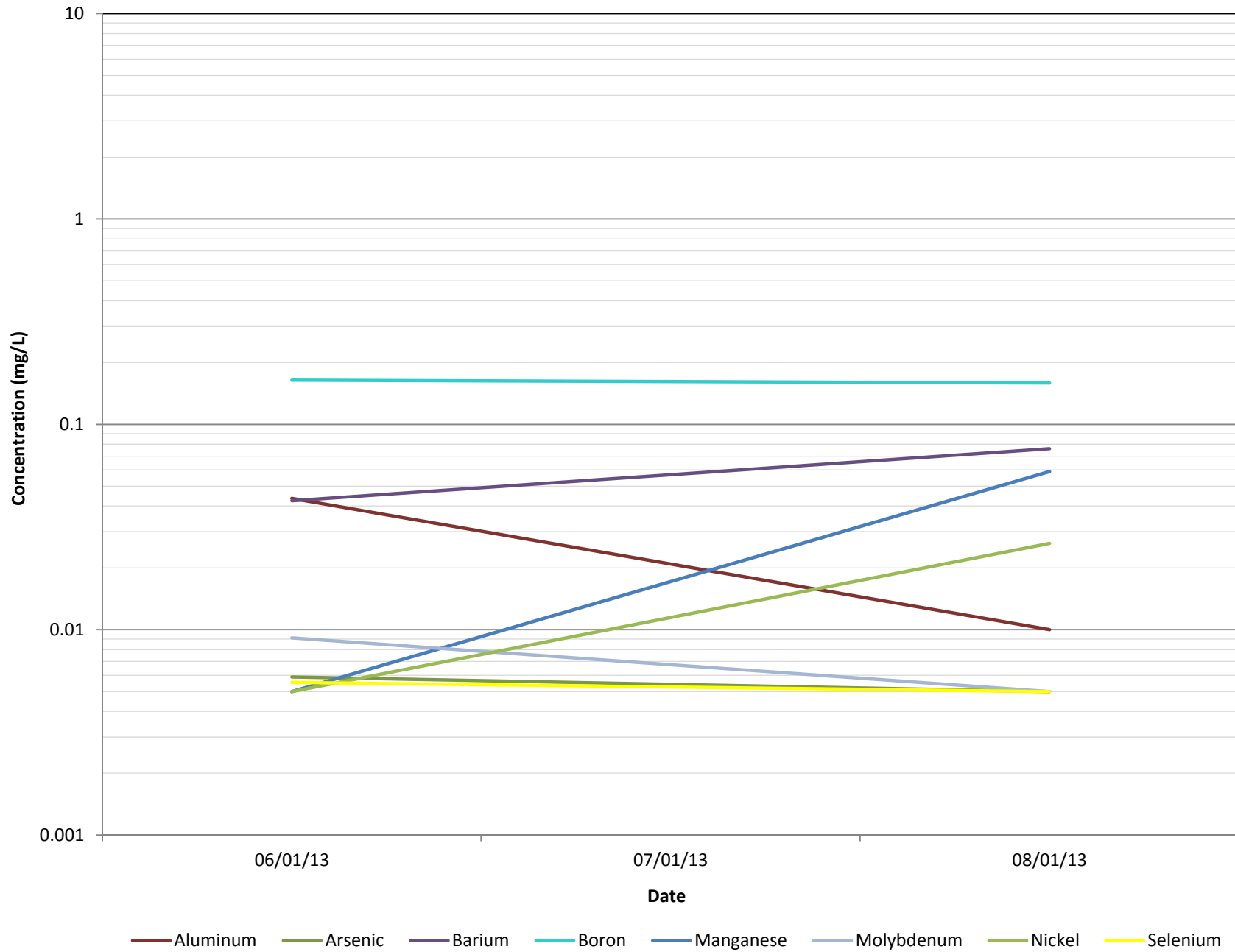
MW-30: ANION CONCENTRATIONS OVER TIME



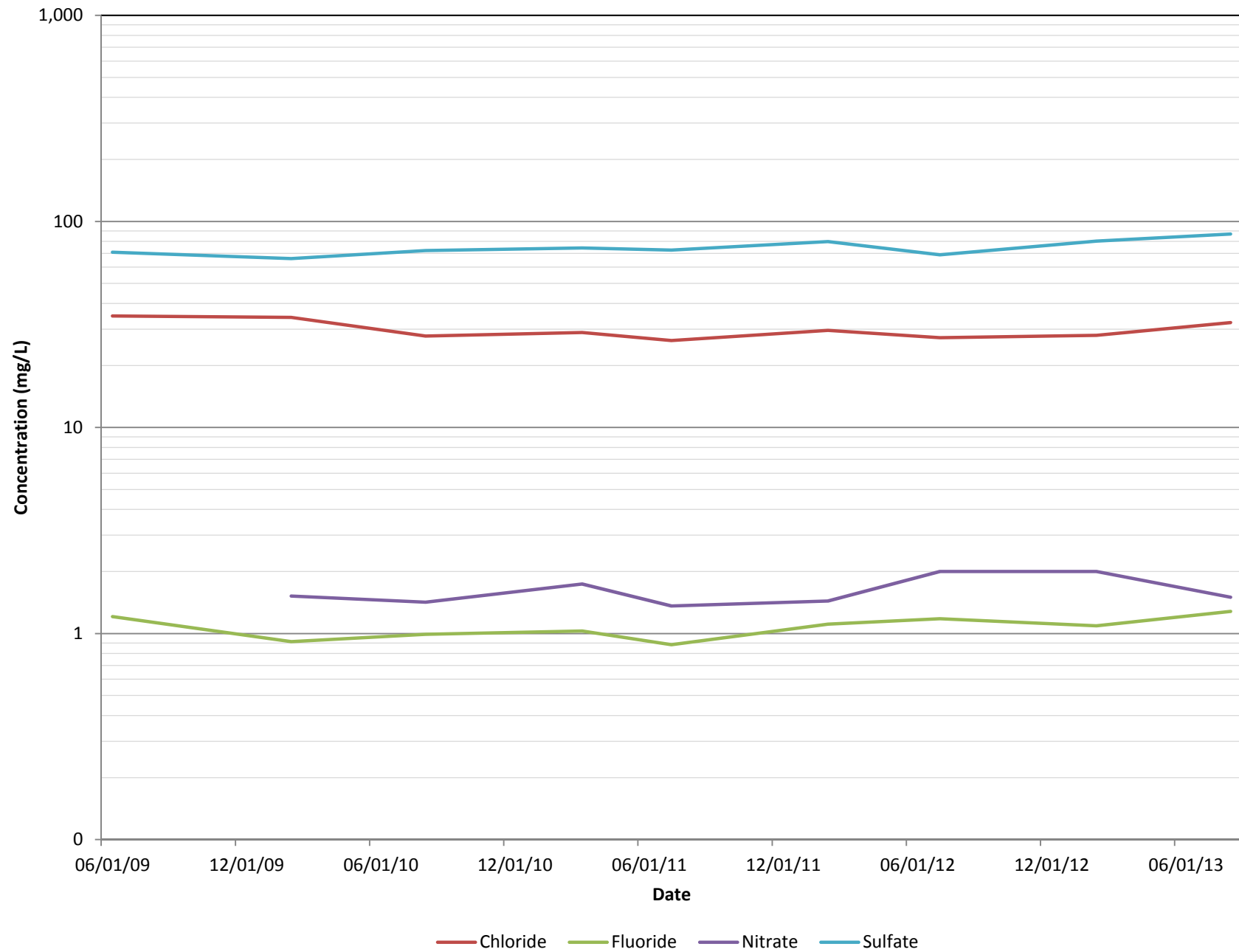
MW-30: TDS CONCENTRATIONS OVER TIME



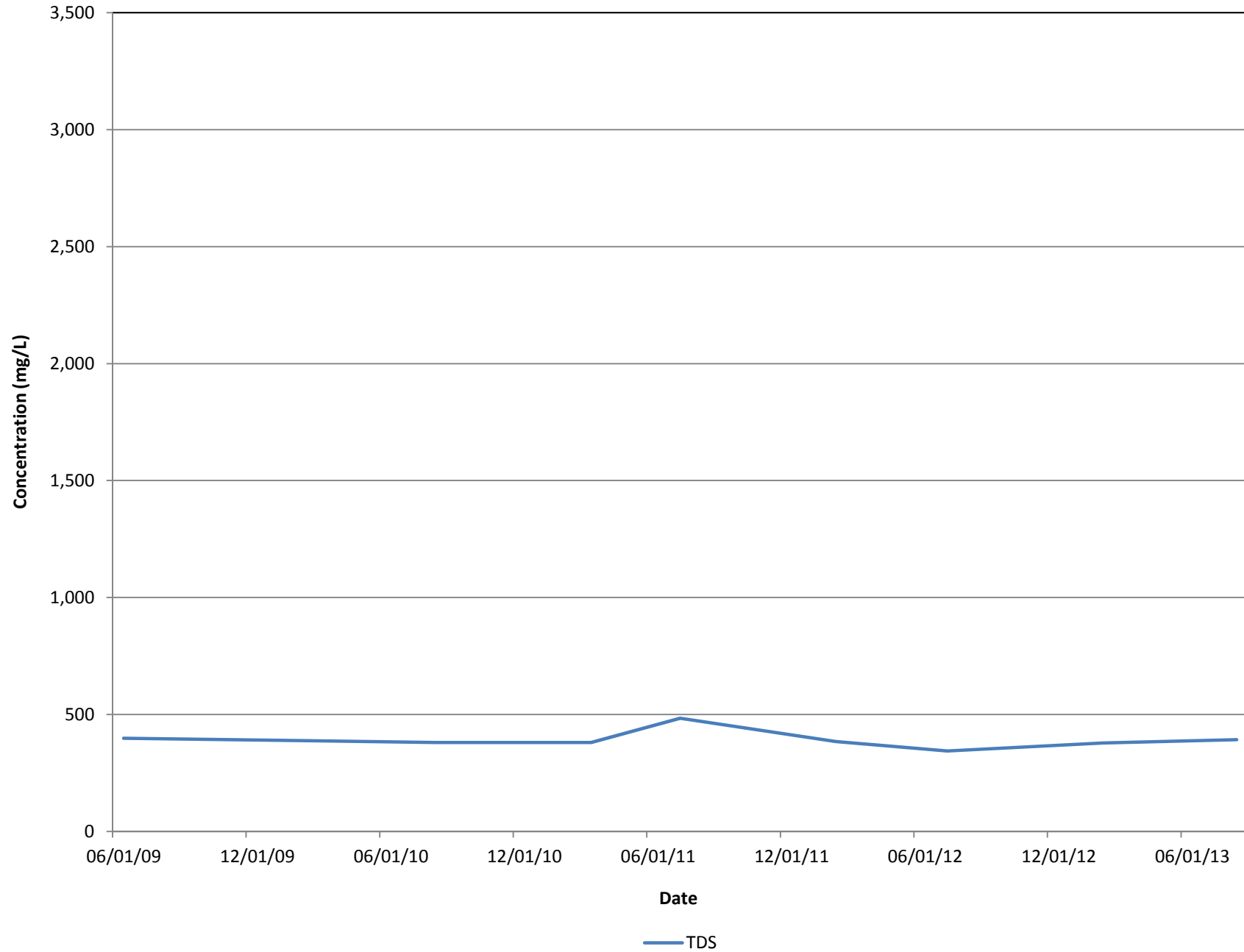
MW-30: METAL CONCENTRATIONS OVER TIME



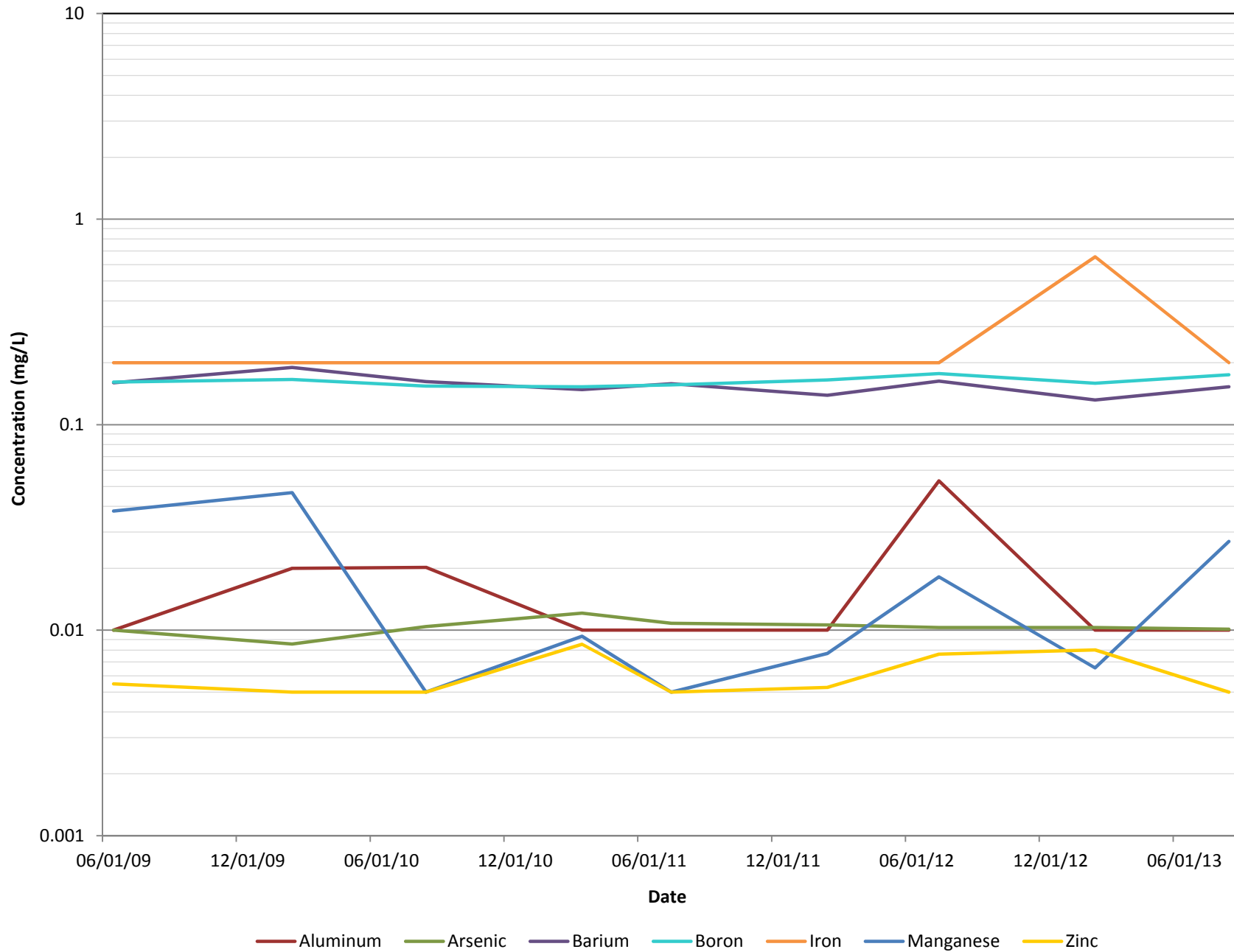
RW-1: ANION CONCENTRATIONS OVER TIME



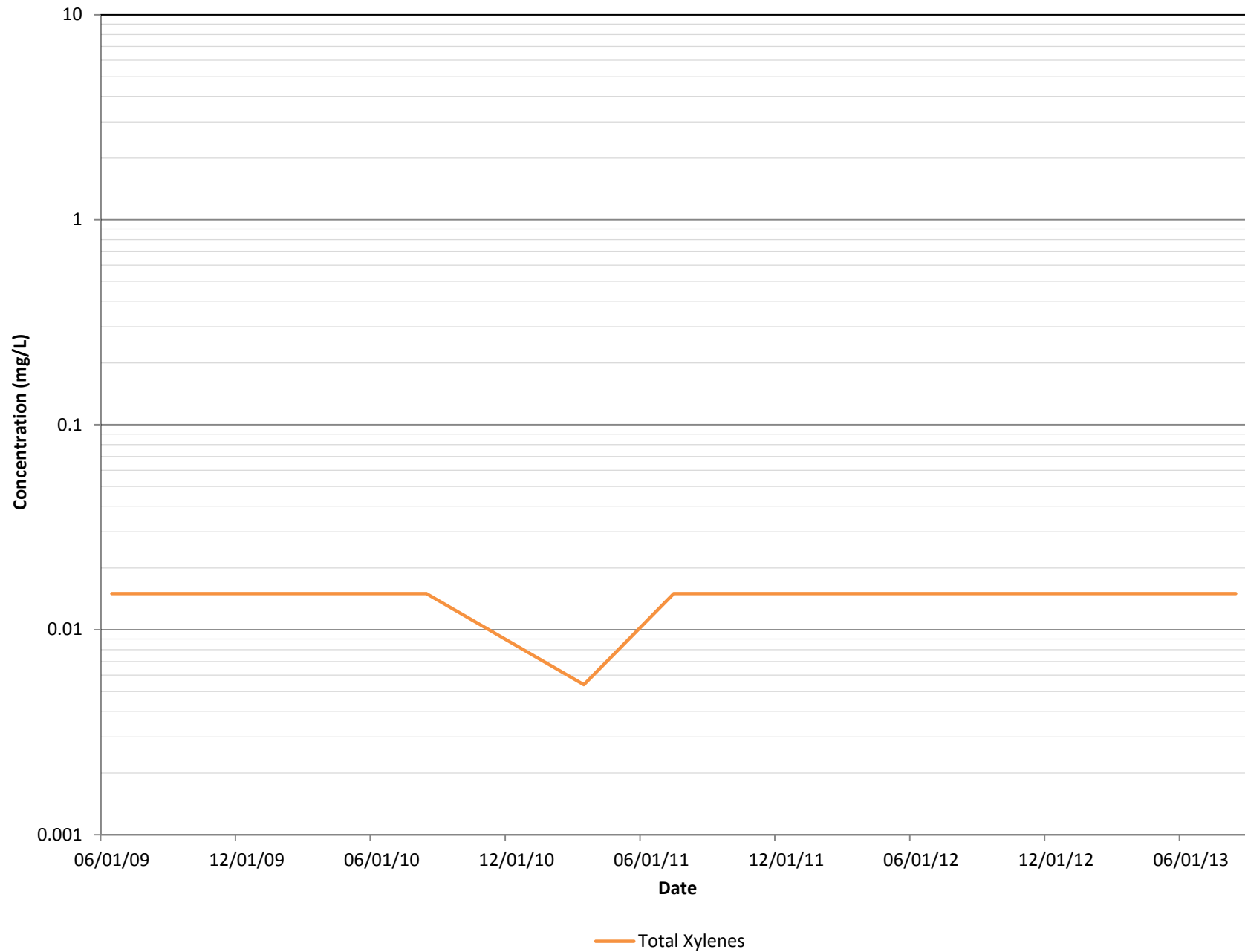
RW-1: TDS CONCENTRATIONS OVER TIME



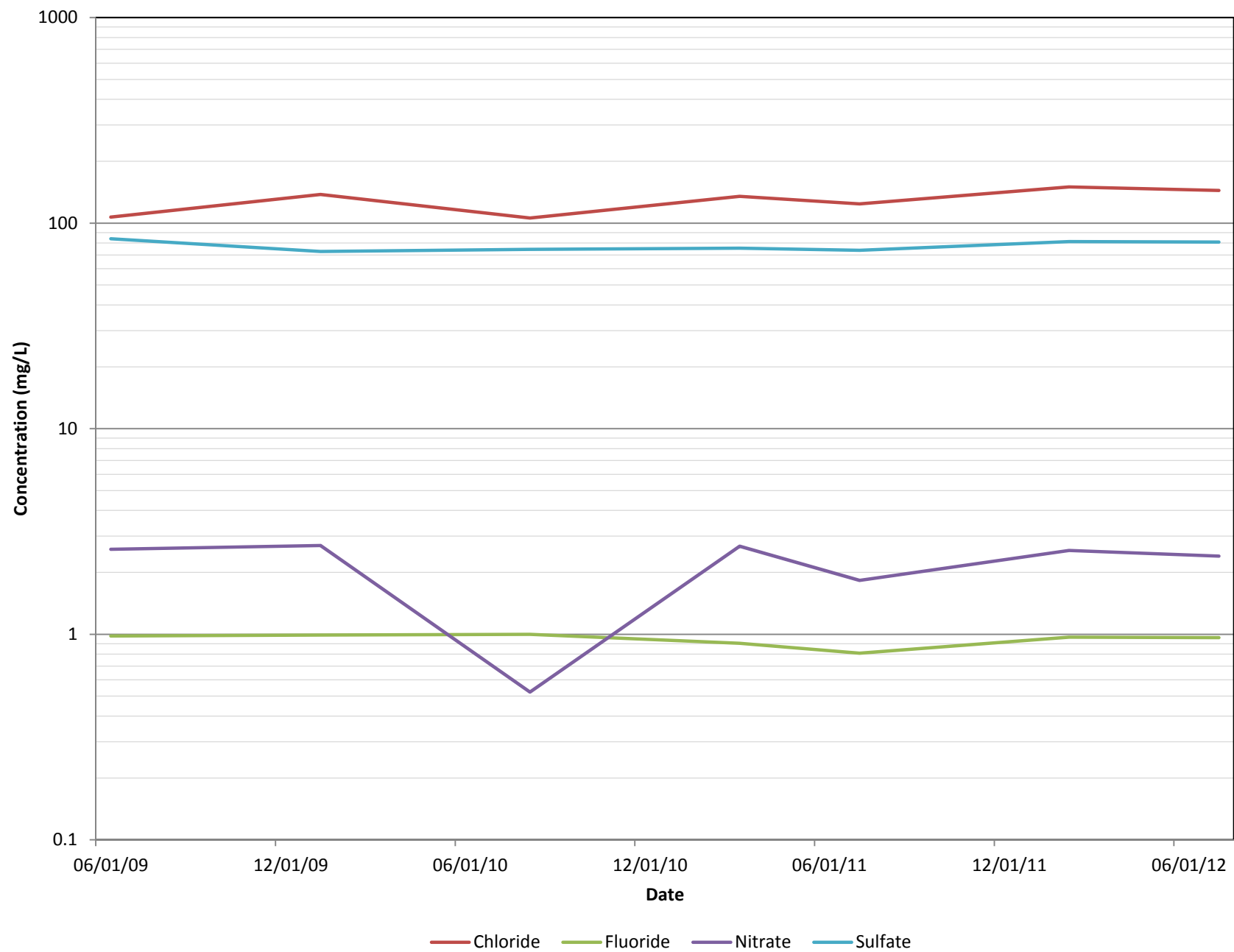
RW-1: METAL CONCENTRATIONS OVER TIME



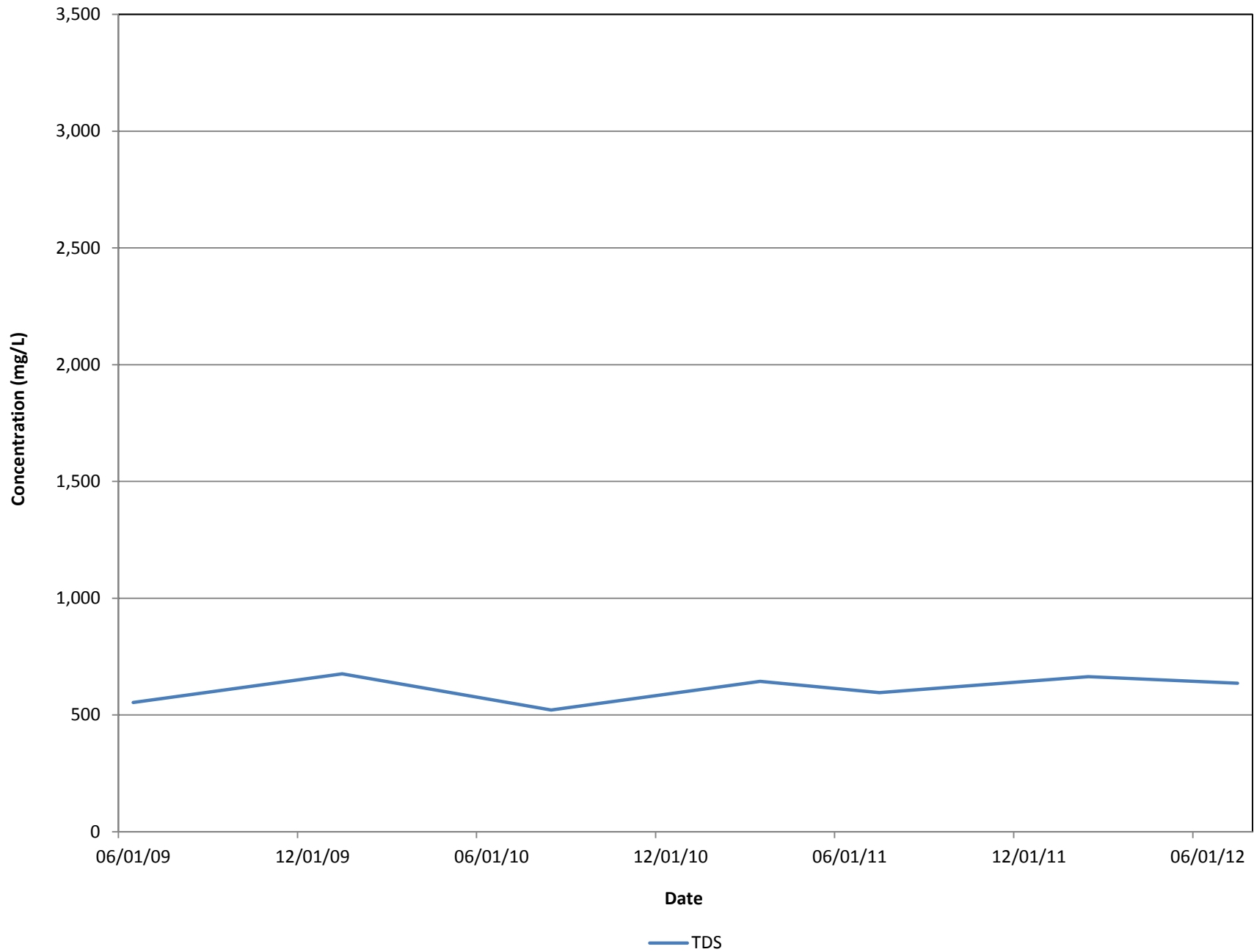
RW-1: VOC CONCENTRATIONS OVER TIME



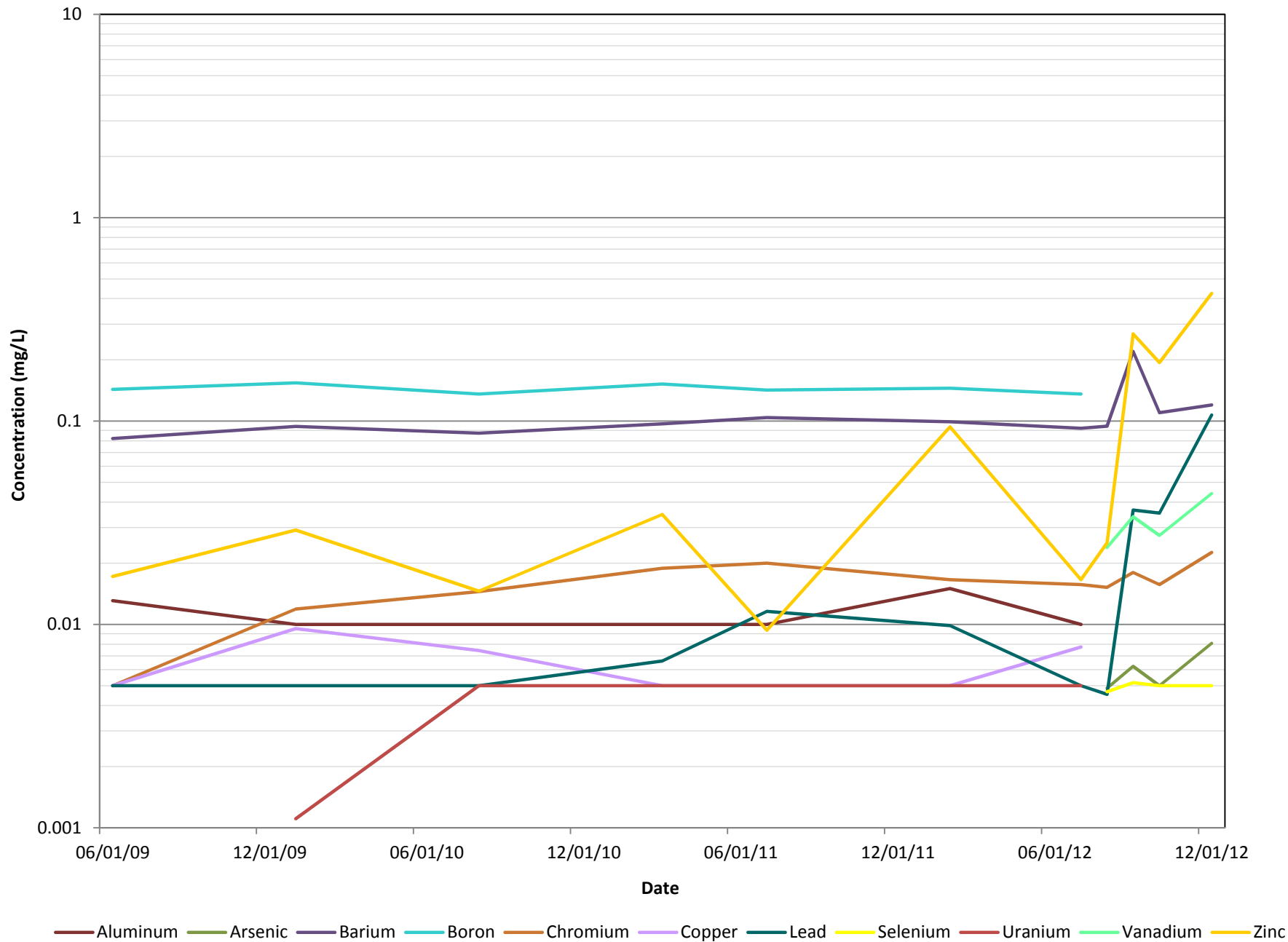
EAST WELL (WW-EAST): ANION CONCENTRATIONS OVER TIME



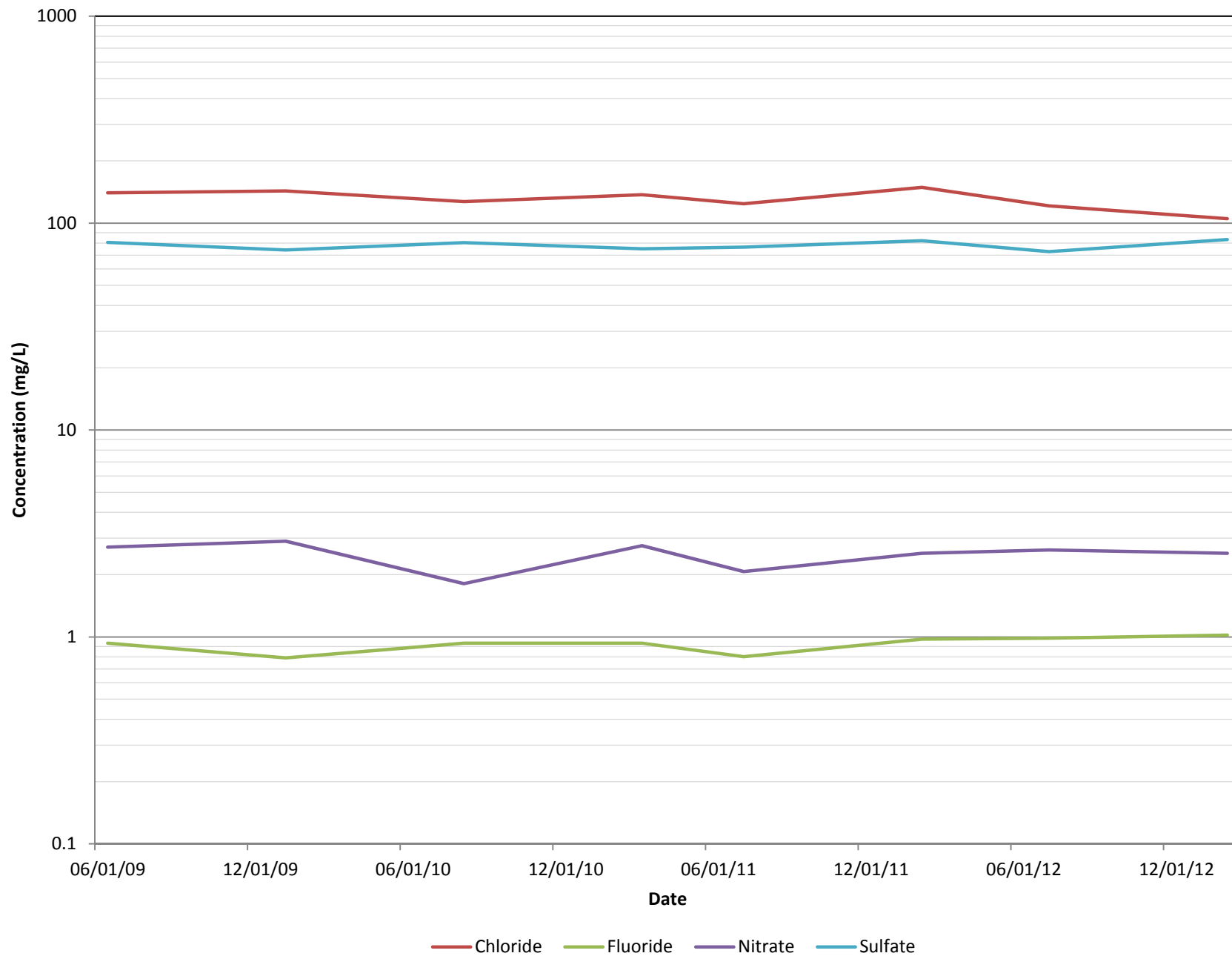
EAST WELL (WW-EAST): TDS CONCENTRATIONS OVER TIME



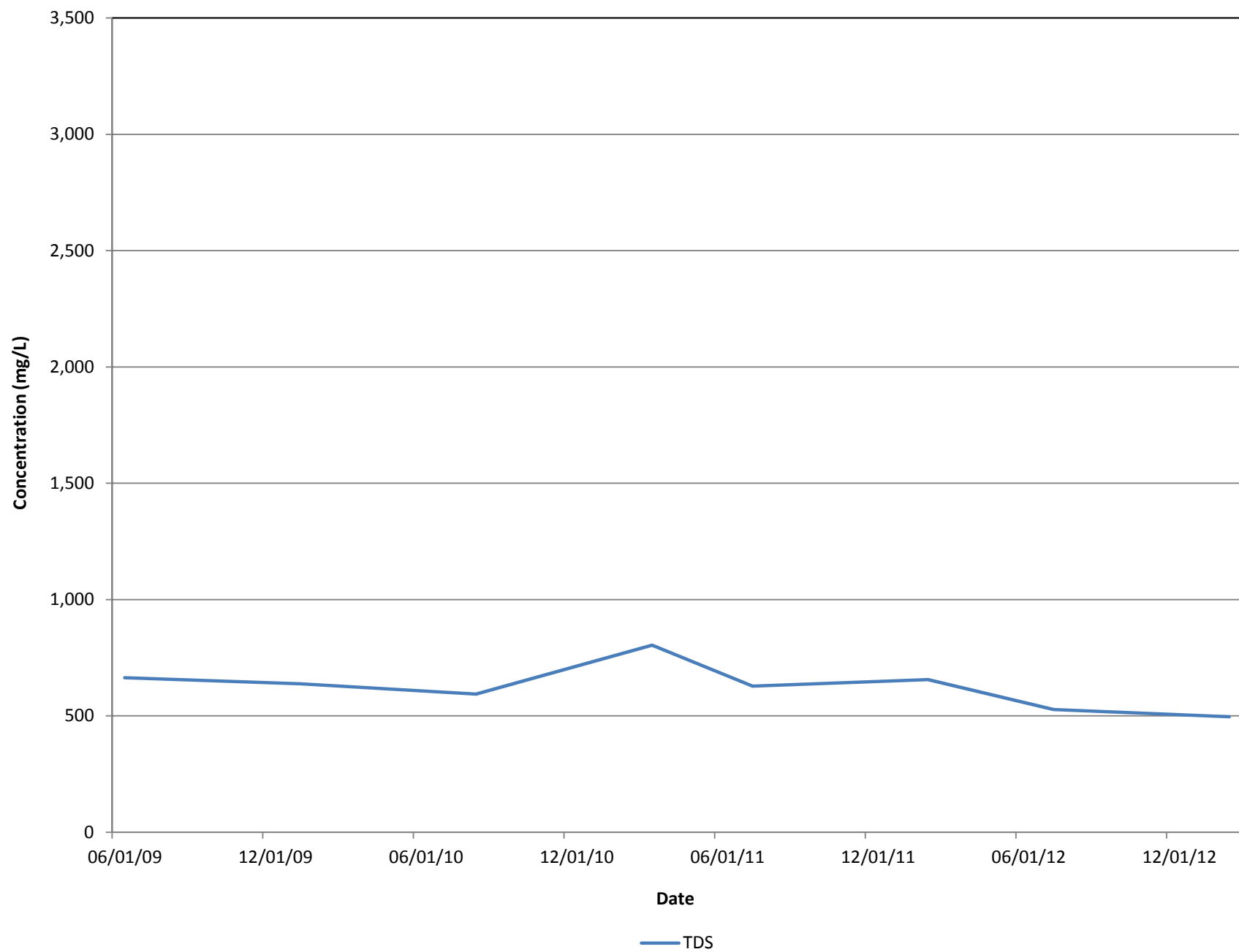
EAST WELL (WW-EAST): METAL CONCENTRATIONS OVER TIME



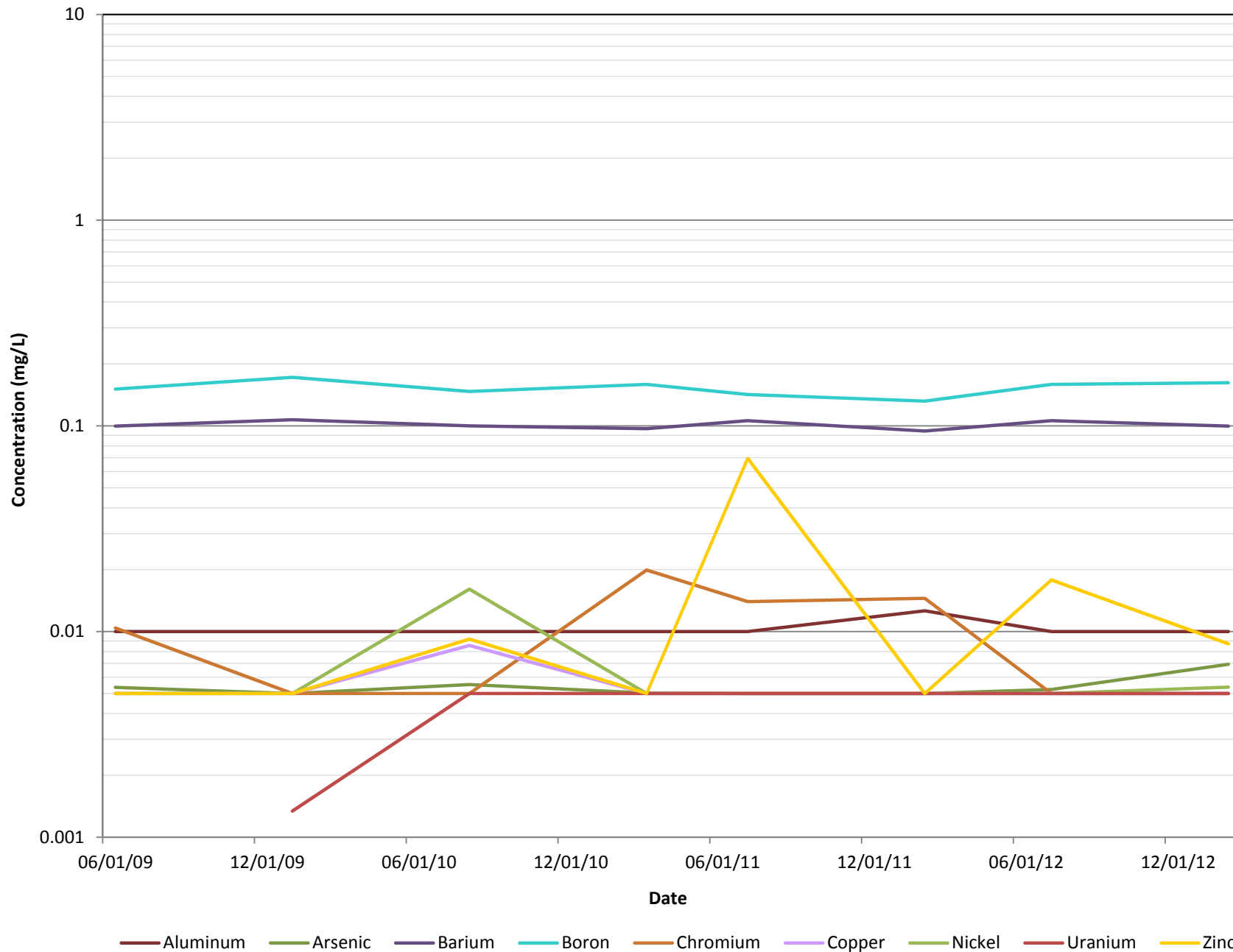
NORTH WELL (WW-NORTH): ANION CONCENTRATIONS OVER TIME



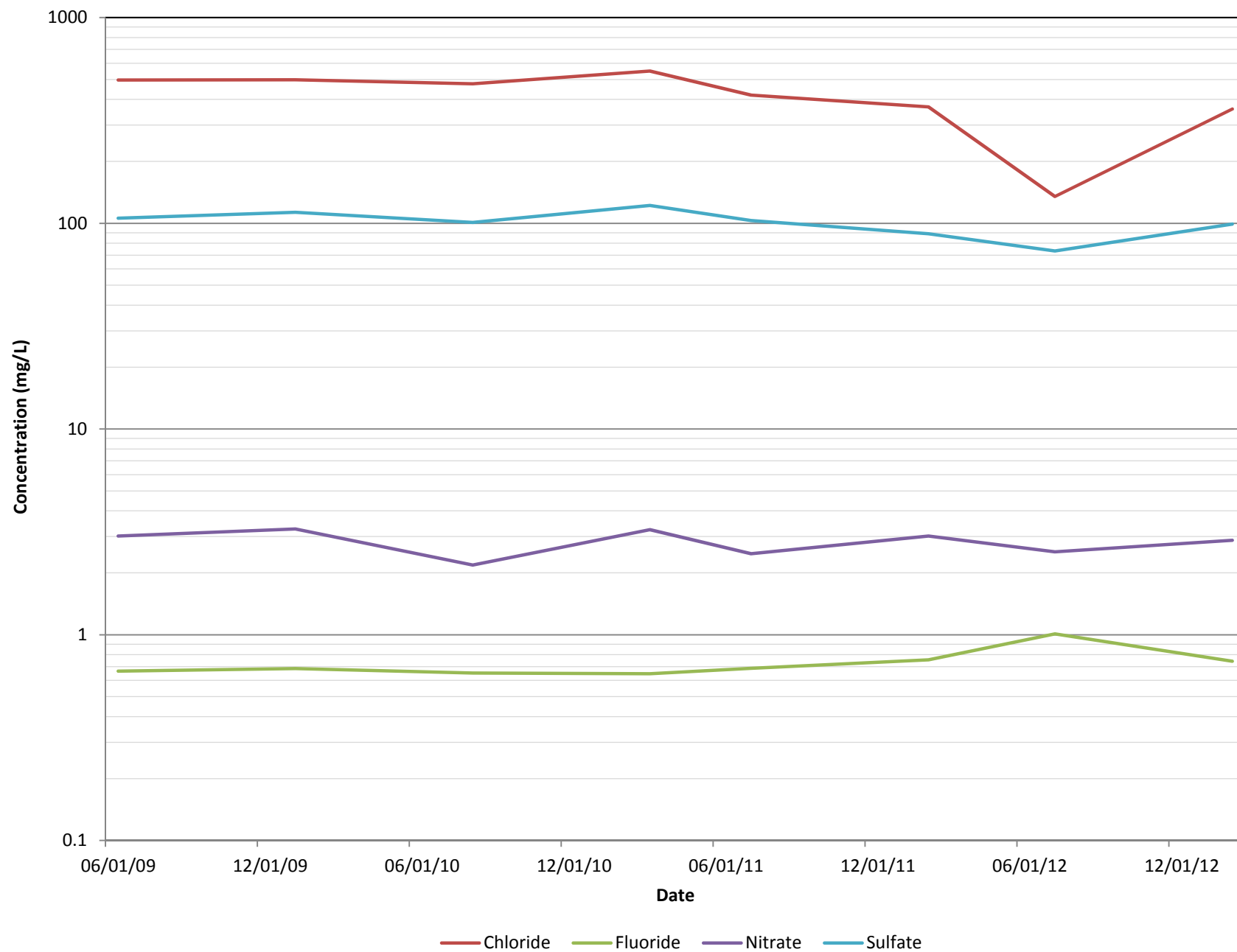
NORTH WELL (WW-NORTH): TDS CONCENTRATIONS OVER TIME



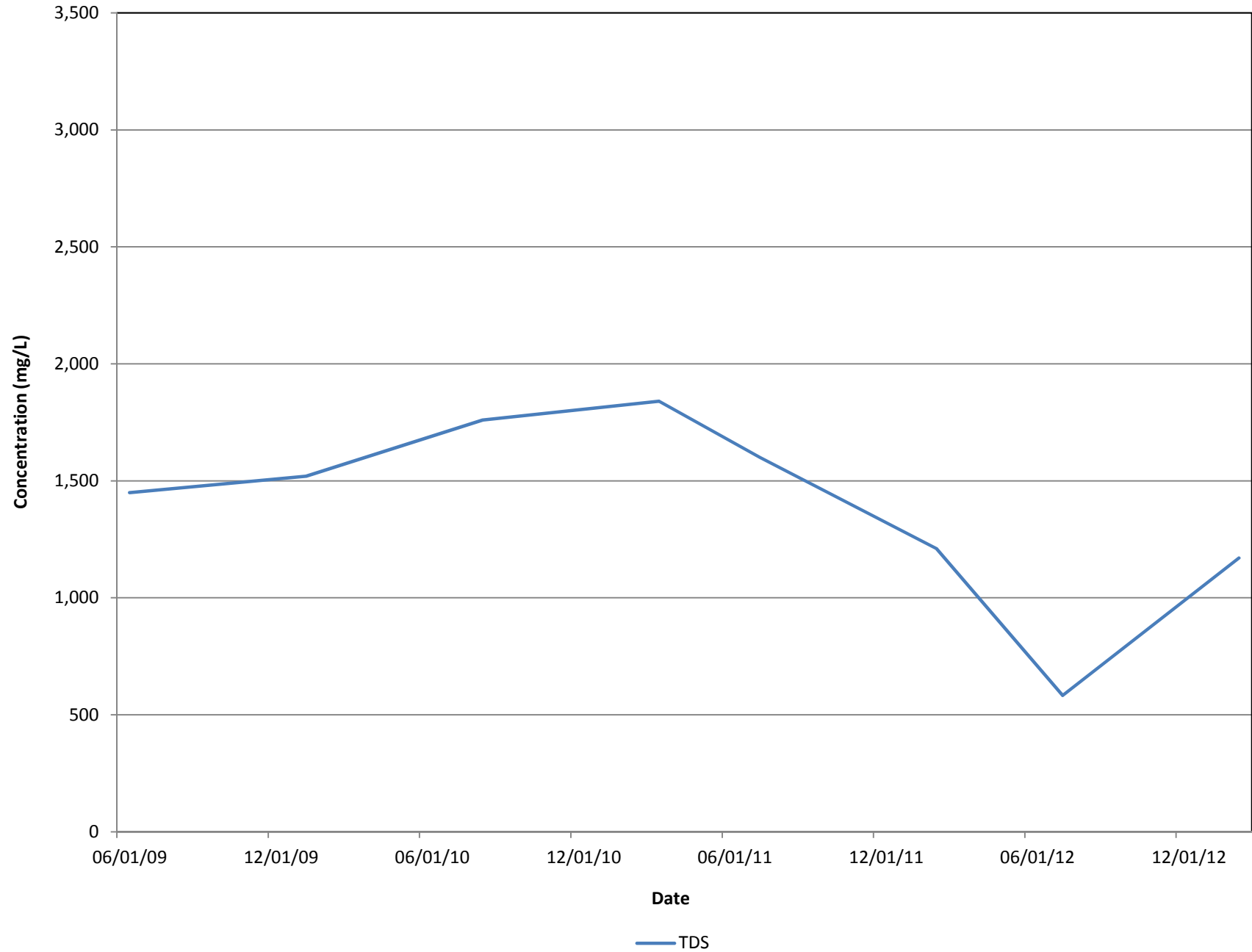
NORTH WELL (WW-NORTH): METAL CONCENTRATIONS OVER TIME



SOUTH WELL (WW-SOUTH): ANION CONCENTRATIONS OVER TIME



SOUTH WELL (WW-SOUTH): TDS CONCENTRATIONS OVER TIME



SOUTH WELL (WW-SOUTH): METAL CONCENTRATIONS OVER TIME

