

GW-028

**ANNUAL GW
MONITORING
REPORT (1 of 6)**

2014

Chavez, Carl J, EMNRD

From: Martinez, Cynthia, NMENV
Sent: Thursday, March 31, 2016 8:21 AM
To: scott.denton@hollyfrontier.com
Cc: Kieling, John, NMENV; Cobrain, Dave, NMENV; Dhawan, Neelam, NMENV; VanHorn, Kristen, NMENV; Tsinnajinnie, Leona, NMENV; Chavez, Carl J, EMNRD; Robert.Combs@hollyfrontier.com; lrodriguez@arcadis-us.com; king.laurie@epa.gov
Subject: Letter to Mr. Denton
Attachments: NRC 2016-Approval with Modifications 2014 Annual Groundwater Rpt Feb. 2015.pdf

*Good Morning All,
The attached letter will be mailed today.*

*Cynthia Martínez
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg.1
Santa Fe, New Mexico 87505
Phone 505-476-6000*



SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

**NEW MEXICO
ENVIRONMENT DEPARTMENT**

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov



RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

March 31, 2016

Mr. Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC
P.O. Box 159
Artesia, New Mexico 88211-0159

**RE: APPROVAL WITH MODIFICATIONS
2014 ANNUAL GROUNDWATER REPORT, FEBRUARY 2015
HOLLYFRONTIER NAVAJO REFINING LLC - ARTESIA REFINERY
EPA ID NO. NMD048918817
HWB-NRC-15-004**

Dear Mr. Denton:

The New Mexico Environment Department (NMED) has completed its review of HollyFrontier Navajo Refining L.L.C. - Artesia Refinery's (Permittee) *2014 Annual Groundwater Report* (Report), dated February 2015. NMED hereby issues this Approval with the following modifications.

Comment 1

In the Table of Contents, *Appendices*, page vi, the Permittee lists the contents on the CD included with the 2014 Report. Previous Annual Reports have included the field notes as part of the submittal; however, the 2014 Report did not include the field notes. NMED e-mailed the Permittee to request the field notes for the 2014 Report. The CD was received on January 29, 2016. NMED reviewed the pdf files from the field notes and noticed that previous submittals included more information than was provided on the CD. For example, the files labeled *1st Semiannual Event 2014 Field notes, Parts 1-4* contain a table of the wells to be sampled, maps with the well locations, chain of custody forms, one equipment blank form and one calibration

form, well sampling references, and blank field forms. The last two pdf files labeled 2nd *Semiannual Event 2014 Field notes, Parts 1-2* provide an excel spreadsheet with the monitoring data, chain of custody forms, field forms for sampled monitoring wells and a memorandum about low-flow groundwater monitoring. Previous Annual Reports have included handwritten monitoring data with notes and calibration forms that NMED reviews to clarify information and results. In future reports, ensure that all field notes are included with the submittal. No response required.

Comment 2

In Section 5.3.7.4 (Total Metals), page 49, the Permittee summarizes the analytical results for total metals for the field east of the Refinery. However, there is a typographical error in the results. The Permittee reports barium as bullet item two on page 48 and bullet item one on page 49. According to Table 4 (Summary of Groundwater Analytical Data), there are detections and exceedances for manganese that were not reported in this section. Provide a replacement page summarizing the manganese results with the response letter.

Comment 3

In Table 2 (Well Purging and Water Quality Measurement Data), the Permittee summarizes the water quality measurements from the well purging activities during the 2014 event. However, there appears to be a typographical error in reporting the specific conductivity. The specific conductivity appears to be one order of magnitude less than the specific conductivity data reported in the 2012 and 2013 Annual Groundwater Reports. Review the specific conductivity from the previous Annual Reports and provide an explanation for the discrepancy in the response letter or provide a corrected Table 2, if appropriate.

Comment 4

In Table 2 (Well Purging and Water Quality Measurement Data), the Permittee summarizes the water quality measurements from the well purging activities conducted during the 2014 event. It appears that several monitoring wells from the fields east of the Refinery (KWB-7, KWB-11A, KWB-11B, MW-113, MW-129, MW-133, MW-134, and MW-135) and one monitoring well near Three Mile Ditch (NP-1) have been reported with pH levels less than a pH 6 for the November 2014 monitoring event. pH levels have not been reported at these levels for these monitoring wells in the past. Explain why pH has changed in these monitoring wells in the response letter or correct the data as appropriate.

Comment 5

On Figure 6 (Shallow Saturated Zone Potentiometric Surface Map, 2014 Second Semiannual Event (Nov)), the Permittee presents the potentiometric surface contours for the November 2014 groundwater monitoring event. There appears to be water elevation depressions between the North Reverse Osmosis (RO) Reject Pond and the South RO Reject Pond and between Eagle Draw and the northwestern area of the North Plant Process Area for the November monitoring

events that were not discussed in the Report. The potentiometric surface maps from the 2012 and 2013 Annual Reports did not depict the depression between Eagle Draw and the northwestern area of the North Plan Process Area; however, the depression between the North and South RO Reject Ponds was present during the October 2013 monitoring event. Provide an explanation for these potentiometric surface depressions in the response letter and discuss these occurrences in future reports, if present.

Comment 6

In Appendix D (Trend Plots of COC Concentrations, Groundwater Elevations, and PSH Thickness), EP-TrendChart-2014, the Permittee provides electronic copies of trend charts for the monitoring wells for the Evaporation Ponds. There are some typographical errors in presenting the information on the trend charts. For example, the trend charts for MW-76 from pages 126 through 130 do not have proper labels for the plotted points for all of the constituents of concern (COC) charts with the exception of the water level elevation chart. In addition, pages 231 through 235 are missing the well location ID on the top of the charts. Provide corrected trend charts for MW-76 and the missing well location ID on a revised CD with the response letter and ensure all documents are reviewed prior to submitting the report.

Comment 7

In Appendix D (Trend Plots of COC Concentrations, Groundwater Elevations, and PSH Thickness), N Refinery-TrendChart-2014 and S Refinery-TrendChart2014, the Permittee provides electronic copies of trend charts for the monitoring wells for the North and South Refinery. There is a typographical error from pages 46 through 50 from the North Refinery pdf file and pages 41 through 45 from the South Refinery pdf file. The well location ID is missing from the top of the trend charts. Provide corrected trend charts for the missing well location IDs for the North and South Refinery pdf files on a revised CD with the response letter and ensure all documents are reviewed prior to submitting the report.

Mr. Denton
March 31, 2016
Page 4 of 4

The Permittee must address all comments in a response letter contained in this Approval with Modifications and submit the replacement pages, revised CD and response letter to NMED by **May 31, 2016**.

If you have any questions regard this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,



John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
N. Dhawan, NMED HWB
K. Van Horn, NMED HWB
L. Tsinnajinnie, NMED HWB
C. Chavez, NMEMNRD OCD
R. Combs, HollyFrontier Navajo Refining L.L.C., Artesia Refinery
L. Rodriguez, ARCADIS
L. King, EPA 6PD-N

File: Reading and NRC 2016, HWB-NRC-15-004



Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environmental Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

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

February 27, 2015

**RE: Submittal of the 2014 Annual Groundwater Report for the Navajo Refining Company,
Artesia Refinery
RCRA Permit No. NMD048918817**

Dear Mr. Kieling and Mr. Chavez:

Enclosed are both paper and electronic copies of the *2013 Annual Groundwater Report*, which fulfills requirements of Section 4.7.6.b of the Post Closure Care Permit and partially fulfills the requirements Section 2.F of Discharge Permit GW-028. The annual discharge report that fulfills the remaining requirements of Section 2.F of the Discharge Permit GW-028 will be submitted no later than March 15, 2015.

If you have any questions or comments regarding this report, please feel free to contact me at 575-746-5294 or Robert Combs at 575-746-5382.

Sincerely,

Brian Stone, P.E.
Environmental Specialist
Navajo Refining Company, LLC

c: Robert Combs, NRC
Pamela R. Krueger, ARCADIS



Navajo Refining Company
Artesia Refinery

2014 Annual Groundwater Report
RCRA Permit No. NMD048918817
Discharge Permit GW-028

February 2015



A handwritten signature in black ink, appearing to read "Pamela Krueger".

Pamela Krueger
Senior Project Manager, ARCADIS

**2014 Annual Groundwater
Report**

RCRA Permit No. NMD048918817
Discharge Permit GW-028

Prepared for:
New Mexico Environment Department
Hazardous Waste Bureau
and
New Mexico Energy, Minerals and Natural
Resources Department - Oil Conservation
Division

Prepared by:
ARCADIS U.S., Inc.
2929 Briarpark
Suite 300
Houston
Texas 77042
Tel 713.953.4800
Fax 713.977.4620

Our Ref.:
TX000836.0004.00004

Date:
February 27, 2015

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.



Certification	vii
List of Acronyms	viii
Executive Summary	x
1. Introduction	1
2. Scope of Services	3
2.1 Monitoring Well Installation, Damage, and Repairs	3
2.1.1 New Monitoring Wells Installed in 2014	3
2.1.1.1 Contaminant Migration Evaluation	3
2.1.1.2 Background Groundwater Evaluation	3
2.1.1.3 Main API Separator (SWMU 22)	4
2.1.2 Well Repairs	4
2.2 Phase-Separated Hydrocarbon and Water Level Measurements	5
2.3 Groundwater Sample Collection and Handling	5
2.4 Equipment Decontamination Procedures	7
2.5 Investigation-Derived Waste	7
2.6 Exceptions to Groundwater Monitoring Work Plan	8
2.6.1 2014 First Semiannual Event Exceptions	8
2.6.2 2014 Second Semiannual Event Exceptions	10
3. Regulatory Criteria	12
4. Monitoring Results	13
4.1 Groundwater Gauging Results	13
4.2 Phase-Separated Hydrocarbons	14
4.2.1 North Colony Landfarm and Diesel Tank Farm Area	14
4.2.2 North Refinery Area	15
4.2.3 Tetra Ethyl Lead Area	15
4.2.4 South Refinery and Field East of Refinery	15
4.2.5 Evaporation Ponds Area	16



5. Chemical Analytical Data	17
5.1 Sample Analyses	17
5.2 Data Validation	18
5.2.1 2014 First Semiannual Event Data Validation	18
5.2.2 2014 Second Semiannual Event Data Validation	19
5.3 Discussion of Analytical Data	19
5.3.1 North Colony Landfarm	22
5.3.1.1 Total Petroleum Hydrocarbons – Gasoline Range Organics	22
5.3.1.2 Total Petroleum Hydrocarbons – Diesel Range Organics	22
5.3.1.3 Volatile Organic Compounds	23
5.3.1.4 Total Metals	23
5.3.1.5 Cyanide	24
5.3.1.6 Water Quality Parameters	25
5.3.2 Tetra Ethyl Lead Surface Impoundment	26
5.3.2.1 Total Petroleum Hydrocarbons – Gasoline Range Organics	26
5.3.2.2 Total Petroleum Hydrocarbons – Diesel Range Organics	26
5.3.2.3 Volatile Organic Compounds	26
5.3.2.4 Total Metals	27
5.3.2.5 Cyanide	28
5.3.2.6 Water Quality Parameters	28
5.3.3 Evaporation Ponds	28
5.3.3.1 Total Petroleum Hydrocarbons – Gasoline Range Organics	29
5.3.3.2 Total Petroleum Hydrocarbons – Diesel Range Organics	29
5.3.3.3 Volatile Organic Compounds	30
5.3.3.4 Total Metals	30
5.3.3.5 Cyanide	32

5.3.3.6	Water Quality Parameters	32
5.3.4	Three Mile Ditch	33
5.3.4.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	33
5.3.4.2	Total Petroleum Hydrocarbons – Diesel Range Organics	33
5.3.4.3	Volatile Organic Compounds	34
5.3.4.4	Total Metals	34
5.3.4.5	Cyanide	35
5.3.4.6	Water Quality Parameters	35
5.3.5	North Refinery Area	36
5.3.5.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	36
5.3.5.2	Total Petroleum Hydrocarbons – Diesel Range Organics	37
5.3.5.3	Volatile Organic Compounds	37
5.3.5.4	Total Metals	39
5.3.5.5	Cyanide	40
5.3.5.6	Water Quality Parameters	40
5.3.6	South Refinery Area	40
5.3.6.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	41
5.3.6.2	Total Petroleum Hydrocarbons – Diesel Range Organics	41
5.3.6.3	Volatile Organic Compounds	42
5.3.6.4	Total Metals	43
5.3.6.5	Cyanide	44
5.3.6.6	Water Quality Parameters	45
5.3.7	Field East of Refinery	45
5.3.7.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	45
5.3.7.2	Total Petroleum Hydrocarbons – Diesel Range Organics	45



5.3.7.3	Volatile Organic Compounds	46
5.3.7.4	Total Metals	48
5.3.7.5	Cyanide	49
5.3.7.6	Water Quality Parameters	49
5.3.8	Crossgradient and Upgradient Areas	49
5.3.8.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	50
5.3.8.2	Total Petroleum Hydrocarbons – Diesel Range Organics	50
5.3.8.3	Volatile Organic Compounds	50
5.3.8.4	Total Metals	50
5.3.8.5	Cyanide	51
5.3.8.6	Water Quality Parameters	51
5.3.9	RO Reject Discharge Fields	51
5.3.9.1	Total Petroleum Hydrocarbons – Gasoline Range Organics	51
5.3.9.2	Total Petroleum Hydrocarbons – Diesel Range Organics	52
5.3.9.3	Volatile Organic Compounds	52
5.3.9.4	Metals	52
5.3.9.5	Water Quality Parameters	52
6.	Remediation System Monitoring	54
6.1	Recovery System with Dedicated Down Hole Pumps	54
6.2	Manual Recovery of Isolated Wells Using Bailers	54
6.3	Estimated Volume of Fluids Recovered	55
6.4	Interaction with Office of the State Engineer	55
7.	Conclusions	57
8.	References	58



Tables

Table 1	Well Information and Gauging Data
Table 2	Well Purging and Water Quality Measurement Data
Table 3	Groundwater Screening Levels and Selected Critical Groundwater Screening Level
Table 4	Summary of Groundwater Analytical Data
Table 5	Summary of Production from Recovery Trenches and Wells

Figures

Figure 1	Site Location Map
Figure 2	Well Locations
Figure 3	Well Locations and Tank Information within Refinery
Figure 4	Shallow Saturated Zone Potentiometric Surface Map 2014 First Semiannual Event (March)
Figure 5	Valley Fill Zone Potentiometric Surface Map 2014 First Semiannual Event (March)
Figure 6	Shallow Saturated Zone Potentiometric Surface Map 2014 Second Semiannual Event (November)
Figure 7	Valley Fill Zone Potentiometric Surface Map 2014 Second Semiannual Event (November)
Figure 8	Phase-Separated Hydrocarbon Map 2014 First Semiannual Event
Figure 9	Phase-Separated Hydrocarbon Map 2014 Second Semiannual Event
Figure 10	DRO Critical Groundwater Screening Level Exceedance Areas 2014 First Semiannual Event
Figure 11	DRO Critical Groundwater Screening Level Exceedance Areas 2014 Second Semiannual Event
Figure 12	Arsenic Critical Groundwater Screening Level Exceedance Areas 2014 First Semiannual Event
Figure 13	Arsenic Critical Groundwater Screening Level Exceedance Areas 2014 Second Semiannual Event
Figure 14	Benzene Critical Groundwater Screening Level Exceedance Areas 2014 First Semiannual Event



- Figure 15 Benzene Critical Groundwater Screening Level Exceedance Areas 2014 Second Semiannual Event
- Figure 16 Naphthalene Critical Groundwater Screening Level Exceedance Areas 2014 First Semiannual Event
- Figure 17 Naphthalene Critical Groundwater Screening Level Exceedance Areas 2014 Second Semiannual Event
- Figure 18 MTBE Critical Groundwater Screening Level Exceedance Areas 2014 First Semiannual Event
- Figure 19 MTBE Critical Groundwater Screening Level Exceedance Areas 2014 Second Semiannual Event

Appendices (all on compact disc)

- Appendix A Monitoring Well Logs
- Appendix B 2014 Rainfall Records
- Appendix C Laboratory Reports and Tabulated Data 2012-2014

Tables:

- C.1 Groundwater Analytical Data 2012-2014: Total Petroleum Hydrocarbons*
- C.2 Groundwater Analytical Data 2012-2014: Total Metals*
- C.3 Groundwater Analytical Data 2012-2014: Dissolved Metals*
- C.4 Groundwater Analytical Data 2012-2014: Volatile Organic Compounds*
- C.5 Groundwater Analytical Data 2012-2014: Semivolatile Organic Compounds*
- C.6 Groundwater Analytical Data 2012-2014: Water Quality Parameters*

2014 Analytical Data Reports

- Appendix D Trend Plots of COC Concentrations, Groundwater Elevations, and PSH Thickness
- Appendix E Data Validation Reports
- Appendix F Recovery System Records
- Appendix G January 30, 2015 Status of the Groundwater Recovery System letter



Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in cursive script that reads "Brian Stone".

Brian Stone, P.E.
Environmental Specialist, Navajo Refining

List of Acronyms

1,2-DCA	1,2-dichloroethane
1,2,4-TMB	1,2,4-trimethylbenzene
2013 FWGMWP	2013 Facility-Wide Groundwater Monitoring Work Plan
ARCADIS	ARCADIS U.S., Inc.
CGWSL	Critical Groundwater Screening Level
COC	constituent of concern
DO	dissolved oxygen
DRO	diesel range organics
EP	Evaporation Pond
GRO	gasoline range organics
HMI	Hydrologic Monitoring, LLC
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
MTBE	methyl tert-butyl ether
NCL	North Colony Landfarm
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NRC	Navajo Refining Company
NWS	National Weather Service
OCD	New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division
ORP	oxidation-reduction potential
OSE	Office of the State Engineer
PCC Permit	Post-Closure Care Permit
PSH	phase-separated hydrocarbon

PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
refinery	Artesia Refinery
report	2014 Annual Groundwater Report
RO	reverse osmosis
SESI	Safety and Environmental Solutions, Inc.
SWMU	solid waste management unit
TDS	total dissolved solid
TEL	tetra ethyl lead
TMD	Three Mile Ditch
TPH	total petroleum hydrocarbon
VOC	volatile organic compound
WQCC	Water Quality Control Commission

Executive Summary

Navajo Refining Company (NRC) owns and operates the Artesia Refinery (refinery) in Artesia, New Mexico (Figure 1). The refinery has been in operation since the 1920s and processes crude oil into asphalt, fuel oil, gasoline, diesel, jet fuel, and liquefied petroleum gas. NRC maintains a groundwater monitoring program according to the requirements of the Post-Closure Care Permit (PCC Permit), which is administered by the New Mexico Environment Department (NMED) Hazardous Waste Bureau. The PCC Permit (NMED 2010) was modified and reissued in December 2010 with an effective date of January 14, 2011. The PCC Permit (NMED 2010) also requires Navajo (the Permittee) to recover phase-separated hydrocarbons (PSHs), where present, from the shallow groundwater.

The refinery is also regulated by the New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division (OCD). The OCD issued a renewal to Discharge Permit GW-028 (OCD 2012) dated August 22, 2012. Among other requirements, the Discharge Permit (OCD 2012) requires semiannual facility-wide groundwater monitoring and submittal of an annual report summarizing the groundwater monitoring and remediation conducted throughout each year.

On behalf of NRC, ARCADIS U.S., Inc. (ARCADIS) prepared the 2013 Facility-Wide Groundwater Monitoring Work Plan (2013 FWGMWP; ARCADIS 2013) submitted to the NMED and the OCD on June 27, 2013, as required by the PCC Permit (NMED 2010). Approval, with modifications, was received from the NMED in a letter dated January 29, 2014 (NMED 2014a). The semiannual monitoring events of 2014 were performed according to the approved 2013 FWGMWP (ARCADIS 2013).

This 2014 Annual Groundwater Report (report) follows the format specified in Appendix E.4 of the PCC Permit (NMED 2010) and summarizes the activities performed throughout 2014 to comply with the 2013 FWGMWP (ARCADIS 2013).

The activities performed during 2014 included installation of new monitoring wells, collection of field data, collection of groundwater samples for chemical analyses, and remediation system operation and monitoring. Section 2 of this report describes the groundwater monitoring activities completed, including any exceptions to the planned activities. Several exceptions to the planned monitoring program during the first semiannual event resulted in NRC selecting a different sample collection subcontractor and analytical laboratory prior to the second semiannual event.

Field measurements, analytical data, and remediation system documentation are summarized in Sections 4, 5, and 6 of this report. Maps showing the monitoring well locations and depicting the groundwater gradient, presence of PSH, and groundwater screening level exceedance areas for diesel range organics (DRO), arsenic, benzene, naphthalene and methyl tert-butyl ether (MTBE) are also provided. Detailed plots of concentrations of constituents of concern in specific monitoring wells through time as well as plots of the static water level in those monitoring wells versus time are provided in an appendix to the report.

The following conclusions are based upon the information obtained in 2014 and a comparison to data from prior years:

- Groundwater flow direction and gradient remains generally consistent with that measured during past years. Discharge of the RO reject water to the RO reject fields and operation of the recovery system groundwater pumps have localized influence of groundwater gradients, creating a slight mound beneath the RO reject fields. Localized groundwater sinks are observed around recovery wells when the total fluids pumps are operating.
- The PSH plume shapes were modified, as shown in Figures 8 and 9, based on the findings of the contaminant migration evaluation investigation performed in 2014. The findings included refinement of the lithologic model for the site through identification of gravel lenses. However, a general reduction in the PSH plume was observed during the second semiannual event, which is attributable to the rise in the groundwater potentiometric surface throughout the area.
- Concentrations of dissolved phase organic constituents have generally remained stable, although increasing trends were noted in specific areas. The overall shape of the dissolved phase constituent plumes remain similar to previous years, although slight changes were observed due to installation of additional wells.
- Upgrades to the PSH recovery system have been completed and the system operated more consistently throughout 2014.

- The Office of the State Engineer (OSE) requested that pumping of groundwater be halted while a review of the water rights associated with the shallow saturated zone is completed. The recovery system is currently being operated using the PSH pumps only, with the exception of the total fluids pump placed in the french drain immediately to the east of Bolton Road (RW-20).

According to the requirements of the updated PCC Permit (NMED 2010), an updated FWGMWP will be submitted in June 2015.

1. Introduction

Navajo Refining Company (NRC) owns and operates the Artesia Refinery (refinery) in Artesia, New Mexico (Figure 1). The refinery has been in operation since the 1920s and processes crude oil into asphalt, fuel oil, gasoline, diesel, jet fuel, and liquefied petroleum gas. The facility is regulated under the Resource Conservation and Recovery Act (RCRA). In October 2003, the Secretary of the New Mexico Environment Department (NMED) issued a Post-Closure Care Permit (PCC Permit) to NRC for the Artesia Refinery Facility (United States Environmental Protection Agency ID number NMD048918817). The PCC Permit was modified and reissued in December 2010 (NMED 2010), with an effective date of January 14, 2011.

The PCC Permit (NMED 2010) authorizes and requires Navajo (the Permittee) to conduct post-closure care at the closed tetra ethyl lead (TEL) surface impoundment and the North Colony Landfarm (NCL) and to take appropriate actions to achieve RCRA closure of the inactive Evaporation Ponds (EPs). These areas and the locations of all existing monitoring and recovery wells are shown on Figures 2 and 3.

Among other action items, the PCC Permit (NMED 2010) requires the Permittee to maintain a groundwater monitoring program to evaluate the effectiveness of the corrective action program for groundwater and to meet the requirements of 20.4.1.500 New Mexico Administrative Code (NMAC) (incorporating 40 Code of Federal Regulations Part 264, Subpart F) during the post-closure care period. The PCC Permit (NMED 2010) also requires the Permittee to recover phase-separated hydrocarbons (PSH), where present, from the shallow groundwater.

The refinery is also regulated by the New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division (OCD). The OCD issued a renewal to Discharge Permit GW-028 (OCD 2012) dated August 22, 2012. Among other requirements, the Discharge Permit (OCD 2012) requires semiannual facility-wide groundwater monitoring and submittal of an annual report summarizing the groundwater monitoring and remediation conducted throughout each year.

On behalf of NRC, ARCADIS U.S., Inc. (ARCADIS) prepared the 2013 Facility-Wide Groundwater Monitoring Work Plan (2013 FWGMWP; ARCADIS 2013) submitted to the NMED and the OCD on June 27, 2013. The 2013 FWGMWP was approved, with modifications, by NMED in a letter dated January 29, 2014 (NMED 2014a). As required by the PCC Permit, the 2013 FWGMWP was updated in 2014 and submitted to the NMED and OCD on June 27, 2014 (ARCADIS 2014). NMED provided approval of the 2014 FWGMWP in a letter dated February 18, 2015 (NMED 2015).



The 2014 first and second semiannual monitoring events of 2014 were performed according to the approved 2013 FWGMWP (ARCADIS 2013). Additional wells installed during 2014 were included in the groundwater monitoring program and were sampled on a semiannual gauging and monitoring schedule.

This 2014 Annual Groundwater Report (report) follows the format specified in Appendix E.4 of the PCC Permit (NMED 2010) and summarizes the activities performed throughout 2014 to comply with the 2013 FWGWMP (ARCADIS 2013).

2. Scope of Services

This section describes groundwater monitoring and associated activities performed during 2014. The first semiannual sampling event was conducted from March 25 to April 30, 2014. The second semiannual sampling was conducted from November 10 to November 13, 2014.

2.1 Monitoring Well Installation, Damage, and Repairs

2.1.1 New Monitoring Wells Installed in 2014

2.1.1.1 Contaminant Migration Evaluation

Twelve monitoring wells, MW-125, MW-126A, MW-126B, and MW-127 through MW-135, were installed in January through February 2014. These monitoring wells were installed as part of the contaminant migration evaluation and are located the eastern portion of the refinery, in the field to the east of the refinery, and in the pecan orchard east of Bolton Road. Detailed information regarding the installation of these wells is included in the contaminant migration evaluation report. Groundwater analytical data from the wells is included in this annual report. A copy of the well completion logs for these wells are provided in Appendix A.

Each of the new monitoring wells installed in 2014 was surveyed by a licensed surveyor to determine the location and elevation of the top of casing. All survey data was obtained in relation to the known benchmark established for the refinery. Location data was measured to the nearest 0.1 foot while elevation data was measured to the nearest 0.01 foot. The survey data is included in the well completion logs and provided in Table 1.

2.1.1.2 Background Groundwater Evaluation

Monitoring wells MW-136 and UG-4 were installed in July and August 2014 for the background groundwater evaluation. MW-136 was installed north of the refinery and North Reverse Osmosis Reject Field, at the edge of the NRC property boundary. UG-4 was installed east of the refinery, in Guadalupe Park. Well installation details and groundwater data from these wells were not incorporated into this report since that data is part of the background data set, which will be reported to both NMED and OCD later in 2015.

2.1.1.3 Main API Separator (SWMU 22)

Monitoring well MW-137 was installed in December 2014 near the former Main API separator, which is listed as Solid Waste Management Unit 22 (SWMU 22) in the PCC Permit. MW-138 was planned to be installed within SWMU 22 in December 2014 but installation has been delayed due to health and safety concerns. MW-138 is expected to be installed sometime during the first quarter of 2015. Well installation details, soil sample results, and groundwater data will be included in the SWMU 22 report to be submitted to NMED later in 2015. These two wells are expected to be incorporated into the facility-wide groundwater monitoring program in the future.

2.1.2 Well Repairs

Repairs were made to several monitoring wells in December 2014, as follow:

- MW-2A: No outer casing had been installed on MW-2A in the past. The concrete pad was removed and an outer steel protective casing was placed over the polyvinyl chloride (PVC) well casing and set into a new concrete well pad. The new outer casing was extended above the well casing so that the outer casing can be closed and locked.
- MW-6A: The original 6-inch diameter steel protective casing at MW-6A was installed in a manner that did not extend above the actual well casing. An 8-inch diameter steel casing was set around the well into a new concrete pad in such a manner that the 8-inch diameter casing extends above the monitoring well and can be closed and locked.
- MW-80: The PVC well casing of MW-80 was cut down approximately 2 inches because the outer steel protective casing had sunk and could no longer be closed. The new top of casing elevation of MW-80 will be measured by a registered surveyor prior to the next semiannual monitoring event.
- OCD-1R: The concrete well pad at OCD-1R was replaced because it had cracked. The old concrete was removed and a new concrete pad was poured.

The altered wells will be surveyed prior to the first semiannual sampling event of 2015 and any changes to the top of casing will be provided in the 2015 annual monitoring report along with revised well completion logs.

2.2 Phase-Separated Hydrocarbon and Water Level Measurements

The first semiannual sampling event was conducted by Safety and Environmental Solutions, Inc. (SESI) and the second semiannual sampling event was conducted by Hydrologic Monitoring, LLC (HMI). At the beginning of each of the two semiannual sampling events, the depth to PSH, depth to water, and total depth in the monitoring and recovery wells were measured. Measurements were obtained using an oil/water interface probe attached to a measuring tape marked in 0.01-foot increments. The measurements were made in relation to the surveyed datum on each well casing. If the survey datum mark was not visible, measurements were obtained at the northern side of each well riser, which is the default survey datum location.

Well gauging for the first semiannual sampling event was conducted from March 25 to 28, 2013. No rainfall was recorded at the refinery during this period; however, 0.19 inches of rainfall were recorded at the National Weather Service (NWS) gauging station, located approximately 6 miles south of the refinery on March 26, 2014. No rainfall was recorded at the NWS gauging station during the remaining days. A total of 1.63 inches of rainfall was recorded during the month of March 2014. A copy of the NWS data for March 2014 is provided in Appendix B.

Well gauging for the second semiannual sampling event was conducted on November 10 and 11, 2014. No rainfall was recorded at the refinery during this time period. However, 1.63 inches of rainfall were recorded at the gauging station in November 2014. The September 2014 rainfall events caused flooding of the area surrounding the Evaporation Ponds, limiting access to the area, so the second semiannual event was delayed to November to allow the water to subside. A copy of the NWS data for the period between September and November 2014 is provided in Appendix B.

Table 1 summarizes the gauging data collected during both semiannual sampling events for 2014. Figures 4 through 7 depict the potentiometric surface maps for the shallow saturated zone and valley fill zone based on measurements collected during the two semiannual sampling events. Figure 8 and 9 depict the PSH thickness measured during the two semiannual sampling events.

2.3 Groundwater Sample Collection and Handling

Groundwater samples were collected during each of the two semiannual sampling events. The wells designated for sample collection during the first and second semiannual sampling event were listed in the 2013 FWGMWP (ARCADIS 2013). According to the 2013 FWGMWP (ARCADIS 2013), if a well designated for sample

collection contained PSH at a thickness of 0.03 foot or greater, no sample was to be collected from that well during that event.

Samples were collected from monitoring wells using low-flow sampling procedures consistent with 2013 FWGMWP (ARCADIS 2013). Samples collected from irrigation wells were collected from a valve in the irrigation piping as near to the well as possible. Table 2 indicates the method by which each well was purged and sampled.

Prior to collection of samples, each monitoring and recovery well was purged by pumping groundwater using a peristaltic pump and dedicated tubing. During the well purging process, water quality parameters, including pH, conductivity, dissolved oxygen (DO), temperature, and oxidation-reduction potential (ORP), were measured at regular intervals using a multiparameter water quality meter. The water quality parameters were recorded for each well and the final water quality parameters measured at each well are summarized in Table 2.

For monitoring wells that were sampled using low-flow procedures, purging was considered complete when at least four of the purge parameters had stabilized. The specified stabilization criteria are +/- 0.2 standard unit for pH, +/- 0.2 degree Celsius for temperature, +/- 0.2 milligram per liter (mg/L) for DO, +/- 0.02 Siemen per meter for specific conductance, and +/- 20 millivolts for ORP.

Samples were collected by directing the flow of water from the tubing directly into the prepared sample containers. Care was taken to not overflow the containers and potentially remove preservatives from pre-preserved containers. Samples that were to be analyzed for dissolved metals were collected by attaching a disposable 0.45 micron filter to the tubing and directing the flow through the filter into the sample container.

Samples collected during the two semiannual events were submitted to an analytical laboratory for analyses of various constituent of concern (COCs) according to the approved 2013 FWGMWP (ARCADIS 2013). The COCs analyzed are discussed further in Section 5 of this report. The appropriate containers for each set of analyses were shipped to the field by the laboratory. Sample labels were completed for each container and included the well identifier, sample identifier, date and time, sampler's initials, and analytical method(s) to be performed. Glass sample containers were placed in padded packing sleeves to prevent breakage. Sample containers were packed with ice in a shipping container. Shipping containers were sent overnight via Federal Express to the analytical laboratory.

Chain of custody forms were completed for each shipment to indicate which samples were included in that shipment and what analyses to perform for each sample. Copies of the chain of custody forms are included in Appendix C with the analytical data reports.

2.4 Equipment Decontamination Procedures

The oil/water interface probes used to gauge the PSH and water levels were decontaminated between uses in each well. Decontamination of the probes consisted of washing the probe and the attached tape measure in a mixture of water and non-phosphate detergent (Alconox™). The equipment was then rinsed with clean water. The clean water used for washing and rinsing was either laboratory provided deionized water or distilled water purchased from a local store.

The flow-through cell used for low-flow purging and sample collection was decontaminated between uses in each well. The probes of the water parameter meters were also decontaminated between uses in each well. Decontamination of this equipment included submersing the flow-through cell in a mixture of water and non-phosphate detergent (Alconox™), washing the cell with a soft brush, submersing the probe end of the meters in the soapy water mixture, and brushing the end of the probe with a soft brush. The equipment was then rinsed with either laboratory provided deionized water or distilled water purchased from a local store. Dedicated tubing was used for sample collection from each well; therefore, decontamination of sample collection tubing was not required. The dedicated tubing was left in the well between sampling events, with the upper portion coiled to ensure that the lower portion did not remain in the water column. At the beginning of each sampling event, the tubing was inspected and replaced if staining or mold was noted.

2.5 Investigation-Derived Waste

All purge water and decontamination liquids were contained in a portable tank in the sampling trailer. The liquids were disposed of daily in the refinery process wastewater system upstream of the API separator, by releasing the liquids into a sump designated by refinery personnel (either the sump adjacent to the North Bundle Cleaning Pad or the wastewater sump north of the South Crude Control Room).

Solid wastes included disposable gloves, paper towels, plastic bags, and used tubing. All solid waste was bagged and placed in the refinery trash receptacles for later disposal.

2.6 Exceptions to Groundwater Monitoring Work Plan

Exceptions to the planned groundwater monitoring are discussed below.

2.6.1 2014 First Semiannual Event Exceptions

The 2014 first semiannual event was conducted between March 25, 2014 and April 32, 2014. The following exceptions to the planned monitoring program occurred during this event:

- KWB-3AR and KWB-9 were not gauged or sampled because the landowner denied access.
- No PSH was observed in KWB-7 during the gauging event on March 26, 2014, but 0.04 foot of PSH was observed in KWB-7 on the day of sampling, April 17, 2014. It should be noted that flood irrigation of the pecan orchard began after the initial gauging (March 26, 2014) and the observation of PSH. The field crew collected a groundwater sample, but the sample was not analyzed because of the presence of PSH thickness over 0.03 foot.
- No PSH was observed in KWB-11A during the gauging event on March 26, 2014, but 0.11 foot of PSH was observed in KWB-11A on the day of sampling, April 17, 2014. It should be noted that flood irrigation of the pecan orchard began after the initial gauging (March 26, 2014) and the observation of PSH. A groundwater sample was not collected because of the presence of PSH thickness over 0.03 foot.
- Due to sampling crew oversight, well KWB-12A was not gauged or sampled for laboratory analysis.
- Groundwater samples from KWB-8, MW-39 and MW-48 were not collected for analysis even though the PSH thicknesses were 0.03 foot or less, due to sampling crew oversight.
- MW-69 was not gauged or sampled during this event because it was inaccessible due to flooding.
- Groundwater samples from NCL-32 and NCL-34A were not collected for analysis, due to sampling crew oversight.

- Recovery well RW-6 was to be replaced by RW-6R for sampling. However neither RW-6 nor RW-6R were gauged or sampled, due to sampling crew oversight.
- Groundwater from RW-11-0 was not collected for analysis as the well was dry during the event.
- Groundwater from KWB-1A was analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) in April 2014 in addition to required analyses listed in the 2013 FWGMWP for this well.
- Groundwater from MW-43 and MW-60 were to be analyzed for the expanded list of metals (arsenic, barium, chromium, iron, lead, manganese, mercury, nickel, selenium, and vanadium) during the 2014 first sampling event, as identified in the 2013 FWGMWP. However, the metals analyses for these samples did not include mercury due to a laboratory error.
- Groundwater from MW-104 was analyzed for mercury although not required by the 2013 FWGMWP. Although included in the laboratory report, the reported result (less than the method detection limit) was not included in the summary data table for clarity.
- In addition to the planned monitoring program, groundwater samples were collected from MW-12, MW-13, and MW-17 and were analyzed for TPH diesel range organics (DRO), total and dissolved metals, anions/cations, TDS, and nitrate/nitrite. These wells were not included for sample collection in the 2013 FWGMWP; however, these samples were collected during this event as a precursor to evaluation of background groundwater quality. While the analytical results from these additional samples are included in the laboratory reports, the results are not included in the data summary tables and are not discussed in this annual report.

Due to the number of sampling and laboratory errors associated with the 2014 first semiannual event, NRC elected to change the sampling subcontractor and the analytical laboratory prior to the 2014 second semiannual event.

2.6.2 2014 Second Semiannual Event Exceptions

The 2014 second semiannual event was conducted from November 10 through November 13, 2015. The following exceptions to the planned monitoring program occurred during this event:

- The second semiannual sampling event usually occurs in late September to early October. Due to the exceptionally heavy rainfall in September 2014, the second semiannual groundwater sampling event was delayed to allow water levels to stabilize closer to normal levels and allow water around some wells to subside. The majority of the monitoring well network could not be accessed prior to November 2014. It should be noted that the sampling event was completed prior to November 15, as required by the 2013 FWGMWP. Thus, the delay is not actually an exception to the monitoring plan, but is a notable change from previous practices.
- KWB-3AR was not gauged or sampled because the landowner denied access. Access has been denied by this landowner in the past; however, during this event the sampling crew was able to discuss the need for sampling with the landowner and NRC is working with the landowner to resolve the conflict.
- KWB-13 was not gauged as the well could not be located during this event, even though NRC personnel and sampling personnel searched for the well. It is assumed that this well is covered with dirt and/or vegetation. Prior to the next sampling event, the well will be located using the surveyed coordinates.
- Monitoring well MW-106 was not gauged or sampled as the well could not be located during this event. The well has a “flush mount” completion and recent repairs to a fire hydrant had been made in the area of the well. Newly placed gravel was present the vicinity. Although the sampling crew and NRC personnel attempted to locate the well, it could not be found. Prior to the next sampling event, the location will be identified using surveyed coordinates and the recently placed gravel will be removed to locate the well.
- The PSH thickness in monitoring well MW-112 was 0.03 foot during this event. In order to be conservative, a groundwater sample was collected from this well for laboratory analysis, even though the work plan states that groundwater samples are to be collected if the PSH thickness is less than 0.03 foot.

- Well NP-9 was not gauged during this event as the area was inaccessible due to flooding of the north reverse osmosis reject discharge field.
- Recovery well RW-6R not gauged or sampled due to sampling crew oversight. The well is gauged weekly as part of the recovery system operation and maintenance (see Section 6).
- The irrigation well RA-4196 was not sampled. The field team was notified by the landowner that the well had been shutdown for winter and is unavailable for sampling.
- Groundwater from NP-5 was collected and analyzed for total metals, VOCs, TDS and anions/cations even though this well was not required to be sampled during this event.

3. Regulatory Criteria

Regulatory standards used to evaluate the data collected for the groundwater monitoring program are based on the presumption that the shallow groundwater might be used as a source of drinking water. The screening level value used for each COC is the lower value of either the New Mexico Water Quality Control Commission (WQCC) standards from 20.6.2.3103 NMAC or the Maximum Contaminant Level (MCL) from the National Primary Drinking Water Standards. For COCs where neither a WQCC standard or MCL exists, the screening level value used is the NMED Tap Water Standard listed in Table A-1 of the Risk Assessment Guidance for Site Investigations and Remediation (NMED 2014b).

NMED did not publish total petroleum hydrocarbons (TPH) screening guidelines for groundwater in the 2014 update to the risk assessment guidance document (NMED 2014b). The TPH screening value for potable groundwater for “unknown oil” included in Table 6-2 of the 2012 guidance document (NMED 2012), as corrected by subsequent correspondence from the NMED, was used as a conservative measure. NRC plans to discuss future screening levels for TPH in groundwater with NMED and OCD, but will continue to use the 2012 value until such levels have been developed.

Table 3 lists the screening levels from each source and summarizes the Critical Groundwater Screening Level (CGWSL) for each COC. The CGWSL for each COC is also provided in the data summary tables, which are discussed later in this report.

4. Monitoring Results

Groundwater monitoring events occurred semiannually, as required by the PCC Permit (NMED 2010) and the Discharge Permit (OCD 2012). This section describes the results of the field activities conducted during 2014.

4.1 Groundwater Gauging Results

The first semiannual sampling event was conducted from March 25 to April 30, 2014. The second semiannual sampling event was conducted from November 10 through 13, 2014. As discussed in Section 2, the depth to PSH (if present) and depth to water was measured in each well at the beginning of each sampling event. These measurements are summarized in Table 1.

The measurements of depth to groundwater and depth to PSH (if present) were used to create groundwater gradient maps and PSH maps for the 2014 semiannual events (Figures 4 through 9). For those wells where PSH was present, the groundwater elevation measurement was adjusted to determine the potentiometric surface elevation, assuming a specific gravity of 0.8 for the PSH. Plots of the groundwater elevation in each well through time are provided in electronic form in Appendix D, at the OCD's request.

The groundwater potentiometric surface for the 2014 first semiannual event is depicted on Figures 4 and 5 for the shallow saturated zone and for the valley fill zone, respectively. The groundwater potentiometric surface for the 2014 second semiannual event is depicted on Figures 6 and 7 for the shallow saturated zone and for the valley fill zone, respectively. As shown on these figures, the groundwater flow direction beneath the refinery is consistently to the east, toward the Pecos River. The groundwater flow direction beneath the EPs is generally to the southeast.

The influence of discharge of reverse osmosis (RO) reject water to the RO reject fields is shown through the mounding at MW-114 during both semiannual gauging events. The gradient through the refinery is not uniform and appears to be influenced slightly by the recovery pumps, specifically in the area around RW-14R and RW-19 during the first semiannual event, and around RW-1R, RW-2R, RW-15, and RW-19 during the second semiannual event. The gradient becomes more flat in the area beneath the EPs.

4.2 Phase-Separated Hydrocarbons

The PSH plumes are shown on Figures 8 and 9 for the 2014 first and second semiannual events, respectively. As shown, PSH is present in several areas throughout the refinery:

- Two areas in the northern portion of the refinery: one in the area of the NCL and Diesel Tank Farm, and one in the North Refinery area
- TEL impoundment area
- Southern portion of the refinery extending beneath the field east of the refinery to near Bolton Road
- One area on the western end of the EPs near the former discharge point into Pond 1.

In addition, during the first event, two separate areas around MW-99 and MW-10R were observed to have PSH. During the second semiannual event, in addition to the four areas discussed above, PSH was also detected at the TEL surface impoundment area. Trend plots of PSH thickness and water elevations for all wells with measurable PSH are provided in electronic form in Appendix D.

PSH observations within each area of interest are discussed in the following subsections. Additional information on PSH recovery activities is provided in Section 6.

4.2.1 North Colony Landfarm and Diesel Tank Farm Area

As shown in Table 1 and on Figures 8 and 9, PSH was present south and southeast of the NCL area, east of the Diesel Tank Farm (Tanks 834 and 838). PSH was present in MW-67, MW-94, RW-7, and RW-8 in March 2014 with reported thicknesses of 0.04 foot, 1.34 foot, 0.05 foot, and 1.61 foot, respectively. In November 2014, PSH was present only in MW-94 and RW-8 with reported thicknesses of 0.01 foot and 0.34 foot, respectively. PSH had been present in NCL-34 beginning in 2011, but was not measurable in this well in 2014.

As depicted in the trend charts (Appendix D), the PSH thicknesses in wells NCL-34, MW-67, MW-95, RW-7, and RW-8 has decreased significantly since September 2011. In September 2010, an increase in PSH thickness in MW-94 was reported and

attributed to leaking underground piping in the area. This leak may have caused the presence of PSH in NCL-34A, RW-7, MW-67, and MW-91 in September 2011 because PSH was not observed in these wells between 2008 and 2011.

4.2.2 North Refinery Area

As shown in Table 1 and on Figures 8 and 9, PSH was present in MW-92, MW-97, RW-1, and RW-2 in March 2014 with reported thicknesses of 0.04 foot, 2.05 feet, 0.04 foot, and 0.12 foot, respectively. In November 2014, PSH was present only in MW-92 and MW-97 with reported thicknesses of 0.1 foot and 0.06 foot, respectively.

As depicted in the trend charts (Appendix D), the PSH thickness measured in MW-92 has decreased significantly and the PSH thickness in MW-97 shows an overall decreasing trend.

4.2.3 Tetra Ethyl Lead Area

As shown in Table 1 and on Figures 8 and 9, no PSH was measured in the TEL wells during either 2014 semiannual events; however, PSH thickness of 0.04 foot was detected in MW-39 just northeast of well TEL-1 during the second semiannual event. The PSH thickness in MW-39 has fluctuated between 0 and 0.12 foot since 2008, as shown in the trend chart for this well (Appendix D).

4.2.4 South Refinery and Field East of Refinery

As shown in Table 1 and on Figures 8 and 9, PSH is present in the southern part of the refinery, extending beneath the field east of the refinery to Bolton Road. PSH was measured in monitoring and recovery wells KWB-2R, KWB-4, KWB-5, KWB-6, KWB-8, KWB-10R, MW-48, MW-58, MW-64, MW-65, MW-99, MW-102, MW-105, MW-112, MW-129, MW-132, MW-133, RW-4, RW-5, RW-5R, RW-12R, RW-13R, RW-14R, RW-15C, RW-19, RW-20, and RW-22 in March 2014 with reported thicknesses ranging from 0.03 to 11.93 feet. PSH thickness in RW-14R was 11.93 feet because groundwater was depressed in the well through pumping allowing more product to enter the well for increased product recovery. During the November 2014 sampling event PSH was present in KWB-2R, KWB-4, KWB-6, KWB-8, MW-58, MW-64, MW-65, MW-112, MW-129, MW-132, MW-133, RW-5R, RW-6, RW-12R, RW-144, RW-15C, RW-19, and RW-22 with reported thicknesses ranging from 0.01 to 1.42 feet.

The PSH thickness in the monitoring wells listed above shows an overall decrease in thickness, although several of the wells (specifically KWB-6 and KWB-8) show

fluctuations in PSH thickness that corresponds with fluctuations in the potentiometric surface. As discussed in Section 6, the recovery system includes routine pumping of PSH from RW-4R, RW-5R, RW-6R, RW-12R, RW-13R, RW-14R, RW-15, RW-19, RW-20, and RW-22.

In March 2014, no PSH was measured in the monitoring wells KWB-7 and KWB-11A during the semiannual gauging. However, when the sampling crew returned two weeks later to collect samples from these two wells, 0.04 foot of PSH was present in KWB-7 and 0.11 foot of PSH was present in KWB-11A. Based on this information, the plume on Figure 8 was extended east into the pecan orchard plantation to reflect this. However, no PSH was measured in either of these two wells during the second semiannual event in November 2014.

4.2.5 Evaporation Ponds Area

As shown in Table 1 and on Figures 8 and 9, PSH is present in MW-85 and MW-86, which are located near the original discharge point in EP 1. The PSH thickness measured was 0.16 and 0.25 feet, in MW-85 and MW-86 in March 2014, respectively. In November 2014, the PSH thickness was 0.17 and 0.16 feet in MW-85 and MW-86, respectively. The PSH thickness in these wells is consistent with those measured during 2013 events, and is significantly less than the thickness observed between 2010 and 2012, which ranged from 1 foot to over 2 feet.

5. Chemical Analytical Data

This section presents a summary of the groundwater sampling analytical results.

5.1 Sample Analyses

The samples collected during the first semiannual sampling event conducted in March and April 2014 and the second semiannual event conducted in November 2014 were analyzed for various COCs, in accordance with the approved 2013 FWGMWP (ARCADIS 2013). The COCs and analytical methods employed for the first and second semiannual sampling events included the following:

- GRO by Method 8015 Modified
- DRO by Method 8015 Modified
- Volatile organic compounds (VOCs) by Method 8260
- Metals by Methods 6020 and 7470. The standard analyte list included analysis of arsenic, barium, chromium, iron, lead, manganese, and selenium. In select wells, an additional analyte list included analysis of mercury, nickel, and vanadium. Total metals were analyzed in samples from both the first and second semiannual events. Field-filtered samples were collected to analyze the same list of metals in dissolved form during the first event.
- Cyanide by Method 4500
- Major cations and anions (calcium, chloride, fluoride, potassium, sodium, sulfate) by Methods 6020 and 300
- Nitrates/nitrites (as nitrogen) by Method 300
- Total dissolved solids (TDS) by Method 2540.

Not every sample was analyzed by every method listed above. The specific analytical suite chosen for each sample was based on the approved 2013 FWGMWP (ARCADIS 2013).

The laboratory analytical reports are included in electronic format in Appendix C.

5.2 Data Validation

The analytical data were reviewed and validated following the guidelines of the PCC Permit (NMED 2010). The data validation and a discussion of any data quality exceptions are included in electronic form in Appendix E. Data qualifier flags were added to the data based on the data validation results and are included in Table 4 and tabulated form in Appendix C.

5.2.1 2014 First Semiannual Event Data Validation

During the 2014 first semiannual event, several serious errors occurred due to laboratory errors, including:

- Groundwater samples collected from MW-4A, MW-5A and MW-7A were analyzed for GRO outside their holding time, due to laboratory error. The reported results for GRO for these samples should be considered estimates.
- Groundwater samples collected from wells MW-52, KWB-11B and KWB-13 were analyzed for cyanide outside their holding time, due to laboratory error. The results should be considered estimates.
- Groundwater samples collected from MW-28 and MW-66 were analyzed for dissolved mercury outside their holding time, due to laboratory error. The results should be considered estimates.
- Although requested on the chain of custody form, groundwater samples collected from MW-43 and MW-60 were not analyzed for total mercury.
- Although not requested on the chain of custody form, the groundwater sample from MW-104 was analyzed for total mercury.
- Although not requested on the chain of custody form, the groundwater sample from RA-313 was analyzed for total nickel.
- Site contaminants were identified in various equipment blanks and/or method blanks. Associated field samples were identified as not-detected if the sample concentration was reported as less than 10 times the associated equipment blank concentration.

The data from the 2014 first semiannual event is generally usable for the purpose intended. However, due to the number of laboratory errors, NRC elected to change analytical laboratories prior to conducting the 2014 second semiannual event.

5.2.2 2014 Second Semiannual Event Data Validation

During the 2014 second semiannual event, reportable concentrations of target compounds (TPH, metals and water quality parameters) were reported in the two equipment blanks associated with samples from the NCL and TEL area wells. Because equipment blank contamination has occurred in the past, but a change in sampling crew had occurred, an investigation was conducted to evaluate the collection methods of the equipment blanks. Equipment blank sample EB-NCL-01 was collected following decontamination of the gauging probe following measurement of the water level at NCL-32 and sample EB-TEL-01 was collected following decontamination of the gauging probe following measurement of the water level at TEL-3. Decontamination of the probes was accomplished using an Alconox™ and water wash followed by rinses in distilled water. Commercially available distilled water (purchased from local store) was then poured over the decontaminated probe into the sample container. Interviews with the sampling crew confirmed that the proper decontamination procedures were followed and that the containers were appropriately labeled.

Laboratory quality control samples did not indicate that the reported concentrations in the equipment blanks are an artifact of laboratory procedures; therefore, the most likely source of the anomalous concentrations in the equipment blank samples is the distilled water itself. To prevent similar results with equipment blanks in the future, laboratory-grade deionized water will be used to collect equipment blank samples.

Because the reported concentrations of the “normal” samples were similar to historically reported concentrations, the equipment blanks were excluded from the data validation and the field sample results were not qualified as reflecting blank contamination.

The data from the 2014 second semiannual event is generally usable for the purpose intended.

5.3 Discussion of Analytical Data

The PCC Permit (NMED 2010) requires that this report include the analytical data for the current monitoring event and the three prior sampling events. Because some wells are sampled semiannually, some wells are sampled annually, and some wells are

sampled biennially, the timeframe required to provide data for three prior sampling events varies by well. To simplify the data presentation, the monitoring data for three years (2012 through 2014) are presented in Appendix B for all wells sampled and for all compounds analyzed. This provides data for three prior events for the majority of the wells and at least two prior events for those wells sampled annually. The CGWSL is provided at the top of the data table and exceedances of the CGWSL are highlighted in yellow. The data are presented by well numeric order in the tables in Appendix C. The tables have been divided by major analytical group.

Table 4 summarizes the analytical data for the wells sampled during 2014, sorted by the area in which the well is located. Table 4 includes the following subset of the compounds analyzed:

- GRO
- DRO
- Total metals (arsenic, barium, chromium, iron, lead, manganese, mercury, nickel, selenium, and vanadium)
- VOCs (compounds that have had at least one detected value reported above the CGWSL in more than one well)
- Cyanide
- Major cations and anions (calcium, chloride, fluoride, potassium, sodium, and sulfate)
- Water quality parameters (TDS and nitrate/nitrite).

Data from 2012 through 2014 are provided in Table 4 to provide comparison to at least three prior sampling events for those wells that are sampled semiannually. The CGWSL used for comparison against the analytical results from each well are presented at the top of the table; concentrations of COCs that exceed the screening levels are highlighted.

As required by the Discharge Permit (OCD 2012), historical concentrations from 2004 through 2014 of select COCs that have consistently been detected at concentrations above the groundwater screening levels in samples collected from site wells are

presented in trend plots provided in electronic form in Appendix D. These plots are organized by well within major areas of interest and include trend plots for the following indicator COCs:

- GRO
- DRO
- Benzene
- Ethylbenzene
- Toluene
- Total xylenes
- Methyl tert-butyl ether (MTBE)
- Naphthalene
- Arsenic

The COC trend plots also illustrate trends in water level elevations. Appendix D also contains trend plots of PSH thickness and water level elevations in wells with historical measurements of PSH.

Figures 10 through 19 depict the extent of the groundwater screening level exceedance areas for the following major COCs for both the first and second semiannual 2014 sampling events:

- DRO
- Arsenic
- Benzene

- Naphthalene
- MTBE

Slight changes in the concentrations of COCs have occurred through time. The general shape of the dissolved-phase plumes changed slightly in 2014 due to the installation of additional wells in the field east of the refinery. The analytical results for 2014 are discussed in the following subsections by major area of interest.

5.3.1 North Colony Landfarm

Groundwater monitoring is ongoing beneath and near the closed NCL. As shown in Table 4, concentrations of several COCs exceeded the CGWSL in samples collected during 2014 from wells in and near the NCL, as discussed in the following subsections.

5.3.1.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

Samples were collected from groundwater in MW-55 during both the semiannual sampling events and analyzed for GRO; however, none of the other monitoring wells associated with the NCL are required to be analyzed for GRO. GRO has not been detected in any of the samples collected from MW-55 between 2012 and 2014.

5.3.1.2 Total Petroleum Hydrocarbons – Diesel Range Organics

Samples were collected from groundwater in eleven wells in and around the NCL during the 2014 first semiannual sampling event and analyzed for DRO, including MW-18, MW-45, MW-53, MW-54A, MW-55, MW-56, MW-108, NCL-31, NCL-33, NCL-44, and NCL-49. DRO was not detected in samples collected from MW-53, MW-55, and NCL-49, while the DRO concentrations from the other eight samples were above the CGWSL.

Samples were collected from groundwater in eleven wells in and around the NCL during the 2014 second semiannual sampling event and analyzed for DRO, including MW-45, MW-54A, MW-55, MW-56, MW-108, NCL-31, NCL-32, NCL-33, NCL-34A, NCL-44, and NCL-49. The DRO concentrations in nine of the eleven samples were above the CGWSL.

Concentrations in individual wells fluctuated slightly through time. The reported concentrations of DRO appear to show slightly increasing trends in monitoring wells

MW-54A, MW-56, NCL-32, NCL-33, NCL-34, and NCL-44. The reported concentrations of DRO appear to show either no trend or a decreasing trend in monitoring wells MW-18, MW-45, MW-53, MW-54B, MW-55, MW-108, NCL-31 and NCL-49.

5.3.1.3 Volatile Organic Compounds

Samples were collected from groundwater in eleven wells in and around the NCL during the 2014 first semiannual sampling event and were analyzed for VOCs, including MW-18, MW-45, MW-53, MW-54A, MW-55, MW-56, MW-108, NCL-31, NCL-33, NCL-44, and NCL-49. The reported concentrations of VOCs were either below the detection limits or below the CGWSL in all but two of the samples collected during this event. The reported concentrations of 1,2,4-trimethylbenzene (1,2,4-TMB), 1,2-dichloroethane (1,2-DCA), benzene, and carbon tetrachloride concentrations exceeded the CGWSLs in the sample collected from MW-108 while the reported concentration of carbon tetrachloride in the sample collected from NCL-31 exceeded the CGWSL.

Samples were collected from groundwater in eleven wells in and near the NCL during the 2014 second semiannual sampling event and were analyzed for VOCs, including MW-45, MW-54A, MW-55, MW-56, MW-108, NCL-31, NCL-32, NCL-33, NCL-34A, NCL-44, and NCL-49. The reported concentrations of VOCs were either below the detection limits or below the CGWSL in all but two of the samples collected during this event. The reported concentrations of benzene and 1,2,4-TMB exceeded the CGWSLs in the samples collected from MW-108 and NCL-34A.

The concentrations of VOCs fluctuated between during the past three years, as seen in Table 4. The concentrations of 1,2,4-TMB and benzene appear to be relatively stable in MW-108, while the concentrations of these two compounds appear to be declining in NCL-34A. The reported concentrations of 1,2-DCA and carbon tetrachloride from the first semiannual event appear to be anomalies as these two compounds have not been detected in historical samples and were not detected in the second semiannual event samples.

5.3.1.4 Total Metals

The standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium) were analyzed for in groundwater samples collected from the wells in and around the NCL sampled during the 2014 first and second semiannual events. The three additional total metals (mercury, nickel, and vanadium) were analyzed for in groundwater samples collected from MW-18, MW-45,

and MW-55 during the first semiannual event and in samples collected from MW-45 and MW-55 during the second semiannual event.

No exceedances of the CGWSLs were present in any of the groundwater samples collected from the wells in and around the NCL in 2014 for barium, chromium, lead, mercury, nickel, selenium, or vanadium. Exceedances of the CGWSLs occurred for arsenic, iron, and manganese as follows:

- The reported concentrations of total arsenic exceeded the CGWSL in groundwater samples collected from wells NCL-31 and NCL-44 during the 2014 first semiannual event, while the reported concentrations of total arsenic exceeded the CGWSL in groundwater samples collected from NCL-31, NCL-32 and NCL-44 during the 2014 second semiannual event. The concentrations of total arsenic appear to be stable to declining in the wells in and around the NCL with the exception of NCL-31 which appears to be increasing.
- The reported concentrations of total iron exceeded the CGWSL in the groundwater samples collected from NCL-31, NCL-33, and NCL-44 during the 2014 first semiannual event, while the reported concentrations of total iron exceeded the CGWSL in the groundwater samples collected from NCL-32, NCL-33, and NCL-44 during the 2014 second semiannual event. The concentrations of total iron appear to be stable to declining in the wells in and around the NCL with the exception of NCL-33 which appears to be increasing.
- The reported concentrations of total manganese exceeded the CGWSL in groundwater samples collected from wells MW-45, MW-53, MW-54A, MW-56, NCL-31, and NCL-44 during the 2014 first semiannual events, while the reported concentrations of total manganese exceeded the CGSWL in the groundwater samples collected from MW-45, MW-54A, MW-56, NCL-31, NCL-32, and NCL-44 during the 2014 second semiannual event. The concentrations of total manganese appear to be stable to declining in the wells in and around the NCL with the exception of MW-45 and NCL-31 which appear to be increasing.

5.3.1.5 Cyanide

Cyanide was analyzed in three of the groundwater samples collected from wells in and around the NCL during the 2014 first semiannual events, including MW-18, MW-45, and MW-55. Cyanide was analyzed in two of the groundwater samples collected from wells in and around the NCL during the 2014 second semiannual events, including

MW-45 and MW-55. No detectable concentrations of cyanide were reported in the groundwater samples collected from these wells.

5.3.1.6 Water Quality Parameters

The groundwater samples collected from wells in and around the NCL were analyzed for water quality parameters during both semiannual events. The reported concentrations of chloride, fluoride, nitrate/nitrite, sulfate, and TDS exceed the respective CGWSLs in groundwater samples from various wells, as follows:

- The reported concentrations of chloride exceeded the CGWSL in groundwater samples collected from wells MW-45, MW-55, MW-56, and NCL-33 during the 2014 first semiannual events, while the reported concentrations of chloride exceeded the CGWSL in the groundwater samples collected from MW-45, MW-56, NCL-32, NCL-33, and NCL-44 during the 2014 second semiannual event. The concentrations of chloride appear to be stable to declining in the wells in and around the NCL with the exception of MW-45, NCL-31, and NCL-44 which appear to be increasing.
- The reported concentration of fluoride exceeded the CGWSL in the groundwater sample collected from NCL-33 during the 2014 first semiannual events, while the reported concentrations of fluoride exceeded the CGWSL in the groundwater samples collected from MW-55, MW-108, NCL-32, NCL-33, and NCL-44 during the 2014 second semiannual event. The concentrations of fluoride appear to be stable to declining in the wells in and around the NCL with the exception of MW-108 which appears to be increasing.
- The reported concentration of nitrate/nitrite exceeded the CGWSL in the groundwater samples collected from MW-18 during the 2014 first semiannual events, while none of the reported concentrations of nitrate/nitrite exceeded the CGWSL in the groundwater samples collected from the wells in and around the NCL during the 2014 second semiannual event. The concentrations of nitrate/nitrite appear to be stable to declining in all of the wells in and around the NCL.
- The reported concentrations of sulfate exceeded the CGWSL in groundwater samples collected from all of the wells in and around the NCL except for NCL-33 and NCL-44 during the 2014 first semiannual events, while the reported concentrations of sulfate exceeded the CGWSL in the groundwater samples collected from all of the wells in this area except NCL-34A and NCL-44 during the

2014 second semiannual event. The concentrations of sulfate appear to be stable to declining in the wells in and around the NCL with the exception of MW-18, MW-108, NCL-31, and NCL-33 which appear to be increasing.

- The reported concentrations of TDS exceeded the CGWSL in groundwater samples collected from all of the wells in and around the NCL during both 2014 semiannual events. The concentrations of TDS appear to be stable to declining in the wells in and around the NCL with the exception of MW-18, MW-45, NCL-31, and NCL-33 which appear to be increasing.

5.3.2 Tetra Ethyl Lead Surface Impoundment

Groundwater monitoring beneath the closed TEL surface impoundment is ongoing. Groundwater samples were collected from the four TEL wells (TEL-1, TEL-2, TEL-3, and TEL-4) and MW-49 during the 2014 semiannual monitoring events. As shown in Table 4, concentrations of several COCs exceed the CGWSLs in groundwater samples collected from the TEL wells, as discussed in the following subsections.

5.3.2.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was reported above detection limits in all of the samples collected from this area during both 2014 semiannual events. The NMED TPH guidance document does not provide a screening value for GRO, but indicates that individual VOCs should be analyzed. The reported concentrations of GRO appear to be stable to declining in groundwater samples from this area.

5.3.2.2 Total Petroleum Hydrocarbons – Diesel Range Organics

Reported concentrations of DRO exceed the CGWSL in all of the groundwater samples collected from this area during both 2014 semiannual events. Concentrations in samples from individual wells fluctuated between sampling events, but demonstrate an overall stable trend.

5.3.2.3 Volatile Organic Compounds

All of the groundwater samples collected from this area were analyzed for VOCs during both 2014 semiannual events. The reported concentrations of all of the VOCs were below the CGWSLs with the exception of 1,2,4-TMB and benzene. The reported concentrations of 1,2,4-TMB and benzene were above the CGWSLs for samples collected from MW-49, TEL-2, TEL-3, and TEL-4 during both 2014 semiannual events.

The concentrations of VOCs fluctuated between during the past three years, as seen in Table 4. The concentrations of 1,2,4-TMB and benzene exhibit a stable to decreasing trend during the past three years in all of the wells in this area, with the exception of TEL-4 which shows a slight increasing trend for both of these analytes.

5.3.2.4 Total Metals

Groundwater samples were collected from all five wells in this area and analyzed for the standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium) during both 2014 semiannual events. Additionally groundwater samples collected from well MW-49 were analyzed for mercury, nickel, and vanadium during both 2014 semiannual events.

No exceedances of the CGWSLs have been reported during the past three years for barium, lead, mercury, nickel, selenium, or vanadium in groundwater samples from any of the TEL wells. Exceedances of the CGWSLs were reported for arsenic, chromium, iron, and manganese as follows:

- The reported concentrations of total arsenic exceeded the CGWSL in groundwater samples collected from TEL-2 during the 2014 first and second semiannual events and in the sample collected from TEL-4 during the 2014 first semiannual event. The total arsenic concentrations in all five wells from this area exhibit a stable to declining trend.
- The reported concentrations of total chromium exceeded the CGWSL in the groundwater samples collected from TEL-4 during the 2014 first and second semiannual events. The total chromium concentrations in TEL-4 have fluctuated during the past three years but appear to be stable.
- The reported concentration of total iron exceeded the CGWSL in the groundwater sample collected from well MW-49 during the 2014 second semiannual event. Historically, total iron has not been detected in this well.
- The reported concentrations of total manganese exceeded the CGWSL in groundwater samples collected from wells MW-49 and TEL-4 during the 2014 first and second semiannual events. The concentrations of total manganese appear to be increasing in MW-49 but decreasing in TEL-4.

5.3.2.5 Cyanide

Groundwater samples collected from MW-49 were analyzed for cyanide during both 2014 semiannual events. No detectable concentrations of cyanide were present in these samples.

5.3.2.6 Water Quality Parameters

The groundwater samples collected from wells associated with the TEL were analyzed for water quality parameters during both semiannual events. The reported concentrations of chloride, fluoride, sulfate and TDS exceed the respective CGWSLs, as follows:

- The reported concentrations of chloride exceeded the CGWSL in samples collected from MW-49, TEL-2, and TEL-4 during both 2014 semiannual events.
- The reported concentrations of fluoride exceeded the CGWSL in samples collected from TEL-1 and TEL-3 during both 2014 semiannual events and in the sample collected from TEL-4 during the 2014 second semiannual event.
- The reported concentrations of sulfate exceeded the CGWSL in samples collected from TEL-1, TEL-3, and TEL-4 during both 2014 semiannual events.
- The reported concentrations of TDS exceeded the CGWSLs in all of the groundwater samples collected from the wells associated with the TEL area during both 2014 semiannual events.

The concentrations of water quality parameters have fluctuated during the past three years but in general have remained stable.

5.3.3 Evaporation Ponds

Groundwater monitoring is ongoing beneath the inactive former EPs, with samples collected from 43 wells in the area during the 2014 first semiannual event and samples collected from 32 wells in the area during the 2014 second semiannual event. As shown in Table 4, concentrations of several COCs exceed the CGWSLs in groundwater samples collected from the EP wells, as discussed in the following subsections.

5.3.3.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was analyzed in 39 of the 43 samples collected from this area during the 2014 first semiannual event, including samples collected from MW-2A, MW-3, MW-4A, MW-5A, MW-6A, MW-7A, MW-10, MW-11A, MW-15, MW-22A, MW-70, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. GRO concentrations were above detection limits in groundwater samples collected from 30 of the 39 wells. It should be noted that the GRO analysis was performed outside of the holding time for samples collected from MW-4A, MW-5A, and MW-7A due to laboratory error and the reported results for those samples are estimated.

GRO was analyzed in 30 of the 32 samples collected from this area during the 2014 second semiannual sampling event, including MW-2A, MW-3, MW-4A, MW-5A, MW-7A, MW-10, MW-22A, MW-70, MW-74, MW-75, MW-76, MW-77, MW-79, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. GRO concentrations were above detection limits in groundwater samples collected from 20 of the 30 wells.

The NMED (NMED 2012) does not provide a specific screening value for GRO, but indicates that individual VOCs should be analyzed. The reported concentrations of GRO fluctuate through time, but are generally stable to decreasing.

5.3.3.2 Total Petroleum Hydrocarbons – Diesel Range Organics

DRO was analyzed in the groundwater samples collected from the 43 wells in and around the EPs during the 2014 first semiannual sampling event, including MW-1R, MW-2A, MW-3, MW-4A, MW-5A, MW-6A, MW-7A, MW-10, MW-11A, MW-12, MW-13, MW-15, MW-18A, MW-22A, MW-70, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. The reported DRO concentrations were above the CGWSL in the groundwater samples collected from 28 of these 43 wells.

DRO was analyzed in groundwater samples collected from 31 of the 32 wells in and around the EPs during the 2014 second semiannual sampling event, including MW-2A, MW-3, MW-4A, MW-5A, MW-7A, MW-10, MW-18A, MW-22A, MW-70, MW-74, MW-75, MW-76, MW-77, MW-79, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121,

MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. The reported DRO concentrations were above the CGWSL in the groundwater samples collected from 25 of these 31 wells.

The DRO concentrations in groundwater samples collected from in and around the EPs have fluctuated through time, but in general, exhibit stable to declining trends. However, the DRO concentrations exhibit a slightly increasing trend in wells MW-3, MW-4A, MW-10, MW-74, MW-77, MW-78, MW-84, and MW-122.

5.3.3.3 Volatile Organic Compounds

VOCs were analyzed in groundwater samples collected from 41 of the 43 wells in and around the EPs during the 2014 first semiannual event, including MW-1R, MW-2A, MW-3, MW-4A, MW-5A, MW-6A, MW-7A, MW-10, MW-11A, MW-15, MW-18A, MW-22A, MW-70, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. No VOCs were reported above their respective CGWSLs in the groundwater samples collected during the 2014 first semiannual event.

VOCs were analyzed in groundwater samples collected from 31 of the 32 wells in and around the EPs during the 2014 second semiannual event, including MW-2A, MW-3, MW-4A, MW-5A, MW-7A, MW-10, MW-18A, MW-22A, MW-70, MW-74, MW-75, MW-76, MW-77, MW-79, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. No VOCs were reported above their respective CGWSLs in the groundwater samples collected during the 2014 second semiannual event, with the exception of benzene, which was reported at a concentration above the CGWSL in the sample collected from MW-77.

Benzene has not been reported at detectable concentrations in the majority of the groundwater samples collected from in and around the EPs. The concentration of benzene in MW-77 has shown a decreasing trend since the well was installed in 2007.

5.3.3.4 Total Metals

Total metals were analyzed in groundwater samples collected from the 43 wells in and around the EPs during the 2014 first semiannual event, including MW-1R, MW-2A, MW-3, MW-4A, MW-5A, MW-6A, MW-7A, MW-10, MW-11A, MW-12, MW-13, MW-15, MW-18A, MW-22A, MW-70, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-

78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. Samples from all 43 wells were analyzed for the standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium). Samples from two wells, MW-18A and OCD-8A, were also analyzed for total mercury, nickel and vanadium.

Total metals were analyzed in groundwater samples collected from 31 of the 32 wells in and around the EPs during the 2014 second semiannual event, including MW-2A, MW-3, MW-4A, MW-5A, MW-7A, MW-10, MW-18A, MW-22A, MW-70, MW-74, MW-75, MW-76, MW-77, MW-79, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. Samples from all 31 wells were analyzed for the standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium). Samples from two wells, MW-18A and OCD-8A, were also analyzed for total mercury, nickel and vanadium.

No exceedances of the CGWSLs were present in any of the groundwater samples collected from the wells in and near the EPs in 2014 for barium, chromium, lead, mercury, nickel, or vanadium. Exceedances of the CGWSLs did occur for arsenic, iron, manganese, and selenium as follows:

- For the 2014 first semiannual sampling event, total arsenic concentrations were above the CGWSL in groundwater samples collected from 30 of the 43 wells in and near the EPs. For the 2014 second semiannual sampling event, total arsenic concentrations were above the CGWSL in groundwater samples collected from 22 of the 31 wells in and near the EPs. The total arsenic concentrations exhibit a stable to declining trend in the majority of the wells in and around the EPs; however the total arsenic concentrations appear to be slightly increasing in wells MW-6B, MW-15, MW-76, MW-121 and MW-122.
- For the 2014 first semiannual sampling event, total iron concentrations were above the CGWSL in groundwater samples collected from 26 of the 43 wells in and near the EPs. For the 2014 second semiannual sampling event, total iron concentrations were above the CGWSL in groundwater samples collected from 22 of the 31 wells in and near the EPs. The total iron concentrations fluctuate through time.

- For the 2014 first semiannual sampling event, total manganese concentrations were above the CGWSL in groundwater samples collected from 37 of the 43 wells in and near the EPs. For the 2014 second semiannual sampling event, total manganese concentrations were above the CGWSL in groundwater samples collected from 29 of the 31 wells in and near the EPs. The total manganese concentrations fluctuate through time.
- For the 2014 first and second semiannual sampling events, the total selenium concentration was above the CGWSL in groundwater samples collected from one well (MW-74) in the EP area. The total selenium concentrations in MW-74 reported in 2014 are lower than the concentration reported in the 2013 second semiannual event.

5.3.3.5 Cyanide

Groundwater samples collected from two wells (MW-18A and OCD-8A) downgradient from the EPs were analyzed for cyanide. No detectable concentrations of cyanide were present in the groundwater samples collected from these wells.

5.3.3.6 Water Quality Parameters

Water quality parameters were analyzed in groundwater samples collected from the 42 of the 43 wells in and around the EPs during the 2014 first semiannual event, including MW-1R, MW-2A, MW-3, MW-5A, MW-6A, MW-7A, MW-10, MW-11A, MW-12, MW-13, MW-15, MW-18A, MW-22A, MW-70, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-87, MW-88, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-2A, OCD-3, OCD-4, OCD-5, OCD-6, OCD-7AR, and OCD-8A. Water quality parameters were analyzed in groundwater samples collected from 26 of the 32 wells in and around the EPs during the second semiannual event, including MW-2A, MW-3, MW-4A, MW-5A, MW-7A, MW-10, MW-11A, MW-18A, MW-22A, MW-74, MW-75, MW-76, MW-77, MW-79, MW-83, MW-84, MW-120, MW-121, MW-122, MW-123, MW-124, OCD-1R, OCD-5, OCD-6, OCD-7AR, and OCD-8A. The reported concentrations of chloride, fluoride, nitrate/nitrite, sulfate and TDS exceed the respective CGWSLs, as follows:

- The reported concentrations of chloride exceeded the CGWSL in all of the samples collected in 2014 with the exception of the samples collected from MW-78 and MW-83 during the 2014 second semiannual event.

- The reported concentrations of fluoride exceeded the CGWSL in samples collected from 24 of the 42 wells during the 2014 first semiannual event and in samples collected from 15 of the 26 wells during the 2014 second semiannual event.
- The reported concentrations of nitrate/nitrite exceeded the CGWSL in samples collected from 4 of the 42 wells during the 2014 first semiannual event and in samples collected from 2 of the 26 wells during the 2014 second semiannual event.
- The reported concentrations of sulfate exceeded the CGWSL in all of the samples collected in 2014 from wells in and around the EPs.
- The reported concentrations of sulfate exceeded the CGWSL in all of the samples collected in 2014 from wells in and around the EPs.

The reported concentrations of these constituents exhibit an overall stable trend.

5.3.4 Three Mile Ditch

Groundwater monitoring is ongoing along the inactive, backfilled TMD, with samples collected from 12 wells along TMD during the 2014 first semiannual event and samples collected from three wells along TMD during the 2014 second semiannual event. As shown in Table 4, concentrations of several COCs exceed the CGWSLs in groundwater samples collected from the TMD wells, as discussed in the following subsections.

5.3.4.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was analyzed in groundwater samples collected from wells MW-8 and MW-21 during the 2014 first semiannual event and in the groundwater sample collected from MW-21 during the 2014 second semiannual event. No GRO concentrations were above the laboratory detection limit in these groundwater samples.

5.3.4.2 Total Petroleum Hydrocarbons – Diesel Range Organics

DRO was analyzed in groundwater samples were collected from 11 of the 12 wells along TMD during the 2014 first semiannual sampling event, including MW-8, MW-16, MW-20, MW-21, MW-25, MW-26, MW-27, MW-46R, MW-68, MW-71, and MW-89. DRO was analyzed in groundwater samples were collected from two of the three wells

along TMD during the 2014 second semiannual sampling event, including MW-21 and MW-46R.

The reported concentrations of DRO were below the CGWSL in all samples collected during 2014, with the exception of the sample collected from MW-89 during the 2014 first semiannual event. The reported concentration of DRO in the sample collected from MW-89 during the first 2014 semiannual event was 0.21 mg/L, which is slightly above the CGWSL of 0.2 mg/L; however, the overall trend in DRO concentrations in this well is declining.

5.3.4.3 Volatile Organic Compounds

VOCs were analyzed in groundwater samples collected from all 12 wells along TMD during the 2014 first semiannual event, including MW-8, MW-16, MW-20, MW-21, MW-25, MW-26, MW-27, MW-46R, MW-68, MW-71, MW-89, and NP-1. VOCs were analyzed in groundwater samples collected from all 3 wells along TMD during the 2014 second semiannual event, including MW-21, MW-46R, and NP-1.

No VOC concentrations were reported above the CGWSL in groundwater samples collected from wells along TMD during the 2014 first and second semiannual sampling events.

5.3.4.4 Total Metals

Total metals were analyzed in groundwater samples collected from 11 of the 12 the wells along TMD sampled during the 2014 first semiannual event, including MW-8, MW-16, MW-20, MW-21, MW-25, MW-26, MW-27, MW-46R, MW-68, MW-71, and MW-89. Total metals were analyzed in the groundwater samples collected from two of the three wells along TMD sampled during the 2014 second semiannual event, including MW-21 and MW-46R. Samples from these were analyzed for the standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium). The sample collected from MW-71 during the 2014 first semiannual event were also analyzed for total mercury, nickel, and vanadium.

No exceedances of the CGWSLs for barium, chromium, lead, mercury, nickel, selenium, or vanadium were present in any of the groundwater samples collected during 2014 from the wells along TMD. The reported concentrations of arsenic, iron, and manganese metals were above the CGWSLs, as follows:

- The reported concentration of total arsenic reported in the groundwater sample collected from well MW-89 during the 2014 first semiannual sampling event exceeded the CGWSL; however, all other reported concentrations of arsenic in groundwater samples collected from wells along TMD during both the 2014 first and second semiannual events were below the CGWSL. The reported concentrations of arsenic in MW-89 exhibit a declining trend over time.
- The concentrations of total iron reported in the groundwater samples collected from well MW-46R during the 2014 second semiannual event exceeded the CGWSL; however, the concentration of iron in groundwater sample collected from MW-46R during the 2014 first semiannual event, and all other reported concentrations of iron in groundwater samples collected from wells along TMD during both events were below the CGWSL. The concentration of iron increased an order of magnitude from being reported below the laboratory detection limit in October 2013 to a concentration of 1.1 mg/L in November 2014.
- The reported concentrations of manganese exceeded the CGWSL in groundwater samples from six wells during the 2014 first semiannual event, including MW-8, MW-16, MW-21, MW-25, MW-26 and MW-89. The reported concentration of manganese exceeded the CGWSL in the groundwater sample collected from MW-21 during the 2014 second semiannual event. The reported concentrations of manganese exhibit stable to declining trends in all wells associated with TMD, except for MW-25.

5.3.4.5 Cyanide

The groundwater sample collected from well MW-71 was analyzed for cyanide during the 2014 first semiannual event. Cyanide was not detected in the groundwater sample collected from this well.

5.3.4.6 Water Quality Parameters

Water quality parameters were analyzed in groundwater samples collected from all 12 of the wells along TMD during the 2014 first semiannual event, including MW-8, MW-16, MW-20, MW-21, MW-25, MW-26, MW-27, MW-46R, MW-68, MW-71, MW-89, and NP-1. Water quality parameters were analyzed in groundwater samples collected from two of the three wells along TMD during the second semiannual event, including MW-21 and MW-46R. Concentrations of chloride, fluoride, nitrate/nitrite, sulfate, and TDS exceeded the respective CGWSLs in groundwater from various wells along TMD, as follows:

- The reported concentrations of chloride exceeded the CGWSL in all of the samples collected in 2014 with the exception of the samples collected from MW-27, MW-46R, and MW-89 during the 2014 first semiannual event.
- The reported concentrations of fluoride exceeded the CGWSL in all of the samples collected in 2014 with the exception of the samples collected from MW-25, MW-27, and MW-71 during the 2014 first semiannual event.
- The reported concentrations of nitrate/nitrite exceeded the CGWSL in samples collected from MW-21 during both 2014 semiannual events and in the samples collected from MW-71 and NP-1 during the 2014 first semiannual event.
- The reported concentrations of sulfate exceeded the CGWSL in all of the samples collected in 2014 from wells associated with TMD.
- The reported concentrations of sulfate exceeded the CGWSL in all of the samples collected in 2014 from wells.

The reported concentrations of water quality parameters exhibit an overall stable trend in all of the wells associated with TMD, with the exception of MW-25. The concentrations of chloride and TDS reported in samples collected during the 2014 first semiannual event reflect an order of magnitude increase above previously reported concentrations.

5.3.5 North Refinery Area

Groundwater monitoring is ongoing in the northern portion of the active refinery, with samples collected from 20 wells during the 2014 first semiannual event and from 13 wells during the 2014 second semiannual event. As shown in Table 4, concentrations of several COCs exceeded the CGWSLs in groundwater samples collected from the North Refinery Area, as discussed in the following subsections.

5.3.5.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was analyzed in groundwater samples collected from 19 of the 20 wells in the North Refinery Area during the 2014 first semiannual sampling event, including MW-23, MW-29, MW-40, MW-41, MW-42, MW-43, MW-59, MW-60, MW-61, MW-62, MW-90, MW-91, MW-93, MW-95, MW-96, MW-98, RW-9, RW-10, and RW-17. GRO was detected in 16 of the 19 groundwater samples collected during this event.

GRO was analyzed in groundwater samples were collected from all 13 wells in the North Refinery Area during the 2014 second semiannual sampling event, including MW-23, MW-29, MW-43, MW-60, MW-61, MW-62, MW-67, MW-90, MW-91, MW-93, MW-94, MW-96, and MW-98. GRO was detected in 12 of the 13 groundwater samples collected during this event.

The NMED (NMED 2012) does not provide a specific screening value for GRO, but indicates that individual VOCs should be analyzed. The reported concentrations of GRO fluctuate through time in groundwater samples from most of the wells in this area, but in general show a stable trend; however, the GRO concentrations reported in samples collected from MW-59 and MW-62 exhibit an increasing trend.

5.3.5.2 Total Petroleum Hydrocarbons – Diesel Range Organics

DRO was analyzed in groundwater samples collected from all 20 wells in the North Refinery Area during the 2014 first semiannual sampling event, including MW-23, MW-29, MW-40, MW-41, MW-42, MW-43, MW-59, MW-60, MW-61, MW-62, MW-90, MW-91, MW-93, MW-95, MW-96, MW-98, RW-9, RW-10, RW-16, and RW-17. DRO concentrations were reported above the CGWSL in 16 of the 20 groundwater samples.

DRO was analyzed in groundwater samples collected from all 13 wells in the North Refinery Area during the 2014 second semiannual sampling event, including MW-23, MW-29, MW-43, MW-60, MW-61, MW-62, MW-67, MW-90, MW-91, MW-93, MW-94, MW-96, and MW-98. DRO concentrations were reported above the CGWSL in all 13 groundwater samples.

The reported DRO concentrations in samples collected from many of the wells associated with the North Refinery Area show a stable to decreasing trend; however, slightly increasing trends have been observed in the reported DRO concentrations in samples collected from wells MW-61, MW-62, MW-67, MW-91, MW-93, MW-96, and MW-98.

5.3.5.3 Volatile Organic Compounds

VOCs were analyzed in groundwater samples collected from the same wells in the North Refinery Area that were analyzed for DRO, as listed in the previous subsection. Various VOCs were present above the CGWSLs, as follows:

- 1,2,4-TMB was present above the CGWSL in the groundwater samples collected from various, as follows:

- MW-23, MW-43, MW-61, MW-91, MW-93, and MW-98 during the 2014 first and second semiannual events
- MW-42 during the 2014 first semiannual event (not sampled during 2014 second semiannual event)
- MW-62 and MW-96 during the 2014 first semiannual event, but was below the CGWSL in samples collected from these same two wells during the 2014 second semiannual event.
- MW-94 collected during the 2014 second semiannual event (not sampled during 2014 first semiannual event)
- Benzene was present above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-23, MW-43, MW-61, MW-62, MW-91, MW-93, and MW-98 during the 2014 first and second semiannual events
 - MW-40, MW-41, MW-42, MW-59, MW-60, MW-96, and RW-9 during the 2014 first semiannual event
 - MW-67, MW-90, and MW-94 during the 2014 second semiannual event (no samples collected from MW-67 and MW-94 during the 2014 first semiannual event due to the presence of PSH)
- Ethylbenzene was present above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-98 during the 2014 first semiannual event
 - MW-62 during the 2014 second semiannual event
- MTBE was present above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-96 during the 2014 first and second semiannual events
 - MW-67 and MW-94 during the 2014 second semiannual event (no samples collected from MW-67 and MW-94 during the 2014 first semiannual event due to the presence of PSH)
- Naphthalene was present above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-23, MW-61, MW-62, MW-93, and MW-98 during the 2014 first and second semiannual events
 - MW-91 and MW-96 during the 2014 first semiannual event
 - MW-94 during the 2014 second semiannual event
- Toluene was present above the CGWSL in the groundwater sample collected from well MW-91 during the 2014 second semiannual event.

- Total xylenes were present above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-62, and MW-98 during the 2014 first semiannual events
 - MW-23, MW-61, MW-94, and MW-98 during the 2014 second semiannual event

The reported concentrations of VOCs have fluctuated through time, but in general appear stable in most of the wells in this area; however, the concentrations of benzene, ethylbenzene and naphthalene appear to be increasing in samples collected from MW-62.

5.3.5.4 Total Metals

The standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium) were analyzed in groundwater samples collected from the same wells in the North Refinery Area that were analyzed for DRO, as listed in the Section 5.3.5.2. Additionally, groundwater from wells MW-43, MW-60, and MW-67 was analyzed for the analyte list for total mercury, nickel, and vanadium. During the 2014 second semiannual events samples from this area were not analyzed for total mercury due to laboratory error.

No exceedances of the CGWSLs were present in any of the groundwater samples collected from the wells in the North Refinery Area during 2013 for chromium, mercury, nickel, selenium, or vanadium. The reported concentrations of total metals were present above the CGWSLs for the following:

- The total arsenic concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-42, MW-43, MW-59, and RW-16 during the 2014 first semiannual event
 - MW-23, MW-90, and MW-95 during the 2014 second semiannual event
- The total barium concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-23 during the 2014 first semiannual event
 - MW-62 during the 2014 second semiannual event

- The total iron concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - RW-10 during the 2014 first semiannual event
 - MW-93 during the 2014 second semiannual event
- The total lead concentration exceeded the CGWSL in the groundwater sample collected from well RW-17 during the 2014 first semiannual event
- The total manganese concentrations exceeded the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-29, MW-43, and MW-60 during the 2014 first and second semiannual events
 - MW-41, MW-59, RW-9, RW-10, RW-16, and RW-17 during the 2014 first semiannual event
 - MW-23 and MW-93 during the 2014 second semiannual event

The total metals concentrations appear to be relatively stable through time, although fluctuations in the reported concentrations are observed.

5.3.5.5 Cyanide

Groundwater samples collected from wells MW-43 and MW-60 during the 2014 first and second semiannual events and the groundwater sample collected from MW-67 during the 2014 second semiannual event were analyzed for cyanide. Cyanide was not detected above the CGWSL in the groundwater samples collected from these wells.

5.3.5.6 Water Quality Parameters

Concentrations of chloride, fluoride, sulfate, and TDS exceeded the respective CGWSL in groundwater collected from various wells in the North Refinery Area. The reported concentrations of these constituents exhibit an overall stable or declining trend.

5.3.6 South Refinery Area

Groundwater monitoring is ongoing in the southern portion of the active refinery, with samples collected from 12 wells during the 2014 first semiannual event and from 17 wells during the 2014 second semiannual event. It should be noted that an increased number of groundwater samples were collected during the 2014 second semiannual event due to elevated groundwater levels and corresponding decreased PSH thicknesses. As shown in Table 4, concentrations of several COCs exceed the

CGWSL in groundwater samples collected from the South Refinery Area, as discussed in the following subsections.

5.3.6.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was analyzed in groundwater samples collected from 10 of the 12 wells in the South Refinery Area during the 2014 first semiannual sampling event, including MW-28, MW-52, MW-66, MW-101, MW-103, MW-104, MW-106, MW-107, MW-109, and MW-110. GRO was detected in all of the groundwater samples collected from this area during this event.

GRO was analyzed in groundwater samples collected from 13 of the 17 wells in the South Refinery Area during the 2014 second semiannual sampling event, including MW-28, MW-48, MW-52, MW-65, MW-66, MW-99, MW-101, MW-102, MW-104, MW-105, MW-107, MW-109, and MW-110. GRO was detected in all of the groundwater samples collected from this area during this event.

The NMED (NMED 2012) does not provide a specific screening value for GRO, but indicates that individual VOCs should be analyzed. The reported concentrations of GRO fluctuate through time, but in general show a stable to declining trend.

5.3.6.2 Total Petroleum Hydrocarbons – Diesel Range Organics

DRO was analyzed in groundwater samples collected from 11 of the 12 wells in the South Refinery Area during the 2014 first semiannual sampling event, including MW-28, MW-50, MW-52, MW-66, MW-101, MW-103, MW-104, MW-106, MW-107, MW-109, and MW-110. DRO concentrations were reported above the CGWSL in samples collected from 10 of the 11 wells.

DRO was analyzed in groundwater samples collected from all 17 wells in the South Refinery Area during the 2014 second semiannual sampling event, including KWB-2R, KWB-5, KWB-6, MW-28, MW-48, MW-50, MW-52, MW-65, MW-66, MW-99, MW-101, MW-102, MW-104, MW-105, MW-107, MW-109, and MW-110. DRO concentrations were reported above the CGWSL in all groundwater samples collected from this area during this event.

The reported DRO concentrations fluctuate in the samples collected from wells associated with the South Refinery Area, but show a generally increasing trend.

5.3.6.3 Volatile Organic Compounds

VOCs were analyzed in the same groundwater samples collected from wells in the South Refinery Area that were analyzed for DRO (listed in Section 5.3.6.2) and in the sample collected from irrigation well RA-313 during the 2014 first semiannual event. Various VOCs were reported at concentrations above the CGWSLs, including:

- 1,2,4-TMB was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-107 during the 2014 first and second semiannual events
 - MW-106 and MW-110 during the 2014 first semiannual event
 - KWB-2R, KWB-6, MW-28, MW-48, MW-65, MW-99, MW-102, and MW-105 during the 2014 second semiannual event
- Benzene was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-28, MW-66, MW-101, MW-104, MW-107, and MW-109 during the 2014 first and second semiannual events
 - MW-103, MW-106, and MW-110 during the 2014 first semiannual event
 - KWB-2R, KWB-5, KWB-6, MW-48, MW-65, MW-99, MW-102, and MW-105 during the 2014 second semiannual event
- Chloroform was reported at a concentration greater than the CGWSL in the groundwater sample collected from well MW-104 during the 2014 first semiannual events, but was below the CGWSL in the groundwater sample collected from this well during the 2014 second semiannual event. Chloroform was not reported above the CGWSL in any of the other groundwater samples collected from wells in this area.
- Dichloromethane was reported at a concentration greater than the CGWSL in the groundwater sample collected from well MW-104 during the 2014 first semiannual event. Dichloromethane was not reported above the CGWSL in any of the other groundwater samples collected during the 2014 first or second semiannual events from wells in this area.
- Ethylbenzene was reported at concentrations greater than the CGWSL in the groundwater samples collected from the wells KWB-2R, KWB-6, MW-65, and MW-102 during the 2014 second semiannual event.

- MTBE was reported at concentrations above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-28, MW-66, and MW-107 during the 2014 first and second semiannual events
 - KWB-5, KWB-6, MW-48, MW-65, MW-99, and MW-102 during the 2014 second semiannual event
- Naphthalene was reported at concentrations above the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-66 and MW-107 during the 2014 first and second semiannual events
 - MW-103 and MW-106 during the 2014 first semiannual event
 - KWB-2R, KWB-6, MW-28, MW-65, MW-99, and MW-102 during the 2014 second semiannual event
- Toluene was reported at a concentration above the CGWSL in the groundwater sample collected from well MW-102 during the 2014 second semiannual event.
- Total xylenes were reported at concentrations above the CGWSL in groundwater samples collected from KWB-2R, KWB-6, MW-99, and MW-102 during the 2014 second semiannual event.

The reported concentrations of VOCs have fluctuated through time, but in general show a stable or decreasing trend, with a few exceptions where slightly increasing trends have been observed.

5.3.6.4 Total Metals

The standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium) were analyzed in the groundwater samples collected from wells in the South Refinery Area during the 2014 first and second semiannual events that were analyzed for DRO (listed in Section 5.3.6.2). Additionally, groundwater samples collected from wells MW-28, MW-52, and MW-66 were analyzed for total mercury, nickel, and vanadium during the 2014 first and second semiannual events.

No reported concentrations exceeded the CGWSLs for chromium, lead, mercury, nickel, selenium, or vanadium in any of the groundwater samples collected from the South Refinery Area in 2014. The reported concentrations of total metals were present above the CGWSLs for the following:

- The total arsenic concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-101 and MW-110 during the 2014 first and second semiannual events
 - MW-109 during the 2014 first semiannual event
 - KWB-5, MW-48, MW-65, MW-99, MW-102, MW-105, and MW-107 during the 2014 second semiannual event
- The total barium concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-66 during the 2014 first and second semiannual events
 - MW-103 and MW-107 during the 2014 first semiannual event
 - KWB-5 during the 2014 second semiannual event
- The total iron concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-101, MW-107, and MW-110 during the 2014 first and second semiannual events
 - MW-109 during the 2014 first semiannual event
 - KWB-5, MW-48, MW-50, MW-65, MW-66, and MW-99 during the 2014 second semiannual event
- The total manganese concentrations exceeded the CGWSL in groundwater samples collected from various wells, as follows:
 - MW-50, MW-66, MW-101, MW-107, and MW-110 during the 2014 first and second semiannual events
 - MW-109 during the 2014 first semiannual event
 - KWB-2R, KWB-5, KWB-6, MW-48, MW-65, MW-99, and MW-105 during the 2014 second semiannual event

5.3.6.5 Cyanide

Groundwater samples collected from wells MW-28, MW-52, and MW-66 were analyzed for cyanide during the 2014 first and second semiannual events. It should be noted that both the “normal” and field duplicate samples collected from MW-52 during the 2014 first semiannual event were analyzed outside of the appropriate holding time for cyanide. Cyanide was not reported above the CGWSL in the groundwater samples collected from any of the samples collected from wells associated with the South Refinery Area during 2014.

5.3.6.6 *Water Quality Parameters*

Concentrations of chloride, fluoride, sulfate, and TDS exceed the respective CGWSLs in groundwater collected from various wells in the South Refinery Area. The reported concentrations of these constituents exhibit an overall stable or declining trend.

5.3.7 *Field East of Refinery*

Groundwater monitoring is ongoing in the field east of the refinery, between the refinery and the EPs. The wells in the pecan orchard east of the field have been included in this group. As shown in Table 4, concentrations of several COCs exceeded the CGWSLs in groundwater samples collected from the field east of the refinery, as discussed in the following subsections.

5.3.7.1 *Total Petroleum Hydrocarbons – Gasoline Range Organics*

Groundwater samples collected from 14 wells, including KWB-11B, KWB-12B, MW-57, MW-111, MW-113, MW-125, MW-126A, MW-126B, MW-127, MW-128, MW-130, MW-131, MW-134, and MW-135 during the 2014 first and second semiannual events were analyzed for GRO. Additionally, groundwater samples collected from KWB-11A, KWB-12A, MW-112, MW-129, and MW-133 were also collected and analyzed for GRO during the 2014 second semiannual event. GRO was detected in 10 of the 14 groundwater samples collected during the 2014 first semiannual event, and was detected in 10 of the 19 groundwater samples collected during the 2014 second semiannual event.

The NMED (NMED 2012) does not provide a specific screening value for GRO, but indicates that individual VOCs should be analyzed. The reported concentrations of GRO fluctuate through time, but in general show a stable to declining trend during the past three years. The exceptions are at MW-57 and MW-113; GRO concentrations reported in the groundwater samples from those wells show an increasing trend.

5.3.7.2 *Total Petroleum Hydrocarbons – Diesel Range Organics*

Groundwater samples collected from wells KWB-1A, KWB-11B, KWB-12B, MW-57, MW-111, MW-113, MW-125, MW-126A, MW-126B, MW-127, MW-128, MW-130, MW-131, MW-134, and MW-135 in the field east of the refinery were analyzed for DRO during the 2014 first semiannual sampling event. DRO was detected in groundwater samples from 10 of the 15 wells were reported at concentrations above the CGWSL.

These wells include KWB-11B, MW-57, MW-111, MW-113, MW-126A, MW-126B, MW-127, MW-128, MW-130, and MW-131.

Groundwater samples were collected from wells KWB-1A, KWB-7, KWB-10R, KWB-11A, KWB-11B, KWB-12A, KWB-12B, MW-57, MW-58, MW-111, MW-112, MW-113, MW-125, MW-126A, MW-126B, MW-127, MW-128, MW-129, MW-130, MW-131, MW-133, MW-134, and MW-135 in the field east of the refinery and analyzed for DRO during the 2014 second semiannual sampling event. DRO was detected in groundwater samples from 17 of the 23 wells at concentrations above the CGWSL. These wells include KWB-7, KWB-10R, KWB-11A, MW-57, MW-58, MW-111, MW-112, MW-113, MW-126A, MW-126B, MW-127, MW-128, MW-129, MW-130, MW-131, MW-133, and MW-135.

The reported DRO concentrations fluctuate in the samples collected from wells associated with the field east of the refinery, but show a generally stable to increasing trend.

5.3.7.3 Volatile Organic Compounds

Groundwater collected from wells in the field east of the refinery that were analyzed for DRO was also analyzed for VOCs during the 2014 semiannual sampling events. In addition, groundwater samples were collected from RA-4798 during both sampling events and RA-4196 and RW-18 during the first sampling event and were analyzed for VOCs. Various VOCs were present above the CGWSLs, as follows:

- 1,2,4-TMB was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-113, MW-127 and MW-131 during the first and second semiannual events
 - KWB-11B during the first semiannual event
 - KWB-7, KWB-10R, KWB-11A, MW-58, MW-112, and MW-133 during the second semiannual event
- Benzene was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-111, MW-113, MW-127, MW-128, and MW-131 during the first and second semiannual events
 - KWB-7, KWB-10R, KWB-11A, MW-57, MW-58, MW-112, MW-129 and MW-133 during the second semiannual event

- Ethylbenzene was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-127 during the first semiannual event
 - MW-58 and MW-112 during the second semiannual event
- MTBE was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-111, MW-127, MW-128 and MW-131 during the first and second semiannual events
 - KWB-10R, MW-112, MW-129, and MW-133 during the 2014 second semiannual event
- Naphthalene was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-127 and MW-131 during the first and second semiannual events
 - MW-113 during the first semiannual event
 - KWB-10R, MW-58, MW-112, and MW-113 during the second semiannual event
- Toluene was present at a concentration above the CGWSL in the groundwater samples collected from wells MW-127 and MW-131 during the 2014 first semiannual event; no toluene concentrations were reported above the CGWSL from the rest of the wells during 2014 first semiannual event. Toluene concentrations were reported below the CGWSL from the groundwater samples collected during the 2014 second semiannual event from this area.
- Total xylene was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-113, MW-127, and MW-131 during the first semiannual event
 - KWB-10R, MW-58, and MW-112 during the second semiannual event
- The concentration of o-xylenes exceeded the CGWSL in the groundwater samples collected from KWB-10R and MW-112 during the 2014 second semiannual event and MW-127 during the 2014 first semiannual event.

The reported concentrations of VOCs have fluctuated through time, but the concentrations of benzene show a stable trend.

5.3.7.4 Total Metals

Groundwater samples collected from wells in the field east of the refinery that was analyzed for DRO were also analyzed for the standard analyte list for total metals identified in Section 5.1 (arsenic, barium chromium, iron, lead, manganese, and selenium). Groundwater samples were also collected from well RW-18 during the 2014 first semiannual sample event and analyzed for these metals. Groundwater samples were collected from wells KWB-1A, KWB-11B, and KWB-12B and analyzed for the list of total metals identified in Section 5.1 (mercury, nickel, and vanadium) during both 2014 semiannual events. Groundwater samples collected from KWB-7, KWB-11A, KWB-12A and MW-58 during the 2014 second semiannual event were also analyzed for the additional list of metals identified in Section 5.1 (mercury, nickel and vanadium). Groundwater samples were also collected from RA-4196 and RA-4798 during the 2014 first semiannual event and analyzed for nickel.

No reported concentrations exceeded the CGWSLs for chromium, mercury, nickel, selenium, or vanadium in any of the groundwater samples collected from wells in the field east of the refinery during the 2014 semiannual events. The following total metals were present above the CGWSLs:

- Arsenic was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-111, MW-128, and MW-131 during the first and second semiannual events
 - MW-57 during the 2014 first semiannual event
 - KWB-7, KWB-10R, MW-129 and MW-133 during the 2014 second semiannual event
- Barium was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-131 during the 2014 first and second semiannual events.
 - MW-57 during the 2014 first semiannual event was above the CGWSL
 - KWB-10R, MW-112, and MW-127 during the 2014 second semiannual event.
- Iron was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - MW-111, MW-127, MW-128, MW-130, MW-131, and MW-135 during the first and second semiannual events.

- MW-57, MW-113, and MW-126B during the first semiannual event
- KWB-10R, MW-112, MW-126A, MW-129, and MW-133 during the second semiannual event
- Barium was reported at concentrations above the CGWSL in the groundwater samples collected from various wells, as follows:
 - KWB-1A, MW-57, MW-111, MW-113, MW-125, MW-128, and MW-131 during the first and second semiannual events
 - MW-126B and MW-130 during the 2014 first semiannual event
 - KWB-7, MW-112, MW-126A, MW-129, MW-133 and MW-135 during the second semiannual event

5.3.7.5 Cyanide

Groundwater samples collected from wells KWB-1A, KWB-11B, and KWB-12B during the 2014 first semiannual event, and from wells KWB-1A, KWB-7, KWB-11A, KWB-11B, KWB-12A, KWB-12B, and MW-58 during the 2014 second semiannual event were analyzed for cyanide. Cyanide was not detected in the groundwater samples collected from these wells.

5.3.7.6 Water Quality Parameters

Concentrations of chloride, fluoride, nitrate/nitrite, sulfate, and TDS exceeded the respective CGWSL in groundwater collected from various wells in the field east of the refinery. The reported concentrations of these constituents exhibit an overall stable or declining trends in the majority of the wells associated with the South Refinery.

5.3.8 Crossgradient and Upgradient Areas

Groundwater monitoring is ongoing in areas both crossgradient and upgradient from the refinery. The crossgradient wells include KWB-13 located south of the refinery and RA-3156 located southeast of the refinery. Upgradient wells include UG-1, UG-2, and UG-3R, all located to the west of the refinery. These five wells were sampled during the 2014 first semiannual event, but not during the 2014 second semiannual event, as per the 2013 FWGMWP.

As discussed in Section 2.1.1.2, two additional wells were installed crossgradient (MW-136) and upgradient (UG-4) of the refinery in 2014 as part of a background groundwater evaluation. The analytical data from those wells is not included in this

annual groundwater monitoring report but will be included in the background groundwater evaluation report, to be submitted later in 2015.

Table 4 shows the analytical results for groundwater samples collected from the crossgradient and upgradient wells currently included in the monitoring program.

5.3.8.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

Groundwater samples collected from upgradient wells UG-1, UG-2, and UG-3R during the 2014 first semiannual event were analyzed for GRO. GRO was not detected in any of these groundwater samples. Groundwater samples from the crossgradient wells were not analyzed for GRO per the 2013 FWGMWP.

5.3.8.2 Total Petroleum Hydrocarbons – Diesel Range Organics

Groundwater samples collected during the 2014 first semiannual sampling event from KWB-13, UG-1, UG-2, and UG-3R were analyzed for DRO. DRO was not reported above the detection limit in any of the groundwater samples from these wells.

5.3.8.3 Volatile Organic Compounds

Groundwater samples collected during the 2014 first semiannual sampling event from KWB-13, RA-3156, UG-1, UG-2, and UG-3 during the 2014 first semiannual event were analyzed for VOCs. None of the VOCs were detected above the detection limits in any of the groundwater samples collected from these wells.

5.3.8.4 Total Metals

Groundwater samples collected during the 2014 first semiannual sampling event from KWB-13, UG-1, UG-2, and UG-3R were analyzed for the standard list of total metals identified in Section 5.1 (arsenic, barium, chromium, iron, lead, manganese, and selenium) as well as for total mercury, nickel, and vanadium. Although not requested, the groundwater sample collected from RA-3156 during the 2014 first semiannual sampling event was also analyzed for nickel. None of the metals were detected above the CGWSLs during the 2014 first semiannual event, except for manganese. The reported manganese concentration exceeded the CGWSL in the groundwater sample collected from UG-2 during the 2014 first semiannual event.

5.3.8.5 Cyanide

Groundwater samples collected during the 2014 first semiannual sampling event from wells KWB-13, UG-1, UG-2, and UG-3R were analyzed for cyanide. No cyanide was reported above the detection limits in any of the groundwater samples from these wells.

5.3.8.6 Water Quality Parameters

Water quality parameters were analyzed in the samples collected during the 2014 first semiannual sampling event from KWB-13, UG-1, UG-2, UG-3R, and RA-3156. Sulfate and TDS were reported at concentrations exceeding CGWSLs in the groundwater samples collected from all five of these wells during the 2014 first semiannual event. Chloride was also reported at a concentration above the CGWSL in the groundwater sample collected from RA-3156 during the 2014 first semiannual event. Nitrate/nitrite was reported at concentrations above the CGWSL in the groundwater samples collected from KWB-13 and UG-1 during the 2014 first semiannual event.

5.3.9 RO Reject Discharge Fields

The reject water from the process water RO system is discharged to agricultural fields north of the refinery. The areas are known as the north RO reject field and south RO reject field. RO reject water is discharged to one or the other field in accordance with GW-028. Section 6.D of GW-028, updated August 22, 2012, required NRC to perform a site investigation of the two RO reject water discharge fields. The summary report for that investigation was submitted on February 21, 2014 (ARCADIS, 2014a).

Wells MW-114, MW-115, and MW-116 are located in the south RO reject field, while wells MW-117, MW-118, and MW-119 are located in the north RO reject field. These six wells were incorporated into the facility-wide groundwater monitoring program in the response to the NMED approval with modifications letter submitted May 9, 2014 (ARCADIS 2014b). All six of these wells were sampled in both the 2014 semiannual events. Table 4 shows the analytical results for groundwater samples collected from these wells.

5.3.9.1 Total Petroleum Hydrocarbons – Gasoline Range Organics

GRO was analyzed in the groundwater samples collected during the 2014 first and second semiannual events from the RO reject field wells. GRO was not reported above the method detection limit in any of these samples.

5.3.9.2 Total Petroleum Hydrocarbons – Diesel Range Organics

DRO was analyzed in the groundwater samples collected during the 2014 first and second semiannual events from the RO reject field wells. DRO was not detected in the groundwater samples collected from any of the RO reject wells during the 2014 first semiannual event. DRO was detected in each of the groundwater samples collected from the RO reject field wells during the 2014 second semiannual event, but all of the DRO concentrations were below the CGWSL.

5.3.9.3 Volatile Organic Compounds

VOCs were analyzed in groundwater samples collected during the 2014 first and second semiannual events from the RO reject field wells. No VOCs were reported above their respective CGWSLs in these groundwater samples collected during the 2014 first and second semiannual event.

5.3.9.4 Metals

The standard list for total metals identified in Section 5.1 (arsenic, barium chromium, iron, lead, manganese, and selenium) were analyzed in groundwater samples collected during the 2014 first and second semiannual events from the RO reject field wells. No reported concentrations exceeded the CGWSLs for barium, chromium, lead, or selenium in any of the groundwater samples collected from the RO reject wells during the 2014 semiannual events. The following metals were present above the CGWSLs:

- Total arsenic concentrations exceeded the CGWSL in groundwater samples collected from well MW-118 during the 2014 first and second semiannual events.
- Total iron concentrations exceeded the CGWSL in groundwater samples collected from wells MW-118 and MW-119 during the 2014 second semiannual event.
- Total manganese concentrations exceeded the CGWSL in groundwater samples collected from well MW-114 during the 2014 first and second semiannual events.

5.3.9.5 Water Quality Parameters

Water quality parameters were analyzed in groundwater samples collected during the 2014 first and second semiannual events from the RO reject field wells. The reported

concentrations of sulfate and TDS were above the CGWSLs in all of the samples collected from these wells. The reported concentrations of fluoride were above the CGWSL in all of the samples collected from these wells with the exception of the samples collected from MW-115 during both events and the sample collected from MW-116 during the 2014 first semiannual event. The reported concentration of chloride was above the CGWSL in the sample collected from MW-115 during the 2014 second semiannual event.

6. Remediation System Monitoring

The PCC Permit (NMED 2010), Discharge Permit (OCD 2012), and the 2013 FWGMWP (ARCADIS 2013) require the recovery of PSH present in the shallow groundwater within and adjacent to the refinery. A system of recovery trenches and recovery wells was installed at the refinery and is used to recover PSH.

6.1 Recovery System with Dedicated Down Hole Pumps

Throughout 2014, recovery of PSH in wells occurred utilizing automated pumps placed in RW-1R, RW-2R, RW-4R, RW-5R, RW-6R, RW-8R, RW-12R, RW-13R, RW-14R, RW-15, RW-19, RW-20, and RW-22. Both PSH and groundwater pumps are installed in each recovery well and operated automatically, with remote reporting. RW-7R was installed in 2013, but was not actively pumped until January 2015 because a new culvert had to be installed beneath the roadway in order to run the discharge piping for both the PSH and groundwater to the recovery skid located near RW-2R.

Recovered PSH is pumped into holding tanks near each well, then pumped to Tank 49, near the wastewater treatment system, then to Tank 1225 to be processed within the refinery. Recovered groundwater is pumped to the nearest process wastewater sump and directed to the process wastewater treatment system. Thus, recovered PSH is recycled into the refinery process while groundwater is treated to remove residual hydrocarbons.

The volume of recovered groundwater and PSH from each recovery well is gauged and reported weekly. The total volume of fluids recovered throughout 2014 from the recovery system is summarized (by quarter) in Table 5 and the operational records are provided in Appendix F.

6.2 Manual Recovery of Isolated Wells Using Bailers

Because the automated recovery system was operational throughout 2014, manual bailing did not occur as frequently it did in previous years.

During the fourth quarter of 2014, PSH was manually pumped from wells KWB-4, KWB-6, MW-65, MW-94, MW-112, MW-129, MW-132, and MW-133. Total fluids manually removed from monitoring wells containing PSH were transported to the refinery and placed into a process wastewater sump upstream of the oil/water separator. The volume of recovered PSH and water from these monitoring wells is summarized in Table 5.

6.3 Estimated Volume of Fluids Recovered

During 2014, an estimated 2,969,066 gallons of groundwater and an estimated 104,272 gallons of PSH were recovered through operation of the recovery system and manual pumping. The majority of the PSH recovered came from RW-8R and RW-14R.

Although the recovery system operation was improved throughout 2014, the volume of PSH was significantly lower in 2014 when compared to 2013. The total volume of PSH recovered during the first quarter of 2014 was less than optimum due to maintenance issues that prevented operation of the PSH pumps in RW-2R and RW-8R during the first quarter of 2014.

The volume of PSH recovered during the fourth quarter of 2014 was significantly lower than the previous three quarters of 2014. As illustrated in Table 1, the groundwater potentiometric surface throughout the refinery rose between March and November 2014. The rise in groundwater potentiometric surface is believed to be associated with heavier than normal rainfall in Artesia and throughout the area to the west and north of Artesia, which caused higher than normal recharge of the shallow saturated zone as well as the underlying valley fill zone. At some locations, the rise in groundwater prevented movement of the PSH within the more transmissive layers (gravel to sand lenses) into the recovery wells. Thus, as seen in Table 1, and in Appendix F, little to no PSH was available for recovery from these wells.

Operation of the recovery system will continue throughout 2015, including optimization of pump placement and operation.

6.4 Interaction with Office of the State Engineer

In November 2014, NRC submitted a well abandonment plan (plugging plan) to the New Mexico Office of the State Engineer (OSE) requesting approval to abandon the three recovery wells located immediately west of Bolton Road (RW-12, RW-13, and RW-14) because these wells have been replaced and are no longer used for the recovery system. The OSE approved the plugging plan but raised questions on the diversion of groundwater from the shallow saturated zone. OSE verbally requested that NRC cease pumping of groundwater from the recovery system until a review of the operation and potential water rights issues could be completed. As a result, the groundwater pumps in all of the recovery wells were turned off on November 17, 2014, with the exception of the total fluids pump located in the french drain immediately east of Bolton Road (RW-20). The PSH skimming pumps continued to be operated throughout the remainder of 2014. A letter describing the situation and the concerns of



OSE, along with the current status of the recovery system operation, was submitted to NMED and OCD on January 30, 2015. A copy of the letter is provided in Appendix G of this report.

7. Conclusions

The following conclusions are based upon the information obtained during 2014 and comparison to data from prior years:

- Groundwater flow direction and gradient remains generally consistent with that measured during past years. Discharge of the RO reject water to the RO reject fields and operation of the recovery system groundwater pumps have localized influence of groundwater gradients, creating a slight mound beneath the RO reject fields. Localized groundwater sinks are observed around recovery wells when the total fluids pumps are operating.
- The PSH plume shapes were modified, as shown in Figures 8 and 9, based on the findings of the contaminant migration evaluation investigation performed in 2014. The findings included refinement of the lithologic model for the site through identification of gravel lenses. However, a general reduction in the PSH plume was observed during the second semiannual event, which is attributable to the rise in the groundwater potentiometric surface throughout the area.
- Concentrations of dissolved phase organic constituents have generally remained stable, although increasing trends were noted in specific areas. The overall shape of the dissolved phase constituent plumes remain similar to previous years, although slight changes were observed due to installation of additional wells.
- Upgrades to the PSH recovery system have been completed and the system operated more consistently throughout 2014.
- The OSE requested that pumping of groundwater be halted while a review of the water rights associated with the shallow saturated zone is completed. The recovery system is currently being operated using the PSH pumps only, with the exception of the total fluids pump placed in the french drain immediately to the east of Bolton Road (RW-20)..

According to the requirements of the updated PCC Permit (NMED 2010), an updated FWGMWP will be submitted in June 2015.

8. References

ARCADIS 2011. Groundwater and Product Recovery System Basis of Design. January 2011.

ARCADIS 2012. 2012 Facility Wide Groundwater Monitoring Workplan, NMD048918817 and DP GW-028. June 2012.

ARCADIS 2013. 2013 Facility Wide Groundwater Monitoring Workplan, NMD048918817 and DP GW-028. June 2013.

ARCADIS 2014a. Reverse Osmosis Reject Water Discharge Fields Investigation Final Report. February 21, 2014.

ARCADIS 2014b. Response to Approval with Modifications, 2013 Facility-Wide Groundwater Monitoring Workplan. May 9, 2014.

New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division. 2012. Discharge Permit (GW-028), Navajo Refining Company – Artesia Refinery. August 2012.

New Mexico Environment Department. 2010. Navajo Refining Company, Artesia Refinery, Post-Closure Care Permit. December 2010.

New Mexico Environment Department. 2012. Risk Assessment Guidance for Site Investigations and Remediation. February 2012.

New Mexico Environment Department. 2013. Approval with Modifications, 2012 Facility Wide Groundwater Monitoring Workplan, Navajo Refining Company, Artesia Refinery. HWB-NRC-12-004. January 2013.

New Mexico Environment Department. 2014a. Approval with Modifications, 2013 Facility Wide Groundwater Monitoring Workplan, Navajo Refining Company, Artesia Refinery. HWB-NRC-12-004. January 2014.

New Mexico Environment Department. 2014b. Risk Assessment Guidance for Site Investigations and Remediation. December 2014.



**2014 Annual
Groundwater Report**
Navajo Refining Company
Artesia, New Mexico

New Mexico Environment Department. 2015. Approval, 2014 Facility Wide
Groundwater Monitoring Workplan, Navajo Refining Company, Artesia Refinery.
HWB-NRC-14-007. February 18, 2015.

Tables

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
Crossgradient	Shallow	KWB-13	669077.00	524892.42	3365.67	Unknown	3/27/2014	--	27.47	3338.20	--
Crossgradient	Shallow	KWB-13	669077.00	524892.42	3365.67	Unknown	11/11/2014	Well covered in dirt and shrub, could not be located.			
Crossgradient	Shallow	NP-5	675512.24	524698.19	3349.29	10.25 to 20	3/26/2014	--	14.39	3334.90	--
Crossgradient	Shallow	NP-5	675512.24	524698.19	3349.29	10.25 to 20	11/11/2014	--	8.02	3341.27	--
EP	Shallow	MW-1R	675135.17	538636.78	3313.28	8 to 23	3/25/2014	--	10.68	3302.60	--
EP	Shallow	MW-1R	675135.17	538636.78	3313.28	8 to 23	11/10/2014	--	9.39	3303.89	--
EP	Shallow	MW-2A	675979.09	540803.91	3312.97	Unknown	3/25/2014	--	10.58	3302.39	--
EP	Shallow	MW-2A	675979.09	540803.91	3312.97	Unknown	11/11/2014	--	9.65	3303.32	--
EP	Valley Fill	MW-2B	675969.73	540801.44	3312.49	38.5 to 48	3/25/2014	--	10.71	3301.78	--
EP	Valley Fill	MW-2B	675969.73	540801.44	3312.49	38.5 to 48	11/11/2014	--	8.43	3304.06	--
EP	Shallow	MW-3	674443.34	540503.24	3310.32	Unknown	3/25/2014	--	9.11	3301.21	--
EP	Shallow	MW-3	674443.34	540503.24	3310.32	Unknown	11/11/2014	--	6.99	3303.33	--
EP	Shallow	MW-4A	674083.00	540529.44	3312.71	Unknown	3/25/2014	--	11.6	3301.11	--
EP	Shallow	MW-4A	674083.00	540529.44	3312.71	Unknown	11/11/2014	--	9.6	3303.11	--
EP	Valley Fill	MW-4B	674089.71	540541.34	3312.01	60.25 to 70	3/25/2014	--	10.87	3301.14	--
EP	Valley Fill	MW-4B	674089.71	540541.34	3312.01	60.25 to 70	11/11/2014	--	8.87	3303.14	--
EP	Shallow	MW-5A	674272.84	541759.78	3308.62	Unknown	3/25/2014	--	7.97	3300.65	--
EP	Shallow	MW-5A	674272.84	541759.78	3308.62	Unknown	11/11/2014	--	4.91	3303.71	--
EP	Valley Fill	MW-5B	674272.33	541739.12	3308.95	41.5 to 50.5	3/25/2014	--	8.32	3300.63	--
EP	Valley Fill	MW-5B	674272.33	541739.12	3308.95	41.5 to 50.5	11/11/2014	--	6.14	3302.81	--
EP	Valley Fill	MW-5C	674279.57	541728.80	3309.28	59.25 to 68.75	3/25/2014	--	8.49	3300.79	--
EP	Valley Fill	MW-5C	674279.57	541728.80	3309.28	59.25 to 68.75	11/11/2014	--	6.36	3302.92	--
EP	Shallow	MW-6A	674427.07	539833.47	3313.46	Unknown	3/25/2014	--	12.28	3301.18	--
EP	Shallow	MW-6A	674427.07	539833.47	3313.46	Unknown	11/10/2014	--	10.27	3303.19	--
EP	Valley Fill	MW-6B	674418.57	539834.04	3313.35	39.5 to 49	3/25/2014	--	12.19	3301.16	--
EP	Valley Fill	MW-6B	674418.57	539834.04	3313.35	39.5 to 49	11/10/2014	--	10.2	3303.15	--
EP	Shallow	MW-7A	674447.64	542716.01	3309.24	Unknown	3/25/2014	--	7.45	3301.79	--
EP	Shallow	MW-7A	674447.64	542716.01	3309.24	Unknown	11/11/2014	--	5.21	3304.03	--
EP	Valley Fill	MW-7B	674455.63	542715.61	3307.87	39.5 to 49	3/25/2014	--	8.72	3299.15	--
EP	Valley Fill	MW-7B	674455.63	542715.61	3307.87	39.5 to 49	11/11/2014	--	6.51	3301.36	--
EP	Shallow	MW-10	672121.15	541540.05	3304.76	0 to 19.4	3/25/2014	--	5.06	3299.70	--
EP	Shallow	MW-10	672121.15	541540.05	3304.76	0 to 19.4	11/11/2014	--	2.85	3301.91	--
EP	Shallow	MW-11A	677317.73	543675.36	3310.76	5.5 to 20	3/25/2014	--	9.49	3301.27	--
EP	Shallow	MW-11A	677317.73	543675.36	3310.76	5.5 to 20	11/10/2014	--	7.99	3302.77	--
EP	Valley Fill	MW-11B	677305.72	543685.50	3310.76	35.5 to 45	3/25/2014	--	9.43	3301.33	--
EP	Valley Fill	MW-11B	677305.72	543685.50	3310.76	35.5 to 45	11/10/2014	--	7.91	3302.85	--
EP	Shallow	MW-12	676952.63	541505.50	3312.73	6.5 to 16	3/25/2014	--	10.48	3302.25	--
EP	Shallow	MW-12	676952.63	541505.50	3312.73	6.5 to 16	11/11/2014	--	9.88	3302.85	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
EP	Shallow	MW-13	674951.80	539762.62	3314.24	9.5 to 19	3/25/2014	--	12.28	3301.96	--
EP	Shallow	MW-13	674951.80	539762.62	3314.24	9.5 to 19	11/11/2014	--	10.98	3303.26	--
EP	Shallow	MW-14	676122.48	543280.49	3311.84	5.5 to 20	3/25/2014	--	11.57	3300.27	--
EP	Shallow	MW-14	676122.48	543280.49	3311.84	5.5 to 20	11/11/2014	--	11.2	3300.64	--
EP	Shallow	MW-15	674731.39	539003.75	3313.72	9 to 19	3/25/2014	--	11.83	3301.89	--
EP	Shallow	MW-15	674731.39	539003.75	3313.72	9 to 19	11/10/2014	--	10.43	3303.29	--
EP	Shallow	MW-18A	672548.16	543447.78	3308.58	10 to 20	3/25/2014	--	10.05	3298.53	--
EP	Shallow	MW-18A	672548.16	543447.78	3308.58	10 to 20	11/11/2014	--	8.34	3300.24	--
EP	Valley Fill	MW-18B	672557.96	543458.22	3308.74	37 to 47	3/25/2014	--	9.98	3298.76	--
EP	Valley Fill	MW-18B	672557.96	543458.22	3308.74	37 to 47	11/11/2014	--	8.54	3300.20	--
EP	Valley Fill	MW-18T	672559.79	543449.75	3308.55	37 to 47	3/25/2014	--	9.51	3299.04	--
EP	Valley Fill	MW-18T	672559.79	543449.75	3308.55	37 to 47	11/11/2014	--	8.31	3300.24	--
EP	Shallow	MW-22A	672866.82	541801.63	3307.62	5.5 to 20.5	3/25/2014	--	7.62	3300.00	--
EP	Shallow	MW-22A	672866.82	541801.63	3307.62	5.5 to 20.5	11/11/2014	--	5.54	3302.08	--
EP	Valley Fill	MW-22B	672866.58	541786.97	3307.63	42.3 to 52	3/25/2014	--	7.48	3300.15	--
EP	Valley Fill	MW-22B	672866.58	541786.97	3307.63	42.3 to 52	11/11/2014	--	5.44	3302.19	--
EP	Shallow	MW-24	676498.23	544101.56	3312.85	15 to 20	3/25/2014	--	12.19	3300.66	--
EP	Shallow	MW-24	676498.23	544101.56	3312.85	15 to 20	11/11/2014	--	11.52	3301.33	--
EP	Shallow	MW-69	675962.29	540401.29	3313.86	5 to 20	3/25/2014	Area inaccessible due to flooding.			--
EP	Shallow	MW-69	675962.29	540401.29	3313.86	5 to 20	11/11/2014	--	10.4	3303.46	--
EP	Shallow	MW-70	670892.66	542787.60	3306.30	5 to 20	3/25/2014	--	7.74	3298.56	--
EP	Shallow	MW-70	670892.66	542787.60	3306.30	5 to 20	11/11/2014	--	5.77	3300.53	--
EP	Shallow	MW-72	676691.27	542662.31	3308.45	2 to 12	3/25/2014	--	7.16	3301.29	--
EP	Shallow	MW-72	676691.27	542662.31	3308.45	2 to 12	11/11/2014	--	4.84	3303.61	--
EP	Shallow	MW-73	675910.20	542130.56	3310.18	2 to 17	3/25/2014	--	8.89	3301.29	--
EP	Shallow	MW-73	675910.20	542130.56	3310.18	2 to 17	11/11/2014	--	6.58	3303.60	--
EP	Shallow	MW-74	675059.14	541546.30	3310.03	2 to 17	3/25/2014	--	8.87	3301.16	--
EP	Shallow	MW-74	675059.14	541546.30	3310.03	2 to 17	11/11/2014	--	6.41	3303.62	--
EP	Shallow	MW-75	674622.31	541132.78	3310.21	3 to 18	3/25/2014	--	9.12	3301.09	--
EP	Shallow	MW-75	674622.31	541132.78	3310.21	3 to 18	11/11/2014	--	6.85	3303.36	--
EP	Shallow	MW-76	674482.47	541053.83	3311.84	3 to 18	3/25/2014	--	10.68	3301.16	--
EP	Shallow	MW-76	674482.47	541053.83	3311.84	3 to 18	11/11/2014	--	8.43	3303.41	--
EP	Shallow	MW-77	674529.89	541104.86	3310.07	3 to 18	3/25/2014	--	8.94	3301.13	--
EP	Shallow	MW-77	674529.89	541104.86	3310.07	3 to 18	11/11/2014	--	6.62	3303.45	--
EP	Shallow	MW-78	674529.23	541073.45	3310.14	2 to 17	3/25/2014	--	8.98	3301.16	--
EP	Shallow	MW-78	674529.23	541073.45	3310.14	2 to 17	11/11/2014	--	6.21	3303.93	--
EP	Shallow	MW-79	675349.67	540906.08	3311.43	2 to 17	3/25/2014	--	9.86	3301.57	--
EP	Shallow	MW-79	675349.67	540906.08	3311.43	2 to 17	11/10/2014	--	9.15	3302.28	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
EP	Shallow	MW-80	675371.74	540646.46	3310.79	2 to 17	3/25/2014	--	9.05	3301.74	--
EP	Shallow	MW-80	675371.74	540646.46	3310.79	2 to 17	11/10/2014	--	7.41	3303.38	--
EP	Shallow	MW-81	675252.80	540544.47	3312.34	2 to 17	3/25/2014	--	10.67	3301.67	--
EP	Shallow	MW-81	675252.80	540544.47	3312.34	2 to 17	11/10/2014	--	8.97	3303.37	--
EP	Shallow	MW-82	675035.42	540806.88	3310.75	2 to 17	3/25/2014	--	9.38	3301.37	--
EP	Shallow	MW-82	675035.42	540806.88	3310.75	2 to 17	11/11/2014	--	7.36	3303.39	--
EP	Shallow	MW-83	674524.97	540832.80	3310.19	2 to 17	3/25/2014	--	9	3301.19	--
EP	Shallow	MW-83	674524.97	540832.80	3310.19	2 to 17	11/11/2014	--	6.52	3303.67	--
EP	Shallow	MW-84	674798.43	540109.13	3311.59	2 to 17	3/25/2014	--	9.26	3302.33	--
EP	Shallow	MW-84	674798.43	540109.13	3311.59	2 to 17	11/10/2014	--	6.57	3305.02	--
EP	Shallow	MW-85	674566.12	539805.49	3311.09	3 to 18	3/25/2014	9.87	10.03	3301.19	0.16
EP	Shallow	MW-85	674566.12	539805.49	3311.09	3 to 18	11/10/2014	7.94	8.11	3303.12	0.17
EP	Shallow	MW-86	674645.96	539671.17	3311.06	2 to 17	3/25/2014	9.68	9.93	3301.33	0.25
EP	Shallow	MW-86	674645.96	539671.17	3311.06	2 to 17	11/10/2014	7.76	7.92	3303.27	0.16
EP	Shallow	MW-87	673379.98	543280.45	3307.64	2 to 17	3/25/2014	--	8.21	3299.43	--
EP	Shallow	MW-87	673379.98	543280.45	3307.64	2 to 17	11/11/2014	--	6.06	3301.58	--
EP	Shallow	MW-88	672899.14	540832.09	3308.68	3 to 18	3/25/2014	--	8.37	3300.31	--
EP	Shallow	MW-88	672899.14	540832.09	3308.68	3 to 18	11/11/2014	--	6.25	3302.43	--
EP	Shallow	MW-120	674678.95	539555.77	3313.55	10 to 25	3/25/2014	--	12.18	3301.37	--
EP	Shallow	MW-120	674678.95	539555.77	3313.55	10 to 25	11/10/2014	--	10.01	3303.54	--
EP	Shallow	MW-121	674851.38	539923.70	3314.68	10 to 25	3/25/2014	--	12.61	3302.07	--
EP	Shallow	MW-121	674851.38	539923.70	3314.68	10 to 25	11/10/2014	--	11.07	3303.61	--
EP	Shallow	MW-122	675231.06	540401.60	3311.69	10 to 20	3/25/2014	--	10.37	3301.32	--
EP	Shallow	MW-122	675231.06	540401.60	3311.69	10 to 20	11/10/2014	--	8.7	3302.99	--
EP	Shallow	MW-123	671352.15	541523.94	3303.98	10 to 25	3/25/2014	--	5.4	3298.58	--
EP	Shallow	MW-123	671352.15	541523.94	3303.98	10 to 25	11/11/2014	--	3.21	3300.77	--
EP	Shallow	MW-124	669844.77	542735.51	3305.84	5 to 20	3/25/2014	--	8.27	3297.57	--
EP	Shallow	MW-124	669844.77	542735.51	3305.84	5 to 20	11/11/2014	--	6.03	3299.81	--
EP	Shallow	OCD-1R	676741.31	541568.00	3314.27	Unknown	3/25/2014	--	12.09	3302.18	--
EP	Shallow	OCD-1R	676741.31	541568.00	3314.27	Unknown	11/10/2014	--	11.27	3303.00	--
EP	Shallow	OCD-2A	677036.12	542157.14	3314.16	8.5 to 23.5	3/25/2014	--	12.21	3301.95	--
EP	Shallow	OCD-2A	677036.12	542157.14	3314.16	8.5 to 23.5	11/10/2014	--	11.28	3302.88	--
EP	Valley Fill	OCD-2B	677034.65	542167.57	3313.07	38.5 to 48	3/25/2014	--	11.26	3301.81	--
EP	Valley Fill	OCD-2B	677034.65	542167.57	3313.07	38.5 to 48	11/10/2014	--	8.97	3304.10	--
EP	Shallow	OCD-3	677516.31	543024.47	3314.43	6.5 to 21.5	3/25/2014	--	12.67	3301.76	--
EP	Shallow	OCD-3	677516.31	543024.47	3314.43	6.5 to 21.5	11/10/2014	--	11.62	3302.81	--
EP	Shallow	OCD-4	678099.52	543893.55	3313.68	6.5 to 21.5	3/25/2014	--	12.02	3301.66	--
EP	Shallow	OCD-4	678099.52	543893.55	3313.68	6.5 to 21.5	11/10/2014	--	10.86	3302.82	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
EP	Shallow	OCD-5	677081.54	544295.35	3311.27	Unknown	3/25/2014	--	10.13	3301.14	--
EP	Shallow	OCD-5	677081.54	544295.35	3311.27	Unknown	11/11/2014	--	9.04	3302.23	--
EP	Shallow	OCD-6	676538.82	543540.03	3311.40	8 to 23	3/25/2014	--	10.82	3300.58	--
EP	Shallow	OCD-6	676538.82	543540.03	3311.40	8 to 23	11/11/2014	--	9.87	3301.53	--
EP	Shallow	OCD-7AR	676169.74	543071.88	3310.03	5.5 to 19.5	3/25/2014	--	9.61	3300.42	--
EP	Shallow	OCD-7AR	676169.74	543071.88	3310.03	5.5 to 19.5	11/11/2014	--	8.3	3301.73	--
EP	Valley Fill	OCD-7B	676157.36	543081.99	3310.26	43.5 to 52.5	3/25/2014	--	9.45	3300.81	--
EP	Valley Fill	OCD-7B	676157.36	543081.99	3310.26	43.5 to 52.5	11/11/2014	--	8.28	3301.98	--
EP	Valley Fill	OCD-7C	676155.95	543069.21	3310.10	60.25 to 69.75	3/25/2014	--	8.96	3301.14	--
EP	Valley Fill	OCD-7C	676155.95	543069.21	3310.10	60.25 to 69.75	11/11/2014	--	6.83	3303.27	--
EP	Shallow	OCD-8A	674976.41	543376.95	3308.72	3 to 18	3/25/2014	--	9.39	3299.33	--
EP	Shallow	OCD-8A	674976.41	543376.95	3308.72	3 to 18	11/11/2014	--	5.68	3303.04	--
EP	Valley Fill	OCD-8B	674992.24	543375.06	3309.19	43.5 to 53	3/25/2014	--	8.68	3300.51	--
EP	Valley Fill	OCD-8B	674992.24	543375.06	3309.19	43.5 to 53	11/11/2014	--	6.65	3302.54	--
Field E of Refinery	Shallow	KWB-1A	672969.12	526181.36	3353.46	18 to 32	3/27/2014	--	13.14	3340.32	--
Field E of Refinery	Shallow	KWB-1A	672969.12	526181.36	3353.46	18 to 32	11/11/2014	--	6.82	3346.64	--
Field E of Refinery	Shallow	KWB-1B	672968.90	526191.02	3352.83	18 to 32	3/27/2014	--	14.83	3338.00	--
Field E of Refinery	Shallow	KWB-1B	672968.90	526191.02	3352.83	18 to 32	11/11/2014	--	8.55	3344.28	--
Field E of Refinery	Valley Fill	KWB-1C	672968.22	526202.95	3351.38	30.5 to 49.5	3/27/2014	--	15.42	3335.96	--
Field E of Refinery	Valley Fill	KWB-1C	672968.22	526202.95	3351.38	30.5 to 49.5	11/11/2014	--	9.14	3342.24	--
S Refinery	Shallow	KWB-2R	670207.24	524897.59	3364.32	Unknown	3/26/2014	23.7	24.12	3340.54	0.42
S Refinery	Shallow	KWB-2R	670207.24	524897.59	3364.32	Unknown	11/11/2014	17.08	17.09	3347.24	0.01
S Refinery	Shallow	KWB-5	670729.55	525244.51	3364.72	24.7 to 38.7	3/27/2014	24.82	24.86	3339.89	0.04
S Refinery	Shallow	KWB-5	670729.55	525244.51	3364.72	24.7 to 38.7	11/11/2014	--	19.08	3345.64	--
S Refinery	Shallow	KWB-6	670449.36	526158.70	3360.30	17.5 to 36.5	3/27/2014	23.18	26.2	3336.52	3.02
S Refinery	Shallow	KWB-6	670449.36	526158.70	3360.30	17.5 to 36.5	11/11/2014	15.88	15.89	3344.42	0.01
Field E of Refinery	Shallow	KWB-7	671266.72	529055.47	3346.16	18 to 32	4/17/2014	24.49	24.53	3321.66	0.04
Field E of Refinery	Shallow	KWB-7	671266.72	529055.47	3346.16	18 to 32	11/10/2014	--	16.96	3329.20	--
Field E of Refinery	Shallow	KWB-8	671000.57	527874.87	3350.41	15 to 34	3/26/2014	25.38	29.72	3324.16	4.34
Field E of Refinery	Shallow	KWB-8	671000.57	527874.87	3350.41	15 to 34	11/10/2014	15.18	15.26	3335.21	0.08
Field E of Refinery	Shallow	KWB-10R	671756.34	526206.06	3350.97	9 to 29	3/27/2014	17.45	17.53	3333.50	0.08
Field E of Refinery	Shallow	KWB-10R	671756.34	526206.06	3350.97	9 to 29	11/11/2014	--	11.02	3339.95	--
Field E of Refinery	Shallow	KWB-11A	670643.67	529043.46	3348.72	30 to 39.5	4/17/2014	25.59	25.7	3323.11	0.11
Field E of Refinery	Shallow	KWB-11A	670643.67	529043.46	3348.72	30 to 39.5	11/11/2014	--	16.72	3332.00	--
Field E of Refinery	Valley Fill	KWB-11B	670653.84	529044.06	3348.03	50 to 69.5	3/26/2014	--	27.11	3320.92	--
Field E of Refinery	Valley Fill	KWB-11B	670653.84	529044.06	3348.03	50 to 69.5	11/11/2014	--	17.43	3330.60	--
Field E of Refinery	Shallow	KWB-12A	669074.44	527590.88	3351.81	15.5 to 24.5	3/26/2014	Not gauged, field crew oversight.			--
Field E of Refinery	Shallow	KWB-12A	669074.44	527590.88	3351.81	15.5 to 24.5	11/11/2014	--	15.31	3336.50	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
Field E of Refinery	Valley Fill	KWB-12B	669064.18	527590.12	3351.63	25.5 to 39.5	3/26/2014	--	27.19	3324.44	--
Field E of Refinery	Valley Fill	KWB-12B	669064.18	527590.12	3351.63	25.5 to 39.5	11/11/2014	--	15.11	3336.52	--
Field E of Refinery	Shallow	MW-57	669935.59	527579.02	3350.91	10 to 30	3/26/2014	--	25.3	3325.61	--
Field E of Refinery	Shallow	MW-57	669935.59	527579.02	3350.91	10 to 30	11/11/2014	--	12.94	3337.97	--
Field E of Refinery	Shallow	MW-58	670207.27	525197.99	3362.22	13 to 28	3/26/2014	22.75	22.83	3339.45	0.08
Field E of Refinery	Shallow	MW-58	670207.27	525197.99	3362.22	13 to 28	11/11/2014	15.73	15.74	3346.49	0.01
Field E of Refinery	Shallow	MW-111	670494.22	525254.30	3365.51	25 to 40	3/27/2014	--	25.93	3339.58	--
Field E of Refinery	Shallow	MW-111	670494.22	525254.30	3365.51	25 to 40	11/11/2014	--	19.89	3345.62	--
Field E of Refinery	Shallow	MW-112	670890.64	526198.73	3358.38	25 to 35	3/27/2014	22.23	24.79	3335.64	2.56
Field E of Refinery	Shallow	MW-112	670890.64	526198.73	3358.38	25 to 35	11/11/2014	15.79	15.82	3342.58	0.03
Field E of Refinery	Shallow	MW-113	670693.80	527483.95	3352.93	20 to 35	3/27/2014	--	25.61	3327.32	--
Field E of Refinery	Shallow	MW-113	670693.80	527483.95	3352.93	20 to 35	11/10/2014	--	16.85	3336.08	--
Field E of Refinery	Shallow	MW-125	673288.01	524663.00	3358.81	15 to 25	3/27/2014	--	7.7	3351.11	--
Field E of Refinery	Shallow	MW-125	673288.01	524663.00	3358.81	15 to 25	11/11/2014	--	8.24	3350.57	--
Field E of Refinery	Shallow	MW-126A	672845.69	525458.24	3356.60	19 to 34	3/27/2014	--	14.3	3342.30	--
Field E of Refinery	Shallow	MW-126A	672845.69	525458.24	3356.60	19 to 34	11/10/2014	--	8.73	3347.87	--
Field E of Refinery	Valley Fill	MW-126B	672843.26	525464.41	3356.67	40 to 50	3/27/2014	--	14.39	3342.28	--
Field E of Refinery	Valley Fill	MW-126B	672843.26	525464.41	3356.67	40 to 50	11/10/2014	--	8.65	3348.02	--
Field E of Refinery	Shallow	MW-127	672184.21	525464.20	3358.39	20 to 50	3/27/2014	--	19.72	3338.67	--
Field E of Refinery	Shallow	MW-127	672184.21	525464.20	3358.39	20 to 50	11/10/2014	--	13.91	3344.48	--
Field E of Refinery	Shallow	MW-128	671846.09	524917.06	3358.77	15 to 35	3/28/2014	--	15.62	3343.15	--
Field E of Refinery	Shallow	MW-128	671846.09	524917.06	3358.77	15 to 35	11/11/2014	--	11.3	3347.47	--
Field E of Refinery	Shallow	MW-129	671185.08	524876.72	3364.38	20 to 50	3/27/2014	23.47	24.2	3340.76	0.73
Field E of Refinery	Shallow	MW-129	671185.08	524876.72	3364.38	20 to 50	11/10/2014	18.51	18.53	3345.87	0.02
Field E of Refinery	Shallow	MW-130	670331.35	524029.44	3369.86	30 to 45	3/27/2014	--	22.93	3346.93	--
Field E of Refinery	Shallow	MW-130	670331.35	524029.44	3369.86	30 to 45	11/11/2014	--	16.88	3352.98	--
Field E of Refinery	Shallow	MW-131	671104.83	525228.77	3363.49	20 to 50	3/27/2014	--	24.51	3338.98	--
Field E of Refinery	Shallow	MW-131	671104.83	525228.77	3363.49	20 to 50	11/11/2014	--	18.96	3344.53	--
Field E of Refinery	Shallow	MW-132	670346.80	526629.79	3357.12	15 to 40	3/27/2014	20.74	23.72	3335.78	2.98
Field E of Refinery	Shallow	MW-132	670346.80	526629.79	3357.12	15 to 40	11/11/2014	13.95	14.03	3343.15	0.08
Field E of Refinery	Shallow	MW-133	672005.89	527446.73	3349.45	15 to 35	3/27/2014	20.22	21.46	3328.98	1.24
Field E of Refinery	Shallow	MW-133	672005.89	527446.73	3349.45	15 to 35	11/10/2014	13.35	13.37	3336.10	0.02
Field E of Refinery	Shallow	MW-134	673271.80	527263.99	3346.23	20 to 30	3/27/2014	--	15.43	3330.80	--
Field E of Refinery	Shallow	MW-134	673271.80	527263.99	3346.23	20 to 30	11/10/2014	--	9.16	3337.07	--
Field E of Refinery	Shallow	MW-135	671758.72	530211.23	3337.65	35 to 65	3/26/2014	--	33.21	3304.44	--
Field E of Refinery	Shallow	MW-135	671758.72	530211.23	3337.65	35 to 65	11/10/2014	--	29.54	3308.11	--
Field E of Refinery	Shallow	RW-12R	670542.50	527519.20	3351.54	15 to 35	3/27/2014	26.17	26.22	3325.36	0.05
Field E of Refinery	Shallow	RW-12R	670542.50	527519.20	3351.54	15 to 35	11/10/2014	16.43	16.46	3335.10	0.03
Field E of Refinery	Shallow	RW-13	671041.58	527528.79	3351.95	Unknown	3/26/2014	23.96	24.38	3327.91	0.42

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
Field E of Refinery	Shallow	RW-13R	671049.37	527506.74	3351.54	15 to 35	3/27/2014	23.78	24.72	3327.57	0.94
Field E of Refinery	Shallow	RW-13R	671049.37	527506.74	3351.54	15 to 35	11/10/2014	--	16.14	3335.40	--
Field E of Refinery	Shallow	RW-14	671603.65	527519.99	3351.48	Unknown	3/26/2014	22.03	23.12	3329.23	1.09
Field E of Refinery	Shallow	RW-14R	671592.73	527504.45	3349.37	15 to 35	3/27/2014	20.85	32.78	3326.13	11.93
Field E of Refinery	Shallow	RW-14R	671592.73	527504.45	3349.37	15 to 35	11/10/2014	13.62	14.63	3335.55	1.01
Field E of Refinery	Shallow	RW-18A	673750.19	526188.64	3350.84	Unknown	3/27/2014	--	10.08	3340.76	--
Field E of Refinery	Shallow	RW-18A	673750.19	526188.64	3350.84	Unknown	11/11/2014	--	6.69	3344.15	--
Field E of Refinery	Shallow	RW-20	671032.06	527790.95	3348.44	Unknown	3/26/2014	22.35	22.65	3326.03	0.3
Field E of Refinery	Shallow	RW-20	671032.06	527790.95	3348.44	Unknown	11/10/2014	--	1.97	3346.47	--
Field E of Refinery	Shallow	RW-22	671009.70	527889.44	3350.84	11.5 to 39	3/26/2014	25.45	29.29	3324.62	3.84
Field E of Refinery	Shallow	RW-22	671009.70	527889.44	3350.84	11.5 to 39	11/10/2014	15.29	15.31	3335.55	0.02
N Refinery	Shallow	MW-23	672851.25	522821.05	3368.38	15 to 20	3/27/2014	--	13.04	3355.34	--
N Refinery	Shallow	MW-23	672851.25	522821.05	3368.38	15 to 20	11/10/2014	--	7.36	3361.02	--
N Refinery	Shallow	MW-29	673481.15	523544.65	3360.64	9.75 to 19.25	3/27/2014	--	8.68	3351.96	--
N Refinery	Shallow	MW-29	673481.15	523544.65	3360.64	9.75 to 19.25	11/11/2014	--	9.22	3351.42	--
N Refinery	Shallow	MW-30	674124.92	523550.16	3361.98	Unknown	3/27/2014	--	9.52	3352.46	--
N Refinery	Shallow	MW-30	674124.92	523550.16	3361.98	Unknown	11/11/2014	--	8.28	3353.70	--
N Refinery	Shallow	MW-39	673039.50	523422.93	3358.79	14 to 24	3/27/2014	--	6.95	3351.84	--
N Refinery	Shallow	MW-39	673039.50	523422.93	3358.79	14 to 24	11/11/2014	6.51	6.55	3352.27	0.04
N Refinery	Shallow	MW-40	673161.12	523489.02	3356.93	Unknown	3/27/2014	--	4.87	3352.06	--
N Refinery	Shallow	MW-40	673161.12	523489.02	3356.93	Unknown	11/11/2014	--	5.02	3351.91	--
N Refinery	Shallow	MW-41	673379.87	523374.64	3356.58	14 to 19	3/27/2014	--	6.11	3350.47	--
N Refinery	Shallow	MW-41	673379.87	523374.64	3356.58	14 to 19	11/11/2014	--	4.67	3351.91	--
N Refinery	Shallow	MW-42	673480.27	523263.53	3358.44	Unknown	3/27/2014	--	8.37	3350.07	--
N Refinery	Shallow	MW-42	673480.27	523263.53	3358.44	Unknown	11/11/2014	--	7.47	3350.97	--
N Refinery	Shallow	MW-43	673115.86	522950.40	3365.49	15.5 to 20.5	3/27/2014	--	10.27	3355.22	--
N Refinery	Shallow	MW-43	673115.86	522950.40	3365.49	15.5 to 20.5	11/10/2014	--	8.2	3357.29	--
N Refinery	Shallow	MW-59	672814.66	523854.12	3362.43	15 to 30	3/27/2014	--	7.82	3354.61	--
N Refinery	Shallow	MW-59	672814.66	523854.12	3362.43	15 to 30	11/11/2014	--	7.85	3354.58	--
N Refinery	Shallow	MW-60	672849.58	524143.12	3361.98	15 to 30	3/27/2014	--	9.25	3352.73	--
N Refinery	Shallow	MW-60	672849.58	524143.12	3361.98	15 to 30	11/11/2014	--	8.74	3353.24	--
N Refinery	Shallow	MW-61	672453.76	522578.38	3369.47	14 to 29	3/28/2014	--	13.67	3355.80	--
N Refinery	Shallow	MW-61	672453.76	522578.38	3369.47	14 to 29	11/10/2014	--	11.08	3358.39	--
N Refinery	Shallow	MW-62	672650.76	522696.50	3368.81	14 to 29	3/27/2014	--	13.81	3355.00	--
N Refinery	Shallow	MW-62	672650.76	522696.50	3368.81	14 to 29	11/10/2014	--	10.73	3358.08	--
N Refinery	Shallow	MW-67	673224.88	522342.43	3365.45	12 to 27	3/27/2014	10.56	10.6	3354.88	0.04
N Refinery	Shallow	MW-67	673224.88	522342.43	3365.45	12 to 27	11/10/2014	--	7.58	3357.87	--
N Refinery	Shallow	MW-90	672909.28	521960.18	3369.42	5 to 20	3/27/2014	--	13.63	3355.79	--
N Refinery	Shallow	MW-90	672909.28	521960.18	3369.42	5 to 20	11/10/2014	--	10.08	3359.34	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
N Refinery	Shallow	MW-91	672945.86	522167.26	3367.73	7 to 22	3/27/2014	--	12.2	3355.53	--
N Refinery	Shallow	MW-91	672945.86	522167.26	3367.73	7 to 22	11/10/2014	--	9.23	3358.50	--
N Refinery	Shallow	MW-92	672766.10	522167.26	3368.72	5 to 20	3/27/2014	13.32	13.36	3355.39	0.04
N Refinery	Shallow	MW-92	672766.10	522167.26	3368.72	5 to 20	11/10/2014	10.72	10.82	3357.98	0.1
N Refinery	Shallow	MW-93	672897.25	522446.83	3363.79	5 to 20	3/27/2014	--	8.76	3355.03	--
N Refinery	Shallow	MW-93	672897.25	522446.83	3363.79	5 to 20	11/10/2014	--	8.6	3355.19	--
N Refinery	Shallow	MW-94	673510.54	522336.27	3367.97	5 to 20	3/27/2014	12.96	14.3	3354.74	1.34
N Refinery	Shallow	MW-94	673510.54	522336.27	3367.97	5 to 20	11/10/2014	10.09	10.1	3357.88	0.01
N Refinery	Shallow	MW-95	673084.72	522308.89	3368.70	7 to 22	3/27/2014	--	13.62	3355.08	--
N Refinery	Shallow	MW-95	673084.72	522308.89	3368.70	7 to 22	11/10/2014	--	10.85	3358.05	--
N Refinery	Shallow	MW-96	673143.60	521917.50	3368.92	7 to 22	3/27/2014	--	13.6	3355.32	--
N Refinery	Shallow	MW-96	673143.60	521917.50	3368.92	7 to 22	11/10/2014	--	9.08	3359.84	--
N Refinery	Shallow	MW-97	672660.45	522295.96	3365.92	8 to 23	3/27/2014	11	13.05	3354.51	2.05
N Refinery	Shallow	MW-97	672660.45	522295.96	3365.92	8 to 23	11/10/2014	8.89	8.95	3357.02	0.06
N Refinery	Shallow	MW-98	672517.05	523220.39	3361.36	13 to 23	3/27/2014	--	9.77	3351.59	--
N Refinery	Shallow	MW-98	672517.05	523220.39	3361.36	13 to 23	11/11/2014	--	7.78	3353.58	--
N Refinery	Shallow	RW-1	672825.27	522204.68	3367.03	Unknown	3/27/2014	11.82	11.86	3355.20	0.04
N Refinery	Shallow	RW-1	672825.27	522204.68	3367.03	Unknown	11/10/2014	--	13.21	3353.82	--
N Refinery	Shallow	RW-2	672781.86	522337.29	3368.17	Unknown	3/27/2014	13.66	13.78	3354.49	0.12
N Refinery	Shallow	RW-2	672781.86	522337.29	3368.17	Unknown	11/10/2014	--	13.1	3355.07	--
N Refinery	Shallow	RW-7	673579.35	522098.94	3367.09	Unknown	3/27/2014	12.01	12.06	3355.07	0.05
N Refinery	Shallow	RW-7	673579.35	522098.94	3367.09	Unknown	11/11/2014	--	8.51	3358.58	--
N Refinery	Shallow	RW-8	673266.20	522321.21	3368.10	Unknown	3/27/2014	13	14.61	3354.78	1.61
N Refinery	Shallow	RW-8	673266.20	522321.21	3368.10	Unknown	11/10/2014	11.19	11.53	3356.84	0.34
N Refinery	Shallow	RW-9	673423.49	523371.16	3359.51	Unknown	3/27/2014	--	8.11	3351.40	--
N Refinery	Shallow	RW-9	673423.49	523371.16	3359.51	Unknown	11/11/2014	--	7.62	3351.89	--
N Refinery	Shallow	RW-10	673076.17	523469.29	3360.61	Unknown	3/27/2014	--	8.7	3351.91	--
N Refinery	Shallow	RW-10	673076.17	523469.29	3360.61	Unknown	11/11/2014	--	8.64	3351.97	--
N Refinery	Shallow	RW-16B	673876.71	523156.09	3360.97	Unknown	3/27/2014	--	11.42	3349.55	--
N Refinery	Shallow	RW-16B	673876.71	523156.09	3360.97	Unknown	11/11/2014	--	9.68	3351.29	--
N Refinery	Shallow	RW-17A	673978.33	522723.59	3364.72	Unknown	3/27/2014	--	11.28	3353.44	--
N Refinery	Shallow	RW-17A	673978.33	522723.59	3364.72	Unknown	11/11/2014	--	8.15	3356.57	--
N RO Reject Field	Shallow	MW-117	674301.52	522979.73	3363.01	10 to 25	3/27/2014	--	10.82	3352.19	--
N RO Reject Field	Shallow	MW-117	674301.52	522979.73	3363.01	10 to 25	11/10/2014	--	6.02	3356.99	--
N RO Reject Field	Shallow	MW-118	674819.18	523375.94	3361.95	10 to 25	3/27/2014	--	13.71	3348.24	--
N RO Reject Field	Shallow	MW-118	674819.18	523375.94	3361.95	10 to 25	11/10/2014	--	3.56	3358.39	--
N RO Reject Field	Shallow	MW-119	674860.11	524575.80	3356.11	10 to 25	3/27/2014	--	11.32	3344.79	--
N RO Reject Field	Shallow	MW-119	674860.11	524575.80	3356.11	10 to 25	11/10/2014	--	3.29	3352.82	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
NCL	Shallow	MW-18	674172.45	522318.86	3365.42	15 to 19	3/27/2014	--	12.32	3353.10	--
NCL	Shallow	MW-18	674172.45	522318.86	3365.42	15 to 19	11/11/2014	--	7.98	3357.44	--
NCL	Shallow	MW-19	673597.29	521670.75	3368.00	5 to 19.5	3/27/2014	--	11.32	3356.68	--
NCL	Shallow	MW-19	673597.29	521670.75	3368.00	5 to 19.5	11/11/2014	--	7.45	3360.55	--
NCL	Shallow	MW-45	674247.07	523663.75	3351.51	10.5 to 15.5	3/27/2014	--	4.75	3346.76	--
NCL	Shallow	MW-45	674247.07	523663.75	3351.51	10.5 to 15.5	11/11/2014	--	3.8	3347.71	--
NCL	Shallow	MW-53	673626.07	521459.12	3368.73	13.8 to 23.8	3/26/2014	--	13.42	3355.31	--
NCL	Shallow	MW-53	673626.07	521459.12	3368.73	13.8 to 23.8	11/11/2014	--	8.45	3360.28	--
NCL	Shallow	MW-54A	674138.65	522110.51	3366.49	12.7 to 27.7	3/26/2014	--	13.22	3353.27	--
NCL	Shallow	MW-54A	674138.65	522110.51	3366.49	12.7 to 27.7	11/11/2014	--	8.8	3357.69	--
NCL	Valley Fill	MW-54B	674148.44	522118.80	3366.47	33.8 to 43.8	3/26/2014	--	13.31	3353.16	--
NCL	Valley Fill	MW-54B	674148.44	522118.80	3366.47	33.8 to 43.8	11/11/2014	--	8.98	3357.49	--
NCL	Shallow	MW-55	674091.95	522766.46	3364.77	13.7 to 23.7	3/27/2014	--	11.78	3352.99	--
NCL	Shallow	MW-55	674091.95	522766.46	3364.77	13.7 to 23.7	11/11/2014	--	8.24	3356.53	--
NCL	Shallow	MW-56	674160.38	523450.14	3357.44	13.4 to 23.4	3/27/2014	--	10.56	3346.88	--
NCL	Shallow	MW-56	674160.38	523450.14	3357.44	13.4 to 23.4	11/11/2014	--	9.32	3348.12	--
NCL	Shallow	MW-108	673659.33	521910.16	3369.11	9 to 24	3/27/2014	--	13.98	3355.13	--
NCL	Shallow	MW-108	673659.33	521910.16	3369.11	9 to 24	11/11/2014	--	9.74	3359.37	--
NCL	Shallow	NCL-31	673629.51	521669.01	3367.54	13 to 18	3/27/2014	--	11.4	3356.14	--
NCL	Shallow	NCL-31	673629.51	521669.01	3367.54	13 to 18	11/11/2014	--	7.2	3360.34	--
NCL	Shallow	NCL-32	673984.83	521808.14	3364.91	17 to 22	3/27/2014	--	11.76	3353.15	--
NCL	Shallow	NCL-32	673984.83	521808.14	3364.91	17 to 22	11/11/2014	--	7.79	3357.12	--
NCL	Shallow	NCL-33	673967.20	522245.18	3363.97	13 to 18	3/27/2014	--	11.32	3352.65	--
NCL	Shallow	NCL-33	673967.20	522245.18	3363.97	13 to 18	11/11/2014	--	6.01	3357.96	--
NCL	Shallow	NCL-34A	673885.52	522235.08	3365.49	Unknown	3/27/2014	--	11.87	3353.62	--
NCL	Shallow	NCL-34A	673885.52	522235.08	3365.49	Unknown	11/11/2014	--	7.59	3357.90	--
NCL	Shallow	NCL-44	673986.41	522062.11	3364.45	Unknown	3/27/2014	--	10.78	3353.67	--
NCL	Shallow	NCL-44	673986.41	522062.11	3364.45	Unknown	11/11/2014	--	6.09	3358.36	--
NCL	Shallow	NCL-49	674099.16	521648.40	3371.13	16.8 to 17.8	3/26/2014	--	17.92	3353.21	--
NCL	Shallow	NCL-49	674099.16	521648.40	3371.13	16.8 to 17.8	11/11/2014	--	12.99	3358.14	--
S Refinery	Shallow	KWB-4	670616.38	524572.44	3370.25	20 to 39	3/27/2014	25.67	29.52	3343.81	3.85
S Refinery	Shallow	KWB-4	670616.38	524572.44	3370.25	20 to 39	11/11/2014	20.73	20.77	3349.51	0.04
S Refinery	Shallow	MW-28	671508.38	524521.56	3370.27	25 to 30	3/27/2014	--	23.95	3346.32	--
S Refinery	Shallow	MW-28	671508.38	524521.56	3370.27	25 to 30	11/11/2014	--	18.35	3351.92	--
S Refinery	Shallow	MW-48	670689.39	524080.35	3362.97	Unknown	3/27/2014	20.83	20.86	3342.13	0.03
S Refinery	Shallow	MW-48	670689.39	524080.35	3362.97	Unknown	11/11/2014	--	15.54	3347.43	--
S Refinery	Shallow	MW-50	671502.45	521857.84	3371.05	Unknown	3/27/2014	--	18.51	3352.54	--
S Refinery	Shallow	MW-50	671502.45	521857.84	3371.05	Unknown	11/10/2014	--	14.39	3356.66	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
S Refinery	Shallow	MW-52	670165.24	523370.99	3368.30	Unknown	3/27/2014	--	22.03	3346.27	--
S Refinery	Shallow	MW-52	670165.24	523370.99	3368.30	Unknown	11/11/2014	--	15.41	3352.89	--
S Refinery	Shallow	MW-64	670716.03	523338.61	3369.52	15 to 30	3/28/2014	22.07	22.41	3347.38	0.34
S Refinery	Shallow	MW-64	670716.03	523338.61	3369.52	15 to 30	11/10/2014	16.9	17.13	3352.57	0.23
S Refinery	Shallow	MW-65	670949.22	523711.75	3363.60	14.5 to 29.5	3/28/2014	18.21	20.76	3344.88	2.55
S Refinery	Shallow	MW-65	670949.22	523711.75	3363.60	14.5 to 29.5	11/10/2014	13.25	13.26	3350.35	0.01
S Refinery	Shallow	MW-66	671247.57	524560.06	3363.46	14.6 to 29.6	3/27/2014	--	--	3345.01	--
S Refinery	Shallow	MW-66	671247.57	524560.06	3363.46	14.6 to 29.6	11/10/2014	--	13.01	3350.45	--
S Refinery	Shallow	MW-99	671652.52	524579.74	3364.07	12 to 27	3/27/2014	19.5	19.56	3344.56	0.06
S Refinery	Shallow	MW-99	671652.52	524579.74	3364.07	12 to 27	11/10/2014	--	13.8	3350.27	--
S Refinery	Shallow	MW-101	671628.25	523506.58	3364.23	8 to 23	3/27/2014	--	16.91	3347.32	--
S Refinery	Shallow	MW-101	671628.25	523506.58	3364.23	8 to 23	11/10/2014	--	12.5	3351.73	--
S Refinery	Shallow	MW-102	671176.70	522937.01	3367.64	12 to 27	3/28/2014	18	19.74	3349.29	1.74
S Refinery	Shallow	MW-102	671176.70	522937.01	3367.64	12 to 27	11/10/2014	--	13.91	3353.73	--
S Refinery	Shallow	MW-103	670472.55	522607.80	3372.47	7 to 22	3/28/2014	--	19.6	3352.87	--
S Refinery	Shallow	MW-103	670472.55	522607.80	3372.47	7 to 22	11/10/2014	--	15.44	3357.03	--
S Refinery	Shallow	MW-104	670450.35	522729.44	3371.43	3 to 18	3/28/2014	--	12.98	3358.45	--
S Refinery	Shallow	MW-104	670450.35	522729.44	3371.43	3 to 18	11/10/2014	--	9.85	3361.58	--
S Refinery	Shallow	MW-105	671924.44	522454.93	3364.99	8 to 18	3/27/2014	12.95	13.09	3352.01	0.14
S Refinery	Shallow	MW-105	671924.44	522454.93	3364.99	8 to 18	11/10/2014	--	9.28	3355.71	--
S Refinery	Shallow	MW-106	672207.14	523454.55	3358.98	0 to 11	3/27/2014	--	9.41	3349.57	--
S Refinery	Shallow	MW-106	672207.14	523454.55	3358.98	0 to 11	11/11/2014	Well could not be located.			
S Refinery	Shallow	MW-107	671961.38	524600.45	3359.44	12 to 22	3/27/2014	--	13.26	3346.18	--
S Refinery	Shallow	MW-107	671961.38	524600.45	3359.44	12 to 22	11/11/2014	--	9.41	3350.03	--
S Refinery	Shallow	MW-109	670174.25	523065.52	3368.09	15 to 29.5	3/27/2014	--	20.16	3347.93	--
S Refinery	Shallow	MW-109	670174.25	523065.52	3368.09	15 to 29.5	11/11/2014	--	13.91	3354.18	--
S Refinery	Shallow	MW-110	670174.33	522796.69	3368.03	15 to 29.5	3/27/2014	--	17.22	3350.81	--
S Refinery	Shallow	MW-110	670174.33	522796.69	3368.03	15 to 29.5	11/11/2014	--	12.32	3355.71	--
S Refinery	Shallow	RW-4	671378.27	523010.47	3364.86	Unknown	3/28/2014	17.62	17.7	3347.22	0.08
S Refinery	Shallow	RW-4	671378.27	523010.47	3364.86	Unknown	11/10/2014	--	12.4	3352.46	--
S Refinery	Shallow	RW-5	671271.08	523652.31	3363.81	Unknown	3/27/2014	16.86	17.56	3346.81	0.7
S Refinery	Shallow	RW-5R	671258.01	523662.01	3368.56	13 to 33	3/27/2014	18.57	28.05	3348.09	9.48
S Refinery	Shallow	RW-5R	671258.01	523662.01	3368.56	13 to 33	11/10/2014	13.18	14.6	3355.10	1.42
S Refinery	Shallow	RW-6	670969.39	522843.22	3368.36	Unknown	3/28/2014	--	--	--	--
S Refinery	Shallow	RW-6	670969.39	522843.22	3368.36	Unknown	11/10/2014	13.78	13.9	3354.56	0.12
S Refinery	Shallow	RW-11-0	669938.15	527541.66	3353.95	Unknown	3/26/2014	Dry			
S Refinery	Shallow	RW-11-0	669938.15	527541.66	3353.95	Unknown	11/11/2014	--	16.1	3337.85	--
S Refinery	Shallow	RW-15C	670820.45	524123.41	3361.41	Unknown	3/27/2014	18.73	23.45	3341.74	4.72
S Refinery	Shallow	RW-15C	670820.45	524123.41	3361.41	Unknown	11/11/2014	13.19	13.26	3348.21	0.07

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
S Refinery	Shallow	RW-19	670611.43	524592.99	3369.11	11 to 46	3/27/2014	29.55	32.44	3338.98	2.89
S Refinery	Shallow	RW-19	670611.43	524592.99	3369.11	11 to 46	11/11/2014	25.32	25.38	3343.78	0.06
S RO Reject Field	Shallow	MW-114	673082.16	523818.86	3361.68	20 to 35	3/28/2014	--	5.21	3356.47	--
S RO Reject Field	Shallow	MW-114	673082.16	523818.86	3361.68	20 to 35	11/11/2014	--	6.51	3355.17	--
S RO Reject Field	Shallow	MW-115	673997.34	523932.93	3359.31	10 to 25	3/28/2014	--	5.11	3354.20	--
S RO Reject Field	Shallow	MW-115	673997.34	523932.93	3359.31	10 to 25	11/11/2014	--	6.75	3352.56	--
S RO Reject Field	Shallow	MW-116	673966.06	525339.63	3353.77	10 to 25	3/27/2014	--	6.96	3346.81	--
S RO Reject Field	Shallow	MW-116	673966.06	525339.63	3353.77	10 to 25	11/11/2014	--	6.5	3347.27	--
TEL	Shallow	MW-49	672051.80	523610.79	3359.77	Unknown	3/27/2014	--	12.22	3347.55	--
TEL	Shallow	MW-49	672051.80	523610.79	3359.77	Unknown	11/11/2014	--	8.57	3351.20	--
TEL	Shallow	TEL-1	672966.33	523412.82	3358.23	13 to 23	3/28/2014	--	6.62	3351.61	--
TEL	Shallow	TEL-1	672966.33	523412.82	3358.23	13 to 23	11/10/2014	--	6.3	3351.93	--
TEL	Shallow	TEL-2	672885.90	523419.29	3359.12	13 to 23	3/28/2014	--	7.6	3351.52	--
TEL	Shallow	TEL-2	672885.90	523419.29	3359.12	13 to 23	11/10/2014	--	7.22	3351.90	--
TEL	Shallow	TEL-3	672796.06	523459.33	3358.33	13 to 23	3/28/2014	--	6.92	3351.41	--
TEL	Shallow	TEL-3	672796.06	523459.33	3358.33	13 to 23	11/10/2014	--	6.49	3351.84	--
TEL	Shallow	TEL-4	672715.99	523181.18	3360.24	13 to 23	3/28/2014	--	8.93	3351.31	--
TEL	Shallow	TEL-4	672715.99	523181.18	3360.24	13 to 23	11/10/2014	--	7.16	3353.08	--
TMD	Shallow	MW-8	673215.93	529055.18	3336.42	Unknown	3/26/2014	--	12.83	3323.59	--
TMD	Shallow	MW-8	673215.93	529055.18	3336.42	Unknown	11/11/2014	--	8.17	3328.25	--
TMD	Shallow	MW-9	673169.56	529232.03	3336.20	Unknown	3/26/2014	--	14.12	3322.08	--
TMD	Shallow	MW-9	673169.56	529232.03	3336.20	Unknown	11/11/2014	--	4.69	3331.51	--
TMD	Shallow	MW-16	675613.35	534389.17	3316.12	8.5 to 19	3/26/2014	--	10.71	3305.41	--
TMD	Shallow	MW-16	675613.35	534389.17	3316.12	8.5 to 19	11/11/2014	--	5.95	3310.17	--
TMD	Shallow	MW-20	673800.56	527834.67	3340.91	9.5 to 23.5	3/26/2014	--	12.15	3328.76	--
TMD	Shallow	MW-20	673800.56	527834.67	3340.91	9.5 to 23.5	11/10/2014	--	9.07	3331.84	--
TMD	Shallow	MW-21	673180.38	529150.62	3337.31	7.5 to 22	3/26/2014	--	14.84	3322.47	--
TMD	Shallow	MW-21	673180.38	529150.62	3337.31	7.5 to 22	11/11/2014	--	9.58	3327.73	--
TMD	Shallow	MW-25	675386.30	537955.86	3312.29	15.75 to 25.25	3/25/2014	--	9.97	3302.32	--
TMD	Shallow	MW-25	675386.30	537955.86	3312.29	15.75 to 25.25	11/10/2014	--	5.18	3307.11	--
TMD	Shallow	MW-26	676229.18	535348.61	3314.87	15.25 to 24.25	3/26/2014	--	10.07	3304.80	--
TMD	Shallow	MW-26	676229.18	535348.61	3314.87	15.25 to 24.25	11/11/2014	--	5.62	3309.25	--
TMD	Shallow	MW-27	674495.64	532942.65	3320.85	18.25 to 27.75	3/26/2014	--	13.08	3307.77	--
TMD	Shallow	MW-27	674495.64	532942.65	3320.85	18.25 to 27.75	11/11/2014	--	11.02	3309.83	--
TMD	Shallow	MW-46R	674223.03	524920.28	3350.11	3.5 to 18.5	3/27/2014	--	4.24	3345.87	--
TMD	Shallow	MW-46R	674223.03	524920.28	3350.11	3.5 to 18.5	11/11/2014	--	4.08	3346.03	--
TMD	Shallow	MW-68	674301.02	531466.90	3328.21	14.75 to 24.5	3/26/2014	--	24.68	3303.53	--
TMD	Shallow	MW-68	674301.02	531466.90	3328.21	14.75 to 24.5	11/11/2014	--	12.72	3315.49	--

**Table 1 - Well Information and Gauging Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Associated Area of Concern	Water-Bearing Zone (a)	Well ID	Northing	Easting	TOC Elevation (ft amsl)	Screen Interval (ft bgs)	Date Measured	Depth to PSH (ft btoc)	Depth to Water (ft btoc)	Water Elevation (b) (ft amsl)	PSH Thickness (ft)
TMD	Shallow	MW-71	673016.80	529560.41	3335.29	9.75 to 19.5	3/26/2014	--	17.4	3317.89	--
TMD	Shallow	MW-71	673016.80	529560.41	3335.29	9.75 to 19.5	11/11/2014	--	11.22	3324.07	--
TMD	Shallow	MW-89	675221.56	533835.00	3318.32	2 to 17	3/26/2014	--	13.31	3305.01	--
TMD	Shallow	MW-89	675221.56	533835.00	3318.32	2 to 17	11/11/2014	--	7.34	3310.98	--
TMD	Shallow	NP-1	672992.73	528035.04	3342.40	9.5 to 19	3/26/2014	--	17.19	3325.21	--
TMD	Shallow	NP-1	672992.73	528035.04	3342.40	9.5 to 19	11/11/2014	--	12.02	3330.38	--
TMD	Shallow	NP-2	673571.19	527611.64	3342.77	9.5 to 18.5	3/26/2014	--	13.95	3328.82	--
TMD	Shallow	NP-2	673571.19	527611.64	3342.77	9.5 to 18.5	11/11/2014	--	10.84	3331.93	--
TMD	Shallow	NP-3	673990.66	528019.54	3342.93	9.5 to 18.5	3/26/2014	--	13.52	3329.41	--
TMD	Shallow	NP-3	673990.66	528019.54	3342.93	9.5 to 18.5	11/10/2014	--	11.03	3331.90	--
TMD	Shallow	NP-4	674337.35	528351.85	3345.73	24.5 to 33.5	3/26/2014	--	25.52	3320.21	--
TMD	Shallow	NP-4	674337.35	528351.85	3345.73	24.5 to 33.5	11/10/2014	--	19.38	3326.35	--
TMD	Shallow	NP-6	672945.23	529083.91	3338.05	8.75 to 18.75	3/26/2014	--	15	3323.05	--
TMD	Shallow	NP-6	672945.23	529083.91	3338.05	8.75 to 18.75	11/11/2014	--	9.54	3328.51	--
TMD	Shallow	NP-8	675399.60	538245.49	3314.67	Unknown	3/25/2014	--	12.56	3302.11	--
TMD	Shallow	NP-8	675399.60	538245.49	3314.67	Unknown	11/10/2014	--	10.79	3303.88	--
TMD	Shallow	NP-9	674767.14	523571.69	3360.62	Unknown	3/27/2014	--	12.14	3348.48	--
TMD	Shallow	NP-9	674767.14	523571.69	3360.62	Unknown	11/10/2014	Inaccessible due to flooding			
Upgradient	Shallow	UG-1	672453.27	520746.73	3372.94	8 to 23	3/26/2014	--	17.26	3355.68	--
Upgradient	Shallow	UG-1	672453.27	520746.73	3372.94	8 to 23	11/12/2014	--	12.49	3360.45	--
Upgradient	Shallow	UG-2	670726.77	520942.36	3380.41	15 to 30	3/26/2014	--	21.52	3358.89	--
Upgradient	Shallow	UG-2	670726.77	520942.36	3380.41	15 to 30	11/12/2014	--	18.19	3362.22	--
Upgradient	Shallow	UG-3R	671992.70	519424.77	3384.08	17 to 37	3/26/2014	--	28.42	3355.66	--
Upgradient	Shallow	UG-3R	671992.70	519424.77	3384.08	17 to 37	11/13/2014	--	24.49	3359.59	--

Footnotes:

(a) Wells screened in the shallow water-bearing zone are typically screened at depths of 20 to 25 ft bgs. The shallow water-bearing zone varies between confined and unconfined conditions. Wells screened in the valley fill zone are typically screened at depths ranging between 35 and 70 ft bgs. The clay lens separating the shallow and valley fill zones is discontinuous in some locations and thus, in some areas, there is connectivity between the two zones.

(b) Water elevations are adjusted for PSH, if present, using an assumed specific gravity of 0.8.

-- = not applicable
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
Dry = no water present in casing
E = East
EP = Evaporation Ponds
ft = feet

Definitions:

N = North
NCL = North Colony Landfarm
PSH = phase separated hydrocarbons
RO = Reverse Osmosis
S = South
TMD = Three Mile Ditch
TOC = top of casing
unknown = screen interval not readily available

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
KWB-1A	4/11/2014	10:45	Low Flow	18.11	0.4486	0.15	7.18	89
KWB-1A	11/11/2014	12:00	Low Flow	15.3	0.45	1.2	6.81	-179.1
KWB-2R	11/11/2014	12:00	Low Flow	16.5	0.263	0.7	6.87	-314.8
KWB-5	11/11/2014	12:00	Low Flow	16.5	0.265	1.4	6.43	-78.9
KWB-6	11/11/2014	12:00	Low Flow	16.1	0.218	0.9	6.69	-272.4
KWB-7	4/16/2014	9:05	Low Flow	18.49	0.36	2.02	7.08	32
KWB-7	11/10/2014	12:00	Low Flow	16.7	0.3621	0.5	5.52	-133.1
KWB-10R	11/11/2014	12:00	Low Flow	16.5	0.1792	1	6.48	-121.3
KWB-11A	11/11/2014	12:00	Low Flow	15.6	0.6355	0.4	5.32	173.2
KWB-11B	4/16/2014	8:35	Low Flow	15.52	0.2467	24.57	7.77	42
KWB-11B	11/11/2014	12:00	Low Flow	14.1	0.26	0.8	5.87	146.6
KWB-12A	11/11/2014	12:00	Low Flow	15.4	0.322	2.4	7	-186.2
KWB-12B	4/11/2014	8:15	Low Flow	18.33	0.3247	4.9	7.16	125
KWB-12B	11/11/2014	12:00	Low Flow	16.1	0.328	2.5	6.84	-167.1
KWB-13	4/15/2014	14:15	Low Flow	18.44	0.3118	5.4	7.33	-133
MW-1R	4/3/2014	11:35	Low Flow	17.67	0.6256	0.24	7.71	-91
MW-2A	4/2/2014	10:05	Low Flow	17.16	1.689	0.5	7.34	-7
MW-2A	11/11/2014	12:00	Low Flow	17.8	1.68	1	6.8	122.9
MW-3	4/3/2014	9:45	Low Flow	18.23	0.8451	0.4	7.47	58
MW-3	11/11/2014	12:00	Low Flow	18.4	0.867	1.8	6.91	127.6
MW-4A	4/7/2014	12:35	Low Flow	18.09	0.6213	0.17	7.48	-72
MW-4A	11/11/2014	12:00	Low Flow	16.3	0.618	1	6.48	-164.7
MW-5A	4/7/2014	13:05	Low Flow	17.34	1.835	0.11	7.46	-118
MW-5A	11/11/2014	12:00	Low Flow	17.7	1.77	1	7.16	-132.4
MW-6A	4/3/2014	10:10	Low Flow	19.25	0.6742	0.32	7.41	7
MW-7A	4/7/2014	13:35	Low Flow	17.55	0.8991	0.11	7.62	-84
MW-7A	11/11/2014	12:00	Low Flow	18.3	1.255	1.8	6.93	-2.9
MW-8	4/10/2014	12:35	Low Flow	19.14	0.4603	0.11	7.67	127
MW-10	4/8/2014	13:45	Low Flow	19.37	0.6424	0.09	7.33	44
MW-10	11/11/2014	12:00	Low Flow	16.8	0.807	0.7	6.97	-142.1
MW-11A	4/4/2014	12:45	Low Flow	17.86	2.598	0.64	7.3	2
MW-11A	11/10/2014	12:00	Low Flow	18.2	4.04	3.1	6.65	112.9
MW-15	4/3/2014	11:00	Low Flow	17.67	0.9594	0.89	7.21	83
MW-16	4/9/2014	9:30	Low Flow	15.21	0.3587	1.31	7.62	113
MW-17	4/9/2014	10:45	Low Flow	20.06	0.2163	5.46	8.04	100
MW-18	4/17/2014	12:05	Low Flow	19.11	0.3286	7.49	6.69	-27
MW-18A	4/8/2014	10:25	Low Flow	17.41	2.605	1.1	7.59	-47
MW-18A	11/11/2014	12:00	Low Flow	16.8	3.48	2.3	7.06	-128.3
MW-20	4/10/2014	11:50	Low Flow	21.18	0.4623	0.41	7.42	128
MW-21	4/10/2014	13:15	Low Flow	19.89	0.5251	0.23	7.41	132
MW-21	11/11/2014	12:00	Low Flow	17.8	0.5309	1.6	5.78	-63.1
MW-22A	4/8/2014	13:15	Low Flow	18.34	0.7707	0.32	7.68	37
MW-22A	11/11/2014	12:00	Low Flow	17.8	0.804	2.2	7.01	-102.6
MW-23	4/22/2014	9:35	Low Flow	25.71	0.3352	1.04	7.39	-359
MW-23	11/10/2014	12:00	Low Flow	16.9	0.69	1.4	6.83	-380.7

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
MW-25	4/3/2014	12:05	Low Flow	19.13	1.185	1.24	7.16	62
MW-26	4/9/2014	10:05	Low Flow	16.56	0.6717	0.26	7.49	16
MW-27	4/9/2014	8:00	Low Flow	19.78	0.2543	0.21	7.36	123
MW-28	4/28/2014	14:20	Low Flow	23.51	0.2013	0.51	7.05	-345
MW-28	11/11/2014	12:00	Low Flow	15.7	0.249	0.3	7.03	-295.2
MW-29	4/28/2014	13:10	Low Flow	20.64	0.4483	0.39	7.27	-269
MW-29	11/11/2014	12:00	Low Flow	16.9	0.431	0.8	6.81	-297.2
MW-40	4/22/2014	13:45	Low Flow	22.49	0.3033	0.93	7.04	-375
MW-41	4/22/2014	14:15	Low Flow	20.66	0.3514	2.5	6.94	-348
MW-42	4/22/2014	15:10	Low Flow	20.36	0.456	0	6.87	-341
MW-43	4/22/2014	8:55	Low Flow	20.04	0.3934	1.09	6.48	-259
MW-43	11/10/2014	12:00	Low Flow	13.9	0.39	1	6.8	-336.5
MW-45	4/17/2014	14:00	Low Flow	19.44	0.4456	0.71	6.53	-138
MW-45	11/11/2014	12:00	Low Flow	17	0.473	0.5	6.66	-54.7
MW-46R	4/30/2014	8:45	Low Flow	19.42	0.3524	0.05	6.69	-42
MW-46R	11/11/2014	12:00	Low Flow	17.3	0.365	1.3	6.72	-81.1
MW-48	11/11/2014	12:00	Low Flow	20.6	0.217	0.1	6.89	-276.4
MW-49	4/29/2014	11:05	Low Flow	22.43	0.3044	0.12	6.83	-352
MW-49	11/11/2014	12:00	Low Flow	18.4	0.283	1	6.78	-319.9
MW-50	4/21/2014	11:00	Low Flow	21.03	0.284	0.39	7.32	-300
MW-50	11/10/2014	12:00	Low Flow	16.2	0.33	0.9	6.97	-271.8
MW-52	4/15/2014	12:10	Low Flow	20.66	0.2424	0.63	7.4	18
MW-52	11/11/2014	12:00	Low Flow	19.7	0.202	0.4	7.03	132.8
MW-53	4/18/2014	10:30	Low Flow	20.22	0.2256	0.65	7.38	9
MW-54A	4/17/2014	14:40	Low Flow	20.41	0.2231	0.71	6.37	-20
MW-54A	11/11/2014	12:00	Low Flow	15.4	0.225	0.5	6.66	-52.1
MW-55	4/17/2014	12:45	Low Flow	20.01	0.4597	0.97	7.21	-81
MW-55	11/11/2014	12:00	Low Flow	16.9	0.342	0.5	7.09	157.7
MW-56	4/17/2014	13:15	Low Flow	20.65	0.4162	0.87	6.98	-62
MW-56	11/11/2014	12:00	Low Flow	19.4	0.401	0.9	6.84	-57.1
MW-57	4/10/2014	14:50	Low Flow	19.41	0.2026	0.07	7.05	-112
MW-57	11/11/2014	12:00	Low Flow	14.8	0.431	1.4	6.89	-246.5
MW-58	11/11/2014	12:00	Low Flow	16.4	0.1634	0.6	6.69	-332.1
MW-59	4/22/2014	12:00	Low Flow	20.8	0.344	1	7.08	-314
MW-60	4/22/2014	12:35	Low Flow	20.06	0.361	1.06	7.11	-355
MW-60	11/11/2014	12:00	Low Flow	17.8	0.253	0.5	6.97	-263.5
MW-61	4/29/2014	8:15	Low Flow	22.54	0.3936	0.14	7.06	-377
MW-61	11/10/2014	12:00	Low Flow	16.1	0.321	1.3	6.69	-350.3
MW-62	4/22/2014	10:10	Low Flow	22.01	0.2755	1.21	7.06	-386
MW-62	11/10/2014	12:00	Low Flow	19.9	0.322	1.3	6.93	-323.5
MW-65	11/10/2014	12:00	Low Flow	23.8	0.214	0.3	6.84	-239.8
MW-66	4/28/2014	13:45	Low Flow	21.51	0.1766	0.08	7.11	-257
MW-66	11/10/2014	12:00	Low Flow	20	0.1314	0.3	6.98	-192.7
MW-67	11/10/2014	12:00	Low Flow	18.6	0.206	3	6.61	-321.7
MW-68	4/10/2014	10:00	Low Flow	21.29	0.3084	2.83	6.69	104

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
MW-70	4/8/2014	11:10	Low Flow	16.79	0.543	0.21	7.53	-37
MW-70	11/11/2014	12:00	Low Flow	18.2	0.564	2	6.99	-96.1
MW-71	4/10/2014	10:35	Low Flow	19.31	0.6009	3.46	7.41	132
MW-72	4/1/2014	8:15	Low Flow	14.9	1.163	0.15	6.98	89
MW-73	4/1/2014	9:05	Low Flow	15.61	0.9639	0.15	7.38	-162
MW-74	4/1/2014	9:50	Low Flow	17.9	1.002	0.29	7.37	-10
MW-74	11/11/2014	12:00	Low Flow	18.3	0.975	2	6.99	58.1
MW-75	4/1/2014	10:40	Low Flow	19.13	0.7333	0.28	7.53	-126
MW-75	11/11/2014	12:00	Low Flow	18.7	0.776	0.9	7.05	-142.3
MW-76	4/1/2014	13:05	Low Flow	19.99	0.6375	0.23	7.25	-122
MW-76	11/11/2014	12:00	Low Flow	18.7	0.722	0.9	6.85	-173
MW-77	4/1/2014	11:35	Low Flow	19	0.7734	0.17	7.19	-92
MW-77	11/11/2014	12:00	Low Flow	14.1	0.795	0.8	6.82	-95.3
MW-78	4/1/2014	12:20	Low Flow	18.91	0.4632	0.14	7.19	-65
MW-79	4/2/2014	8:15	Low Flow	16.89	0.7688	0.21	7.57	44
MW-79	11/10/2014	12:00	Low Flow	17.5	0.736	1.2	7.13	107
MW-80	4/2/2014	8:55	Low Flow	17.43	0.6303	0.44	7.46	39
MW-81	4/2/2014	9:30	Low Flow	18.17	0.704	2.01	7.6	41
MW-82	4/1/2014	14:45	Low Flow	20.01	0.7859	3.78	7.72	-108
MW-83	4/1/2014	13:40	Low Flow	18.81	0.6279	0.29	7.4	-13
MW-83	11/11/2014	12:00	Low Flow	17.3	0.586	0.9	6.9	-74.6
MW-84	4/1/2014	14:15	Low Flow	20.1	0.9638	0.33	7.52	27
MW-84	11/10/2014	12:00	Low Flow	19.6	1.081	1	7.13	50.6
MW-87	4/8/2014	9:45	Low Flow	16.34	1.517	1.8	7.62	53
MW-87	11/11/2014	12:00	Low Flow	18.2	1.287	2.6	7.05	12.7
MW-88	4/8/2014	12:45	Low Flow	18.26	0.7777	0.14	7.07	15
MW-88	11/11/2014	12:00	Low Flow	17.4	0.807	0.8	7.14	-59.7
MW-89	4/9/2014	8:35	Low Flow	16.69	0.3036	0.11	7.41	106
MW-90	4/21/2014	12:30	Low Flow	20.43	0.2808	0.47	7.09	-359
MW-90	11/10/2014	12:00	Low Flow	17.3	0.741	0.4	6.88	-249.7
MW-91	4/21/2014	12:00	Low Flow	21.52	0.1808	0.5	6.99	-369
MW-91	11/10/2014	12:00	Low Flow	15.5	0.259	0.3	6.74	-351.2
MW-93	4/22/2014	8:10	Low Flow	20.14	0.2357	3.12	7.07	-362
MW-93	11/10/2014	12:00	Low Flow	17.3	0.36	1	6.72	-344.7
MW-94	11/10/2014	12:00	Low Flow	18.3	0.377	0.3	6.93	-368.5
MW-95	4/21/2014	13:40	Low Flow	21.26	0.1976	0.41	7.28	-334
MW-96	4/21/2014	13:05	Low Flow	20.89	0.2199	0.46	7.15	-363
MW-96	11/10/2014	12:00	Low Flow	16.5	0.379	0.6	6.73	-296.3
MW-98	4/22/2014	11:20	Low Flow	20	0.3257	1.41	7.04	-384
MW-98	11/11/2014	12:00	Low Flow	15.2	0.314	0.8	6.91	-361.9
MW-99	11/10/2014	12:00	Low Flow	20	0.1298	0.3	7.04	-284.1
MW-101	4/28/2014	12:35	Low Flow	22.08	0.1928	0.07	6.96	-307
MW-101	11/10/2014	12:00	Low Flow	17.7	0.222	0.8	6.68	-291.8
MW-102	11/10/2014	12:00	Low Flow	16.8	0.226	0.2	7.04	-292.5
MW-103	4/28/2014	12:10	Low Flow	25.13	0.587	0.09	7.61	-377

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
MW-104	4/28/2014	11:00	Low Flow	14.08	0.132	0.08	7.45	-134
MW-104	11/10/2014	12:00	Low Flow	16.1	0.1213	0.2	7.5	-283.2
MW-105	11/10/2014	12:00	Low Flow	17.9	0.246	0.7	6.66	-341.8
MW-106	4/22/2014	10:45	Low Flow	22.16	0.3511	1.27	6.93	-383
MW-107	4/28/2014	15:00	Low Flow	21.63	0.1903	0.54	7.18	-217
MW-107	11/11/2014	12:00	Low Flow	20.8	0.179	0.5	6.91	-229.1
MW-108	4/17/2014	9:50	Low Flow	18.67	0.267	1.73	7.08	-352
MW-108	11/11/2014	12:00	Low Flow	16.4	0.249	0.3	6.77	-350.1
MW-109	4/15/2014	13:05	Low Flow	22.49	0.3065	0.04	7.49	-313
MW-109	11/11/2014	12:00	Low Flow	21.3	0.313	0.2	7.03	-294
MW-110	4/15/2014	13:40	Low Flow	22.01	0.1841	0.09	7.54	-247
MW-110	11/11/2014	12:00	Low Flow	21.6	0.1468	0.3	7.33	-151.4
MW-111	4/15/2014	10:45	Low Flow	20.87	0.2794	0.35	6.96	-135
MW-111	11/11/2014	12:00	Low Flow	18.5	0.272	3.8	6.36	-80.8
MW-112	11/11/2014	12:00	Low Flow	15.3	0.2	1.1	6.54	-126
MW-113	4/11/2014	9:30	Low Flow	19.76	0.2436	0.86	6.98	-44
MW-113	11/10/2014	12:00	Low Flow	15.5	0.2559	0.7	5.53	-100.3
MW-114	4/29/2014	12:35	Low Flow	18.44	0.3288	3.4	7.18	-187
MW-114	11/11/2014	12:00	Low Flow	14.3	0.288	0.3	7	81.7
MW-115	4/29/2014	13:20	Low Flow	14.81	0.3729	1.94	7.05	-135
MW-115	11/11/2014	12:00	Low Flow	17.3	0.456	0.4	7.05	61.5
MW-116	4/29/2014	14:00	Low Flow	16.01	0.3473	1.53	7.03	-100
MW-116	11/11/2014	12:00	Low Flow	17.8	0.307	0.4	7.09	42.5
MW-117	4/30/2014	9:20	Low Flow	17.73	0.3383	1.49	6.86	22
MW-117	11/10/2014	12:00	Low Flow	16.1	0.312	2.5	6.65	-105.8
MW-118	4/30/2014	10:00	Low Flow	16.91	0.3449	1.03	6.88	65
MW-118	11/10/2014	12:00	Low Flow	15.9	0.357	2.9	6.6	-79.2
MW-119	4/30/2014	10:40	Low Flow	15.82	0.3189	0.95	7	32
MW-119	11/10/2014	12:00	Low Flow	16.2	0.301	2	6.67	-86.1
MW-120	4/2/2014	11:45	Low Flow	18.05	0.8425	0.17	7.48	-95
MW-120	11/10/2014	12:00	Low Flow	17.7	1.132	1.1	7.01	-32.7
MW-121	4/2/2014	11:15	Low Flow	17.78	0.6814	1.26	7.55	-36
MW-121	11/10/2014	12:00	Low Flow	19	0.735	1.1	7.18	-15.7
MW-122	4/2/2014	10:40	Low Flow	18.1	0.6401	0.28	7.54	-88
MW-122	11/10/2014	12:00	Low Flow	18	1.853	1	7.07	85.3
MW-123	4/8/2014	14:15	Low Flow	18.93	0.6626	0.09	7.4	16
MW-123	11/11/2014	12:00	Low Flow	16.2	0.697	0.8	7.01	-46.9
MW-124	4/8/2014	11:40	Low Flow	17.71	1.031	0.11	7.39	-21
MW-124	11/11/2014	12:00	Low Flow	18.4	1.068	2.1	6.95	-117.6
MW-125	4/29/2014	14:35	Low Flow	19.13	0.4271	0.79	6.94	-94
MW-125	11/11/2014	12:00	Low Flow	19	0.34	0.4	6.99	29.5
MW-126A	4/15/2014	8:15	Low Flow	17.22	0.3654	1.58	7.4	484
MW-126A	11/10/2014	12:00	Low Flow	14.1	0.279	1.1	6.69	-83.7
MW-126B	4/15/2014	8:45	Low Flow	17.65	0.3342	0.14	7.07	-144
MW-126B	11/10/2014	12:00	Low Flow	15.8	0.383	1.4	6.57	36.7

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
MW-127	4/15/2014	9:15	Low Flow	19.15	0.2198	0.13	7.03	-249
MW-127	11/10/2014	12:00	Low Flow	16.6	0.236	1.5	6.66	-175.7
MW-128	4/29/2014	11:40	Low Flow	20.97	0.2034	0.38	6.88	-276
MW-128	11/11/2014	12:00	Low Flow	20.6	0.1705	0.5	6.87	-79.7
MW-129	11/10/2014	12:00	Low Flow	17	0.2309	3	5.59	-10.8
MW-130	4/15/2014	11:30	Low Flow	21.54	0.3136	2.19	7.12	28
MW-130	11/11/2014	12:00	Low Flow	20.5	0.236	0.2	6.93	-89.2
MW-131	4/15/2014	10:00	Low Flow	19.47	0.1959	0.4	7.03	-167
MW-131	11/11/2014	12:00	Low Flow	15.8	0.1961	1.2	6.38	-99.3
MW-133	11/10/2014	12:00	Low Flow	15.1	0.205	3.8	5.65	-158.7
MW-134	4/11/2014	10:15	Low Flow	17.86	0.4484	0.31	7.28	74
MW-134	11/10/2014	12:00	Low Flow	16.8	0.5231	1.8	5.64	-64
MW-135	4/10/2014	13:50	Low Flow	18.18	0.5994	4.08	7.23	140
MW-135	11/10/2014	12:00	Low Flow	15.1	0.7213	2.3	5.65	171.1
NCL-31	4/17/2014	9:15	Low Flow	18.72	0.2215	2	7.26	-160
NCL-31	11/11/2014	12:00	Low Flow	15.9	0.287	0.3	6.79	-151.5
NCL-32	11/11/2014	12:00	Low Flow	16	0.253	0.3	7.45	-270.4
NCL-33	4/17/2014	11:25	Low Flow	20.04	0.2396	1.07	6.98	-198
NCL-33	11/11/2014	12:00	Low Flow	15.8	0.275	0.2	6.57	-176.3
NCL-34A	11/11/2014	12:00	Low Flow	18	0.1745	0.3	6.76	-283.6
NCL-44	4/17/2014	10:45	Low Flow	19.55	0.1897	1.44	7.04	-244
NCL-44	11/11/2014	12:00	Low Flow	14.7	0.201	0.2	6.67	-234.3
NCL-49	4/17/2014	15:05	Low Flow	20.87	0.2859	1.66	7.41	-27
NCL-49	11/11/2014	12:00	Low Flow	15.6	0.289	0.7	6.95	17.3
NP-1	4/10/2014	11:15	Low Flow	18.4	0.4502	0.71	7.33	133
NP-1	11/11/2014	12:00	Low Flow	14.9	0.485	1.4	5.63	-25.2
OCD-1R	4/3/2014	12:50	Low Flow	18.25	1.312	0.75	7.65	55
OCD-1R	11/10/2014	12:00	Low Flow	17	2.14	2.3	6.95	65.9
OCD-2A	4/3/2014	13:25	Low Flow	18.4	0.8457	1.51	7.68	56
OCD-2A	11/10/2014	12:00	Low Flow	17.5	1.417	2.1	6.83	67.1
OCD-3	4/3/2014	14:05	Low Flow	19.01	0.533	0.51	7.62	33
OCD-3	11/10/2014	12:00	Low Flow	18.3	0.952	1.8	6.91	57
OCD-4	4/4/2014	11:30	Low Flow	18.41	1.529	0.27	7.5	-70
OCD-4	11/10/2014	12:00	Low Flow	18.6	1.562	1.7	6.98	-93.7
OCD-5	4/4/2014	12:00	Low Flow	17.94	1.422	0.33	7.54	-49
OCD-5	11/11/2014	12:00	Low Flow	18	1.548	1.6	6.96	-72.4
OCD-6	4/3/2014	8:25	Low Flow	17.01	1.389	0.91	7.37	-39
OCD-6	11/11/2014	12:00	Low Flow	16.2	0.793	2.1	6.95	-68.5
OCD-7AR	4/3/2014	9:00	Low Flow	17.69	1.013	0.4	7.38	-48
OCD-7AR	11/11/2014	12:00	Low Flow	17	1.066	2.6	6.97	77.9
OCD-8A	4/8/2014	9:00	Low Flow	15.72	1.047	0.19	7.9	-124
OCD-8A	11/11/2014	12:00	Low Flow	18	1.631	2.6	6.79	-121.4
RA-4798	11/10/2014	12:00	Low Flow	17.2	0.258	1.9	6.4	112.5
RW-10	4/22/2014	13:15	Low Flow	20.24	0.3216	1.1	7.87	-276
RW-16B	4/21/2014	14:17	Low Flow	19.87	0.5046	0.53	7.06	-237

Table 2 - Well Purging and Water Quality Measurement Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Well	Date	Time	Purge Method	Temperature (°C)	Specific Conductivity (S/m)	DO (mg/L)	pH (std units)	ORP (mV)
RW-17A	4/21/2014	13:46	Low Flow	19.16	0.5684	0.4	7.34	-251
RW-18A	4/11/2014	11:02	Low Flow	17.75	0.4432	2.63	7.43	89
RW-9	4/22/2014	14:40	Low Flow	20.18	0.353	0	7.23	-373
TEL-1	4/29/2014	9:00	Low Flow	20.08	0.3424	0.11	7.03	-333
TEL-1	11/10/2014	12:00	Low Flow	17.7	0.383	0.9	7.26	-306.9
TEL-2	4/29/2014	9:30	Low Flow	19.81	0.2943	0.09	6.89	-377
TEL-2	11/10/2014	12:00	Low Flow	14.4	0.324	0.7	7.1	-346.8
TEL-3	4/29/2014	10:05	Low Flow	18.75	0.2708	0.05	6.74	-342
TEL-3	11/10/2014	12:00	Low Flow	17	0.288	0.8	6.69	-342.9
TEL-4	4/29/2014	10:30	Low Flow	19.84	0.4995	0.84	6.82	-367
TEL-4	11/10/2014	12:00	Low Flow	18.6	0.508	0.9	6.62	-364.2
UG-1	4/18/2014	9:00	Low Flow	20.76	0.2889	7.63	7.42	140
UG-2	4/18/2014		Low Flow	20.81	0.293	0.66	7.21	-161
UG-3R	4/17/2014	8:15	Low Flow	20.59	0.2417	6.96	7.3	141

Definitions:

- °C = degrees Celsius
- DO = dissolved oxygen
- mg/L = milligrams per liter
- mV = milliVolts
- NR = not recorded
- ORP = oxidation/reduction potential
- S/m = Siemens per meter
- std units = standard pH units

Purge Methods:

Low Flow = peristaltic pump with dedicated tubing, purged until parameters stabilized

Table 3 - Groundwater Screening Levels and Selected Critical Groundwater Screening Level
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte	NMED GW Human Health (20.6.2.3103.A)	NMED GW Domestic (20.6.2.3103.B)	NMED GW Irrigation (20.6.2.3103.C)	USEPA MCL	NMED Tap Water (Table A-1)	USEPA Tap Water	NMED TPH (Table 6-2)	CGWSL	CGWSL Source
TPH (mg/L)									
TPH - gasoline range organics									
TPH - diesel range organics							2.00E-01	2.00E-01	NMED TPH (2012)
VOCs (mg/L)									
1,1,1-Trichloroethane	6.00E-02			2.00E-01				6.00E-02	NMED GW Human Health (20.6.2.3103.A)
1,1,2,2-Tetrachloroethane	1.00E-02							1.00E-02	NMED GW Human Health (20.6.2.3103.A)
1,1,2,2-Tetrachloroethene	2.00E-02							2.00E-02	NMED GW Human Health (20.6.2.3103.A)
1,1,2-Trichloroethane	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
1,1,2-Trichloroethene	1.00E-01							1.00E-01	NMED GW Human Health (20.6.2.3103.A)
1,1-Dichloroethane	2.50E-02							2.50E-02	NMED GW Human Health (20.6.2.3103.A)
1,1-Dichloroethene				7.00E-03				7.00E-03	USEPA MCL
1,2-Dibromo-3-chloropropane				2.00E-04				2.00E-04	USEPA MCL
1,2-Dibromoethane	1.00E-04			5.00E-05				5.00E-05	USEPA MCL
1,2-Dichloroethane	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
1,2-Dichloropropane				5.00E-03				5.00E-03	USEPA MCL
1,2,4-Trimethylbenzene						1.50E-02		1.50E-02	USEPA Tap Water
1,3,5-Trimethylbenzene						1.20E-01		1.20E-01	USEPA Tap Water
2-Butanone					5.56E+00			5.56E+00	NMED Tap Water (Table A-1)
4-Methyl-2-Pentanone					1.24E+00			1.24E+00	NMED Tap Water (Table A-1)
Acetone					1.41E+01			1.41E+01	NMED Tap Water (Table A-1)
Benzene	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
Bromodichloromethane					1.34E-03			1.34E-03	NMED Tap Water (Table A-1)
Bromomethane					7.54E-03			7.54E-03	NMED Tap Water (Table A-1)
Carbon Disulfide					8.10E-01			8.10E-01	NMED Tap Water (Table A-1)
Carbon tetrachloride	1.00E-02			5.00E-03				5.00E-03	USEPA MCL
Chlorobenzene				1.00E-01				1.00E-01	USEPA MCL
Chlorodibromomethane (dibromochloromethane)				8.00E-02				8.00E-02	USEPA MCL
Chloroethane (ethyl chloride)					2.09E+01			2.09E+01	NMED Tap Water (Table A-1)
Chloroform	1.00E-01			8.00E-02				8.00E-02	USEPA MCL
Chloromethane					2.03E-02			2.03E-02	NMED Tap Water (Table A-1)
cis-1,2-Dichloroethene				7.00E-02				7.00E-02	USEPA MCL
cis-1,3-Dichloropropene					4.70E-03			4.70E-03	NMED Tap Water (Table A-1)
Dibromochloromethane				8.00E-02				8.00E-02	USEPA MCL
Dichlorodifluoromethane					1.97E-01			1.97E-01	NMED Tap Water (Table A-1)
Ethylbenzene	7.50E-01			7.00E-01				7.00E-01	USEPA MCL
Isopropylbenzene (cumene)					4.47E-01			4.47E-01	NMED Tap Water (Table A-1)
m-Xylene					1.93E-01			1.93E-01	NMED Tap Water (Table A-1)
Methyl acetate					1.99E+01			1.99E+01	NMED Tap Water (Table A-1)
Methylene chloride (dichloromethane)	1.00E-01			5.00E-03				5.00E-03	USEPA MCL
Naphthalene	3.00E-02							3.00E-02	NMED GW Human Health (20.6.2.3103.A)
Methyl tert-butyl ether					1.43E-01			1.43E-01	NMED Tap Water (Table A-1)
o-Xylene					1.93E-01			1.93E-01	NMED Tap Water (Table A-1)
Styrene				1.00E-01				1.00E-01	USEPA MCL
Tetrachloroethene				5.00E-03				5.00E-03	USEPA MCL
Toluene	7.50E-01			1.00E+00				7.50E-01	NMED GW Human Health (20.6.2.3103.A)
trans-1,2-Dichloroethene				1.00E-01				1.00E-01	USEPA MCL
trans-1,3-Dichloropropene					4.70E-03			4.70E-03	NMED Tap Water (Table A-1)
Trichloroethylene				5.00E-03				5.00E-03	USEPA MCL

Table 3 - Groundwater Screening Levels and Selected Critical Groundwater Screening Level
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte	NMED GW Human Health (20.6.2.3103.A)	NMED GW Domestic (20.6.2.3103.B)	NMED GW Irrigation (20.6.2.3103.C)	USEPA MCL	NMED Tap Water (Table A-1)	USEPA Tap Water	NMED TPH (Table 6-2)	CGWSL	CGWSL Source
VOCs continued (mg/L)									
Trichloroethene				5.00E-03				5.00E-03	USEPA MCL
Trichlorofluoromethane					1.14E+00			1.14E+00	NMED Tap Water (Table A-1)
Vinyl chloride	1.00E-03			2.00E-03				1.00E-03	NMED GW Human Health (20.6.2.3103.A)
Xylenes	6.20E-01			1.00E+01				6.20E-01	NMED GW Human Health (20.6.2.3103.A)
Metals (mg/L)									
Arsenic	1.00E-01			1.00E-02				1.00E-02	USEPA MCL
Barium	1.00E+00			2.00E+00				1.00E+00	NMED GW Human Health (20.6.2.3103.A)
Chromium	5.00E-02			1.00E-01				5.00E-02	NMED GW Human Health (20.6.2.3103.A)
Iron		1.00E+00						1.00E+00	NMED GW Domestic (20.6.2.3103.B)
Lead	5.00E-02			1.50E-02				1.50E-02	USEPA MCL
Manganese		2.00E-01						2.00E-01	NMED GW Domestic (20.6.2.3103.B)
Mercury	2.00E-03			2.00E-03				2.00E-03	NMED GW Human Health (20.6.2.3103.A)
Nickel			2.00E-01					2.00E-01	NMED GW Irrigation (20.6.2.3103.C)
Selenium	5.00E-02			5.00E-02				5.00E-02	NMED GW Human Health (20.6.2.3103.A)
Vanadium					6.31E-02			6.31E-02	NMED Tap Water (Table A-1)
Water Quality Parameters (mg/L, unless noted)									
Chloride		2.50E+02						2.50E+02	NMED GW Domestic (20.6.2.3103.B)
Cyanide	2.00E-01			2.00E-01				2.00E-01	NMED GW Human Health (20.6.2.3103.A)
Fluoride	1.60E+00							1.60E+00	NMED GW Human Health (20.6.2.3103.A)
Nitrate (NO ₃ as N)	1.00E+01			1.00E+01				1.00E+01	NMED GW Human Health (20.6.2.3103.A)
pH (Std pH units)		6 to 9						6 to 9	NMED GW Domestic (20.6.2.3103.B)
Sulfate		6.00E+02						6.00E+02	NMED GW Domestic (20.6.2.3103.B)
Total Dissolved Solids		1.00E+03						1.00E+03	NMED GW Domestic (20.6.2.3103.B)
Other Parameters (mg/L, unless noted)									
Uranium	3.00E-02			3.00E-02				3.00E-02	NMED GW Human Health (20.6.2.3103.A)
Combined Radium 226 and 228 (pCi/L)	3.00E+01			5.00E+00				5.00E+00	USEPA MCL
Polychlorinated Biphenyls	1.00E-03			5.00E-04				5.00E-04	USEPA MCL

Definitions and Notes:

Blank cell indicates no standard is available

µg/L = micrograms per liter

CGWSL Source = Source for CGWSL value

CGWSL = Critical Groundwater Screening Level

Hierarchy of selecting the CGWSL is as follows:

- Lowest of either NMED GW Standard (20.6.2.3103) or USEPA MCL.
- If no NMED GW Standard or USEPA MCL available, NMED Tap Water value.
- If no NMED Tap Water value, USEPA Tap Water value, if available.
- NMED TPH screening for "unknown oil" used for both TPH-DRO and TPH-ORO.

mg/L = milligrams per liter

NMED GW Domestic = New Mexico Environment Department groundwater standard for domestic exposure taken from 20.6.2.3103.B

NMED GW Human Health = New Mexico Environment Department groundwater standard for human health exposure taken from 20.6.2.3103.A

NMED GW Irrigation = New Mexico Environment Department groundwater standard for irrigation exposure taken from 20.6.2.3103.C

NMED Tap Water = New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation, Table A-1 updated December 2014, Tap Water Screening Level

NMED TPH = New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation, February 2012, Table 6-2 TPH Screening Guidelines for Potable Groundwater

pCi/L = PicoCuries per liter

SVOC = semivolatle organic compound

TPH = total petroleum hydrocarbon

USEPA MCL = United States Environmental Protection Agency Maximum Contaminant Level from "Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites", November 2013

USEPA Tap Water = United States Environmental Protection Agency Tap Water screening level from "Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites", January 2015

VOC = volatile organic compound

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	TPH				Metals								
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL Source:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
Crossgradient	KWB-13	Apr-12		< 0.050	< 0.00500	0.0175	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0136	0.0181		
		Apr-13		< 0.052	< 0.0100	0.0232	< 0.00500	0.932	< 0.00500	0.0208	< 0.000200	< 0.0100	0.0165	0.0206		
		Apr-14		< 0.020	0.00259 J	0.0145	0.00121 J	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	< 0.00100	0.0126	0.0172		
	NP-5	Apr-12	FD	< 0.050	< 0.00500	0.00862	< 0.00500	< 0.200	< 0.00500	< 0.00500				0.0192		
		Apr-12		< 0.050	< 0.00500	0.00801	< 0.00500	< 0.200	< 0.00500	< 0.00500				0.0199		
	RA-3156	Apr-13		< 0.053	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	< 0.0100				0.0135		
		Apr-12														
		Oct-12														
		Apr-13														
		Nov-13														
EP	MW-1R	Apr-12		< 0.050	< 0.00500	0.0197	< 0.00500	2.18	< 0.00500	1.56		< 0.000500		< 0.00500		
		Apr-13	FD	< 0.052	< 0.0250	< 0.0250	< 0.0250	1.64	< 0.0250	1.59				< 0.0250		
		Apr-13		< 0.052	< 0.0250	< 0.0250	< 0.0250	1.77	< 0.0250	1.64				< 0.0250		
		Apr-14		< 0.020	0.00335 J	0.0214	< 0.00200	2.39	< 0.00140	1.38				< 0.00200		
	MW-2A	Mar-12		< 0.0500	0.073	0.0179	0.0145	< 0.00500	2.33	< 0.00500	1.61				< 0.00500	
		Sep-12		< 0.0500	< 0.051	0.0467	0.0145	< 0.00500	6.25	< 0.00500	0.754				< 0.00500	
		Mar-13		< 0.0500	0.15	0.0505	0.0246	< 0.00500	6.75	< 0.00500	2.7				< 0.00500	
		Nov-13		< 0.0500	< 0.051	0.0205	0.0225	< 0.00500	0.437	< 0.00500	0.92				0.00569	
		Apr-14		0.129	< 0.020	0.0194 J	0.0222 J	< 0.00500	0.737 J	< 0.00350	1.21				< 0.00500	
	MW-3	Nov-14		< 0.031	0.25	0.048	0.026	0.0078	3.1	< 0.0012	1.5				0.0051 J	
		Mar-12		0.716	1.40	0.0591	0.0156	< 0.00500	1.54	< 0.00500	1.4				< 0.00500	
		Sep-12		0.288	3	0.0406	0.0168	< 0.00500	0.708	< 0.00500	1.48				0.00566	
		Mar-13		0.479	4.5	0.0324	0.0148	< 0.00500	0.706	< 0.00500	1.35				0.00733	
		Nov-13		0.229	2.3	0.0357	0.0209	< 0.00500	0.333	< 0.00500	0.556				0.0472	
		Apr-14		0.0493 J	1	0.0298	0.0185	< 0.00200	< 0.100	< 0.00140	0.254				0.0458	
		Nov-14		0.54	9.1	0.035	0.022 J	0.0081	0.57	< 0.0012	2.2				0.019	
	MW-4A	Nov-14	FD	0.52	9.2	0.029	0.022 J	0.006	0.34 J	< 0.0012	2.5				0.023	
		Apr-12		0.313	0.67	0.092	0.0123	< 0.00500	1.82	< 0.00500	1.72				< 0.00500	
		Sep-12		0.344	2.8	0.13	0.0139	< 0.00500	3.18	< 0.00500	1.95				< 0.00500	
		Apr-13		0.514	3.2	0.0636	< 0.0250	< 0.0250	1.57	< 0.0250	1.88				< 0.0250	
		Nov-13		0.346	1.8	0.0724	0.0161	< 0.0100	0.672	< 0.0100	2.36				< 0.0100	
		Apr-14		0.342 H	3.4	0.147	0.0121	< 0.00200	2.31	< 0.00140	2.24				< 0.00200	
	MW-4B	Nov-14		0.35	3.8	0.057	0.014 J	< 0.0027	0.82	< 0.0012	2.7				< 0.0019	
		Apr-13		0.102	0.36	0.0371	< 0.0250	< 0.0250	< 1.00	< 0.0250	1.3				< 0.0250	
	MW-5A	Apr-12		4.2	5.1	0.22	0.0144	< 0.00500	12.1	< 0.0100	1.13				< 0.00500	
		Sep-12		3.33	5.9	0.143	< 0.0250	< 0.0250	6.28	< 0.0250	1.56				< 0.0250	
		Apr-13		5.3	5.8	0.201	< 0.0250	< 0.0250	11	< 0.0250	1.1				< 0.0250	
		Nov-13		3.59	5.3	0.097	< 0.0250	< 0.0250	5.79	< 0.0250	1.78				< 0.0250	
		Apr-14		4.48 H	6.1	0.106	0.0142 J	< 0.00500	7.1	< 0.00350	1.74				< 0.00500	
	MW-5B	Nov-14		0.9	2	0.064	0.014 J	< 0.0027	4.4	< 0.0012	2				0.0040 J	
		Apr-13		1.78	7.1	0.122	< 0.0250	< 0.0250	< 1.00	< 0.0250	2.44				< 0.0250	
	MW-5C	Apr-13		0.0652	0.22	0.0139	0.0166	< 0.0100	1.04	< 0.0100	0.943				< 0.0100	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:																		
				TPH				Metals														
				GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium							
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L							
				Units:																		
				CGWSL:																		
				CGWSL Source:																		
					NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW							
EP	MW-6A	Mar-12		0.166	1.4	0.00771	0.0135	< 0.00500	0.532	< 0.00500	0.228				< 0.00500							
		Mar-13		0.19	3	0.00788	0.0143	< 0.00500	0.66	< 0.00500	0.277					< 0.00500						
		Apr-14		0.238	1.5	0.0113	0.0287	0.00234 J		< 0.100	< 0.00140	1.37				0.0192						
	MW-6B	Mar-13	FD		< 0.0500	< 0.054	0.0537	0.0163	< 0.00500	1.69	< 0.00500	2.43				< 0.00500						
		Mar-13			< 0.0500	< 0.053	0.0493	0.0139	< 0.00500	1.54	< 0.00500	2.39				< 0.00500						
	MW-7A	Apr-12			0.37	0.36	0.0261	0.0145	< 0.00500	5.77	< 0.00500	0.428				< 0.00500						
		Sep-12			0.381	1.1	0.0265	0.0146	< 0.0100	3.81	< 0.0100	0.547				< 0.0100						
		Apr-13			0.468	1.1	0.0272		< 0.0250	6.05	< 0.0250	0.422				< 0.0250						
		Nov-13			0.576	0.3	0.0242	0.0181	< 0.0100	1.53	< 0.0100	0.465				< 0.0100						
		Apr-14			0.463 H	0.93	0.0256	0.0152	< 0.00200	2.99	< 0.00140	0.509				< 0.00200						
		Nov-14	FD		0.37	1.1	0.02	0.017 J	< 0.0027	1.5	< 0.0012	1.6				< 0.0019						
		Nov-14			0.36	1.1	0.021	0.018 J	0.0027 J	1.3	< 0.0012	1.5				< 0.0019						
	MW-7B	Apr-13			< 0.0500	< 0.053	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	0.397				< 0.0250						
	MW-10	Apr-12			1.14	0.65	0.0184	0.00995	< 0.00500	< 0.200	< 0.00500	2.03				< 0.00500						
		Sep-12			1	1.7	0.0202	0.0112	< 0.00500	< 0.200	< 0.00500	2.34				0.00706						
		Apr-13			1.21	1.9	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	2.33				< 0.0250						
		Nov-13			1.07	0.97	0.0219	0.0176	< 0.00500	< 0.200	< 0.00500	2.3				< 0.00500						
		Apr-14			1.08	2	0.0211	0.0134	< 0.00200	< 0.100	< 0.00140	2.7				< 0.00200						
	MW-11A	Nov-14			0.91	2.2	0.019	0.021	0.00092 JB	0.14	0.00098 J	2.4 V				0.0015 J						
		Apr-12			< 0.0500	< 0.050	< 0.00500	0.0381	< 0.00500	12.6	< 0.0250	1.62				< 0.00500						
		Mar-13			< 0.0500	< 0.052	< 0.0250	0.0294	< 0.0250	14.7	< 0.0250	1.67				< 0.0250						
	MW-11B	Apr-14			< 0.0100	< 0.021	< 0.0100	0.0321	< 0.0100	2.5	< 0.00700	1.56				< 0.0100						
		Nov-14																				
		Mar-13			< 0.0500	< 0.052	< 0.0250	< 0.0250	< 0.0250	3.25	< 0.0250	0.316				< 0.0250						
	MW-15	Apr-12	FD		0.237	0.28	0.0424	0.0178	< 0.00500	< 0.200	< 0.00500	1.21				< 0.00500						
		Apr-12			0.213	0.44	0.0392	0.0163	< 0.00500	< 0.200	< 0.00500	1.16				< 0.00500						
		Mar-13			< 0.0500	0.2	0.0337	0.0218	< 0.0100	< 0.400	< 0.0100	1.77				< 0.0100						
	MW-18A	Apr-14			0.149	0.57	0.0605	0.0217	0.00381 J	< 0.100	< 0.00140	0.363				0.00535 J						
Apr-12				0.079		< 0.0100	0.0217	< 0.0100	0.777	< 0.0100	1.52				< 0.0100							
Sep-12				0.19		< 0.0250	< 0.0250	< 0.0250	6.37	< 0.0250	1.93				< 0.000200	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.0250	
Apr-13				0.21		< 0.0250	< 0.0250	< 0.0250	10.7	< 0.0250	3.02				< 0.000200	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.0250	< 0.0250	
Nov-13		FD		< 0.052	0.00545	0.0168	< 0.00500	0.377	< 0.00500	0.597	< 0.00500	0.975			< 0.000200	< 0.00500	0.0725	0.00556	0.0725	0.00556	0.00556	
Nov-13				< 0.051	0.00537	0.0173	< 0.00500	0.361	< 0.00500	0.58	< 0.00500	0.58			< 0.000200	< 0.00500	0.0758	0.00506	0.0758	0.00506	0.00506	
Apr-14				< 0.020	< 0.0100	0.0135	< 0.0100	< 0.500	< 0.00700	0.189	< 0.0000400	< 0.0100			< 0.0100	< 0.0100	< 0.0100	< 0.00900	< 0.00900	< 0.00900	< 0.00900	
MW-18B	Nov-14			0.074 J	0.0034	0.016	0.00080 JB	1.1	0.00030 J	0.076	< 0.000049	0.0065 B			0.0069	0.0069	0.0047 J	0.0069	0.0047 J	0.0069	0.0047 J	
	Apr-13			0.0995	< 0.052	< 0.0100	0.0126	< 0.0100	< 0.400	< 0.0100	0.572				< 0.0100							
	Apr-12			5.77	1.8	0.043	0.0155	< 0.00500	3.92	< 0.00500	4.63				< 0.00500							
MW-22A	Sep-12			5.13	5.4	0.0552	0.0175	< 0.00500	6.1	< 0.00500	5.82				0.00639							
	Apr-13			5.5	6.1	0.0471		< 0.0250	3.81	< 0.0250	5.72				< 0.0250							
	Nov-13			4.44	4	0.061	0.0216	< 0.00500	3.13	< 0.0100	4.39				< 0.00500							
	Apr-14			3.46	5.8	0.0568	0.0153	< 0.00200	2.19	< 0.00140	3.61				< 0.00200							
	Nov-14	FD		4.3	5.3	0.064	0.018 J	0.0030 J	8.1	< 0.0012	6.3				< 0.0019							
	Nov-14			3.3	5.6	0.06	0.019	0.00081 JB	6.9	< 0.00024	6				0.0016 J							

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH					Metals						
				Analyte:		Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				GRO	DRO	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631			
CGWSL Source:	NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
EP	MW-22B	Apr-13		1.99	3	0.0343	< 0.0250	< 0.0250	1.78	< 0.0250	3.37		< 0.0250		
	MW-70	Apr-12		1.4	0.26	0.0195	0.0152	< 0.00500	1.71	< 0.00500	0.382		< 0.00500		
		Sep-12		1.53	0.61	0.0205	0.0163	< 0.00500	3.33	< 0.00500	0.222		0.0057		
		Apr-13		1.61	0.71	< 0.0250	< 0.0250	< 0.0250	2.49	< 0.0250	0.461		< 0.0250		
		Nov-13		1.43	0.22	0.0218	0.021	< 0.00500	2.02	< 0.00500	0.552		< 0.00500		
		Apr-14		1.42	0.53	0.0286	0.0157	< 0.00200	3.36	< 0.00140	0.262		< 0.00200		
	Nov-14		1.2	0.72	0.021	0.02	0.00055 J	2.5	< 0.00024	0.73		0.00044 J			
	MW-72	Mar-12		0.13	0.24	0.0599	0.0134	< 0.00500	19.5	< 0.00500	5.46		< 0.00500		
		Sep-12		0.102	0.67	0.108	0.0189	< 0.00500	27.6	< 0.00500	4.85		< 0.0100		
		Mar-13		0.139	0.18	0.0625	< 0.0250	< 0.0250	23.4	< 0.0250	5.67		< 0.0250		
		Nov-13		0.0932	< 0.051	0.0929	0.0186	< 0.0100	20.9	< 0.00500	5.26		< 0.0100		
		Apr-14		0.092	0.76	0.048	0.0154	< 0.00100	7.13	< 0.000700	5.69		< 0.00100		
	MW-73	Mar-12		0.927	1	0.105	0.00967	< 0.00500	5.9	< 0.00500	2.85		< 0.00500		
		Sep-12		0.896	0.896	0.112	0.013	< 0.00500	9.14	< 0.00500	2.93		< 0.0100		
		Mar-13		1.12	1.3	0.109	< 0.0250	< 0.0250	8.38	< 0.0250	2.97		< 0.0250		
		Oct-13		1.22	3.1	0.108	0.012	< 0.00500	9.29	< 0.00500	3.09		< 0.00500		
		Apr-14		0.985	4.8	0.0982	0.0132 J	< 0.00500	5.71	< 0.00350	2.77		< 0.00500		
	MW-74	Mar-12		1.31	4.1	0.118	0.0147	< 0.00500	2.01	< 0.00500	2.61		0.00813		
		Sep-12		1.48	15	0.113	0.0174	< 0.00500	1.17	< 0.00500	2.99		0.0143		
		Mar-13		1.52	7.2	0.118	< 0.0250	< 0.0250	1.64	< 0.0250	2.78		< 0.0250		
		Oct-13		0.459	32	0.0625	0.015	< 0.00500	0.948	< 0.00500	0.915		0.285		
		Apr-14		1.09	28	0.0599	0.0137 J	< 0.00500	< 0.250	< 0.00350	1.18		0.193		
		Nov-14		0.68	30	0.062	0.014	0.00074 JB	0.11	< 0.00024	0.88		0.25		
	MW-75	Mar-12		2.55	2.5	0.215	0.0143	< 0.00500	1.95	< 0.00500	0.793 J		< 0.00500		
		Sep-12		2.86	9.9	0.333	0.0154	< 0.00500	2.74	< 0.00500	0.892		< 0.00500		
		Mar-13		2.05	5.5	0.219	< 0.0250	< 0.0250	1.97	< 0.0100	0.852		< 0.0250		
		Oct-13		2.05	4.9	0.368	0.0161	< 0.00500	3.59	< 0.00500	0.95		< 0.00500		
		Apr-14		1.66	9	0.299	0.0166	0.00221 J	4.01	< 0.00140	1.1		0.00288 J		
		Nov-14		2.5	13	0.35	0.016	0.0019	4.2	0.00029 J	0.96		0.0025		
	MW-76	Mar-12		0.67	2.3	0.0573	0.0115	< 0.00500	2.19	< 0.00500	0.552		< 0.00500		
		Sep-12		1.04	3.6	0.0807	0.0154	< 0.00500	3.25	< 0.00500	0.614		< 0.00500		
		Mar-13		1.23	3.4	0.0607	< 0.0250	< 0.0250	2.88	< 0.0100	0.666		< 0.0250		
		Oct-13		0.865	6.2	0.118	0.0185	< 0.00500	5.81	< 0.00500	1.72		< 0.00500		
		Apr-14		0.856	4.6	0.0712	0.0151	0.00181 J	4	< 0.000700	1.06		0.00301 J		
		Nov-14		1.1	23	0.1	0.018	0.0027	5.1	0.00046 J	1.8		0.0049		
	MW-77	Mar-12		1.05	2.4	0.0716	0.0118	< 0.00500	2.3	< 0.00500	0.662 J	< 0.000200	0.00985	< 0.00500	< 0.00500
		Sep-12		1.27	40	0.0656	0.0133	0.00894	6.41	< 0.00500	0.832	< 0.000200	0.0175	0.0137	0.00656
		Mar-13		1.38	11	0.0611	< 0.0250	< 0.0250	3.88	< 0.0100	0.82	< 0.000200	< 0.0250	< 0.0250	< 0.0250
		Oct-13		1.21	17	0.0719	0.0133	0.00591	6	< 0.00500	0.908	< 0.000200	0.0136	0.0103	0.0075
		Oct-13		1.17	17	0.0693	0.013	0.00636	6.01	< 0.00500	1.08	< 0.000200	0.015	0.00923	0.00746
		Apr-14		1.13	39	0.0765	0.0138	0.00884 J	9.8	< 0.000700	1.06		0.0113	0.0113	
		Nov-14		1.3	91	0.054	0.013 J	0.0097	9.8	0.0013 J	0.77		0.021	0.021	
	MW-78	Mar-12		0.554	1.8	0.0217	0.0217	0.0251	4.61	< 0.00500	0.736		< 0.00500		
		Mar-13		0.373	6.4	< 0.0250	0.0284	0.0643	< 1.00	< 0.00500	0.491		< 0.0250		
		Apr-14		0.333 J	29	0.0217	0.0388	0.0476	7.58	0.00107 J	1.46		0.0105		

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	Analyte Group:																		
				TPH				Metals														
				GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium							
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L							
				Units:																		
				CGWSL:																		
				CGWSL Source:																		
					NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW							
EP	MW-79	Mar-12		0.113	0.36 J	0.0116	0.0132	< 0.00500	0.2	< 0.00500	3.11				< 0.00500							
		Sep-12	FD	0.255	1.9	0.0271	0.0185	< 0.00500	< 0.200	< 0.00500	2.55					< 0.00500						
		Sep-12		0.266	2.6	0.0269	0.019	< 0.00500	< 0.200	< 0.00500	2.45					< 0.00500						
		Mar-13		0.063	0.23	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0100	4.18					< 0.0250						
		Oct-13		0.0616	0.18	0.0114	0.0213	< 0.0100	< 0.400	< 0.0100	3.42					< 0.0100						
		Apr-14		0.0756	1.3	0.0188	0.0138	< 0.00200	0.108 J	< 0.00140	1.34					0.00675 J						
			Nov-14		0.055 J	0.59	0.0073	0.02	0.00065 JB	0.23	< 0.00024	4				0.0017 J						
		MW-80	Mar-12		< 0.0500	0.059 J	0.00595	0.0155	< 0.00500	0.951	< 0.00500	1.54				< 0.00500						
	Mar-13			< 0.0500	0.054	< 0.0250	< 0.0250	< 0.0250	1.31	< 0.0100	0.583					< 0.0250						
	Apr-14			0.0489 J	0.2	0.0143	0.016	< 0.00200	2.1	< 0.00140	0.703					< 0.00200						
	MW-81	Mar-12		< 0.0500	0.32 J	0.00882	0.0176	< 0.00500	< 0.200	< 0.00500	1.67 J				< 0.00500							
Mar-13		FD	< 0.0500	0.15	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0100	2.08					< 0.0250							
Mar-13			< 0.0500	0.14	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0100	2.14					< 0.0250							
Apr-14			0.0318 J	3.6	0.0188	0.0162	< 0.00200	< 0.100	< 0.00140	0.137					0.00757 J							
	MW-82	Mar-12		1.45	2.4	0.126	0.0183	< 0.00500	2.23	< 0.00500	1.31				< 0.00500							
Mar-13			1.3	2.7	0.105	< 0.0250	< 0.0250	1.8	< 0.0250	1.55					< 0.0250							
Apr-14		FD	0.649	4.2	0.126	0.021	< 0.00200	2.73	< 0.00140	1.36					< 0.00200							
Apr-14			0.611	4.2	0.133	0.021	< 0.00200	3.06	0.000773 J	1.33					< 0.00200							
	MW-83	Mar-12		3.6	3.7	0.141	0.0153	< 0.00500	6.65	< 0.00500	0.522				< 0.00500							
Sep-12			0.811	18	0.0446	0.0271	< 0.00500	3.39	< 0.00500	0.611					0.0111							
Mar-13			1.32	5.4	0.0441	< 0.0250	< 0.0250	1.53	< 0.0100	0.495					< 0.0250							
Oct-13			0.701	25	0.0407	0.0311	< 0.00500	17	< 0.0100	1.79					0.0097							
Apr-14			0.489 J	20	0.0388	0.0197	0.00430 J	4.65	0.000914 J	0.986					0.00977							
Nov-14			0.43	22	0.03	0.046	0.0089	12	0.00037 J	0.7					0.0075							
	MW-84	Mar-12	FD	0.882	5.6	0.0903	0.0137	< 0.00500	0.721	< 0.00500	2.55				< 0.00500							
Mar-12			0.895	4.2	0.0783	0.0134	< 0.00500	0.636	< 0.00500	2.41					< 0.00500							
Sep-12			1.31	20	0.147	0.0167	< 0.00500	7.05	< 0.00500	2.75					0.00537							
Mar-13			0.91	8.8	0.095	< 0.0250	< 0.0250	1.23	< 0.0250	2.61					< 0.0250							
Oct-13			0.783	26	0.108	0.0211	0.0117	5.97	< 0.0100	3.9					0.0139							
Apr-14			0.607	27	0.114	0.0144	0.00416 J	3.21	< 0.000700	3.58					0.00577 J							
Nov-14			0.61	75	0.083	0.029	0.019 B	1.6	< 0.00024	3.6					0.014							
	MW-87	Apr-12		< 0.0500	0.082	0.00778	0.0147	< 0.00500	< 0.200	< 0.0100	0.238				< 0.00500							
Sep-12			< 0.0500	0.12	0.00874	0.0161	< 0.00500	< 0.200	< 0.00500	1.25					< 0.00500							
Apr-13			< 0.0500	0.25	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	0.0396					< 0.0250							
Nov-13			0.056	< 0.051	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	2.95					< 0.0250							
Apr-14			< 0.0100	0.23	0.00862 J	0.0168	0.00290 J	0.789	< 0.00140	0.103					< 0.00200							
Nov-14			< 0.031	0.12	0.0024	0.027	0.00082 JB	0.2	< 0.00024	1.5					0.0014 J							
	MW-88	Apr-12		0.0735	0.15	0.00983	0.0111	< 0.00500	< 0.200	< 0.00500	0.672				< 0.00500							
Sep-12			0.0699	0.33	0.0104	0.0118	< 0.00500	< 0.200	< 0.00500	0.693					< 0.00500							
Apr-13			0.0648	0.37	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	0.767					< 0.0250							
Nov-13			0.0653	0.1	0.0136	0.0163	< 0.00500	< 0.200	< 0.0100	2.53					< 0.00500							
Apr-14			0.0497 J	0.37	0.0106	0.0115	< 0.00200	< 0.100	< 0.00140	0.796					< 0.00200							
Nov-14			0.048 J	0.57	0.012	0.021	< 0.00054	1.4	< 0.00024	1.6					0.0015 J							
	MW-120	Oct-13		0.0586	1.1	0.0214	0.0225	< 0.00500	2.9	< 0.00500	1.18				0.0371							
Apr-14			0.0734	0.23	0.0307	0.0335	0.00217 J	8.09	0.00213 J	1.19				< 0.00200								
Nov-14			0.057 J	2.4	0.026	0.018	0.001	12	0.00064 J	1.5					0.038							

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH					Metals							
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
EP	MW-121	Oct-13		< 0.0500	0.25	0.0401	0.0172	< 0.00500	0.913	< 0.00500	4.49		0.0102			
		Apr-14		< 0.0100	0.092	0.0465	0.016	< 0.00100	0.963	< 0.000700	4.22		0.00446 J			
		Nov-14		< 0.031	0.51	0.071	0.019	0.0014	2	0.00070 J	3.8		0.012			
	MW-122	Oct-13		< 0.0500	0.16	0.00871	0.0317	< 0.00500	4.63	< 0.00500	1.43		< 0.00500			
		Apr-14		0.0289 J	< 0.021	0.00917 J	0.0406	< 0.00200	5.37	0.00144 J	2.09		< 0.00200			
		Nov-14		< 0.031	5.5	0.018	0.034	0.0015	2.6	0.00036 J	1.1		0.04			
	MW-123	Nov-13	FD	2	1.8	0.0258	0.0368	< 0.0100	0.676	< 0.00500	3.02		< 0.0100			
		Nov-13		1.92	1.6	0.0303	0.0563	< 0.00500	1.06	< 0.00500	2.92		< 0.00500			
		Apr-14		< 0.0100	2.8	0.0226	0.0175	< 0.00200	0.102 J	< 0.00140	2.66		< 0.00200			
		Nov-14		1.6	2.7	0.023	0.027	0.00093 JB	0.3	0.00075 J	2.7		0.0013 J			
	MW-124	Nov-13		< 0.0500	< 0.051	< 0.0100	0.0527	< 0.0100	1.41	< 0.0100	0.592		< 0.0100			
		Apr-14		< 0.0100	< 0.021	0.00952 J	0.0216	< 0.00200	2.48	< 0.00140	0.479		< 0.00200			
		Nov-14		< 0.031	< 0.022	0.0052	0.027	0.00086 JB	2.7	0.00051 J	1.1		0.00093 J			
	OCD-1R	Mar-12		< 0.0500	< 0.050	0.00866	0.0189	< 0.00500	4.21	< 0.00500	2.07		< 0.00500			
		Sep-12		< 0.0500	< 0.051	0.0165	0.0228	< 0.00500	4.56	< 0.00500	2.95		< 0.0100			
		Nov-13		< 0.0500	< 0.052	0.0116	0.02	< 0.00500	0.31	< 0.00500	0.505		0.0378			
		Apr-14		< 0.0100	< 0.021	0.00833 J	0.0144 J	0.00407 J	0.65	< 0.00140	1.52		0.00892 J			
	OCD-2A	Nov-14		< 0.031	0.23	0.0071	0.02	0.00081 JB	0.34	< 0.00024	0.41		0.019			
		Mar-12	FD	< 0.0500	< 0.050	< 0.00500	0.0252	< 0.00500	4.11	< 0.00500	1.15		< 0.00500			
		Mar-12		< 0.0500	< 0.050	< 0.00500	0.0246	< 0.00500	4	< 0.00500	1.14		< 0.00500			
		Sep-12		< 0.0500	< 0.052	< 0.00500	0.0264	< 0.00500	4.96	< 0.00500	1.51		< 0.00500			
		Mar-13		< 0.0500	< 0.052	< 0.0100	0.029	< 0.0100	6.45	< 0.0100	1.66		< 0.0100			
		Nov-13		< 0.0500	< 0.052	< 0.00500	0.0199	< 0.00500	< 0.200	< 0.00500	0.539		0.0169			
	OCD-3	Apr-14		< 0.0100	< 0.020	0.00332 J	0.0185	< 0.00200	0.425	< 0.00140	0.563		0.00245 J			
		Nov-14		< 0.031	0.093 J	0.0021	0.023	0.00089 JB	0.71	< 0.00024	0.59		0.0075			
		Mar-12		< 0.0500	< 0.050	< 0.00500	0.0216	< 0.00500	0.646	< 0.00500	0.369		< 0.00500			
		Sep-12		< 0.0500	< 0.051	0.00571	0.0254	< 0.00500	2.48	< 0.00500	0.357		< 0.00500			
		Mar-13		< 0.0500	< 0.051	< 0.00500	0.0226	< 0.00500	1.37	< 0.00500	0.404		< 0.00500			
		Nov-13		< 0.0500	< 0.052	< 0.00500	0.0217	< 0.00500	0.361	< 0.00500	0.0464		0.00574			
	OCD-4	Apr-14		< 0.0100	< 0.021	0.00631 J	0.0198	< 0.00200	1.69	< 0.00140	0.134		0.00206 J			
		Nov-14		< 0.031	0.07 J	0.0055 J	0.019 J	< 0.0027	2.2 V	< 0.0012	0.16 O1J5		0.0040 J			
		Mar-12		< 0.0500	< 0.050	< 0.00500	0.021	< 0.00500	4.22	< 0.00500	0.261		< 0.00500			
		Sep-12		< 0.0500	< 0.051	< 0.0250	< 0.0250	< 0.0250	4.52	< 0.0250	0.321		< 0.0250			
		Mar-13		< 0.0500	< 0.052	< 0.0250	< 0.0250	< 0.0250	5.2	< 0.0250	0.294		< 0.0250			
		Nov-13		< 0.0500	< 0.052	< 0.00500	0.0259	< 0.00500	3.46	< 0.00500	0.323		< 0.00500			
	OCD-5	Apr-14		< 0.0100	< 0.021	< 0.00500	0.0213	< 0.00500	3.13	< 0.00140	0.276		< 0.00500			
		Nov-14		< 0.031	0.065 J	0.0036 J	0.025	< 0.0027	3.8	< 0.0012	0.31		< 0.0019			
		Mar-12		< 0.0500	< 0.050	< 0.00500	0.0233	< 0.00500	2.89	< 0.00500	0.368		< 0.00500			
		Sep-12		< 0.0500	< 0.051	< 0.0250	< 0.0250	< 0.0250	4.34	< 0.0250	0.383		< 0.0250			
		Mar-13		0.0703	< 0.053	< 0.0250	< 0.0250	< 0.0250	5.18	< 0.0250	0.339		< 0.0250			
		Nov-13		0.204	0.084	0.00598	0.0256	< 0.00500	2.43	< 0.00500	0.389		< 0.00500			
		Apr-14	FD	0.14	< 0.021	0.00491 J	0.0211	< 0.00200	1.28	< 0.00140	0.364		< 0.00200			
		Apr-14		0.127	< 0.021	0.00738 J	0.0206	< 0.00200	2.47	< 0.00140	0.411		< 0.00200			
		Apr-14		0.26	0.54	0.0099 J	0.028	< 0.0027	4.8	< 0.0012	0.36		< 0.0019			

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Analyte Group:		TPH					Metals									
Area	Location	Date	Dup	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
				---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631	
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
EP	OCD-6	Mar-12		0.494	0.76	0.0376	0.0184	< 0.00500	12.6	< 0.00500	2.07			< 0.00500		
		Sep-12		0.36	1.1	0.0244	0.0188	< 0.00500	11.7	< 0.00500	2.27			< 0.00500		
		Mar-13		0.436	1.9	0.0358	< 0.0250	< 0.0250	12.5	< 0.0250	2.1			< 0.0250		
		Nov-13		0.249	0.45	0.0212	0.0205	< 0.00500	0.201	< 0.00500	1.05			< 0.00500		
		Apr-14		0.297	0.82	0.0160 J	0.0191 J	< 0.00500	2.56	< 0.00350	2.15			< 0.00500		
		Nov-14		< 0.031	0.54	0.014	0.024 J	0.0027 J	7.6	< 0.0012	1.2			< 0.0019		
	OCD-7AR	Mar-12			1.26	1.3	0.256	0.016	< 0.00500	10.9	< 0.00500	3.17			< 0.00500	
		Sep-12			1.15	4	0.242	0.0154	< 0.00500	11.3	< 0.00500	3.33			< 0.00500	
		Mar-13			1.63	5	0.257	< 0.0250	< 0.0250	11.9	< 0.0250	3.48			< 0.0250	
		Nov-13			1.21	4.1	0.214	0.0171	< 0.00500	9.11	< 0.00500	3.49			0.00541	
		Apr-14	FD		0.883	4.1	0.165	0.0152	< 0.00200	8.08	< 0.00140	2.92			0.00356 J	
		Apr-14			0.889	4	0.158	0.0147	< 0.00200	7.59	< 0.00140	2.87			0.00425 J	
	OCD-7B	Mar-13			0.76	3.5	0.11	0.015 J	< 0.0027	4.3	< 0.0012	2.4			0.0020 J	
		Mar-13			< 0.0500	< 0.052	< 0.00500	0.016	< 0.00500	< 0.200	< 0.00500	0.0246			< 0.00500	
	OCD-8A	Apr-12			0.923	1.2	0.114	0.0139	< 0.00500	7.39	< 0.0100	3.31	< 0.000200	0.0196	< 0.00500	< 0.00500
		Sep-12	FD		0.927	3.4	0.113	0.0143	< 0.0100	5.47	< 0.0100	3.17	< 0.000200	0.0119	< 0.0100	< 0.0100
		Sep-12			0.926	3.3	0.111	0.0154	< 0.0100	5.64	< 0.0100	3.12	< 0.000200	0.0147	< 0.0100	< 0.0100
		Apr-13	FD		1.14	3.1	0.13	< 0.0250	< 0.0250	9.16	< 0.0250	3.56	< 0.000200	< 0.0250	< 0.0250	< 0.0250
		Apr-13			1.16	3.8	0.126	< 0.0250	< 0.0250	9.75	< 0.0250	3.78	< 0.000200	< 0.0250	< 0.0250	< 0.0250
		Nov-13			0.436	0.58	0.0815	0.041	< 0.0100	10.3	< 0.0100	3	< 0.000200	0.0172	< 0.0100	< 0.0100
		Apr-14	FD		0.764	2.8	0.0683	0.0218	< 0.00200	7.73	< 0.00140	3.12	< 0.0000400	0.0279	< 0.00200	0.00219 J
		Apr-14			0.728	2.9	0.0676	0.023	< 0.00200	7.72	< 0.00140	3.14	< 0.0000400	0.0279	< 0.00200	0.00223 J
	Nov-14			0.66	1.8	0.05	0.08	0.0072	13	< 0.0012	4.7	< 0.000049	0.062	< 0.0019	0.0065 J	
	OCD-8B	Apr-13		0.298	0.89	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	0.417			< 0.0250		
Field E of Refinery	KWB-1A	Apr-12		< 0.050	< 0.00500	0.00804	< 0.00500	< 0.200	< 0.00500	0.285	< 0.000200	0.00766	< 0.00500	0.0184		
		Sep-12		< 0.051	< 0.00500	0.0088	< 0.00500	< 0.200	< 0.00500	0.311	< 0.000200	0.0121	< 0.00500	0.0192		
		Apr-13		< 0.053	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	0.332	< 0.000200	< 0.0100	< 0.0100	0.0207		
		Oct-13		< 0.0500	< 0.00500	0.0113	< 0.00500	< 0.200	< 0.00500	0.404	< 0.000200	0.00833	< 0.00500	0.0199		
		Apr-14		< 0.021	0.00441 J	0.01	< 0.00100	0.0770 J	< 0.000700	0.371	< 0.0000400	0.00833	< 0.00100	0.0223		
		Nov-14		0.15 J	0.0035	0.0087	0.00069 JB	< 0.05	0.00029 JB	0.42	< 0.000049	0.0082	0.00076 J	0.037		
	KWB-1C	Apr-13		< 0.044	< 0.0100	0.0146	< 0.0100	< 0.400	< 0.0100	< 0.0100			< 0.0100			
	KWB-7	Apr-12			0.058	< 0.00500	0.0359	< 0.00500	< 0.200	< 0.00500	1.67	< 0.000200	0.0222	< 0.00500	0.0176	
		Oct-12			< 0.051	< 0.00500	0.0346	< 0.00500	< 0.200	< 0.0100	2.12	< 0.000200	0.0294	0.00791	0.0184	
		Apr-13			< 0.0500	0.62	< 0.00500	0.0646	< 0.00500	1.09	< 0.00500	1.78	< 0.000200	0.0237	< 0.00500	0.0139
		Nov-14			1	0.02	0.079	0.00082 JB	0.81	0.0015 JB	4.9	< 0.000049	0.037	0.00064 J	0.0012 J	
	KWB-10R	Nov-14		12	0.036	3.4	0.001	8.2	0.0042	0.19			0.00052 J			
	KWB-11A	Apr-12			< 0.0500	< 0.050	< 0.00500	0.0205	< 0.00500	< 0.200	< 0.00500	0.01	< 0.000200	< 0.00500	0.00778	0.0126
		Oct-12			< 0.0500	< 0.051	< 0.00500	0.0193	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0113	0.0119
		Apr-13			< 0.0500	< 0.051	< 0.00500	0.0213	< 0.00500	< 0.200	< 0.00500	0.0369	< 0.000200	< 0.00500	0.00826	0.0131
		Nov-14	FD		0.29	0.86	0.002	0.028	< 0.00054	< 0.05	0.0055	0.16	< 0.000049	0.0042	0.0082	0.012
		Nov-14			< 0.031	0.71	0.002	0.028	0.00076 JB	< 0.05	0.0061 B	0.16	< 0.000049	0.0039	0.0079	0.013

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH				Metals								
				Analyte:		Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	
				GRO	DRO	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631				
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
Field E of Refinery	KWB-11B	Apr-12		< 0.0500	< 0.050	< 0.00500	0.0138	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00945	0.00742	
		Oct-12		< 0.0500	< 0.050	< 0.00500	0.0143	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0177	0.00798	
		Apr-13		< 0.0500	< 0.052	< 0.00500	0.0169	< 0.00500	< 0.200	< 0.00500	< 0.000200	< 0.00500	< 0.000200	< 0.00500	0.0114	0.0087
		Apr-14		2.74	3.2	0.00157 J	0.0117	< 0.00100	< 0.0500	0.000903 J	< 0.00250	< 0.0000400	< 0.00100	0.00848	0.00741	
		Nov-14		< 0.031	< 0.022	0.0011 J	0.013	< 0.0027	< 0.05	0.00090 JB	0.0030 J	< 0.000049	< 0.00035	0.0073	0.0081	
	KWB-12A	Oct-12		< 0.0500	< 0.052	< 0.00500	0.0169	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00709	0.0104	
		Oct-13		< 0.0500	< 0.052	< 0.00500	0.0174	< 0.00500	< 0.200	< 0.00500	< 0.000200	< 0.00500	< 0.000200	0.0057	0.0132	
		Nov-14		< 0.031	< 0.022	0.0014 J	0.017	0.00086 JB	< 0.05	< 0.00024	0.0011 J	< 0.000049	0.00074 J	0.0052	0.013	
	KWB-12B	Nov-14	FD	< 0.031	0.074 J	0.0016 J	0.01	0.00060 J	< 0.05	< 0.00024	0.0016 J	< 0.000049	0.00065 J	0.0046	0.012	
		Apr-12		< 0.0500	< 0.050	< 0.00500	0.0155	< 0.00500	< 0.200	< 0.00500	< 0.000200	< 0.000200	< 0.00500	0.0129	0.0129	
		Oct-12	FD	< 0.0500	< 0.051	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	< 0.0100	< 0.000200	< 0.0100	< 0.0100	0.012	
		Oct-12		< 0.0500	< 0.051	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	< 0.0100	< 0.000200	< 0.0100	< 0.0100	0.0117	
		Apr-13	FD	< 0.0500	< 0.052	< 0.00500	0.0108	< 0.00500	< 0.200	< 0.0100	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.0124	
		Apr-13		< 0.0500	< 0.052	< 0.00500	0.0105	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.0121	
		Oct-13		< 0.0500	< 0.052	< 0.00500	0.0097	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.0129	
		Apr-14		< 0.0100	< 0.021	0.00240 J	0.0108	< 0.00100	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	< 0.00100	0.00363 J	0.0136	
		Apr-14		< 0.0100	< 0.021	0.00286 J	0.00926	< 0.00100	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	< 0.00100	0.00318 J	0.013	
		Nov-14		< 0.031	< 0.022	0.0015 J	0.013	0.00086 JB	< 0.05	< 0.00024	0.0027 J	< 0.000049	0.00071 J	0.0042	0.013	
	KWB-P4	Apr-13		< 0.052												
	MW-57	Apr-12		< 0.0500	0.074	0.0224	0.36	0.0174	14.5	0.0102	0.865			0.00779		
		Oct-12		< 0.0500	0.081	< 0.0100	0.0231	< 0.0100	< 0.400	< 0.0250	0.0589			0.0468		
		Apr-13		< 0.0500	0.32	0.0142	0.0264	0.00881	0.873	< 0.00500	0.516			< 0.00500		
		Oct-13		0.357	0.67	0.0438	0.0669	< 0.00500	2.8	< 0.00500	2.03			< 0.00500		
		Nov-14		0.35	0.78	0.0889	2.17	0.0456	38.8	0.0269	2.73			0.00342 J		
	MW-58	Oct-13		6.91	1.7	0.0511	0.681	< 0.00500	1.81	< 0.00500	0.881	< 0.000200	< 0.00500	< 0.00500	< 0.00500	
		Nov-14			7.8	0.0078	0.67	0.00083 J	0.66	0.0058	0.094	< 0.000049	0.0015 J	0.00040 J	0.0043 J	
	MW-111	Apr-13		2.49	1.7	0.0136	0.166	< 0.00500	6.18	< 0.00500	1.86	< 0.000200	0.00701	< 0.00500	< 0.00500	
		Oct-13		2.26	1.4	0.0114	0.211	< 0.00500	7.88	< 0.00500	1.72			< 0.00500		
		Apr-14		2.36	1.3	0.0114	0.254	0.00252 J	7.64	0.000856 J	1.57			< 0.00100		
		Nov-14		1.7	2	0.014	0.22	0.0024	8	0.0013 J	1.6			0.00046 J		
	MW-112	Nov-14		28	2.2	0.005	7.6	0.0021	5.8	0.0013 J	0.31			0.0018 J		
	MW-113	Apr-13		< 0.0500	0.2	< 0.00500	0.0405	< 0.00500	0.375	< 0.00500	0.389	< 0.000200	< 0.00500	< 0.00500	0.0116	
		Oct-13		3.05	< 0.051	< 0.00500	0.0259	< 0.00500	0.261	< 0.00500	0.404			< 0.00500		
		Apr-14		17.3	0.23	0.00326 J	0.0882	0.00423 J	1.87	0.00211 J	0.408			< 0.00200		
		Nov-14	FD	2.7	0.82	0.0093	0.048	< 0.00054	0.7	< 0.00024	1.9			0.00070 J		
		Nov-14		2.4	0.64	0.0088	0.047	0.00059 J	0.68	0.00025 J	1.9			0.00044 J		
	MW-125	Apr-14		0.0383 J	< 0.021	0.00471 J	0.011	< 0.00100	0.0544 J	< 0.000700	0.47			< 0.00100 B		
		Nov-14		< 0.031	0.047 J	0.0036	0.0092	0.00056 J	< 0.05	< 0.00024	0.42			0.0033		
	MW-126A	Apr-14		0.142	0.71	0.00322 J	0.0163	0.00131 J	0.463	0.00132 J	0.194			0.00175 J		
		Nov-14		0.41	0.88	0.0021	0.028	0.0017	1.7	0.0010 J	0.79			0.00053 J		
	MW-126B	Apr-14		0.0791	0.34	0.00299 J	0.0182	< 0.00100	1.32	< 0.000700	0.918			< 0.00100		
		Nov-14		< 0.031	0.28	0.0039	0.017	0.0013	0.39	0.00064 J	0.098			0.0026		
	MW-127	Apr-14		37.7	3.5	0.00433 J	0.785	0.00192 J	1.66	0.000968 J	0.156			< 0.00100		
		Nov-14		6.1	1.3	0.0064	1.2	0.0035	3.9	0.002	0.14			0.0012 J		

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH		Metals										
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
Field E of Refinery	MW-128	Apr-14		3.19	2.1	0.0549	0.0867	0.00181 J	3.53	0.00132 J	2.33		< 0.00100			
		Nov-14		1.2	2.4	0.062	0.094	0.0051	5	0.013	2.6		0.0012 J			
	MW-129	Nov-14		4.6	2.7	0.027	0.66	0.0045	7.8	0.0044	1.2		0.0032			
		Nov-14		< 0.0100	0.33	0.00474 J	0.037	0.00626	2.84	0.00398 J	0.202		0.00569			
	MW-130	Nov-14		< 0.031	0.7	0.0046	0.026	0.0025	1.2	0.0012 J	0.12		0.0037			
		Nov-14		26.2	3.4	0.0196	2.37	0.00159 J	2.25	0.00106 J	0.378		< 0.00100			
	MW-131	Nov-14		9.1	3.7	0.023	2.6	0.0028	3.8	0.0014 J	0.36		0.00050 J			
		Nov-14		9.4	2.8	0.019	0.13	0.00060 J	3.5	0.00080 J	0.38		< 0.00038			
	MW-134	Apr-14		< 0.0100	< 0.021	0.00701 J	0.0168	< 0.00200	0.581	< 0.00140	0.031		0.00570 J			
		Nov-14		< 0.031	0.064 J	0.0059	0.015	0.0024	0.36	0.00024 J	0.031		0.012			
	MW-135	Apr-14		< 0.0100	< 0.021	0.00454 J	0.0856	0.00467 J	1.68	0.00227 J	0.0799		0.0344			
		Nov-14		< 0.031	0.31	0.0088	0.41	0.018	9.6	0.01	0.42		0.038			
	RA-4196	Apr-12						< 0.00500								
		Oct-12	FD													
		Oct-12														
		Apr-13	FD													
		Apr-13														
		Nov-13	FD													
	RA-4798	Nov-13														
		Nov-13														
Apr-14												< 0.000500				
Apr-12																
Oct-12																
Apr-13																
RW-18	Nov-13															
	Apr-14															
	Apr-12	FD			< 0.00500	0.0105	< 0.00500	< 0.200	< 0.00500	< 0.00500		0.0056				
	Apr-12				< 0.00500	0.00967	< 0.00500	< 0.200	< 0.00500	< 0.00500		0.00583				
N Refinery	Apr-13				< 0.0100	0.015	< 0.00500	0.496	< 0.00500	< 0.00500		0.0124				
	Apr-14				0.00496 J	0.0137	< 0.00200	0.295 J	< 0.00140	0.00572 J		0.011				
	Apr-12			25	2.8	0.0124	10.9	< 0.00500	< 0.200	< 0.00500	0.0876	< 0.00500				
	Oct-12			27.5	14	0.0111	8.1	< 0.00500	< 0.200	< 0.00500	0.0902	< 0.00500				
MW-23	Apr-13			30.4	17	0.00869	9.65	< 0.00500	< 0.200	< 0.00500	0.0959	< 0.00500				
	Oct-13			38.3	20	0.0103	8.01	< 0.00500	< 0.200	< 0.00500	0.104	< 0.00500				
	Apr-14			32.1	6	0.00898	9.23	< 0.00100	< 0.0500	0.00224 J	0.0877	0.00280 J				
	Nov-14			39	6	0.022	0.1	0.0014 B	0.059 J	0.00075 J	0.21	0.0020 J				
	Apr-12			0.0787	0.28	< 0.00500	0.0206	< 0.00500	< 0.200	< 0.00500	0.438	< 0.00500				
	Oct-12			0.114	0.95	< 0.00500	0.0185	< 0.00500	< 0.200	< 0.00500	0.318	< 0.0100				
	Apr-13			< 0.0500	0.3	0.014	0.0164	< 0.0100	< 0.400	< 0.0100	0.527	< 0.0100				
	Oct-13			0.113	1.3	< 0.00500	0.0166	< 0.00500	< 0.200	< 0.00500	0.311	< 0.00500				
	Apr-14			< 0.0100 B	0.51	0.00836	< 0.000900 B	< 0.00100	0.228	< 0.000700 B	0.558 J	0.00119 J				
	Nov-14			< 0.031	1.2	0.00093 J	0.02	0.00062 JB	< 0.05	0.00037 J	0.47	0.00063 J				
MW-39	Oct-13			2.37	4.6	0.0147	0.022	< 0.00500	< 0.200	< 0.00500	0.0383	< 0.00500				

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH		Metals										
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:	NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW					
N Refinery	MW-40	Apr-12		0.492	0.64	< 0.00500	0.0258	< 0.00500	< 0.200	< 0.00500	0.0549		< 0.00500			
		Apr-13		0.919	1.7	< 0.0100	0.0284	< 0.0100	< 0.400	< 0.00500	0.0479		< 0.0100			
		Apr-14		1.01	0.88	0.00157 J	0.0278	< 0.00100	< 0.0500	< 0.000700	0.0451		0.00202 J			
	MW-41	Apr-12			0.114	0.61	0.00937	0.0167	< 0.00500	< 0.200	< 0.00500	0.812		< 0.00500		
		Oct-12			0.129	1.5	0.0126	0.0183	< 0.00500	0.274	< 0.00500	1		< 0.00500		
		Apr-13			0.167	0.74	0.00746	0.0165	< 0.00500	< 0.200	< 0.00500	0.791		< 0.00500		
		Oct-13			0.0833	1.3	0.00849	0.016	< 0.00500	< 0.200	< 0.00500	0.832		< 0.00500		
	MW-42	Apr-14			0.233	0.3	0.00475 J	0.014	< 0.00100	0.0729 J	< 0.000700	0.854		0.00163 J		
		Apr-12			2.45	1.4	0.012	0.0284	< 0.00500	0.636	< 0.00500	0.238		< 0.00500		
		Oct-12			1.41	3.4	0.0137	0.0237	< 0.00500	0.639	< 0.00500	0.263		< 0.00500		
		Apr-13			2.89	3.5	0.0144	0.0285	< 0.0100	0.475	< 0.00500	0.224		< 0.0100		
	MW-43	Oct-13			3.17	4.8	0.00973	0.0252	< 0.00500	0.213	< 0.00500	0.152		< 0.00500		
		Apr-14			2.9	1.4	0.012	0.0284	< 0.00100	0.527	0.000766 J	0.189		0.00168 J		
		Apr-12			2.9	1.9	0.0104	0.417	< 0.00500	< 0.200	< 0.00500	0.332	< 0.000200	< 0.00500	< 0.00500	
		Oct-12	FD		4.18	5.8	0.0112	0.332	< 0.00500	< 0.200	< 0.00500	0.348	< 0.000200	< 0.00500	< 0.00500	
		Oct-12			4.32	5.9	0.0104	0.329	< 0.00500	< 0.200	< 0.00500	0.354	< 0.000200	< 0.00500	< 0.00500	
		Apr-13			1.98	5.2	0.0102	0.102	< 0.00500	< 0.200	< 0.00500	0.439	< 0.000200	< 0.00500	< 0.00500	
		Oct-13	FD		6.94	8.3	0.0106	0.48	< 0.00500	< 0.200	< 0.00500	0.279	< 0.000200	0.00529	< 0.00500	< 0.00500
	MW-59	Oct-13			6.73	8	0.0107	0.467	< 0.00500	< 0.200	< 0.00500	0.274	< 0.000200	< 0.00500	< 0.00500	
		Apr-14			2.89	1.2	0.0106	0.103	< 0.00100	< 0.0500	< 0.000700	0.47		0.00617	0.00128 J	< 0.000900
		Nov-14			4.8	7.4	0.009	0.42	0.0013	< 0.05	0.0018 J	0.37	< 0.000049	0.0059	0.022 O1J6	0.0062 J
		Apr-12			0.103	0.062	0.0212	0.0146	< 0.00500	< 0.200	< 0.00500	0.525			< 0.00500	
		Apr-13			0.13	< 0.052	0.0274	0.0168	< 0.00500	< 0.200	< 0.0100	0.506			< 0.00500	
	MW-60	Apr-14			0.247	0.068	0.0324	0.0144	< 0.00100	0.164 J	< 0.000700	0.464			0.00432 J	
		Apr-12			0.797	0.27	0.0085	0.0239	< 0.00500	< 0.200	< 0.00500	0.297	< 0.000200	< 0.00500	< 0.00500	
		Oct-12	FD		0.901	0.35	0.0128	0.0188	< 0.00500	0.913	< 0.00500	0.368		0.00657	< 0.00500	< 0.00500
		Oct-12			0.902	0.35	0.0152	0.0184	< 0.00500	1.05	< 0.00500	0.372		0.00528	< 0.00500	< 0.00500
		Apr-13	FD		0.936	0.39	0.0133	0.0228	< 0.0100	< 0.400	< 0.0100	0.37	< 0.000200	< 0.0100	< 0.0100	
		Apr-13			0.907	0.42	0.0124	0.0234	< 0.0100	< 0.400	< 0.00500	0.354	< 0.000200	< 0.0100	< 0.0100	
		Oct-13	FD		0.753	0.32	0.00996	0.0222	< 0.00500	0.366	< 0.00500	0.398	< 0.000200	< 0.00500	< 0.00500	
		Oct-13			0.776	0.34	0.0103	0.0207	< 0.00500	0.36	< 0.00500	0.402	< 0.000200	< 0.00500	< 0.00500	
		Apr-14			0.658	0.11	0.00662	0.0191	< 0.00100	0.0539 J	< 0.000700	0.348	< 0.00100	< 0.00100	< 0.000900	
		Nov-14			0.54	0.63	0.0026	0.017	0.00065 J	0.065 J	0.00046 J	0.38	< 0.000049	0.0016 J	0.014	0.00029 J
	MW-61	Apr-12			8.87	0.78	< 0.00500	0.0258	< 0.00500	0.418	< 0.00500	0.0317		< 0.00500		
		Oct-12			8.87	1.9	< 0.00500	0.0243	< 0.00500	< 0.200	< 0.00500	0.0236		< 0.00500		
		Apr-13			8.43	2.5	< 0.00500	0.0255	< 0.00500	< 0.200	< 0.00500	0.0199		< 0.00500		
		Oct-13			1.95	3.3	< 0.00500	0.0375	< 0.00500	< 0.200	< 0.00500	0.0224		< 0.00500		
		Apr-14			10.9 J	3.4	0.00127 J	0.0305	< 0.00100	0.0734 J	< 0.000700 B	0.0226		< 0.00100		
	Nov-14			11	6.4	0.002	0.053	0.00081 J	< 0.05	0.0012 J	0.0044 J			0.0087		

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH		Metals										
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
N Refinery	MW-62	Apr-12		2.54	0.92	< 0.00500	0.382	< 0.00500	< 0.200	< 0.00500	0.0204		< 0.00500			
		Oct-12		2.85	7.4	< 0.00500	0.412	< 0.00500	< 0.200	< 0.00500	0.0182		< 0.00500			
		Apr-13		2.92	6.3	< 0.00500	0.653	< 0.00500	< 0.200	< 0.00500	0.00805		< 0.00500			
		Oct-13		10.7	7.3	< 0.00500	0.141	< 0.00500	< 0.200	< 0.00500	< 0.00500		< 0.00500			
		Apr-14		7.37	2	0.00288 J	0.0679	< 0.00100	0.0711 J	< 0.000700	0.00786		0.00279 J			
		Nov-14		42	29	0.01	9.3	0.0021	0.26	0.0098	0.1		0.0019 J			
	MW-67	Oct-13	FD	9.46	5.5	< 0.00500	0.544	< 0.00500	< 0.200	< 0.00500	0.0771	< 0.000200	< 0.00500	< 0.00500		
		Nov-14		0.81	4.2	0.0018 J	0.12	0.00074 J	< 0.05	0.00094 J	0.13	< 0.000049	0.0033	0.014	0.00036 J	
	MW-90	Apr-12	FD	0.178	0.87	< 0.00500	0.0164	< 0.00500	< 0.200	< 0.00500	0.122		< 0.00500			
		Apr-12		0.18	1.2	< 0.00500	0.0155	< 0.00500	< 0.200	< 0.00500	0.121		< 0.00500			
		Oct-12		0.216	3.6	< 0.00500	0.0241	< 0.00500	0.262	< 0.00500	0.1		< 0.00500			
		Apr-13		0.221	3.9	< 0.00500	0.0188	< 0.00500	< 0.200	< 0.00500	0.0647		< 0.00500			
		Oct-13		0.157	6.2	0.00701	0.0248	< 0.00500	0.72	< 0.00500	0.337		< 0.00500			
		Apr-14		0.317	1.4	0.00439 J	0.0183	< 0.00100	0.0589 J	0.000780 J	0.0745		< 0.00100			
	MW-91	Nov-14		0.21	2.3	0.011	0.014	0.00067 J	0.41	< 0.00024	0.052		0.021			
		Oct-13	FD	8.09	7.6	< 0.00500	0.11	< 0.00500	< 0.200	< 0.00500	< 0.00500		< 0.00500			
		Oct-13		7.89	6.9	< 0.00500	0.11	< 0.00500	< 0.200	< 0.00500	< 0.00500		< 0.00500			
		Apr-14		11.9	2.9	0.00394 J	0.13	< 0.00100	0.117 J	0.00191 J	0.00450 J		< 0.00100			
	MW-93	Nov-14		7.9	11	0.0047	0.094	0.00099 J	< 0.05	0.0013 J	0.026		0.0098			
		Apr-12		8.41	2.4	0.00686	0.0523	0.00671	< 0.200	< 0.00500	0.0261		< 0.00500			
		Oct-12		7.84	4.6	0.00746	0.0559	< 0.00500	< 0.200	< 0.00500	0.0151		< 0.00500			
		Apr-13		8.99	6.2	0.00737	0.0602	< 0.00500	< 0.200	< 0.00500	0.0192		< 0.00500			
		Oct-13		9.74	10	0.00708	0.0835	< 0.00500	0.475	< 0.00500	0.183		0.00632			
	MW-94	Apr-14		9.9	14	0.00671	0.0823	0.00329 J	0.163 J	0.00288 J	0.0471		0.00282 J			
		Nov-14		6.5	11	0.003	0.052	0.0065	3.2	0.0054	1.3		0.013			
		Nov-14		5.5	9.4	0.017	0.78	0.0014	0.081 J	< 0.00024	0.0065		0.0012 J			
		Nov-14		5.5	9.4	0.017	0.78	0.0014	0.081 J	< 0.00024	0.0065		0.0012 J			
	MW-95	Apr-12		0.0562	0.57	< 0.00500	0.0847	< 0.00500	0.421	< 0.00500	0.122		< 0.00500			
		Apr-13		0.0526	3.4	< 0.00500	0.13	< 0.00500	1.02	< 0.00500	0.0567		< 0.00500			
		Apr-14		0.0926	1.1	< 0.00100	0.126	< 0.00100	0.0549 J	< 0.000700	0.0419		< 0.00100			
	MW-96	Apr-12		3.53	1.1	< 0.00500	0.0823	< 0.00500	0.451	< 0.00500	0.0197		< 0.00500			
		Oct-12		34.2	6.1	0.00605	0.263	< 0.00500	0.459	< 0.00500	< 0.00500		< 0.00500			
		Apr-13		26.6	6.4	< 0.00500	0.147	< 0.00500	0.261	< 0.00500	< 0.00500		< 0.00500			
		Oct-13		25.5	5.4	0.00531	0.105	< 0.00500	< 0.200	< 0.00500	0.0075		< 0.00500			
		Apr-14		25.8	2.2	0.00469 J	0.109	< 0.00100	< 0.0500	< 0.000700	0.00250 J		< 0.00100			
		Nov-14		26	10	0.0049	0.073	0.0021	0.37	0.00089 J	0.11		0.0019 J			
	MW-98	Apr-12		29.1	2.9	< 0.00500	0.0168	< 0.00500	< 0.200	0.011	0.0312		< 0.00500			
		Oct-12		26	5.6	< 0.00500	0.0161	< 0.00500	< 0.200	0.00937	0.0305		< 0.00500			
		Apr-13		26.2	6.2	< 0.00500	0.016	< 0.00500	< 0.200	0.0106	0.0287		< 0.00500			
		Oct-13		29.2	3.1	< 0.00500	0.0179	< 0.00500	< 0.200	0.01	0.0339		< 0.00500			
		Apr-14	FD	32.5	2.7	0.00177 J	0.0145	< 0.00100	< 0.0500	0.00934	0.0267		0.00464 J			
		Apr-14		32.1	2.2	0.00167 J	0.0156	< 0.00100	< 0.0500	0.00919	0.0259		0.00335 J			
		Nov-14		26	5.4	0.00068 J	0.017	0.0011	0.064 J	0.0079	0.027		0.02			
		Nov-14		26	5.4	0.00068 J	0.017	0.0011	0.064 J	0.0079	0.027		0.02			

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	Analyte Group:											
				TPH				Metals							
				GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
CGWSL Source:				NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW	
N Refinery	RW-9	Apr-12		< 0.0500	0.44	< 0.00500	0.0218	< 0.00500	4.09	< 0.00500	0.243		< 0.00500		
		Apr-13		4.14	2.3	< 0.0100	0.0703	< 0.0100	< 0.400	< 0.00500	0.288		< 0.0100		
		Apr-14		3.26	0.48	0.00434 J	0.047	< 0.00100	0.942	< 0.000700	0.417		0.00250 J		
	RW-10	Apr-12		4.6	0.72	0.00538	0.0823	< 0.00500	0.705	< 0.00500	0.208		< 0.00500		
		Apr-13		< 0.0500	0.65	< 0.00500	0.0215	< 0.00500	1.79	< 0.00500	0.224		< 0.00500		
		Apr-14		< 0.0100	0.15	0.00174 J	0.0185	< 0.00100	5.22	< 0.000700	0.217		0.00143 J		
	RW-16	Apr-12		0.29	0.0189	0.0185	< 0.00500	< 0.200	< 0.00500	0.121			0.0169		
		Apr-13		0.58	0.0167	0.0163	< 0.00500	< 0.200	< 0.00500	0.485			< 0.00500		
		Apr-14	FD	0.23	0.0132	0.0147	< 0.00100	0.184 J	< 0.000700	0.596			0.00278 J		
	RW-17	Apr-14		0.11	0.0127	0.0141	< 0.00100	0.174 J	0.000789 J	0.576			0.00272 J		
		Apr-12		< 0.0500	0.27	0.00645	0.0288	< 0.00500	0.664	< 0.00500	0.817		< 0.00500		
		Apr-13		< 0.0500	0.29	0.0107	0.0244	< 0.00500	0.462	0.00563	0.704		< 0.00500		
	N RO Reject Field	MW-117*	Feb-13		< 0.05	< 0.052	0.00498 J	0.0235	< 0.005	< 0.2	< 0.005	0.108	< 0.0002	0.00413 J	0.00427 J
			Nov-13		< 0.05	< 0.051	0.00347 J	0.0108	< 0.005	0.110 J	0.00125 J	0.00982	< 0.0002	0.00305 J	0.00380 J
Apr-14				< 0.0100	< 0.022	0.00366 J	0.017	0.00210 J	0.78	0.00109 J	0.033		< 0.00100 B		
Nov-14			FD	< 0.031	0.12 J	0.0024	0.016	0.0024	0.71	0.00086 J	0.014			0.0079	
MW-118*		Nov-14		< 0.031	0.029 J	0.0025	0.02	0.0031	0.95	0.00072 J	0.014			0.0077	
		Feb-13		0.0436 J	< 0.052	0.011	0.0145	< 0.005	< 0.2	< 0.005	0.0232	0.000042 J	0.00173 J	0.00861	
		Nov-13		< 0.05	< 0.052	0.0125	0.00964	0.00105 J	0.179 J	0.00107 J	0.00526	< 0.0002	0.00214 J	0.00327 J	
MW-119*		Apr-14		< 0.0100	< 0.021	0.0109	0.0147	0.00312 J	0.952	0.00266 J	0.0526		< 0.00100		
		Nov-14		< 0.031	0.032 J	0.012	0.033	0.0032	1.1	0.0010 J	0.02			0.0065	
		Feb-13		0.0371 J	< 0.051	0.00294 J	0.00981	< 0.005	< 0.2	< 0.005	0.0424	< 0.0002	0.00174 J	0.00246 J	
		Nov-13		< 0.05	< 0.053	0.00438 J	0.00973	0.00116 J	0.185 J	< 0.005	0.00459 J		0.00222 J	0.00144 J	
NCL		MW-18	Apr-12		0.28	< 0.00500	0.0155	< 0.00500	< 0.200	< 0.00500	0.0299	< 0.000200	< 0.00500	0.00599	0.0155
			Oct-12		0.21	0.00641	0.0244	< 0.00500	< 0.200	< 0.00500	0.0258	< 0.000200	< 0.00500	0.0166	0.0178
			Apr-13	FD	0.34	0.00506	0.0183	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0126	0.0166
	Apr-13			0.33	< 0.00500	0.0189	< 0.00500	< 0.200	< 0.00500	0.00548	< 0.000200	< 0.00500	0.012	0.0164	
	Oct-13			0.58	< 0.00500	0.025	< 0.00500	< 0.200	< 0.00500	0.017	< 0.000200	< 0.00500	0.00853	0.02	
	Apr-14			0.28	0.00313 J	0.0168	< 0.00100	0.146 J	< 0.000700	0.0203	< 0.0000400	0.00151 J	0.0112	0.0172	
	MW-45	Apr-12		0.17	< 0.00500	0.0143	< 0.00500	1.22	< 0.00500	0.4	< 0.000200	0.00684	< 0.00500	< 0.00500	
		Oct-12		0.7	< 0.00500	0.0177	< 0.00500	0.826	< 0.00500	0.454	< 0.000200	0.00633	< 0.00500	< 0.00500	
		Apr-13		0.44	< 0.00500	0.0168	< 0.00500	0.839	0.0061	0.52	< 0.000200	0.0085	< 0.00500	< 0.00500	
		Oct-13		0.55	< 0.00500	0.0175	< 0.00500	0.861	0.00623	0.574	< 0.000200	0.00827	< 0.00500	< 0.00500	
	MW-53	Apr-14		0.27	0.00268 J	0.0159	< 0.00100	0.786	0.00443 J	0.535	< 0.0000400	0.00736	0.00191 J	0.00217 J	
		Nov-14		0.86	0.0028	0.018	< 0.00054 B	0.82	< 0.00024 B	0.6	< 0.000049	0.0083	0.00071 J	0.00030 J	
		Apr-12		< 0.050	< 0.00500	0.0416	< 0.00500	0.357	< 0.00500	1.02			< 0.00500		
		Apr-13		< 0.053	< 0.00500	0.0267	< 0.00500	< 0.200	< 0.0100	1			< 0.00500		
		Apr-14		< 0.021	0.00217 J	0.0232	< 0.00100	< 0.0500	< 0.000700	0.778			0.00141 J		

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	Analyte Group:											
				TPH				Metals							
				GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL: ---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
				CGWSL Source:	NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW
NCL	MW-54A	Apr-12			0.15	0.00584	0.0182	< 0.00500	< 0.200	< 0.00500	0.531			< 0.00500	
		Oct-12			0.87	< 0.00500	0.0228	< 0.00500	< 0.200	< 0.00500	0.537			< 0.00500	
		Apr-13			0.92	< 0.00500	0.0197	< 0.00500	< 0.200	< 0.00500	0.458			< 0.00500	
		Oct-13			1.4	< 0.00500	0.0192	< 0.00500	< 0.200	< 0.00500	0.516			< 0.00500	
		Apr-14			0.57	0.00532	0.0181	< 0.00100	0.0714 J	0.000847 J	0.495			0.00134 J	
		Nov-14			2.6	0.0045	0.019	< 0.00054 B	0.079 J	< 0.00024 B	0.45			< 0.00038	
	MW-54B	Apr-13		< 0.0500	0.63	< 0.00500	0.0183	< 0.00500	< 0.200	< 0.00500	0.145			< 0.00500	
	MW-55	Apr-12		< 0.0500	< 0.050	0.00612	0.0094	< 0.00500	< 0.200	< 0.00500	0.0899	< 0.000200	< 0.00500	0.027	0.0173
		Oct-12	FD	< 0.0500	< 0.051	0.00741	0.0098	< 0.00500	< 0.200	< 0.00500	0.00832	< 0.000200	0.00561	0.0214	0.0201
		Oct-12		< 0.0500	< 0.051	0.00691	0.0108	< 0.00500	< 0.200	< 0.00500	0.00858	< 0.000200	0.00588	0.0216	0.0197
		Apr-13		< 0.0500	< 0.051	0.00653	0.00954	< 0.00500	< 0.200	< 0.00500	0.0304	< 0.000200	< 0.00500	0.0252	0.0175
		Oct-13		< 0.0500	< 0.052	< 0.00500	0.0114	< 0.00500	< 0.200	< 0.00500	0.0817	< 0.000200	< 0.00500	0.016	0.017
		Apr-14	FD	< 0.0100	< 0.021	0.00484 J	0.00952	< 0.00100	< 0.0500	< 0.000700	0.185	< 0.0000400	0.00409 J	0.0238	0.0177
		Apr-14		< 0.0100	< 0.020	0.00506	0.0106	< 0.00100	0.0618 J	< 0.000700	0.195	< 0.0000400	0.00498 J	0.0245	0.0176
		Nov-14		< 0.031	0.12	0.0045	0.013	< 0.00054 B	0.056 J	< 0.00024 B	0.093	< 0.000049	0.0025	0.013	0.017
	MW-56	Apr-12	FD		0.08	0.00607	0.0132	< 0.00500	< 0.200	< 0.00500	0.326			< 0.00500	
		Apr-12			0.071	0.00623	0.0135	< 0.00500	< 0.200	< 0.00500	0.328			< 0.00500	
		Oct-12			< 0.050	0.00764	0.0126	< 0.00500	< 0.200	< 0.00500	0.331			< 0.00500	
		Apr-13			0.21	0.00715	0.0128	< 0.00500	< 0.200	< 0.00500	0.333			0.005	
		Oct-13			0.078	0.00668	0.0135	< 0.00500	< 0.200	< 0.00500	0.33			< 0.00500	
		Apr-14			0.29	0.00689	0.0137	< 0.00100	< 0.0500	0.000927 J	0.36			0.00495 J	
		Nov-14			0.8	0.0067	0.014	< 0.00054 B	0.061 J	< 0.00024 B	0.35			0.0031	
	MW-108	Apr-12			0.98	< 0.00500	0.0426	< 0.00500	< 0.200	< 0.00500	0.0277			< 0.00500	
		Oct-12			2.9	< 0.00500	0.0467	< 0.00500	< 0.200	< 0.00500	0.037			< 0.00500	
		Apr-13			4.2	< 0.00500	0.0425	< 0.00500	0.261	< 0.00500	0.0195			< 0.00500	
		Oct-13			3.6	0.00869	0.0792	0.00547	< 0.200	< 0.00500	0.0551			< 0.00500	
		Apr-14			3	0.00320 J	0.046	0.00333 J	0.31	0.00196 J	0.0338			0.00115 J	
		Nov-14			7.7	0.0061	0.049	< 0.00054 B	< 0.05	< 0.00024 B	0.045			0.0012 J	
	NCL-31	Apr-12			0.4	0.00816	0.062	< 0.00500	0.741	< 0.00500	1.41			< 0.00500	
		Oct-12			0.68	0.00969	0.028	< 0.00500	0.951	0.00523	1.7			< 0.00500	
		Apr-13			1.1	0.0112	0.0246	< 0.00500	0.939	< 0.00500	1.78			< 0.00500	
		Oct-13			1.3	0.0103	0.0254	< 0.00500	0.866	< 0.00500	1.76			< 0.00500	
		Apr-14			0.65	0.011	0.0229	< 0.00100	1.02	0.00104 J	1.83			0.00110 J	
		Nov-14			2	0.026	0.021	< 0.00054 B	0.95	< 0.00024 B	2			0.00059 J	
	NCL-32	Nov-14			2.3	0.013	0.2	0.0084	1.4	< 0.00024 B	0.47			0.00044 J	
	NCL-33	Apr-12			0.6	< 0.00500	0.0237	< 0.00500	1.53	< 0.00500	0.0949			< 0.00500	
		Oct-12			2	< 0.00500	0.026	< 0.00500	2.36	< 0.00500	0.0944			< 0.00500	
		Apr-13			2.1	< 0.00500	0.0282	< 0.00500	2.92	< 0.00500	0.0814			< 0.00500	
		Oct-13			2.4	< 0.00500	0.0302	< 0.00500	2.98	< 0.00500	0.0872			< 0.00500	
		Apr-14			1.2	0.00230 J	0.0246	< 0.00100	2.98	< 0.000700	0.0896			0.00142 J	
		Nov-14			3.7	0.0019 J	0.032	< 0.00054 B	3.6	< 0.00024 B	0.11			0.00067 J	
	NCL-34A	Oct-13			5.7	< 0.00500	1.05	< 0.00500	< 0.200	< 0.00500	0.0582			< 0.00500	
		Nov-14			5.3	0.00042 J	0.26	0.00078 J	< 0.05	0.00066 J	0.053			< 0.00038	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:		TPH					Metals									
Area	Location	Date	Dup	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
				---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631	
		CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW		
NCL	NCL-44	Apr-12			0.56	0.0478	0.0282	< 0.00500	1.43	< 0.00500	0.646			< 0.00500		
		Oct-12			2.1	0.0562	0.0306	< 0.00500	1.8	< 0.00500	0.732			< 0.00500		
		Apr-13			2.5	0.0405	0.036	0.00527	1.77	< 0.00500	0.694			< 0.00500		
		Oct-13			3	0.0393	0.0302	< 0.00500	1.3	< 0.00500	0.658			< 0.00500		
		Apr-14			1.5	0.0383	0.0276	< 0.00100	1.25	< 0.000700	0.656			0.00122 J		
		Nov-14			3.9	0.042	0.031	< 0.00054 B	1.2	0.00064 J	0.68			0.00065 J		
	NCL-49	Apr-12			< 0.050	< 0.00500	0.0114	< 0.00500	< 0.200	< 0.00500	< 0.00500			< 0.00500		
		Oct-12	FD		< 0.051	< 0.00500	0.0116	< 0.00500	< 0.200	< 0.00500	< 0.00500			0.0065		
		Oct-12			< 0.051	< 0.00500	0.0113	< 0.00500	< 0.200	< 0.00500	< 0.00500			0.00756		
		Apr-13			< 0.052	< 0.00500	0.0116	< 0.00500	< 0.200	< 0.00500	< 0.00500			< 0.00500		
		Oct-13			< 0.051	< 0.00500	0.012	< 0.00500	< 0.200	< 0.00500	0.00745			< 0.00500		
		Apr-14			< 0.020	0.00187 J	0.0115	< 0.00100	< 0.0500	< 0.000700	< 0.00250			0.00451 J		
		Nov-14			0.042 J	0.0014 J	0.012	< 0.00054 B	< 0.05	< 0.00024 B	0.0011 J			0.0032		
		Nov-14	FD		0.028 J	0.0016 J	0.011	< 0.00054 B	< 0.05	< 0.00024 B	0.0015 J			0.0026		
S Refinery	KWB-2R	Nov-14			5.5	0.0053	0.089	0.00060 J	0.57	0.0039	0.31			0.00048 J		
	KWB-5	Oct-13			12.6	1.3	0.0238	3.73	< 0.00500	4.79	< 0.00500	2.17		< 0.00500		
		Nov-14				1.8	0.024	3.7	0.00059 J	5.4	0.00042 J	2.3		0.00082 J		
	KWB-6	Nov-14				1.8	0.0095	0.16	0.00073 J	0.77	0.0010 J	2.2		0.0013 J		
	MW-28	Apr-12			4.49	1.7	< 0.00500	0.0396	< 0.00500	0.31	0.0165	0.0792	< 0.000200	< 0.00500	< 0.00500	< 0.00500
		Oct-12			6.73	2.7	< 0.00500	0.0382	< 0.00500	< 0.200	0.0061	0.0514	< 0.000200	0.0058	< 0.00500	< 0.00500
		Apr-13			6.08	2.7	< 0.00500	0.0492	< 0.00500	< 0.200	< 0.00500	0.0354	< 0.000200	0.00718	< 0.00500	< 0.00500
		Oct-13			6.19	3.1	< 0.00500	0.0663	< 0.00500	< 0.200	< 0.00500	0.0408	< 0.000200	0.00764	< 0.00500	< 0.00500
		Apr-14			6.32	3	0.00429 J	0.142	< 0.00100	< 0.0500	< 0.000700 B	0.0397	< 0.0000400	0.00817	< 0.00100	< 0.000900 B
		Nov-14			16	3.7	0.0067	0.1	0.0017 B	0.073 J	0.0045	0.1	< 0.000049	0.0056	0.0020 J	0.0099
	MW-48	Nov-14			4.5 J	4	0.033	0.35	0.0031	1.4	0.012	2		0.0014 J		
	MW-50	Apr-12			< 0.050	< 0.00500	0.015	< 0.00500	< 0.200	< 0.00500	1.05			< 0.00500		
		Oct-12			0.14	< 0.00500	0.0178	< 0.00500	< 0.200	< 0.00500	1.32			< 0.00500		
		Apr-13			0.16	< 0.00500	0.0198	< 0.00500	< 0.200	< 0.00500	1.31			< 0.00500		
		Oct-13			< 0.052	< 0.00500	0.024	< 0.00500	0.43	< 0.00500	1.47			< 0.00500		
		Apr-14			0.12	< 0.00100	0.0199	< 0.00100	0.123 J	0.00124 J	1.32			< 0.00100		
		Nov-14			0.36 J	0.0042	0.024	0.00060 J	3.7	0.0010 J	1.5			0.00040 J		
	MW-52	Apr-12			< 0.0500	< 0.050	< 0.00500	0.00947	< 0.00500	< 0.200	< 0.00500	0.0786	< 0.000200	< 0.00500	< 0.00500	0.024
		Oct-12			< 0.0500	< 0.051	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	0.0499	< 0.000200	< 0.0100	< 0.0100	0.0226
		Apr-13			< 0.0500	0.24	< 0.0100	0.00906	< 0.00500	< 0.200	< 0.00500	0.0726	< 0.000200	< 0.0100	< 0.00500	0.0251
		Oct-13	FD		< 0.0500	< 0.052	< 0.00500	0.0114	< 0.00500	< 0.200	< 0.00500	0.0344	< 0.000200	< 0.00500	< 0.00500	0.0258
		Oct-13			< 0.0500	0.14	< 0.00500	0.0114	< 0.00500	< 0.200	< 0.00500	0.0296	< 0.000200	< 0.00500	< 0.00500	0.0267
		Apr-14	FD		0.0263 J	0.33	0.00349 J	0.00988	0.00143 J	0.0709 J	< 0.000700	0.0324	< 0.0000400	0.00206 J	0.00124 J	0.0238
Apr-14				0.0223 J	0.17	0.00373 J	0.00923	< 0.00100	< 0.0500	< 0.000700	0.036	< 0.0000400	0.00268 J	0.00103 J	0.0236	
Nov-14				0.032 J	0.28 J	0.0033	0.0097	0.00057 J	< 0.05	0.00076 J	0.06	< 0.000049	0.0067	0.002	0.025	
MW-65		Nov-14			27	15	0.058	0.37	0.00074 J	8.6	0.0019 J	2.2		0.00042 J		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	TPH				Metals							
				GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:
				---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
				CGWSL Source:	NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW
S Refinery	MW-66	Apr-12		2.51	0.81	< 0.00500	1.69	< 0.00500	< 0.200	< 0.00500	0.303	< 0.000200	0.00959	< 0.00500	< 0.00500
		Oct-12		11.6	1.7	< 0.00500	1.79	< 0.00500	0.462	< 0.00500	0.309	< 0.000200	0.011	< 0.00500	< 0.00500
		Apr-13		7.57	2.4	< 0.00500	1.93	< 0.00500	0.54	< 0.00500	0.283	< 0.000200	0.00959	< 0.00500	< 0.00500
		Oct-13	FD	10.9	3.2 J	< 0.00500	1.89	< 0.00500	0.56	< 0.00500	0.303	< 0.000200	0.0091	< 0.00500	< 0.00500
		Oct-13		10.7	1.4 J	< 0.00500	1.99	< 0.00500	0.601	< 0.00500	0.306	< 0.000200	0.00981	< 0.00500	< 0.00500
		Apr-14		6.64	2.1	0.00300 J	1.9	< 0.00100	0.397 J	< 0.000700	0.335	< 0.0000400	0.00657	< 0.00100	< 0.000900
		Nov-14		23	3.3	0.0029	2.2	0.00076 J	1.4	0.0026	0.28	< 0.000049	0.0068	0.0015 J	0.00084 J
		MW-99	Nov-14		14	2.5	0.012	0.43	0.0019	1.2	0.0038	0.29		< 0.00038	
		MW-101	Apr-12		9.61	0.7	0.0152	0.108	< 0.00500	0.678	< 0.00500	1.01		< 0.00500	
	Oct-12			3.17	2.4	0.0194	0.085	< 0.00500	0.928	< 0.00500	0.914		< 0.00500		
	Apr-13			6.76	3.5	0.00878	0.111	< 0.00500	0.294	< 0.00500	0.835		< 0.00500		
	Oct-13			1.05	3.7	0.0689	0.0563	< 0.00500	2.75	< 0.00500	1.23		< 0.00500		
	Apr-14			4.56	4.3	0.0320 J	< 0.000900 B	< 0.00100	1.42 J	< 0.000700	1.12		< 0.00100		
		MW-102	Nov-14		1.4	5.3	0.049	0.089	0.00061 J	1.8	0.0065 J	0.98		0.0012 J	
		MW-103	Apr-12		36	9.5	0.012	0.25	0.0016	0.1 J	0.0026	0.049		0.0013 J	
	Apr-13			2.44	0.82	< 0.00500	0.646	< 0.00500	< 0.200	< 0.00500	0.0059		< 0.00500		
		MW-104	Apr-13		3.31	5.4	< 0.00500	0.823	< 0.00500	< 0.200	< 0.0100	< 0.00500		< 0.00500	
	Apr-14			1.43 J	5.9	0.00270 J	1.47	< 0.00100 B	< 0.0500	< 0.000700 B	0.00278 J		< 0.00100		
	Apr-12			0.692	0.19	< 0.00500	0.0155	< 0.00500	< 0.200	< 0.00500	0.025		< 0.00500		
	Oct-12			0.692	0.93	< 0.00500	0.0214	< 0.00500	< 0.200	< 0.00500	0.0272		< 0.00500		
	Apr-13			1.14	0.99	< 0.00500	0.019	< 0.00500	< 0.200	< 0.00500	0.0255		< 0.00500		
	Oct-13			0.993	0.6	< 0.00500	0.0245	< 0.00500	< 0.200	< 0.00500	0.0274		< 0.00500		
	Apr-14		FD	1.42	0.69	< 0.00100	0.0188	< 0.00100	< 0.0500	< 0.000700	0.0216		< 0.00100 B		
		MW-105	Apr-14		1.42	0.72	< 0.00100	< 0.000900 B	< 0.00100	< 0.0500	< 0.000700	0.038		< 0.00100	
	Nov-14		FD	1.4	0.62	0.0017 J	0.029	0.00075 J	< 0.05	< 0.00024	0.032		0.00095 J		
	Nov-14			1.3 J	0.7	0.0018 J	0.03	< 0.00054	< 0.05	< 0.00024	0.031		< 0.00038		
		MW-106	Nov-14		14	7.8	0.011	0.12	0.0027	0.87	0.0025	0.27		0.012	
	Apr-12			23.4	2.2	< 0.00500	0.0193	< 0.00500	< 0.200	< 0.00500	< 0.00500		< 0.00500		
	Oct-12			8.84	2.1	< 0.00500	0.0434	< 0.00500	< 0.200	< 0.00500	0.0321		< 0.00500		
	Apr-13			26.1	6.1	0.00686	0.0293	< 0.00500	0.416	0.014	0.0174		< 0.00500		
	Oct-13			27.8	3.7	0.0083	0.029	< 0.00500	< 0.200	0.00728	0.0144		< 0.00500		
		MW-107	Apr-14		27.9	2.1	0.00755	0.03	0.00115 J	0.101 J	0.00337 J	0.0124		0.00320 J	
	Apr-12		FD	14.4	2	0.00944	2.1	< 0.00500	8.75	< 0.00500	0.328		< 0.00500		
	Apr-12			14.7	1.9	0.00868	1.89	< 0.00500	7.94	< 0.00500	0.367		< 0.00500		
	Oct-12			21	4.4	0.0116	2.91	< 0.00500	10.5	< 0.00500	0.261		< 0.00500		
	Apr-13			21.3	5.9	0.00702	2.33	< 0.00500	9.24	< 0.00500	0.277		< 0.00500		
	Oct-13			21.4	6.2	0.0124	3.6	< 0.00500	11.9	< 0.00500	0.265		< 0.00500		
	Apr-14			7.32	4.9	0.00688	2.74	< 0.00100	10.1	< 0.000700	0.27		< 0.00100		
		MW-109	Nov-14		17	4.9	0.015	0.52	0.00097 J	3.8	0.0049 J	0.39		< 0.00038	
	Apr-12			3.31	0.39	0.0286	0.897	< 0.00500	2.19	< 0.00500	0.506		< 0.00500		
	Oct-12			0.793	0.54	0.0354	0.0681	< 0.0100	1.7	< 0.0100	3.03		< 0.0100		
	Apr-13			2.12	1.7	0.028	0.867	< 0.00500	1.3	< 0.00500	0.421		< 0.00500		
	Oct-13			1.01	0.93	0.0221	0.232	< 0.00500	0.573	< 0.00500	0.337		< 0.00500		
	Apr-14			2.02	2.7	0.0223	0.562	0.00194 J	1.64	< 0.000700	0.345		< 0.00100		
			Nov-14		1	3.7	0.0077	0.094	0.00076 J	0.46	< 0.00024	0.18		< 0.00038	

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH				Metals								
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
S Refinery	MW-110	Apr-12		1.03	0.13	0.035	0.0822	< 0.00500	1.67	< 0.00500	2.64		< 0.00500			
		Oct-12		1.33	1.4	0.0269	0.608	< 0.0100	0.798	< 0.0100	0.417		< 0.0100			
		Apr-13		0.892	0.73	0.0386	0.067	< 0.00500	1.56	< 0.00500	2.34		< 0.00500			
		Oct-13		0.329	0.25	0.0367	0.0643	< 0.00500	1.26	< 0.00500	2.25		< 0.00500			
		Apr-14		2.05	1.2	0.0281	0.0599	< 0.00100	1.32	< 0.000700	1.44		< 0.00100			
	Nov-14		0.47	0.82	0.051	0.048	0.00074 J	1.2	< 0.00024	1.8		0.00038 J				
	RA-313	Apr-12														
S RO Reject Field	MW-114*	Feb-13		< 0.05	< 0.052	0.00561	0.0204	< 0.005	< 0.2	< 0.005	1.51	< 0.0002	0.00651	0.0222 J		
		Nov-13		< 0.05	< 0.053	0.00539	0.0112	0.00119 J	0.167 J	< 0.005	0.035		0.00369 J	0.00451 J		
		Apr-14		< 0.0100	< 0.020	0.00292 J	0.0153	< 0.00100	0.0777 J	< 0.000700	1.2			< 0.00100 B		
		Nov-14		< 0.031	0.032 J	0.0031	0.026	0.0023	0.81	0.00055 J	1.2			0.0018 J		
	MW-115*	Feb-13		< 0.05	< 0.051	0.00499 J	0.0309	< 0.005	< 0.2	< 0.005	0.255	< 0.0002	0.00483 J	0.0081		
		Nov-13		< 0.05	< 0.051	0.00616	0.011	< 0.005	< 0.2	< 0.005	0.0249		0.00206 J	0.00506		
		Apr-14		< 0.0100	< 0.021	0.00444 J	0.0102	< 0.00100	0.0695 J	< 0.000700	0.0262			< 0.00100 B		
		Nov-14		< 0.031	0.11	0.0034	0.015	0.00086 J	0.13	0.00024 J	0.03			0.0028		
	MW-116*	Feb-13		< 0.05	< 0.051	0.00797 J	0.0161	< 0.005	< 0.2	< 0.005	0.0437	0.000131 J	0.0012 J	0.00203 J		
		Nov-13		< 0.05	< 0.054	0.00525	0.00989	< 0.005	< 0.2	< 0.005	0.0092		0.00245 J	0.00611		
		Nov-13	FD	< 0.05	< 0.053	0.00526	0.011	< 0.005	0.132 J	< 0.005	0.00576		0.00144 J	0.00582		
		Apr-14		< 0.0100	< 0.021	0.00442 J	0.0102	< 0.00100	0.108 J	< 0.000700	0.00627			< 0.00100 B		
	TEL	MW-49	Apr-12	FD	2.49	1.5	0.00616	0.0438	< 0.00500	< 0.200	< 0.00500	0.272	< 0.000200	0.00969	< 0.00500	< 0.00500
			Apr-12		2.52	1.4	0.00626	0.0449	< 0.00500	< 0.200	< 0.00500	0.284	< 0.000200	0.0106	< 0.00500	< 0.00500
			Oct-12		2.04	4.3	0.00645	0.0444	< 0.00500	< 0.200	< 0.00500	0.282	< 0.000200	0.0107	< 0.00500	< 0.00500
Apr-13			FD	1.9	5.1	0.00556	0.0404	< 0.00500	< 0.200	< 0.00500	0.289	< 0.000200	0.00841	< 0.00500	< 0.00500	
Apr-13				1.9	5	0.00553	0.039	< 0.00500	< 0.200	< 0.00500	0.29	< 0.000200	0.00825	< 0.00500	< 0.00500	
Oct-13				2.79	2.6	< 0.00500	0.0511	< 0.00500	< 0.200	< 0.00500	0.245	< 0.000200	0.00904	< 0.00500	< 0.00500	
Apr-14				1.99	5.6	0.00457 J	0.0409	< 0.00100	< 0.0500	< 0.000700	0.302	< 0.0000400	0.00856	0.00113 J	< 0.000900 B	
Nov-14			1	7	0.0055	0.1	0.0082	3.4	0.012	0.33	< 0.000049	0.02	0.0019 J	0.011		
TEL-1		Apr-11			0.28	2.4 J	< 0.025	< 0.025	< 0.025	< 1	< 0.025	0.0796		< 0.025		
		Sep-11			0.173	1.8	< 0.0250	< 0.0250	< 0.0250	< 1.00	< 0.0250	0.0564		< 0.0250		
		Apr-12	FD		0.275	2	0.00824	0.0127	< 0.00500	< 0.200	< 0.00500	0.0767		< 0.00500		
		Apr-12			0.29	2.4	0.00909	0.0134	< 0.00500	< 0.200	0.0103	0.0807		< 0.00500		
		Oct-12	FD		0.286	5.6	0.00658	0.0148	< 0.00500	< 0.200	< 0.00500	0.142		< 0.00500		
		Oct-12			0.335	5.6	0.00564	0.0167	< 0.00500	< 0.200	< 0.00500	0.14		< 0.00500		
		Apr-13			0.218	5.1	< 0.00500	0.0125	< 0.00500	< 0.200	< 0.00500	0.153		< 0.00500		
	Oct-13			0.276	3.9	< 0.00500	0.013	< 0.00500	< 0.200	< 0.00500	0.114		< 0.00500			
	Apr-14	FD		0.35	7.7	0.00372 J	0.0108 J	< 0.00100	< 0.0500	< 0.000700	0.0751 J		< 0.00100 B			
	Apr-14			0.384 J	8.7	0.00402 J	0.0117	< 0.00100	< 0.0500	0.00109 J	0.0827		< 0.00100 B			
Nov-14			0.2	6	0.0026	0.011	0.00090 J	< 0.05	< 0.00024	0.14		< 0.00038				
TEL-2	Apr-12			4.73	3.8	0.0104	0.0795	< 0.00500	< 0.200	< 0.00500	0.0136		< 0.00500			
	Oct-12			5.85	9.3	0.0106	0.0677	< 0.0100	< 0.400	< 0.0100	0.0259		< 0.0100			
	Apr-13			6.51	12	0.0119	0.0652	< 0.00500	< 0.200	< 0.00500	0.0149		< 0.00500			
	Oct-13			6.19	7.5	0.0109	0.0608	< 0.00500	< 0.200	< 0.00500	0.0189		< 0.00500			
	Apr-14			6.08 J	17	0.0115	0.0729	0.00127 J	< 0.0500	0.00248 J	0.00988		0.00593			
	Nov-14			1.7 J	18	0.012	0.11	0.0017	< 0.05	0.0024	0.013		0.0011 J			

Table 4 - Analytical Summary Table2014

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	TPH		Metals										
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:	NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW					
TEL	TEL-3	Apr-12		0.667	0.97	< 0.00500	0.0116	< 0.00500	< 0.200	< 0.00500	0.00841		< 0.00500			
		Oct-12		0.644	3.2	< 0.00500	0.0161	< 0.00500	< 0.200	< 0.00500	0.0241		< 0.00500			
		Apr-13		0.715	4	< 0.00500	0.0135	< 0.00500	< 0.200	< 0.00500	0.0123		< 0.00500			
		Oct-13		0.798	1.9	< 0.00500	0.0161	< 0.00500	< 0.200	< 0.00500	0.0197		< 0.00500			
		Apr-14		0.971 J	8.3	0.00330 J	0.0147	0.00723	0.0610 J	< 0.000700	0.0122		< 0.00100 B			
		Nov-14		0.45	6.3	0.0013 J	0.012	0.0053	0.076 J	< 0.00024	0.015		< 0.00038			
	TEL-4	Apr-12		1.4	1.3	0.00966	0.0365	0.0396	0.42	0.00594	1.16		< 0.00500			
		Oct-12		1.7	2.3	0.0102	0.0371	0.151	0.708	< 0.00500	0.861		< 0.00500			
		Apr-13		2.61	4.7	0.0085	0.0299	0.146	1.22	< 0.00500	0.587		< 0.00500			
		Oct-13		3.02	2.6	0.0129	0.0475	0.0588	0.243	< 0.00500	0.763		< 0.00500			
		Apr-14		3.11 J	8.6	0.0128	0.0376	0.223	0.0921 J	< 0.000700 B	0.408		0.00103 J			
		Nov-14	FD	2.8	5.7	0.01	0.042	0.51	0.13	< 0.00024 B	0.28		< 0.00038			
		Nov-14		3.3	7.4	0.01	0.043	0.38	0.093 J	< 0.00024 B	0.29		< 0.00038			
		TMD	MW-8	Apr-12		< 0.0500	< 0.050	0.00666	0.0131	0.0265	< 0.200	< 0.00500	0.65		0.313	
Oct-12				< 0.0500	< 0.051	< 0.0100	0.0126	0.0129	< 0.400	< 0.0100	0.625		0.339			
Apr-13				< 0.0500	< 0.053	0.0105	0.0123	0.262	0.838	< 0.0100	0.567		0.233			
Oct-13				< 0.0500	< 0.052	0.00929	0.0123	0.0986	0.307	< 0.00500	0.584		0.158			
Apr-14				< 0.0100	< 0.021	0.00884 J	0.0114	0.0212	< 0.100	< 0.00140	0.557		0.0237			
MW-16	Apr-12				< 0.050	< 0.00500	0.0163	< 0.00500	< 0.200	< 0.00500	0.177		< 0.00500			
	Apr-13				< 0.052	< 0.0100	0.0162	< 0.0100	< 0.400	< 0.0100	0.052		< 0.0100			
	Apr-14				0.058	0.00470 J	0.0151	< 0.00200	< 0.100	< 0.00140	0.244		0.00322 J			
MW-20	Apr-12				< 0.050	0.00696	0.00904	< 0.00500	< 0.200	< 0.00500	0.144		0.0109			
	Apr-13				< 0.053	< 0.0100	0.0101	< 0.0100	< 0.400	< 0.0100	0.251		0.016			
	Apr-14		FD		< 0.020	0.00865 J	0.0103	< 0.00200	< 0.100	< 0.00140	0.08		0.017			
MW-21	Apr-14				< 0.020	0.00750 J	0.00905 J	< 0.00200	< 0.100	< 0.00140	0.0906		0.0179			
	Apr-12				< 0.0500	< 0.050	0.00588	0.00886	< 0.00500	< 0.200	< 0.00500	0.509		0.0291		
	Oct-12				< 0.0500	< 0.051	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	0.897		0.029		
	Apr-13				< 0.0500	< 0.052	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	0.345		0.0305		
	Oct-13		FD		< 0.0500	< 0.053	0.00554	0.0079	< 0.00500	< 0.200	< 0.00500	0.629		0.0192		
	Oct-13				< 0.0500	< 0.051	0.0053	0.00844	< 0.00500	< 0.200	< 0.00500	0.614		0.0195		
	Apr-14				< 0.0100	< 0.020	0.00724 J	0.00373 J	< 0.00200	< 0.100	< 0.00140	0.432		0.0259		
MW-25	Nov-14				< 0.031	0.092 J	0.0054	0.008	0.00078 J	< 0.05	< 0.00024	0.82		0.018		
	Apr-12				< 0.050	< 0.00500	0.0109	< 0.00500	< 0.200	< 0.00500	0.152		< 0.00500			
	Apr-13				< 0.052	< 0.0100	0.0121	< 0.0100	< 0.400	< 0.0100	0.129		< 0.0100			
MW-26	Apr-14				< 0.020	0.00502 J	0.0265	< 0.00500	< 0.250	< 0.00350	1.09		< 0.00500			
	Apr-12				< 0.050	< 0.00500	0.00835	< 0.00500	< 0.200	< 0.00500	0.103		0.00733			
	Apr-13				< 0.053	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	0.212		< 0.0100			
	Apr-14				< 0.020	0.00413 J	0.00878 J	< 0.00200	< 0.100	< 0.00140	0.731		0.0241			
MW-27	Apr-12															
	Apr-12				< 0.050	< 0.00500	0.0166	< 0.00500	< 0.200	< 0.00500	0.00517		0.0167			
	Apr-13				< 0.052	< 0.00500	0.0145	< 0.00500	< 0.200	< 0.00500	0.0102		0.0199			
Apr-14				< 0.021	0.00249 J	0.0166	< 0.00100	< 0.0500	< 0.000700	0.00554		0.0192				

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	TPH		Metals										
				Analyte:	GRO	DRO	Arsenic	Barium	Chromium	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium
				Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
				CGWSL:	---	0.2	0.01	1	0.05	1	0.015	0.2	0.002	0.2	0.05	0.0631
CGWSL Source:		NMED TPH	USEPA MCL	WQCC HH	WQCC HH	WQCC Dom	USEPA MCL	WQCC Dom	USEPA MCL	WQCC Irr	USEPA MCL	NMED TW				
TMD	MW-46R	Apr-12		< 0.050	< 0.00500	0.0114	< 0.00500	< 0.200	< 0.00500	0.0155			0.0129			
		Oct-12		0.13	< 0.00500	0.0137	< 0.00500	< 0.200	< 0.00500	0.0476			0.0103			
		Apr-13		< 0.052	< 0.00500	0.0121	< 0.00500	< 0.200	< 0.00500	0.0423			0.00735			
		Oct-13		< 0.052	< 0.00500	0.0148	< 0.00500	< 0.200	< 0.00500	0.0809			< 0.00500			
		Apr-14		< 0.021	0.00338 J	0.0259	0.00222 J	0.621	< 0.000700	0.0998			< 0.00100 B			
		Nov-14		0.042 J	0.0042	0.024	0.0028	1.1	0.00093 J	0.14			0.0034			
	MW-68	Apr-12		< 0.050	< 0.00500	0.0162	< 0.00500	< 0.200	< 0.00500	< 0.00500			0.033			
		Apr-13		< 0.052	< 0.00500	0.0147	< 0.00500	0.279	< 0.00500	< 0.00500			0.0314			
		Apr-14		< 0.020	0.00325 J	0.0142	< 0.00200	< 0.100	< 0.00140	< 0.00500			0.0248			
	MW-71	Apr-12		< 0.050	< 0.00500	0.00922	< 0.00500	< 0.200	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.0329	0.0224		
		Sep-12		< 0.051	< 0.00500	< 0.0100	< 0.00500	< 0.200	< 0.0100	< 0.00500	< 0.000200	< 0.00500	0.0444	0.0248		
		Apr-13	FD	< 0.052	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	< 0.0100	< 0.000200	< 0.0100	0.0396	0.0254		
		Apr-13		< 0.051	< 0.0100	< 0.0100	< 0.0100	< 0.400	< 0.0100	< 0.0100	< 0.000200	< 0.0100	0.0398	0.0245		
		Oct-13		0.096	0.00536	0.00969	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0417	0.0251		
	MW-89	Apr-12		< 0.021	0.00458 J	0.0086	< 0.00100	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	0.00123 J	0.0452	0.0252		
		Apr-12		0.13	0.0101	0.0161	< 0.00500	< 0.200	< 0.00500	0.478			0.0361			
		Apr-13		0.058	0.0132	0.0134	< 0.00500	< 0.200	< 0.00500	0.67			< 0.00500			
	NP-1	Apr-12														
		Sep-12														
		Apr-13		0.158	< 0.053											
Oct-13																
Apr-14																
Nov-14																
NP-2	Apr-13		< 0.0500	< 0.052												
NP-6	Apr-12															
Upgradient	UG-1	Apr-12		< 0.0500	< 0.050	< 0.00500	0.0212	< 0.00500	0.54	< 0.00500	0.00614	< 0.000200	< 0.00500	0.00553	0.0117	
		Apr-13		< 0.0500	< 0.053	< 0.00500	0.0137	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.0111	
		Apr-14		< 0.0100	< 0.021	0.00158 J	0.0128	0.00159 J	0.0832 J	< 0.000700	0.00575	< 0.0000400	0.00121 J	0.00728	0.0135	
	UG-2	Apr-12		< 0.0500	< 0.050	< 0.00500	0.0655	< 0.00500	1.4	< 0.00500	0.161	< 0.000200	0.0107	< 0.00500	0.021	
		Apr-13	FD	< 0.0500	< 0.053	< 0.00500	0.0182	< 0.00500	< 0.200	< 0.00500	0.0711	< 0.000200	0.0121	0.00581	0.0166	
		Apr-13		< 0.0500	< 0.052	< 0.00500	0.0172	< 0.00500	< 0.200	< 0.00500	0.0801	< 0.000200	0.0125	< 0.00500	0.0148	
	UG-3R	Apr-14		< 0.0100	< 0.020	0.00385 J	0.0167	< 0.00100	0.673	< 0.000700	0.488	< 0.0000400	0.0256	0.00209 J	0.0082	
		Apr-12	FD	< 0.0500	< 0.050	< 0.00500	0.0168	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.00802	
		Apr-12		< 0.0500	< 0.050	< 0.00500	0.016	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.00794	
		Apr-13		< 0.0500	< 0.053	< 0.00500	0.0149	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	0.00815	
		Apr-14	FD	< 0.0100	< 0.020	0.00167 J	0.0163	< 0.00100	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	< 0.00100	0.0064	0.0101	
	Apr-14		< 0.0100	< 0.020	0.00184 J	0.017	< 0.00100	< 0.0500	< 0.000700	< 0.00250	< 0.0000400	< 0.00100	0.00534	0.0109		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
EP	MW-22B	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	0.0065	< 0.0050	< 0.0050	< 0.0050	< 0.015
	MW-70	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-72	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-73	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		0.0053	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.0021 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0016 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-74	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.0019 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-75	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	0.0011 J	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0047 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-76	Nov-14		< 0.0019	< 0.0018	< 0.0016	< 0.0019	< 0.0016	< 0.0050	< 0.0019	0.0028 J	< 0.0050	< 0.0017	< 0.0039	< 0.0053
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	0.0063	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	0.0059	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	MW-77	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0037 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		0.0026 J	< 0.0018	0.0049 J	< 0.0019	< 0.0016	< 0.0050	< 0.0019	0.013	< 0.0050	< 0.0017	< 0.0039	< 0.0053
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.050	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.075
		Mar-13		< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.050	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025	< 0.075
	MW-78	Oct-13	FD	< 0.0050	< 0.0050	0.01	< 0.0050	< 0.0050	< 0.10	< 0.0050	0.0061	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	0.0086	< 0.0050	< 0.0050	< 0.10	< 0.0050	0.0064	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.0019 J	< 0.00050	0.0020 J	< 0.00060	< 0.00060	< 0.010	0.0016 J	0.0069	< 0.00070	< 0.00050	0.0011 J	0.0027 J
		Nov-14		0.0053	< 0.0018	0.019	< 0.0019	< 0.0016	< 0.0050	0.0072	0.0091	< 0.0050	0.0036 J	0.0073 J	0.01 J
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	Apr-14		< 0.00050	< 0.00050	0.0031 J	< 0.00060	< 0.00060	< 0.010	0.0013 J	< 0.00060	< 0.00070	0.0021 J	0.0014 J	0.0021 J	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
EP	MW-79	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-80	Mar-12		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-81	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Mar-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-82	Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-83	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Mar-12		0.006	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-84	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	0.00044 J	< 0.00037	< 0.0010	0.00087 J	0.0011 J	< 0.0011
		Mar-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0051	< 0.0050	< 0.0050	< 0.015	
		Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0068	< 0.0050	< 0.0050	< 0.015	
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.005	< 0.0050	< 0.0050	< 0.015	
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-87	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	0.00070 J	< 0.00038	< 0.00032	< 0.0010	0.00098 J	0.0025	< 0.0010	0.00055 J	< 0.00078	< 0.0011
		Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-88	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
		Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-120	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0026 J	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
EP	OCD-6	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	OCD-7AR	Mar-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14	FD	0.0016 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0018 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		0.0017 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0015 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	OCD-7B	Mar-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	OCD-8A	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0054	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0057	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0056	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	Field E of Refinery	KWB-1A	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050
Nov-14				< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
KWB-1C		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
KWB-7		Apr-12		< 0.0050	< 0.0050	0.28	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.02	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	0.0056	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.025	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.012	< 0.0050	< 0.0050	< 0.0050	< 0.015
	Nov-14		0.21	< 0.0036	0.077	< 0.0038	< 0.0032	< 0.01	0.073	0.013	0.03 J	0.015	< 0.0078	0.051	
KWB-10R	Nov-14		0.41	< 0.0090	5.1	< 0.0095	< 0.0081	< 0.025	0.4	5.2	0.19	0.32	0.18	1.2	
KWB-11A	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.009	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0075	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Nov-14	FD	0.047	< 0.00036	0.0072	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.0015	0.019	0.00068 J	< 0.00078	0.0022 J	
	Nov-14		0.052	< 0.00036	0.0078	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.0012	0.015	0.00076 J	< 0.00078	0.0025 J	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
Field E of Refinery	KWB-11B	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.23	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.00060	0.02	< 0.00060	0.011	< 0.00050	< 0.00050	0.0043 J
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	KWB-12A	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
		Nov-14	FD	< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	KWB-12B	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	KWB-P4	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	MW-57	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-14		< 0.00050	< 0.00050	0.0013 J	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0010 J	< 0.00050	< 0.00050	< 0.0015
	MW-58	Oct-13		0.093	< 0.050	2.5	< 0.050	< 0.050	< 0.10	0.073	0.37	0.067	< 0.050	< 0.050	< 0.15
		Nov-14		0.86	< 0.0090	7.4	< 0.0095	< 0.0081	< 0.025	2.4	< 0.0092	0.48	0.076	< 0.02	1.6
	MW-111	Apr-13		< 0.0050	< 0.0050	0.09	< 0.0050	< 0.0050	< 0.010	0.016	2.1	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		0.0053	< 0.0050	0.19	< 0.0050	< 0.0050	< 0.010	0.016	1.6	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.0021 J	< 0.00050	0.11	< 0.00060	< 0.00060	< 0.0010	0.0085	2	0.0016 J	0.0011 J	0.0011 J	0.0057 J
		Nov-14		0.0074	< 0.00036	0.18	< 0.00038	< 0.00032	< 0.0010	0.026	1.6 E	0.0064 J4	0.0052	0.0016 J	0.027
	MW-112	Nov-14		0.35	< 0.0090	8.5	< 0.0095	< 0.0081	< 0.025	0.97	1	0.2	0.6	0.73	2
	MW-113	Apr-13		< 0.0050	< 0.0050	0.095	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.024	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		0.0097	< 0.0050	0.64	< 0.0050	< 0.0050	< 0.010	0.19	0.02	< 0.0050	0.033	0.07	0.29
		Apr-14		0.058	< 0.00050	2.3	< 0.00060	< 0.00060	< 0.0010	0.4	0.01	< 0.00070	0.090 J	0.064	0.91
		Nov-14	FD	0.039	< 0.0036	1.2	< 0.0038	< 0.0032	< 0.01	0.0079 J	0.019	0.032 J	0.015	< 0.0078	0.1
		Nov-14		0.041	0.00052 J	1.5	< 0.00038	< 0.00032	< 0.0010	0.007	0.02	0.048 J4	0.016	0.0046 J	0.1
	MW-125	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010 J4	< 0.00034	< 0.00078	< 0.0011
	MW-126A	Apr-14		0.0030 J	< 0.00050	0.0034 J	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0013 J	0.0011 J	0.0022 J	0.0045 J
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	MW-126B	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	MW-127	Apr-14		0.29	< 0.00050	6.8	< 0.00060	< 0.00060	< 0.0010	0.93	1.4	0.14	0.33	2.4	0.87
		Nov-14		0.078	< 0.00036	1.8	< 0.00038	< 0.00032	< 0.0010	0.24	0.76	0.04	0.068	0.15	0.15

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
Field E of Refinery	MW-128	Apr-14		0.0095	< 0.00050	0.24	< 0.00060	< 0.00060	< 0.0010	0.043	1.3	0.012	< 0.00050	0.0019 J	0.014 J
		Nov-14		0.0028	< 0.00036	0.12	< 0.00038	< 0.00032	< 0.0010	0.012	0.95 E	0.0061	< 0.00034	0.00092 J	0.0055
	MW-129	Nov-14		0.014	< 0.0036	0.084	< 0.0038	< 0.0032	< 0.01	0.025	5.4 E	< 0.01	0.016	0.071	0.059
	MW-130	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.0012	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	MW-131	Apr-14		0.23	< 0.00050	3.1	< 0.00060	< 0.00060	< 0.0010	0.21	5.3	0.058	0.18	1.4	0.65
		Nov-14		0.058	< 0.0036	1.8	< 0.0038	< 0.0032	< 0.01	0.067	5.6 E	0.043 J	0.065	0.31	0.18
	MW-133	Nov-14		0.28	< 0.036	0.62	< 0.038	< 0.032	< 0.1	0.3	5.6	< 0.1	0.038 J	0.1 J	0.22 J
	MW-134	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	MW-135	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	RA-4196	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13	FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13	FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0026 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	RA-4798	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0053	< 0.0050	< 0.0050	< 0.0050	< 0.015
			FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.016	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Nov-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14	FD		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0027 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.01	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	RW-18	Apr-12	FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
					< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
N Refinery	MW-23	Apr-12		< 0.025	< 0.025	9.5	< 0.025	< 0.025	< 0.050	0.32	< 0.025	0.23	< 0.025	< 0.025	< 0.075
		Oct-12		< 0.025	< 0.025	12	< 0.025	< 0.025	< 0.050	0.29	< 0.025	0.22	< 0.025	< 0.025	< 0.075
		Apr-13		< 0.050	< 0.050	14	< 0.050	< 0.050	< 0.10	0.64	< 0.050	0.2	< 0.050	< 0.050	< 0.15
		Oct-13		< 0.050	< 0.050	15	< 0.050	< 0.050	< 0.10	0.35	< 0.050	0.16	< 0.050	< 0.050	< 0.15
		Apr-14		0.020 J	< 0.010	11	< 0.012	< 0.012	< 0.020	0.32	< 0.012	0.2	< 0.010	< 0.010	0.035 J
		Nov-14		0.37	< 0.018	15	< 0.019	< 0.016	< 0.05	0.19	0.019 J	0.12 J	0.17	0.52	1.1
	MW-29	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
MW-39	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0026 J	< 0.00050	< 0.00050	< 0.0015	
	Oct-13		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:		Volatile Organic Chemicals													
Area	Location	Date	Dup	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
				CGWSL:	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH
				CGWSL Source:	USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH
N Refinery	MW-40	Apr-12		< 0.0050	< 0.0050	0.017	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	0.021	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	0.011	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0028 J	< 0.00050	< 0.00050	0.0056 J
	MW-41	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0051	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	0.023	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0059	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	0.014	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	0.018	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0036 J	0.0026 J	< 0.00050	< 0.00050	< 0.0015
	MW-42	Apr-12		0.069	< 0.0050	0.45	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.025	< 0.0050	< 0.0050	< 0.0050	0.13
		Oct-12		0.054	< 0.0050	0.35	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.024	< 0.0050	< 0.0050	< 0.0050	0.095
		Apr-13		0.094	< 0.0050	0.62	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.028	0.0054	< 0.0050	< 0.0050	0.16
		Oct-13		0.11	< 0.0050	0.7	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.021	< 0.0050	< 0.0050	< 0.0050	0.22
		Apr-14		0.063	< 0.00050	0.54	< 0.00060	< 0.00060	< 0.0010	0.0030 J	0.022	0.0043 J	0.0011 J	0.0023 J	0.11
	MW-43	Apr-12		0.041	< 0.0050	0.52	< 0.0050	< 0.0050	< 0.010	0.013	< 0.0050	< 0.0050	0.019	0.044	0.2
		Oct-12	FD	0.043	< 0.0050	1.1	< 0.0050	< 0.0050	< 0.010	0.042	0.011	0.009	0.015	0.042	0.24
		Oct-12		0.043	< 0.0050	1.1	< 0.0050	< 0.0050	< 0.010	0.041	0.019	0.0096	0.015	0.042	0.24
		Apr-13		0.012	< 0.0050	0.083	< 0.0050	< 0.0050	< 0.010	0.0091	0.011	< 0.0050	0.0096	0.018	0.1
		Oct-13	FD	0.11	< 0.0050	1.6	< 0.0050	< 0.0050	< 0.010	0.065	0.0078	0.0096	0.015	0.045	0.38
		Oct-13		0.11	< 0.0050	1.5	< 0.0050	< 0.0050	< 0.010	0.061	0.0077	0.0099	0.015	0.044	0.37
		Apr-14		0.029	< 0.00050	0.35	< 0.00060	< 0.00060	< 0.0010	0.015	0.014	0.005	0.014	0.029	0.16
		Nov-14		0.027	< 0.0036	1.1	< 0.0038	< 0.0032	< 0.01	0.021	0.011	< 0.01	0.012	0.03 J	0.17
	MW-59	Apr-12		< 0.0050	< 0.0050	0.028	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	0.037	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	0.013	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-60	Apr-12		< 0.0050	< 0.0050	0.14	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.016
		Oct-12	FD	0.0067	< 0.0050	0.12	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		0.009	< 0.0050	0.14	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.017
		Apr-13	FD	< 0.0050	< 0.0050	0.12	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.019
		Apr-13		< 0.0050	< 0.0050	0.12	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.019
		Oct-13	FD	< 0.0050	< 0.0050	0.075	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	0.075	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.0029 J	< 0.00050	0.03	< 0.00060	< 0.00060	< 0.0010	0.0019 J	< 0.00060	0.0041 J	< 0.00050	< 0.00050	0.0063 J
	Nov-14		< 0.00037	< 0.00036	0.0032	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011	
	MW-61	Apr-12		0.22	< 0.0050	1.6	< 0.0050	0.16	< 0.010	0.097	< 0.0050	0.17	< 0.050	0.11	0.48
		Oct-12		0.16	< 0.025	2.8	< 0.025	0.15	< 0.050	0.11	< 0.025	0.094	< 0.025	0.14	0.44
		Apr-13		0.19	< 0.025	1.5	< 0.025	0.12	< 0.050	0.091	< 0.025	0.14	< 0.025	0.095	0.43
		Oct-13		0.2	< 0.025	1.7	< 0.025	0.069	< 0.050	0.099	< 0.025	0.12	< 0.025	0.096	0.41
		Apr-14		0.2	< 0.0025	1.6	< 0.0030	0.059	< 0.0050	0.11	< 0.0030	0.14	0.0041 J	0.093	0.42
	Nov-14		0.43	< 0.018	1.3	< 0.019	< 0.016	< 0.05	0.16	< 0.018	0.14 J	< 0.017	< 0.039	1.2	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals												
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62	
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
Area	Location	Date	Dup													
N Refinery	MW-62	Apr-12		0.11	< 0.0050	0.4	< 0.0050	< 0.0050	< 0.010	0.063	0.021	0.012	< 0.0050	< 0.0050	0.2	
		Oct-12		0.13	< 0.0050	0.62	< 0.0050	< 0.0050	< 0.010	0.1	0.032	0.018	< 0.0050	< 0.0050	0.26	
		Apr-13		0.088	< 0.0050	0.55	< 0.0050	< 0.0050	< 0.010	0.031	0.047	0.016	< 0.0050	< 0.0050	0.17	
		Oct-13		0.48	< 0.0050	0.87	< 0.0050	< 0.0050	< 0.010	0.53	< 0.0050	0.16	< 0.050	0.0079	1.9	
		Apr-14		0.27 E	< 0.0050	1	< 0.0060	< 0.0060	< 0.010	0.093	0.022 J	0.11	< 0.0050	0.0056	0.72	
		Nov-14		< 0.019	< 0.018	17	< 0.019	< 0.016	< 0.05	0.91	0.025 J	0.42 J4	< 0.017	< 0.039	0.08 J	
	MW-67	Oct-13		0.029	< 0.0050	0.19	< 0.0050	< 0.0050	< 0.010	0.051	0.51	0.0088	< 0.0050	< 0.0050	0.032	
		Nov-14		0.0050 J	< 0.0018	0.14	< 0.0019	< 0.0016	< 0.0050	0.005	0.46	0.0053 J	< 0.0017	< 0.0039	0.0084 J	
	MW-90	Apr-12	FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-12			< 0.0050	< 0.0050	0.0061	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-13			< 0.0050	< 0.0050	0.016	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14			< 0.00050	< 0.00050	0.0035 J	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	0.0025 J	< 0.00050	< 0.00050	< 0.0015
	MW-91	Nov-14			< 0.00037	< 0.00036	0.015	< 0.00038	< 0.00032	< 0.0010	0.00039 J	< 0.00037	0.0049 JJ4	0.00037 J	< 0.00078	< 0.0011
		Oct-13	FD		0.27	< 0.0050	1.6	< 0.0050	< 0.0050	< 0.010	0.048	< 0.0050	0.059	< 0.050	0.023	0.5
		Oct-13			0.26	< 0.0050	1.5	< 0.0050	< 0.0050	< 0.010	0.046	< 0.0050	0.055	< 0.050	0.023	0.47
		Apr-14			0.22	< 0.0025	2.2	< 0.0030	< 0.0030	< 0.0050	0.15	< 0.0030	0.062	0.036	0.41	0.58
		Nov-14			0.18 J	< 0.09	2.5	< 0.095	< 0.081	< 0.25	0.17 J	< 0.092	< 0.25	< 0.085	0.92 J	0.54 J
		Apr-12			0.26	< 0.0050	2	< 0.0050	< 0.0050	< 0.010	0.23	< 0.0050	0.13	< 0.050	0.043	0.55
	MW-93	Oct-12			0.23	< 0.0050	2.1	< 0.0050	< 0.0050	< 0.010	0.17	< 0.0050	0.15	< 0.050	0.037	0.51
		Apr-13			0.28	< 0.0050	2.1	< 0.0050	< 0.0050	< 0.010	0.05	< 0.0050	0.14	< 0.12	0.031	0.6
		Oct-13			0.3	< 0.0050	2	< 0.0050	< 0.0050	< 0.010	0.12	< 0.0050	0.14	< 0.050	0.031	0.56
		Apr-14			0.37	< 0.0025	1.8	< 0.0030	< 0.0030	< 0.0050	0.067	0.0059 J	0.12	0.015 J	0.019 J	0.61
		Nov-14			0.24	< 0.018	1.3	< 0.019	< 0.016	< 0.05	0.039 J	< 0.018	0.17 JJ4	< 0.017	< 0.039	0.45
	MW-94	Nov-14			0.54	< 0.0072	0.37	< 0.0076	< 0.0065	< 0.02	0.58	1.3	0.22	0.4	0.7	0.71
		Apr-12			< 0.0050	< 0.0050	0.0062	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-95	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
		Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	38	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-12			< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	< 0.050	37	< 0.050	< 0.050	< 0.050	< 0.15	
		Apr-13			< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	< 0.050	28	< 0.050	< 0.050	< 0.050	< 0.15	
		Oct-13			< 0.050	< 0.050	< 0.050	< 0.050	< 0.10	< 0.050	29	< 0.050	< 0.050	< 0.050	< 0.15	
		Apr-14			0.019 J	< 0.012	0.056 J	< 0.015	< 0.015	< 0.025	< 0.012	35	0.065 J	< 0.012	0.015 J	< 0.038
	MW-96	Nov-14			< 0.0093	< 0.0090	< 0.0083	< 0.0095	< 0.0081	< 0.025	< 0.0096	28 E	< 0.025	< 0.0085	< 0.02	< 0.026
		Apr-12			0.37	< 0.025	7.5	< 0.025	< 0.025	< 0.050	1.2	< 0.025	0.21	0.041	0.27	1.7
		Oct-12			0.46	< 0.050	8.3	< 0.050	< 0.050	< 0.10	1.1	< 0.050	0.17	< 0.050	0.33	2
		Apr-13			0.41	< 0.050	6.8	< 0.050	< 0.050	< 0.10	1	< 0.050	0.24	< 0.050	0.29	1.9
		Oct-13			0.42	< 0.050	5.8	< 0.050	< 0.050	< 0.10	1.2	< 0.050	0.22	< 0.050	0.32	1.9
		Apr-14	FD		0.46	< 0.0050	6.1	< 0.0060	< 0.0060	< 0.010	1	< 0.0060	0.21	0.033 J	0.32	2
	MW-98	Apr-14			0.44	< 0.0050	5.8	< 0.0060	< 0.0060	< 0.010	1	< 0.0060	0.23	0.031 J	0.3	1.9
		Nov-14			0.34	< 0.09	4.8	< 0.095	< 0.081	< 0.25	0.63	< 0.092	0.45 JJ4	< 0.085	0.28 J	1.6

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Analyte Group:				Volatile Organic Chemicals												
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.193	0.75	0.62		
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
Area	Location	Date	Dup													
N Refinery	RW-9	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-13		0.007	< 0.0050	1.1	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.015		
		Apr-14		0.0065	< 0.00050	0.68	< 0.00060	< 0.00060	< 0.0010	0.0015 J	0.0034 J	0.0075	< 0.00050	0.0019 J	0.024	
	RW-10	Apr-12			< 0.0050	1.3	< 0.0050	< 0.0050	< 0.010	0.0099	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.047	
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
	RW-16	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.0051	< 0.0050	< 0.0050	< 0.015		
		Apr-14	FD		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.012	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
	RW-17	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.013	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
		Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.016	< 0.0050	< 0.0050	< 0.015		
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	N RO Reject Field	MW-117*	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
			Nov-13			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002		< 0.001		
			Nov-14	FD		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078
			Nov-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078
MW-118*		Feb-13			0.0042		< 0.001	< 0.001		0.0024		< 0.0002		0.0047		
		Nov-13			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002		< 0.001			
		Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
MW-119*		Apr-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	
		Nov-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	
		Nov-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	
NCL		MW-18	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
			Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
			Apr-13	FD		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Oct-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-45	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	MW-53	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0043 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
		Nov-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.0048	< 0.0010	< 0.00034	< 0.00078	
		Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
			Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
			Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:		Volatile Organic Chemicals														
Area	Location	Date	Dup	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62	
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
NCL	MW-54A	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
	MW-54B	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011	
		MW-55	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Oct-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
MW-56	Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-14	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015		
	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015		
	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.00049 J	< 0.0010	< 0.00034	< 0.00078	< 0.0011		
	Apr-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
MW-108	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-12		0.029	< 0.0050	0.34	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	0.0078	< 0.0050	0.0057	0.041		
	Apr-13		0.03	< 0.0050	0.39	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.05		
	Oct-13		0.024	< 0.0050	0.43	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	0.011	< 0.0050	0.007	0.051		
	Apr-14		0.031	0.0098	0.39	0.009	0.0037 J	< 0.0010	0.0049 J	< 0.00060	0.0092	0.0028 J	0.0065	0.054		
NCL-31	Nov-14		0.039	< 0.0018	0.41	< 0.0019	< 0.0016	< 0.0050	0.0056	< 0.0018	0.012 J	0.0031 J	0.0078 J	0.059		
	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
NCL-32	Apr-14		< 0.00050	< 0.00050	< 0.00060	0.0094	< 0.00060	< 0.0010	< 0.00050	0.00060 J	0.0021 J	< 0.00050	< 0.00050	< 0.0015		
	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.00078 J	< 0.0010	< 0.00034	< 0.00078	< 0.0011		
	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
NCL-33	Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015		
	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011		
	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
NCL-34A	Oct-13		0.18	< 0.0050	1.9	< 0.0050	< 0.0050	< 0.010	0.25	< 0.0050	0.069	< 0.0050	< 0.0050	0.2		
	Nov-14		0.11	< 0.0018	0.27	< 0.0019	< 0.0016	< 0.0050	0.0048 J	< 0.0018	< 0.0050	< 0.0017	< 0.0039	0.1		

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Analyte Group:		Volatile Organic Chemicals															
Area	Location	Date	Dup	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes		
				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		
CGWSL:		USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
NCL	NCL-44	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-14		< 0.00050	< 0.00050	0.0011 J	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	0.0026 J	< 0.00050	< 0.00050	< 0.0015		
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.00058 J	< 0.0010	< 0.00034	< 0.00078	< 0.0011		
	NCL-49	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Oct-12	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015		
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011		
		S Refinery	KWB-2R	Nov-14		0.79	< 0.0090	4.4	< 0.0095	< 0.0081	< 0.025	2.9	0.034	0.51	0.031	0.035 J	0.74
			KWB-5	Oct-13		< 0.050	< 0.050	0.7	< 0.050	< 0.050	< 0.10	< 0.050	10	< 0.050	< 0.050	< 0.050	< 0.15
KWB-5	Nov-14			< 0.0037	< 0.0036	0.41	< 0.0038	< 0.0032	< 0.01	0.0095 J	9.9 E	0.023 J	< 0.0034	< 0.0078	< 0.011		
KWB-6	Nov-14			0.26	< 0.0036	5.1	< 0.0038	< 0.0032	< 0.01	0.81	0.16	0.098	0.2	0.53	1.1		
MW-28	Apr-12			< 0.0050	< 0.0050	0.78	< 0.0050	< 0.0050	< 0.010	< 0.010	0.24	2.7	0.014	0.0053	0.012	0.093	
	Oct-12			0.01	< 0.0050	0.75	< 0.0050	< 0.0050	< 0.010	0.016	4	0.016	< 0.0050	0.008	0.022		
	Apr-13			< 0.0050	< 0.0050	0.62	< 0.0050	< 0.0050	< 0.010	0.0053	3.9	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-13			< 0.0050	< 0.0050	0.58	< 0.0050	< 0.0050	< 0.010	< 0.0050	3.9	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-14			0.00069 J	< 0.00050	0.81	< 0.00060	< 0.00060	< 0.0010	0.0052	3.6	0.0042 J	0.00053 J	0.0053	0.0086 J		
MW-48	Nov-14			0.12	< 0.0090	3.3	< 0.0095	< 0.0081	< 0.025	0.15	2	0.06 J	< 0.0085	0.054 J	0.22		
MW-50	Nov-14			0.2	< 0.0090	0.14	< 0.0095	< 0.0081	< 0.025	0.075	1.1	0.028 J	0.01 J	0.03 J	0.13		
	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Oct-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015		
	Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015			
MW-52	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011			
	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015			
	Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015			
	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015			
	Oct-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015			
	Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015			
	Apr-14	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015			
	Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011			
MW-65	Nov-14		0.06	< 0.018	8.9	< 0.019	< 0.016	< 0.05	1.2	3.4	0.22 J	0.025 J	< 0.039	0.21			

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area		Location	Date	Dup	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Analyte Group:					Volatile Organic Chemicals												
Analyte:					1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Units:					mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:					0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62	
CGWSL Source:					USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
S Refinery	MW-66	Apr-12			< 0.0050	< 0.0050	0.54	< 0.0050	< 0.0050	< 0.010	0.0075	2.9	0.041	< 0.0050	< 0.0050	< 0.015	
		Oct-12			< 0.0050	< 0.0050	3	< 0.0050	< 0.0050	< 0.010	0.02	2.8	0.053	< 0.0050	0.0085	0.024	
		Apr-13			< 0.0050	< 0.0050	1.2	< 0.0050	< 0.0050	< 0.010	0.0074	2.9	0.081	< 0.0050	< 0.0050	< 0.015	
		Oct-13	FD		< 0.0050	< 0.0050	2.2	< 0.0050	< 0.0050	< 0.010	0.02	2.5	0.11	< 0.0050	0.0094	0.026	
		Oct-13			< 0.0050	< 0.0050	2.0 J	< 0.0050	< 0.0050	< 0.010	0.019	2.4	0.11	< 0.0050	0.0092	0.025	
		Apr-14			< 0.00050	< 0.00050	0.89	< 0.00060	< 0.00060	< 0.0010	0.0039 J	2.3	0.055	0.0014 J	0.0027 J	0.0069 J	
	Nov-14			0.012	< 0.0036	6.5	< 0.0038	< 0.0032	< 0.01	0.19	1.9	0.22 J4	0.015	0.052	0.12		
	MW-99	Nov-14			0.33	< 0.0036	2.6	< 0.0038	< 0.0032	< 0.01	0.59	3.4 E	0.044 J	0.15	0.58	0.84	
	MW-101	Apr-12				< 0.0050	< 0.0050	2.8	< 0.0050	0.016	< 0.010	0.081	0.07	< 0.0050	< 0.0050	0.017	0.038
		Oct-12				< 0.0050	< 0.0050	0.92	< 0.0050	< 0.0050	< 0.010	0.048	0.089	< 0.0050	< 0.0050	< 0.0050	0.019
Apr-13					< 0.0050	< 0.0050	2.1	< 0.0050	< 0.0050	< 0.010	0.054	0.093	< 0.0050	< 0.0050	0.0081	0.025	
Oct-13					< 0.0050	< 0.0050	0.19	< 0.0050	< 0.0050	< 0.010	0.025	0.086	< 0.0050	< 0.0050	< 0.0050	< 0.015	
Apr-14					0.0022 J	< 0.00050	1.1	< 0.00060	< 0.00060	< 0.0010	0.015	< 0.00060	0.0029 J	< 0.00050	0.0038 J	0.011 J	
Nov-14					< 0.0037	< 0.0036	0.22	< 0.0038	< 0.0032	< 0.01	0.0050 J	0.12	0.01 J4	< 0.0034	< 0.0078	< 0.011	
MW-102	Nov-14				0.26	< 0.018	11	< 0.019	< 0.016	< 0.05	0.99	2	0.18 J	0.54	2	1.8	
MW-103	Apr-12				< 0.0050	< 0.0050	0.4	< 0.0050	< 0.0050	< 0.010	0.14	< 0.0050	0.014	< 0.0050	< 0.0050	< 0.015	
	Apr-13				< 0.0050	< 0.0050	0.58	< 0.0050	< 0.0050	< 0.010	0.036	< 0.0050	0.013	< 0.0050	0.006	< 0.015	
	Apr-14				0.015	< 0.00050	0.76	< 0.00060	< 0.00060	< 0.0010	0.15	< 0.00060	0.051	0.0045 J	0.0094	0.017	
MW-104	Apr-12				< 0.0050	< 0.0050	0.024	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-12				< 0.0050	< 0.0050	0.065	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13				< 0.0050	< 0.0050	0.033	< 0.0050	0.041	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-13				< 0.0050	< 0.0050	0.076	< 0.0050	0.013	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14	FD			< 0.00050	< 0.00050	0.058	< 0.00060	0.14	0.021	0.0013 J	< 0.00060	0.0027 J	< 0.00050	< 0.00050	< 0.0015	
	Nov-14	FD			< 0.00050	< 0.00050	0.056	< 0.00060	0.14	0.02	0.0012 J	< 0.00060	0.0030 J	< 0.00050	< 0.00050	< 0.0015	
MW-105	Nov-14				< 0.0037	< 0.0036	0.11	< 0.0038	< 0.0032	< 0.01	< 0.0038	< 0.0037	< 0.01	< 0.0034	< 0.0078	< 0.011	
	Nov-14				< 0.00037	< 0.00036	0.094	< 0.00038	0.014	< 0.0010	0.0021	0.00049 J	0.0018 JJ4	< 0.00034	< 0.00078	< 0.0011	
	Nov-14				0.11 J	< 0.09	3.4	< 0.095	< 0.081	< 0.25	0.58	< 0.092	< 0.25	< 0.085	< 0.2	< 0.26	
MW-106	Apr-12				0.089	< 0.025	9.4	< 0.025	< 0.025	< 0.050	0.057	0.04	0.048	< 0.025	0.08	0.24	
	Oct-12				0.047	< 0.025	4.1	< 0.025	< 0.025	< 0.050	0.031	< 0.025	< 0.025	< 0.025	0.039	0.12	
	Apr-13				0.16	< 0.050	9.5	< 0.050	< 0.050	< 0.10	0.1	0.062	0.087	< 0.050	0.17	0.44	
	Oct-13				0.12	< 0.050	11	< 0.050	< 0.050	< 0.10	0.11	0.074	0.058	< 0.050	0.34	0.37	
	Apr-14				0.097 J	< 0.010	9.3	< 0.012	< 0.012	< 0.020	0.16	0.047 J	0.083 J	0.024 J	0.35	0.31	
MW-107	Apr-12	FD			0.098	< 0.025	4.7	< 0.025	< 0.025	< 0.050	0.48	1.8	0.11	< 0.025	< 0.025	0.24	
	Apr-12				0.1	< 0.025	4.9	< 0.025	< 0.025	< 0.050	0.5	1.9	0.11	< 0.025	< 0.025	0.25	
	Oct-12				0.075	< 0.0050	5.9	< 0.0050	< 0.0050	< 0.010	0.43	1.9	0.096	< 0.0050	0.024	0.22	
	Apr-13				0.052	< 0.025	5.9	< 0.025	< 0.025	< 0.050	0.3	2.3	0.12	< 0.025	< 0.025	0.18	
	Oct-13				0.03	< 0.025	6.3	< 0.025	< 0.025	< 0.050	0.2	1.9	0.1	< 0.025	< 0.025	0.12	
	Apr-14				0.017 J	< 0.0050	7	< 0.0060	< 0.0060	< 0.010	0.048 J	1.6 J	0.11	< 0.0050	0.017 J	0.12 J	
MW-109	Nov-14				0.031	< 0.0036	8.2	< 0.0038	< 0.0032	< 0.01	0.3	2.3 E	0.15 J4	0.0035 J	0.02 J	0.12	
	Apr-12				0.0085	< 0.0050	0.98	< 0.0050	< 0.0050	< 0.010	0.2	< 0.0050	0.0076	< 0.0050	0.0069	0.017	
	Oct-12				0.0073	< 0.0050	0.099	< 0.0050	< 0.0050	< 0.010	0.11	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13				< 0.0050	< 0.0050	0.38	< 0.0050	< 0.0050	< 0.010	0.06	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-13				< 0.0050	< 0.0050	0.095	< 0.0050	< 0.0050	< 0.010	0.023	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14				0.0027 J	< 0.00050	0.31	< 0.00060	< 0.00060	< 0.0010	0.05	< 0.00060	0.0036 J	< 0.00050	0.0045 J	0.0059 J	
Nov-14				0.00063 JJ3	< 0.00036 J3	0.28	< 0.00038 J3	< 0.00032 J5J3	< 0.0010	0.02	< 0.00037 J3	0.0026 JJ4J5J3	0.00036 JJ5J3	0.0057 J3	0.0031 JJ3J5		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals												
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes	
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62	
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH	
Area	Location	Date	Dup													
S Refinery	MW-110	Apr-12		0.021	< 0.0050	0.056	< 0.0050	< 0.0050	< 0.010	0.17	< 0.0050	0.0082	< 0.0050	< 0.0050	0.017	
		Oct-12		0.0065	< 0.0050	0.26	< 0.0050	< 0.0050	< 0.010	0.083	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		0.016	< 0.0050	0.061	< 0.0050	< 0.0050	< 0.010	0.064	< 0.0050	0.0053	< 0.0050	< 0.0050	< 0.015	
		Oct-13		< 0.0050	< 0.0050	0.039	< 0.0050	< 0.0050	< 0.010	0.0066	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14		0.03	< 0.00050	0.081	< 0.00060	< 0.00060	< 0.010	0.07	< 0.00060	0.013	< 0.00050	0.0023 J	0.028	
		Nov-14		0.001	< 0.00036	0.0015	< 0.00038	< 0.00032	< 0.0010	0.0016	< 0.00037	0.0017 JJ4	< 0.00034	< 0.00078	< 0.0011	
	RA-313	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
S RO Reject Field	MW-114*	Feb-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Nov-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Apr-14		< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00060	< 0.00060	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	0.0012 JJ4	< 0.00034	< 0.00078	< 0.0011	
	MW-115*	Feb-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Nov-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Apr-14		< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00060	< 0.00060	< 0.00070	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010 J4	< 0.00034	< 0.00078	< 0.0011	
	MW-116*	Feb-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Nov-13		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Nov-13	FD		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0002	< 0.0002	< 0.001	< 0.001		
		Apr-14		< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00060	< 0.00060	< 0.00070	< 0.00070	< 0.00050	< 0.00050	< 0.0015	
TEL	MW-49	Apr-12	FD	0.043	< 0.0050	0.35	< 0.0050	< 0.0050	< 0.010	0.0091	0.058	0.014	< 0.0050	0.013	0.071	
		Apr-12		0.044	< 0.0050	0.39	< 0.0050	< 0.0050	< 0.010	0.0091	0.059	0.014	< 0.0050	0.014	0.072	
		Oct-12		0.033	< 0.0050	0.37	< 0.0050	< 0.0050	< 0.010	0.0071	0.046	0.0051	< 0.0050	0.0052	0.055	
		Apr-13	FD	0.027	< 0.0050	0.26	< 0.0050	< 0.0050	< 0.010	0.0064	0.04	< 0.0050	< 0.0050	< 0.0050	0.044	
		Apr-13		0.026	< 0.0050	0.24	< 0.0050	< 0.0050	< 0.010	0.007	0.039	< 0.0050	< 0.0050	< 0.0050	0.043	
		Oct-13		0.043	< 0.0050	0.34	< 0.0050	< 0.0050	< 0.010	0.0094	0.037	0.012	< 0.0050	0.011	0.066	
		Apr-14		0.022	< 0.00050	0.22	< 0.00060	< 0.00060	< 0.0010	0.0043 J	0.049	0.0054	< 0.00050	0.0040 J	0.034	
		Nov-14		0.017	< 0.00072	0.17	< 0.00076	< 0.00065	< 0.0020	0.0036	0.055	0.0031 J	< 0.00068	0.0029 J	0.026	
		TEL-1	Apr-11		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.01	< 0.005	0.0062	< 0.005	< 0.005	< 0.005	< 0.015
			Sep-11		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	Apr-12		FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-12		FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	0.0052	< 0.0050	< 0.015	
	Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14		FD	0.0012 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0040 J	0.0029 J	0.0023 J	0.0011 J	0.0023 J	
	Apr-14			0.0012 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0039 J	0.0029 J	0.0024 J	0.0010 J	0.0024 J	
	Nov-14		0.00086 J	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	0.00047 J	0.0018	< 0.0010	0.0022	0.00099 J	0.0022 J		
	TEL-2	Apr-12		0.15	< 0.0050	1	< 0.0050	< 0.0050	< 0.010	0.014	0.0092	0.013	0.016	0.033	0.2	
Oct-12			0.15	< 0.0050	1.4	< 0.0050	< 0.0050	< 0.010	0.011	< 0.0050	0.028	0.016	0.048	0.23		
Apr-13			0.19	< 0.0050	1.5	< 0.0050	< 0.0050	< 0.010	0.014	0.0059	0.04	0.022	0.068	0.29		
Oct-13			0.17	< 0.0050	1.3	< 0.0050	< 0.0050	< 0.010	0.012	0.0061	0.037	0.018	0.052	0.25		
Apr-14			0.2	< 0.00050	1.2	< 0.00060	< 0.00060	< 0.0010	0.015	0.011	0.023	0.018	0.043	0.26		
Nov-14			0.14	< 0.0036	0.87	< 0.0038	< 0.0032	< 0.01	0.0099 J	0.012	0.017 J	0.016	0.034 J	0.2		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Area	Location	Date	Dup	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
TEL	TEL-3	Apr-12		0.022	< 0.0050	0.036	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.015
		Oct-12		0.023	< 0.0050	0.043	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.016
		Apr-13		0.022	< 0.0050	0.0084	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.018
		Oct-13		0.024	< 0.0050	0.032	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.019
		Apr-14		0.027	< 0.00050	0.0092	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0030 J	0.0034 J	0.0032 J	< 0.00050	0.021
		Nov-14		0.016	< 0.00036	0.023	< 0.00038	< 0.00032	< 0.010	0.00068 J	< 0.00037	0.0010 J	0.0023	0.0010 J	0.014
	TEL-4	Apr-12		0.063	< 0.0050	0.0078	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.15	< 0.0050	< 0.0050	< 0.0050	0.02
		Oct-12		0.064	< 0.0050	0.13	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.11	< 0.0050	< 0.0050	< 0.0050	0.026
		Apr-13		0.093	< 0.0050	0.2	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.14	< 0.0050	< 0.0050	< 0.0050	0.058
		Oct-13		0.089	< 0.0050	0.43	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.073	< 0.0050	< 0.0050	< 0.0050	0.055
		Apr-14		0.099	< 0.00050	0.37	< 0.00060	< 0.00060	< 0.010	0.0035 J	0.12	0.0035 J	0.0013 J	0.0046 J	0.061
		Nov-14	FD	0.11	< 0.0072	1.2	< 0.0076	< 0.0065	< 0.02	0.0085 J	0.066	< 0.02	< 0.0068	< 0.016	0.12
		Nov-14		0.11	< 0.0072	1.2	< 0.0076	< 0.0065	< 0.02	0.0087 J	0.064	< 0.02	< 0.0068	< 0.016	0.12
		TMD	MW-8	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Oct-12				< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
Apr-13				< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
Oct-13				< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
Apr-14				< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0014 J	< 0.00070	< 0.00050	< 0.00050	< 0.0015
MW-16	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	
MW-20	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14		FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	
MW-21	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-13		FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Oct-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	0.0051	< 0.00070	< 0.00050	< 0.0015	
	Nov-14			< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.010	< 0.00038	0.006	< 0.0010	< 0.00034	< 0.00078	< 0.0011
MW-25	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	
MW-26	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	
MW-27	Apr-12														
	Apr-12			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-13			< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	Apr-14			< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Volatile Organic Chemicals											
Analyte:				1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroform	Dichloromethane	Ethylbenzene	MTBE	Naphthalene	o-Xylene	Toluene	Total Xylenes
Units:				mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
CGWSL:				0.015	0.005	0.005	0.005	0.08	0.005	0.7	0.143	0.03	0.193	0.75	0.62
CGWSL Source:				USEPA TW	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	USEPA MCL	WQCC TW	WQCC HH	WQCC TW	WQCC HH	WQCC HH
Area	Location	Date	Dup												
TMD	MW-46R	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		0.00074 J	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	0.00086 J	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	< 0.00037	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	MW-68	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
	MW-71	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	MW-89	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	NP-1	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.14	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Sep-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.12	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.14	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Oct-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	0.06	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	0.0056	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Nov-14		< 0.00037	< 0.00036	< 0.00033	< 0.00038	< 0.00032	< 0.0010	< 0.00038	0.084	< 0.0010	< 0.00034	< 0.00078	< 0.0011
	NP-2	Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
	NP-6	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
	Upgradient	UG-1	Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
			Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.0015
UG-2		Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13	FD	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015	
UG-3R		Apr-12	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
		Apr-12		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
UG-3R		Apr-13		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.010	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.015
		Apr-14	FD	< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015
UG-3R		Apr-14		< 0.00050	< 0.00050	< 0.00060	< 0.00060	< 0.00060	< 0.0010	< 0.00050	< 0.00060	< 0.00070	< 0.00050	< 0.00050	< 0.0015

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
Crossgradient	KWB-13	Apr-12		< 0.0200	552	144	0.842	0.802	222	1860	3630	14.9
		Apr-13		< 0.0200	457	141	0.701	1.31	176	1820	3910	14.1
		Apr-14		< 0.00500 H	418	158	0.58	0.724	143	1820	3750	14.6
	NP-5	Apr-12	FD		426	351	2.4	0.365	275	3240	5840	1.13
		Apr-12			437	346	2.43	0.35	284	3170	5750	2.35
	RA-3156	Apr-13			465	413	2.58	< 0.400	253	3090	5980	2.33
		Apr-12			469	245	< 0.500	2.63	165	1510	3070	5.22
		Oct-12				253	0.238			1620	3180	3.47
		Apr-13			516	245	< 0.500	3.03	162	1560	3050	6.62
		Nov-13			537	238	0.208	3.06	169	1450	3390	9.09
		Apr-14			< 0.500	278	0.299	2.67		1800	3280	7.89
	EP	MW-1R	Apr-12		510	1610	0.8	4.23	837	1750	5560	< 1.00
Apr-13			FD		592	1610	0.869	4.66	904	1920	5400	< 1.00
Apr-13					633	1650	0.877	4.56	816	1980	5460	< 1.00
Apr-14					540	1560	0.567	4.27	1010	1900	5740	< 0.150
MW-2A		Mar-12			401	1160	4.30 J	3.49	1000	1670	5060	< 0.500
		Sep-12			295	2040	2.93	4.22	1650	2340	7320	< 1.00
		Mar-13			528	1410	5.18	4.68	785	1920	4970	2.87
		Nov-13			710	3780	3.4	8.18	3230	4030	13500	< 0.500
		Apr-14			794	5440	2.19	6.58	3440	4310	16200	< 0.150
MW-3		Nov-14				4900	2.3	5.8		3900	13000	1.3
		Mar-12			439	966	2.18	6.13	707	1570	4310	< 0.500
		Sep-12			466	1020	1.86	5.34	799	1740	4450	< 1.00
		Mar-13			510	1030	2.59	6.23	721	2030	4610	< 1.00
		Nov-13			696	2490	2.48	9.04	1390	2510	8000	9.72
		Apr-14			827	2300	1.39	6.57	1300	1930	7400	9.07
MW-4A		Nov-14			760	2000	1.7	6.8	1200	2600	7200	4.8
		Nov-14	FD		780	2600	2.2	7	1200	2700	7100	5.2
		Apr-12			344	1250	1.98	5.24	870	1440	4620	< 1.00
		Sep-12			413	1300	1.68	4.27	887	1550	4630	< 1.00
		Apr-13			423	1360	2.3	6.44	962	1680	6420	< 1.00
		Nov-13			605	1380	1.66	5.71	1030	2170	5790	< 0.500
		Apr-14			571		1.47	4.24	990		5600	0.199 J
MW-4B		Nov-14			690	1400	1.6	5.1	1000	2500	5700	0.96
		Apr-13			371	928	0.87	3.64	556	1330	3660	< 1.00
MW-5A		Apr-12			505	3370	3.24	8.43	3240	5430	14600	< 1.00
		Sep-12			511	3980	3.08	7.51	3350	6400	16900	< 1.00
		Apr-13			519	3470	3.76	9.05	3150	6080	14400	< 1.00
		Nov-13			561	4290	3.22	7.08	4320	5540	18000	< 0.500
		Apr-14			562	4710	3.03	6.58	4230	8160	18100	< 0.150
MW-5B		Nov-14			580	3300	1.9	6.4	4200	8100	16000	< 0.02
	Apr-13			473	1840	2.2	10.8	1600	2950	7500	2.93	
MW-5C	Apr-13			420	639	1.2	4.21	446	1580	3620	< 1.00	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
EP	MW-6A	Mar-12		247	825	1.63	1.13	674	1320	3590	< 0.500	
		Mar-13		301	980	2.05	1.36	735	1610	3950	< 1.00	
		Apr-14		762	1620	1.31	2.44	998	1980	5600	0.245 J	
	MW-6B	Mar-13	FD	478	1420	0.814	4.87	753	1690	4510	< 1.00	
		Mar-13		530	1370	0.533	4.31	710	1640	4480	< 1.00	
	MW-7A	Apr-12		371	1900	1.39	3.69	1450	2200	6870	< 1.00	
		Sep-12		475	1970	1.3	4.29	1700	2520	7100	< 1.00	
		Apr-13		351	2060	1.54	4.11	1420	2570	6760	< 1.00	
		Nov-13		464	2930	1.25	5.71	2190	2190	8280	< 0.500	
		Apr-14		469	2670	1.19	4.46	1750	3290	7760	< 0.150	
		Nov-14	FD	770	1800	1.2	5.2	2500	2100	11000	< 0.02	
	MW-7B	Apr-13		760	3600	0.69	5.2	2600	4100	11000	< 0.02 J6	
		Apr-13		545	1030	3.09	6.66	540	1800	4280	< 1.00	
	MW-10	Apr-12		433	1430	0.852	3.31	875	1880	5370	< 1.00	
		Sep-12			1410	< 1.00			1870	5240	< 1.00	
		Apr-13		502	1450	0.713	3.86	940	2070	5360	< 1.00	
		Nov-13		644	1560	0.743	4.46	1260	1940	5690	< 0.500	
		Apr-14		545	1660	0.551	4.06	1060	2290	5540	< 0.150	
		Nov-14		750 V	1700	0.88 J6	4.3	1200 V	2800	5900	0.23	
	MW-11A	Apr-12		978	8840	0.942	22.1	4400	2660	18300	< 1.00	
		Mar-13		1060	9220	0.821	22.9	4510	3110	20000	< 1.00	
		Apr-14		1250	12400	0.647	22.9	5140	2410	25400	0.488 J	
		Nov-14		2600	17000	< 0.0099	21	8300	3000	30000	15	
	MW-11B	Mar-13		855	6560	< 0.500	35.2	3340	3030	15100	< 1.00	
	MW-15	Apr-12	FD	628	1450	4.36	7.37	900	1950	5750	11.2	
		Apr-12		635	1470	4.22	7.06	860	1980	5740	11.4	
		Mar-13		771	2640	2.13	6.02	1240	2180	8120	13.3	
		Apr-14		849	2960	2.33	5.68	1420	1770	19900	40.2	
	MW-18A	Apr-12		< 0.0200	600	6150	2.62	41.2	3860	4920	18100	< 1.00
		Sep-12		< 0.0200	712	6210	2.29	44	4380	5050	18200	< 1.00
		Apr-13		< 0.0200	672	6800	3.4	41.5	4080	5810	18300	< 1.00
		Nov-13	FD	< 0.0200	690	11600	4.26	64.5	7210	7460	33300	4.4
		Nov-13		< 0.0200	678	14600	4.42	64.4	7080	8700	34100	3.41
		Apr-14		< 0.00500	723	10200	3.63	61.4	6620	6760	27700	2.61
	MW-18B	Nov-14		< 0.0018	850	12000	< 0.0099	54	7500	10000	32000	< 0.02
		Apr-13			592	803	1.1	6.32	474	1870	4060	< 1.00
	MW-22A	Apr-12			440	1830	0.533	3.37	1060	2050	6280	< 1.00
		Sep-12										
		Apr-13			564	1920	< 0.500	4.17	1150	2310	6380	< 0.100
		Nov-13			667			4.68	1870			
		Apr-14			514	2290	0.766	4.02	1290	2540	6640	< 0.150
		Nov-14	FD		720	1700	0.77	3.9 J	1700	2200	6600	< 0.02
		Nov-14			610	2000	0.58	3.9	1400	2600	6600	< 0.02

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters									
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite		
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l		
				CGWSL: 0.2	---	250	1.6	---	---	600	1000	10		
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL						
EP	MW-22B	Apr-13			530	1470	0.619	4.48	932	2240	5460	< 1.00		
	MW-70	Apr-12			584	995	0.593	4.83	626	1900	4990	< 1.00		
		Sep-12												
		Apr-13				666	1110	0.704	5.1	634	2200	5360	< 1.00	
		Nov-13				660			6.61	746				
		Apr-14				697	1310	0.56	5.38	729	2950	5080	0.210 J	
	MW-72	Nov-14				700			5.5	730				
		Mar-12				759	3410	5.72	7.13	2370	2450	10100	< 0.500	
		Sep-12				671	3760	7.11	9.7	2030	2560	10100	< 1.00	
		Mar-13				745	3580	7.02	8.14	2070	2760	9740	< 1.00	
		Nov-13				753	3540	6.26	9.43	2340	2200	9890	< 0.500	
	MW-73	Apr-14				795	4350	6.27	9.87	2440	3020	10300	3.1	
		Mar-12				626	2120	1.92	1.99	2510	3350	9850	< 0.500	
		Sep-12				560	2270	2.08	2.62	2250	3420	9420	2.66	
		Mar-13				585	2160	2.65	2.64	2250	3770	8980	< 1.00	
		Oct-13				571	2110	2.19	2.73	2430	3140	9720	< 0.500	
	MW-74	Apr-14				590	2260	2.09	2.54	2160	3510	9120	< 0.150	
		Mar-12				622	1960	8.43	31.3	1840	3190	9000	1.12	
		Sep-12				612	2110	10.2	41.8	1970	3300	8880	4.37	
		Mar-13				660	2130	10.3	34.2	1960	3660	8460	< 1.00	
		Oct-13				597	1760	8.51	52.8	2290	3680	9590	109	
	MW-75	Apr-14				656	1970	8.66	45.6	2250	4050	8940	67	
		Nov-14				670	1600	6.4	45	2300	4400	8700	420	
		Mar-12				348	1500	7.67	18.2	1530	1880	6110	< 0.500	
		Sep-12				333	1600	8.25	22.7	1510	1980	5860	< 1.00	
		Mar-13				360	1600	9.9	21.1	1540	2120	6030	< 1.00	
	MW-76	Oct-13				353	1500	8.52	18.9	1600	1950	6000	< 0.500	
		Apr-14				379	1610	8.37	21.4	1550	1930	6180	< 0.150	
		Nov-14				410	1400	6.9	20	1500	2400	5700	< 0.02	
		Mar-12				365	1260	3.07	22.4	959	1690	5220	< 0.500	
		Sep-12				383	1370	3.2	28.6	965	1750	4960	< 1.00	
	MW-77	Mar-13				429	1350	4.48	27.8	1060	1980	5230	< 1.00	
		Oct-13				499	1300	4.38	29.9	1030	1960	5540	< 0.500	
		Apr-14				470	1200	3.16	30	980	1730	4980	< 0.150	
		Nov-14				610	1300	3	31	1100	2800	6000	< 0.02	
		Mar-12				< 0.0200	387	1340	3.04	29.3	1160	1890	5830	1.7
	MW-78	Sep-12				< 0.0200	536	724	1.13	85.8	1480	3660	7990	< 1.00
		Mar-13				< 0.0200	481	1060	3.66	57.9	1330	3240	7230	< 1.00
		Oct-13		FD		< 0.0200	519	852	5.22	59.3	1190	2790	7100	< 0.500
		Oct-13				< 0.0200	541	846	5.59	59.2	1240	2840	7150	< 0.500
		Apr-14				627	781	3.5	72.1	1540	3390	8060	2.85	
	MW-78	Nov-14				630	500	2.7	84	1300	4100	8200	< 0.02	
		Mar-12				406	1060	7.11	20.5	934	1780	5540	< 0.500	
		Mar-13				286	655	19.7	22.7	660	2270	5260	2.51	
		Apr-14				542	215	10.9	25.2	524	2650	5760	< 0.150	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Water Quality Parameters									
Area	Location	Date	Dup	Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
				0.2	---	250	1.6	---	---	600	1000	10	
				EPA MCL		WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	
EP	MW-79	Mar-12		505	1560	9.35	8.03	1310	2150	6730	1.76		
		Sep-12	FD	546	1750	11.9	11.6	1780	2520	6570	4.99		
		Sep-12		514	1750	11.8	11.5	1680	2500	6610	3.51		
		Mar-13		546	1680	10.3	9.05	1200	2240	5880	< 1.00		
		Oct-13		597	1930	8.3	9.95	1220	2300	6060	1.47		
		Apr-14		599	1810	8.56	9.27	1510	2690	6920	12.5		
			Nov-14		650	1600	5.8	8.6	1100	2500	5600	2.9	
	MW-80	Mar-12		602	1250	3.36	2.97	895	1870	5650	0.735		
		Mar-13		635	1310	3.82	4.02	911	2260	5130	< 1.00		
		Apr-14		645	1470	3.62	3.84	983	2070	6080	2.73		
	MW-81	Mar-12		507	1150	7.12	6.29	1020	1880	5730	12.8		
		Mar-13	FD	563	1280	7.66	6.57	903	2120	5040	4.61		
		Mar-13		560	1260	7.57	6.47	915	2070	4950	12.2		
			Apr-14		111	1140	8.13	9.51	255	2350	6500	79.1	
	MW-82	Mar-12		309	1300	14.2	7.92	2000	2370	6860	< 0.500		
		Mar-13		298	1520	19.2	10.3	1890	2600	6270	< 1.00		
		Apr-14	FD	286	1510	18	9.02	1810	2070	5460	< 0.150		
			Apr-14		279	2880	18.2	9.55	1800	3910	6260	< 0.150	
	MW-83	Mar-12		345	1180	3.55	13.9	902	1330	4850	< 0.500		
		Sep-12		424	366	5.55	48.8	812	3700	6840	< 1.00		
		Mar-13		379	976	5.53	34	931	2620	5440	2.89		
		Oct-13		552	54.2	4.88	60	564	4310	7620	< 0.500		
		Apr-14		484	271	4.58	53.8	616	3920	7400	4.54		
		Nov-14		520	14	3.9	56	410	4200	6400	< 0.02		
	MW-84	Mar-12	FD	666	1780	5	6.15	1720	3320	9310	< 0.500		
		Mar-12		659	1770	5.04	5.85	1630	3300	9120	< 0.500		
		Sep-12		604			6.41	1520					
		Mar-13		633	1970	6.48	6.59	1530	3920	8580	< 1.00		
		Oct-13		616			12.1	1680					
		Apr-14		698	1620	6.07	8.8	1750	3660	10500	< 0.150		
			Nov-14		610	1300	5.2	14	1600	5800	11000	0.14	
	MW-87	Apr-12		556	3960	2.03	22.3	2650	4000	13200	< 1.00		
		Sep-12											
		Apr-13		636	4310	2.25	23.8	2860	4690	12900	< 1.00		
		Nov-13		762			31.8	4470					
		Apr-14		662	5340	1.5	28.6	3120	4760	13600	2.11		
			Nov-14		750			26	2700				
	MW-88	Apr-12		346	1480	1.19	2.96	1020	1950	5630	< 1.00		
		Sep-12											
		Apr-13		400	1490	1.35	3.39	992	2140	5160	< 0.100		
		Nov-13		670			3.36	1850					
		Apr-14		377	2000	1.26	3.11	1330	2820	7340	< 0.150		
			Nov-14		570			3	1300				
	MW-120	Oct-13		589	1920	4.08	4.64	1640	3220	8090	2.06		
		Apr-14		587	2180	3.56	3.99	1470	3430	8000	< 0.150		
		Nov-14		850	2800	2	5	1900	3600	8700	1.8		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
EP	MW-121	Oct-13		751	1990	4.34	3.39	906	2050	6390	0.553	
		Apr-14		750	1880	3.85	3.15	922	2210	6040	2.41	
		Nov-14		720	1400	3.2	3.4	940	3100	6100	3.8 J6	
	MW-122	Oct-13		384	1170	4.23	4.54	888	1510	4490	< 0.500	
		Apr-14		492	1370	3.53	5.14	1050	2190	5740	< 0.150	
		Nov-14		860	4200	2.1	5.9	3900	5700	16000	0.94	
	MW-123	Nov-13	FD	578	1030	1.14	4.18	1280	1880	5380	< 0.500	
		Nov-13		578	1590	1.07	4.35	1260	1860	5680	< 0.500	
		Apr-14		539	1680	1.21	4.25	1170	2050	5900	< 0.150	
		Nov-14		580	1400	1	3.9	1100	2300	5600	< 0.02	
	MW-124	Nov-13		784	3450	1.39	9.37	1940	2820	10100	0.583	
		Apr-14		798	3380	0.968	6.94	1610	3800	10000	< 0.150	
		Nov-14		820	3000	0.66	7.1	1700	3800	9500	< 0.02	
	OCD-1R	Mar-12		495	1620	4.26	4.23	1080	1920	5770	1.01	
		Sep-12		606			5.73	2780				
		Nov-13		637			6.22	5010				
		Apr-14		656	3940	3.4	4.52	3000	3410	11400	0.808 J	
	OCD-2A	Nov-14		840	5800	1.1	4.1	4700	6300	11000	1.1	
		Mar-12	FD	575	1480	0.62	4.86	848	1870	4510	< 0.500	
	OCD-2A	Mar-12		563	1450	0.617	4.78	819	1840	5530	< 0.500	
		Sep-12		812			5.67	1050				
		Mar-13		887	2820	0.798	7.04	1250	2360	7690	< 1.00	
		Nov-13		658			5.02	2030				
		Apr-14		662	2490	0.77	4.78	1460	2060	7300	< 0.150	
		Nov-14		840			4.5	2700				
	OCD-3	Mar-12		362	773	0.908	11.2	487	1360	3450	< 0.500	
		Sep-12		502			12.1	552				
		Mar-13		512	953	1.13	12.5	523	1690	3950	< 1.00	
		Nov-13		642			14.8	1410				
		Apr-14		514	990	0.768	13.4	680	2000	5160	< 0.150	
		Nov-14		760 V			13 O1J5	1700 O1V				
	OCD-4	Mar-12		655	4700	0.382	33.1	2550	2720	12700	0.65	
		Sep-12										
		Mar-13		872	4920	0.613	35.7	2520	3140	12500	< 1.00	
		Nov-13		878			43.7	3010				
		Apr-14		818	5370	0.787	37.1	2520	2880	12900	< 0.150	
		Nov-14		1100			36	3400				
	OCD-5	Mar-12		684	4520	0.741	34.8	2580	2710	12000	< 0.500	
		Sep-12										
		Mar-13		866	4850	1	36.4	2620	3080	12400	< 1.00	
		Nov-13		835			39.3	2940				
		Apr-14	FD	694	5250	0.67	35.1	2400	2970	11900	< 0.150	
		Nov-14		744	4810	0.613	35.7	2580	2710	12400	< 0.150	
	Nov-14		1000	5100	0.42	35	3500	3400	12000	< 0.02		

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
EP	OCD-6	Mar-12			557	3730	3.57	12.5	2600	3080	11500	< 0.500
		Sep-12			703			14.6	3030			
		Mar-13			603	4000	3.84	13.1	2900	3300	11200	< 1.00
		Nov-13			757			13.4	3130			
		Apr-14			806	4500	2.34	13.4	3120	2770	11900	0.232 J
		Nov-14			780	2900	2.5	11	1700	2600	7700	< 0.02
	OCD-7AR	Mar-12			459	2070	4.02	7.32	1790	3250	7720	< 0.500
		Sep-12			621			6.42	2660			
		Mar-13			592	2190	4.9	7.49	2050	3670	9400	< 1.00
		Nov-13			623			7.48	2250			
		Apr-14	FD		651	2890	2.82	7.22	2220	4330	8700	< 0.150
		Nov-14			646	2290	2.74	6.92	2250	3450	8060	< 0.150
	OCD-7B	Mar-13			700	2800	3.5	6.6	2500	3900	9100	0.15
		Mar-13			552	867	1.33	12.2	650	2270	4670	< 1.00
	OCD-8A	Apr-12		< 0.0200	527	2550	3.34	8.95	1980	3460	9600	< 1.00
		Sep-12	FD	< 0.0200								
		Sep-12		< 0.0200								
		Apr-13	FD	< 0.0200	642	2630	3.78	8.76	2030	3910	5320	< 1.00
		Apr-13		< 0.0200	674	2540	3.95	8.92	2050	3770	9760	< 1.00
		Nov-13		< 0.0200	722			9.31	2050			
		Apr-14	FD	< 0.00500	657	3030	1.92	8.73	2260	3330	9780	< 0.150
		Apr-14		< 0.00500	671	3200	2.04	8.7	2170	3690	10300	< 0.150
		Nov-14		< 0.0018	1200	6300	1.7	13	3500	3500	13000	< 0.02
		OCD-8B	Apr-13		716	2180	0.98	8.75	1330	2880	7400	< 1.00
Field E of Refinery	KWB-1A	Apr-12		< 0.0200	480	382	1.23	0.849	144	2320	4910	< 1.00
		Sep-12		< 0.0200	537	398	1.32	1.03	172	2360	4950	< 1.00
		Apr-13		< 0.0200	537	422	1.11	1.16	176	2430	4670	< 1.00
		Oct-13		< 0.0200	583	489	1.28	1.11	206	2420	4850	< 0.500
		Apr-14		< 0.00500	583	459	0.916	1.28	206	2440	5180	< 0.150
		Nov-14		< 0.0018	590	470	1	0.99 J	220	2800	4500	1.4
	KWB-1C	Apr-13			474	380	1.03	5.68	161	2150	4420	1.75
		Apr-12		< 0.0200	361	506	0.843	0.477	300	987	3200	< 0.500
	KWB-7	Oct-12		< 0.0200	405	650	0.924	0.749	314	1200	3400	< 1.00
		Apr-13		< 0.0200	357	615	0.923	1.09	297	1080	3340	< 1.00
		Nov-14		< 0.0018	360	440	0.78	0.26 J	280	1000	2800	< 0.02
		Nov-14			170	190	0.59	0.51 J	160	< 0.077	1200	< 0.02
	KWB-11A	Apr-12		< 0.0200	429	861	0.779	0.669	312	930	3480	15.6
		Oct-12		< 0.0200	470	1020	0.867	0.716	328	996	3780	21.1
		Apr-13		< 0.0200	398	1070	0.818	0.643	323	1030	4020	17
		Nov-14	FD	< 0.0018	740	1500	0.59	0.81 J	430	1400	4500	46
		Nov-14		< 0.0018	720	1200	0.59	0.79 J	400	1100	4700	47

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL: 0.2	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
Field E of Refinery	KWB-11B	Apr-12		< 0.0200	405	284	0.414	2.21	81.5	1320	2720	0.767
		Oct-12		< 0.0200	459	297	0.347	2.75	85	1470	2810	2.81
		Apr-13		< 0.0200	420	294	< 0.500	3.26	93.8	1480	2820	2.7
		Apr-14		< 0.00500 H	396	291	0.291	2.15	77.4	1250	2480	2.25
		Nov-14		< 0.0018	450	240	0.4	2.2	86	1400	2100	2.4
	KWB-12A	Oct-12		< 0.0200	515	118	0.587	0.884	156	2520	4030	7.46
		Oct-13		< 0.0200	495	125	0.5	0.732	135	2170	3470	4.58
		Nov-14		< 0.0018	590	140	0.47	0.89 J	140	2300	3400	4.3
	KWB-12B	Nov-14	FD	< 0.0018	610	130	0.45	0.67 J	150	2400	3700	4.3
		Apr-12		< 0.0200	566	115	< 0.500	0.824	166	2330	4110	9.68
		Oct-12	FD	< 0.0200	513	107	0.453	0.765	147	2450	3800	8.96
		Oct-12		< 0.0200	519	105	0.426	0.754	141	2480	3870	7.26
		Apr-13	FD	< 0.0200	544	114	< 0.500	0.737	157	2450	4240	7.46
		Apr-13		< 0.0200	531	111	< 0.500	0.831	160	2460	4150	7.42
		Oct-13		< 0.0200	521	106	0.357	0.732	143	2040	3640	4.74
		Apr-14	FD	< 0.00500	569	129	0.291	0.795	143	2070	3620	5.55
		Apr-14		< 0.00500	526	122	0.296	0.756	138	2130	3800	5.56
	KWB-P4	Apr-13										
		Nov-14		< 0.0018	650	120	0.31	0.72 J	170	2400	3600	4.5
	MW-57	Apr-12										
		Oct-12			520	380	1.91	5.17	422	1340	3300	< 1.00
		Apr-13			588	943	3.3	2.67	933	4700	8280	20
		Oct-13			273	476	2.08	0.825	343	1140	3210	< 1.00
		Apr-14			235	172	0.706	0.349	116	387	1490	< 0.500
		Nov-14			674	152	0.395	11.2	118	464	1700	< 0.150
	MW-58	Apr-14			570	540	1.8	1.2	440	1900	4100	2.7
		Nov-14		< 0.0200	223	342	1.15	0.755	131	199	1770	< 0.500
	MW-111	Apr-13			340	140	1.4	0.55 J	66	160	1300	< 0.02
Oct-13				214	548	1.19	0.652	184	198	2150	< 1.00	
Apr-14				219	559	1.34	0.31	218	188	1840	< 0.500	
Nov-14				214	525	1.01	0.456	198	235	2020	0.153 J	
MW-112	Apr-14			260	510	2	0.49 J	220	250	1700	< 0.02	
	Nov-14			190	230	1	0.31 J	190	5.4	1200	< 0.02	
MW-113	Apr-13			249	219	< 0.500	0.849	151	756	2260	< 1.00	
	Oct-13			270	220	0.566	0.723	151	746	2110	< 0.500	
	Apr-14			300	205	0.282	1.45	152	693	2440	< 0.150	
	Nov-14	FD		320	190	0.49	0.4 J	170	860	2000	< 0.02	
	Nov-14			300	180	0.56	0.4 J	160	800	1900	< 0.02	
MW-125	Apr-14			636	361	1.17	1.56	297	2700	4960	0.399 J	
	Nov-14			610	340	1	1.3	260	2900	4100	0.2	
MW-126A	Apr-14			472	331	0.599	3.09	197	2080	4510	< 0.150	
	Nov-14			360	190	0.98	0.66 J	180	1400	2400	< 0.02	
MW-126B	Apr-14			354	341	0.795	0.531	196	1600	4030	< 0.150	
	Nov-14			600	290	0.68	2.4	210	2400	3500	0.39	
MW-127	Apr-14			185	275	0.95	0.612	145	392	2040	< 0.150	
	Nov-14			290	240	0.93	0.99 J	160	620	1800	< 0.02	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters								
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
				CGWSL:	---	250	1.6	---	---	600	1000	10	
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL					
Field E of Refinery	MW-128	Apr-14			207	283	0.991	0.515	106	172	1380	< 0.150	
		Nov-14			250	320	1.1	1.2	110	250	1400	< 0.02	
	MW-129	Nov-14			270	320	0.98	0.8 J	210	52	1300	< 0.02	
		MW-130	Apr-14			321	316	0.533	1.34	284	1020	3080	0.975 J
	Nov-14				310	250	0.73	1	310	1200	2600	0.35	
	MW-131	Apr-14			147	337	0.637	0.573	150	12.2	1360	< 0.150	
		Nov-14			200	290	0.47	0.64 J	160	8.3	1200	< 0.02	
	MW-133	Nov-14			200 V	170	1.1	0.46 J	140 V	140	1300	< 0.02	
		MW-134	Apr-14			569	459	0.952	1.94	273	2650	5540	2.64
	Nov-14				660	580	0.91	1.8	310	3100	4600	7.4	
	MW-135	Apr-14			618	1030	0.739	1.58	507	2090	5700	47.3	
		Nov-14			840	1300	0.78	2.8	570	2500	5600	69	
	RA-4196	Apr-12				143	< 0.500	2.28	92.8	1060	2200	< 1.00	
			Oct-12	FD		199	0.285			1340	2730	< 1.00	
		Oct-12				195	0.286			1310	2420	< 1.00	
		Apr-13	FD		430	268	< 0.500	2.62	91.7	1340	2420	< 1.00	
		Apr-13			436	204	< 0.500	2.61	84.4	1220	2290	< 1.00	
		Nov-13	FD		408	146	0.31	2.67	90.7	1160	2580	< 0.500	
		Nov-13			416	144	0.318	2.56	91.3	1080	2340	< 0.500	
		Apr-14			813	137	0.375	2.15		1100	2600	< 0.150	
		RA-4798	Apr-12			314	101	< 0.500	2.18	60.7	963	1930	< 1.00
			Oct-12				70.2	0.36			810	1450	< 1.00
	Apr-13				440	155	< 0.500	2.68	117	1460	2580	1.39	
	Nov-13				348	99.1	0.309	2.65	80.4	871	2030	2.35	
Apr-14	FD			489	146	0.37	2.49		1150	2280	< 0.150		
Apr-14				412	137	0.389	2.07		1270	2340	2.73		
RW-18	Nov-14			400	150	0.33	2.2	110	1400	2200	1.5		
	Apr-12	FD		444	408	2.2	0.638	198	3020	5540	< 1.00		
	Apr-12			476	414	2.24	0.62	202	3080	5570	< 1.00		
	Apr-13			474	411	2.4	1.13	226	3230	5820	3.24		
N Refinery	MW-23	Apr-12			94.5	503	1.73	1.08	474	5.76	2070	< 1.00	
		Oct-12			89.8	502	1.79	1.16	442	16.8	2170	< 1.00	
		Apr-13			91.7	498	1.15	0.97	489	2.81	2270	< 1.00	
		Oct-13			96	521	1.87	1.22	437	9.12	2130	< 0.500	
		Apr-14			88.3	509	1.33	1.12	483	24	1940	< 0.150	
		Nov-14			260	920	2.4	1.3	740	740	4000	< 0.02	
	MW-29	Apr-12			474	379	2.3	4.41	386	1900	4260	< 1.00	
		Oct-12			354	369	1.32	2.56	381	1590	3410	< 1.00	
		Apr-13			520	414	3.32	9.81	342	2540	5100	< 1.00	
		Oct-13			324	310	1.24	2.02	310	1310	3310	< 0.500	
		Apr-14			539	319	2.66	9.84	293	2450	4860	< 0.150	
	MW-39	Nov-14			570	320	1.8	4.6	300	2500	4100	< 0.02 J6	
		Oct-13			89.9	385	2.31	0.353	1080	893	3600	< 0.500	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				Units:	---	250	1.6	---	---	600	1000	10
CGWSL:	0.2	---	WQCC Dom	WQCC HH	---	---	WQCC Dom	WQCC Dom	USEPA MCL			
CGWSL Source:	EPA MCL	---	WQCC Dom	WQCC HH	---	---	WQCC Dom	WQCC Dom	USEPA MCL			
N Refinery	MW-40	Apr-12		255	150	1.69	0.982	80.8	1010	2430	< 1.00	
		Apr-13		374	153	1.34	1.34	109	1220	2720	< 1.00	
		Apr-14		386	179	1.28	1.56	124	1340	2700	< 0.150	
	MW-41	Apr-12		198	462	0.972	0.477	398	1130	3400	< 1.00	
		Oct-12		261	526	0.984	0.642	494	1140	3510	< 1.00	
		Apr-13		236	322	0.865	0.463	431	1260	3160	< 1.00	
		Oct-13		232	373	1.05	0.404	425	1170	3140	< 0.500	
		Apr-14		242	275	0.747	0.444	387	1450	3760	< 0.150	
	MW-42	Apr-12		223	728	0.804	0.597	416	897	3560	< 1.00	
		Oct-12		259	694	0.867	0.59	474	897	3690	1.83	
		Apr-13		274	752	0.569	0.583	500	911	3780	< 1.00	
		Oct-13		233	697	0.987	0.535	455	862	3610	< 0.500	
		Apr-14		248	914	0.545	0.56	508	954	3440	< 0.150	
	MW-43	Apr-12		< 0.0200	145	590	0.881	0.499	546	100	2260	< 1.00
		Oct-12	FD	< 0.0200	157	663	1.09	0.576	511	90.3	2400	< 1.00
		Oct-12		< 0.0200	145	676	1.08	0.621	506	96.2	2350	< 1.00
		Apr-13		< 0.0200	205	638	0.614	0.477	465	304	2400	< 1.00
		Oct-13	FD	< 0.0200	126	731	1.19	0.556	520	73.2	2530	< 0.500
		Oct-13		0.0321	115	720	0.883	0.538	557	73.7	2420	< 0.500
		Apr-14		< 0.0500	205	886	0.25	0.596	531	218	2650	< 0.150
		Nov-14		0.0025 J	200 V	750	0.78	0.61 J	590 V	98	2300	< 0.02
	MW-59	Apr-12			512	235	1.25	0.552	152	1380	3140	< 1.00
		Apr-13			478	197	1.06	0.657	152	1790	3320	< 1.00
		Apr-14			514	176	0.475	0.643	156	1890	3420	< 0.150
	MW-60	Apr-12		< 0.0200	432	304	1.05	0.492	242	1670	3660	< 1.00
		Oct-12	FD	< 0.0200	352	276	1.01	0.477	172	1670	3780	< 1.00
		Oct-12		< 0.0200	357	281	1.02	0.462	171	1700	3760	< 1.00
		Apr-13	FD	< 0.0200	365	271	0.935	0.65	220	1660	3790	< 1.00
		Apr-13		< 0.0200	403	275	0.942	0.532	216	1630	3480	< 1.00
		Oct-13	FD	< 0.0200 J	415	235	1.08	0.495	219	1660	3570	< 0.500
		Oct-13		< 0.0200	399	237	1.04	0.511	205	1670	3590	< 0.500
		Apr-14		0.140 J	374	238	2.5	0.586	181	1860	3440	< 0.150
		Nov-14		< 0.0018	530	200	1.1	0.63 J	240	1900	3400	< 0.02
	MW-61	Apr-12			348	504	1.29	0.54	439	1030	3400	< 1.00
		Oct-12			276	457	1.15	0.66	341	1190	3230	< 1.00
		Apr-13			345	514	1.08	0.678	404	1120	3130	< 1.00
		Oct-13			314	632	1.33	0.741	375	1060	3280	< 0.500
		Apr-14			365	520	0.813	0.629	420	1070	3400	< 0.150
	Nov-14			470	250	1.5	1.1	290	930	2700	< 0.02	

**Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters								
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
				CGWSL:	---	250	1.6	---	---	600	1000	10	
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL					
N Refinery	MW-62	Apr-12			311	246	1.18	1.01	128	472	2200	< 1.00	
		Oct-12			285	253	1.35	1.16	128	397	2190	< 1.00	
		Apr-13			282	257	0.895	1.75	136	407	1870	< 1.00	
		Oct-13			293	256	1.91	1.16	207	735	2450	< 0.500	
		Apr-14			285	240	1.11	1.12	224	440	3430	< 0.150	
		Nov-14			160	470	1.6	1.8	480	5.5	2100	< 0.02	
	MW-67	Oct-13			< 0.0200	167	211	0.793	0.461	149	180	1580	< 0.500
		Nov-14			< 0.0018	240	170	0.61	0.59 J	160	380	1600	< 0.02
	MW-90	Apr-12		FD		262	147	1.12	0.929	141	1060	2610	< 1.00
		Apr-12				221	147	1.12	0.921	125	1020	2610	< 1.00
		Oct-12				372	147	1.28	1.37	200	1500	3200	< 1.00
		Apr-13				285	157	1.26	1	186	1140	2700	< 1.00
		Oct-13				343	163	1.8	1.52	301	1650	3560	0.525
		Apr-14				270	162	0.892	0.928	185	1070	2600	< 0.150
	MW-91	Nov-14				520	160	9.3	3.5	500	6200	8800	4.8
		Oct-13		FD		319	35.7	1.24	0.687	39.6	536	2090	< 0.500
		Oct-13				331	37.6	1.37	0.727	40.4	529	1860	< 0.500
		Apr-14				251	29	0.933	0.435	38.8	240	1540	< 0.150
		Nov-14				460	36	1.3	1	37	830	2000	< 0.02
		Nov-14				460	36	1.3	1	37	830	2000	< 0.02
	MW-93	Apr-12				360	50.3	1.56	2.43	80.6	640	2030	< 1.00
		Oct-12				292	76.6	1.76	2.95	87.2	617	1830	< 1.00
		Apr-13				312	85	1.24	3.21	99.7	554	1810	< 1.00
		Oct-13				368	114	1.66	3.52	87.6	795	2140	< 0.500
		Apr-14				414	173	1.16	3.11	103	645	2130	< 0.150
	MW-94	Nov-14				640	200	3.1	4.7	130	1700	3100	< 0.02
		Nov-14				190	230	0.59	0.58 J	370	240	2600	< 0.02
	MW-95	Apr-12				164	230	0.822	0.423	110	272	1380	< 1.00
		Apr-13				177	207	0.569	0.541	136	169	1450	< 1.00
		Apr-14				177	226	0.56	0.494	143	160	1440	< 0.150
	MW-96	Apr-12				131	196	1.15	0.865	195	292	1690	< 1.00
		Oct-12				229	204	1.3	1.11	233	347	1880	< 1.00
		Apr-13				161	165	0.693	1.04	232	332	1720	< 1.00
		Oct-13				236	195	1.15	1.26	259	509	2160	< 0.500
		Apr-14				154	146	0.606	0.891	234	286	1750	< 0.150
	MW-98	Nov-14				390	220	1.8	1.9	310	1200	3000	< 0.02
		Apr-12				472	124	1.73	< 0.200	83.2	1590	3080	< 1.00
		Oct-12				439	108	1.55	0.258	87.5	1820	3780	< 1.00
		Apr-13				464	103	1.37	< 0.200	90.3	1750	3590	< 1.00
		Oct-13				480	79.9	2.05	< 0.200	93.9	1650	3220	< 0.500
		Apr-14		FD		475	38	1.02	0.229	92.8	1810	3390	< 0.150
		Apr-14				471	36.3	0.962	0.218	92.1	1800	3360	< 0.150
		Nov-14				460	32	1.9	0.2 J	81	1600	2800	< 0.02

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
N Refinery	RW-9	Apr-12		327	197	2.7	5.7	253	1510	2860	< 1.00	
		Apr-13		262	292	1.46	1.95	314	775	2670	< 1.00	
		Apr-14		291	318	1.1	1.57	306	1260	3380	< 0.150	
	RW-10	Apr-12		227	296	1.57	2.14	323	544	1280	< 1.00	
		Apr-13		343	190	2.38	6.78	236	1730	3190	< 1.00	
		Apr-14		324	231	2.17	5.84	227	2060	3420	< 0.150	
	RW-16	Apr-12		397	452	4.64	1.02	339	2150	4820	< 1.00	
		Apr-13		580	451	4.54	1.14	522	2700	5350	< 1.00	
		Apr-14	FD	556	429	3.89	0.767	455	2550	5150	< 0.150	
		Apr-14		531	452	3.74	0.799	430	2680	5130	< 0.150	
	RW-17	Apr-12		377	513	2.2	4.5	279	2610	5390	< 1.00	
		Apr-13		598	505	2.19	4.13	383	2960	5470	< 1.00	
		Apr-14		585	524	1.84	3.88	405	3280	6100	< 0.150	
	N RO Reject Field	MW-117*	Feb-13		< 0.02	67.5	3.32			1690	3150	3.22 H
Nov-13				< 0.02	92.4	3.95			2190	4150	< 1.00	
Apr-14				646	97	3.03	9.29	167	2140	4980	< 0.150	
Nov-14			FD	640	96	2.4	5	98	2200	3300	0.64	
Nov-14				610	96	3	5.2	110	2000	3000	0.65	
MW-118*		Feb-13		< 0.02	296	5.16			2450	4610	2.39	
		Nov-13		< 0.02		90.1	6.78		2470	4640	< 1.00	
		Apr-14		732	92.3	5.58	6.15	134	2190	5200	< 0.150	
		Nov-14		670	160	4.9 J6	6.2	140	2700	3700	0.98	
MW-119*		Feb-13		< 0.02	116	2.36			2090	3670	2.35	
		Nov-13		< 0.02	185	3.17			2210	4130	< 1.00	
		Apr-14	FD	655	216	2.62	1.08	136	1830	4140	0.174 J	
		Apr-14		680	235	2.61	1.13	140	1980	4200	0.176 J	
		Nov-14		670	49	2.6	1.8	77	2300	3200	< 0.02	
NCL	MW-18	Apr-12		< 0.0200	319	213	1.14	1.21	80.9	1010	2490	15.3
		Oct-12		< 0.0200	498	96.7	2.06	10.1	72	1710	3410	32.6
		Apr-13	FD	< 0.0200	480	141	1.11	2.85	97.1	1640	3440	32.5
		Apr-13		< 0.0200	494	143	1.13	2.86	97.3	1590	3110	32.5
		Oct-13		< 0.0200	456	114	2.26	13.3	64.7	1450	3260	21.3
		Apr-14		< 0.00500	507	159	0.954	2.89	83.2	1830	3700	35.2
		Apr-14		< 0.00500	524	441	0.877	4.12	348	2130	4640	< 0.150
	MW-45	Apr-12		< 0.0200	480	378	1.91	3.84	271	2140	4180	< 1.00
		Oct-12		< 0.0200	495	373	1.97	5.16	286	2240	4290	< 1.00
		Apr-13		< 0.0200	460	380	1.4	4.31	317	1980	4330	< 1.00
		Oct-13		< 0.0200	535	344	1.77	4.3	391	1840	4060	< 0.500
	MW-53	Apr-14		< 0.00500	524	441	0.877	4.12	348	2130	4640	< 0.150
		Nov-14		< 0.0018	590	470	1.5	4.6	360	2000	4300	< 0.02
		Apr-12			292	108	1.05	0.998	92.4	1200	2360	< 1.00
	Apr-13			284	107	1.2	1.06	103	1080	2570	< 1.00	
	Apr-14			290	95.4	0.827	0.935	87.6	1190	2060	< 0.150	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
NCL	MW-54A	Apr-12		354	195	1.07	0.247	70.6	545	1850	< 1.00	
		Oct-12		397	262	1.58	0.53	84.3	857	2210	11	
		Apr-13		347	212	0.947	0.302	66.5	621	1950	< 1.00	
		Oct-13		355	224	1.27	0.393	74.9	657	2060	1.66	
		Apr-14		354	211	0.6	0.275	69.2	666	1800	< 0.150	
	MW-54B	Nov-14		370	190	1.2	0.38 J	74	680	1900	0.85 J	
		Apr-13		345	176	< 0.500	1.16	48.8	747	2050	< 1.00	
	MW-55	Apr-12			441	359	1.72	1.03	237	2550	5000	9.31
		Oct-12	FD		498	216	2.26	1.48	165	2560	4540	8.15
		Oct-12			510	225	2.27	1.48	163	2470	4270	6.94
		Apr-13			596	337	1.37	1.08	235	2460	4620	7.65
		Oct-13			519	327	1.6	0.835	214	2280	4450	5.25
		Apr-14	FD		573	445	1.1	0.882	231	2600	5360	9.43
		Nov-14			560	357	1.14	0.926	233	2670	5100	9.61
	MW-56	Nov-14			610	190	2.4	0.9 J	130	2300	3600	6.5 J
		Apr-12	FD		417	336	1.27	2.04	176	1850	3870	< 1.00
		Apr-12			485	331	1.27	2.16	207	1830	3980	< 1.00
		Oct-12			508	258	1.14	2.12	183	2070	3840	< 1.00
		Apr-13			546	328	0.961	2.14	223	1890	3780	< 1.00
		Oct-13			483	226	1.16	1.91	203	1860	3750	1.04
Apr-14				559	365	0.639	1.88	237	1840	4320	2.32	
MW-108	Nov-14			540	340	1.2	2.1	250	1900	3500	< 0.02	
	Apr-12			175	106	2.67	0.775	55.9	527	1870	< 1.00	
	Oct-12			267	127	2.7	1.1	76	863	2260	< 1.00	
	Apr-13			220	110	2.24	0.601	58.7	552	1870	< 1.00	
	Oct-13			368	154	3.01	3.64	168	1280	3300	< 0.500	
	Apr-14			316	101	1.58	1.07	89.3	1130	2820	< 0.150	
	Nov-14			350	82	3.3	3.2	110	1200	2500	0.19	
NCL-31	Apr-12			210	138	1.3	0.419	139	853	2240	< 1.00	
	Oct-12			285	98	1.34	0.622	129	1140	2450	< 1.00	
	Apr-13			246	91.3	1	0.261	112	997	2320	< 1.00	
	Oct-13			245	94.2	1.26	0.382	121	849	2110	< 0.500	
	Apr-14			267	69.6	0.776	0.321	112	1030	2300	< 0.150	
	Nov-14			380	160	1.4	0.43 J	150	1300	2600	0.11	
NCL-32	Nov-14		440	460	4.6	19	82	800	2000	0.57		
NCL-33	Apr-12			298	368	2.39	3.76	81.2	534	2070	< 1.00	
	Oct-12			350	349	2.29	3.81	110	459	1920	< 1.00	
	Apr-13			343	321	1.85	3.65	111	401	2010	< 1.00	
	Oct-13			303	340	2.52	3.7	98.2	448	1820	< 0.500	
	Apr-14			358	302	1.83	3.78	105	557	1920	< 0.150	
	Nov-14			450	340	2.6	5	110	720	2100	< 0.02	
NCL-34A	Oct-13			207	246	1.42	1.16	108	125	1450	< 0.500	
	Nov-14			250	180	1.4	0.86 J	120	100	1200	< 0.02	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters								
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
				CGWSL:	---	250	1.6	---	---	600	1000	10	
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL					
NCL	NCL-44	Apr-12		208	160	1.82	1.68	48.6	441	1560	< 1.00		
		Oct-12		262	157	1.72	2.37	66	432	1620	< 1.00		
		Apr-13		283	153	1.42	2.43	65.1	471	1780	< 1.00		
		Oct-13		250	146	1.7	2.09	64.6	399	1810	< 0.500		
		Apr-14		265	149	1.2	2.06	66	454	1720	< 0.150		
		Nov-14		290	850	1.8	2.2	70	450	1500	< 0.02		
	NCL-49	Apr-12			415	119	0.665	0.614	121	1420	2800	5.6	
		Oct-12	FD		454	127	0.679	0.823	123	1790	3000	6.08	
		Oct-12			450	118	0.683	0.834	121	1750	2970	5.59	
		Apr-13			397	117	0.553	0.737	126	1580	3190	5.16	
		Oct-13			450	106	0.622	0.699	130	1490	2940	4.65	
		Apr-14			430	104	0.501	0.625	116	1680	3000	5.21	
		Nov-14			440	98	0.65	0.72 J	120	1500	2600	4.3	
		Nov-14	FD		430	98	0.59	0.75 J	120	1700	2600	4.5	
		S Refinery	KWB-2R	Nov-14		330	160	1.2	1.2	200	1200	2600	< 0.02
KWB-5	Oct-13			221	620	0.948	1.19	212	4.15	1690	< 0.500		
	Nov-14			270	570	0.77	1	210	12	1500	0.2		
KWB-6	Nov-14			260	240	0.8	0.2 J	150	330	1600	0.37		
MW-28	Apr-12			< 0.0200	315	149	1.29	0.8	111	814	2540	< 1.00	
	Oct-12			< 0.0200	239	163	1.41	0.594	116	516	2030	< 1.00	
	Apr-13			< 0.0200	190	168	0.975	0.497	108	378	1680	< 1.00	
	Oct-13			< 0.0200	195	179	1.47	0.382	107	174	1420	< 0.500	
	Apr-14			0.0500 J	164	157	1.02	0.382	102	166	1560	< 0.150	
	Nov-14			< 0.0018	590	140	0.73	0.92 J	96	1300	3000	< 0.02	
MW-48	Nov-14			190	410	0.29	2.4	380	260	1800	< 0.02		
MW-50	Apr-12				327	146	1.04	1.66	96.9	1240	2320	< 1.00	
	Oct-12				334	161	0.951	2.27	112	1240	2590	< 1.00	
	Apr-13				382	181	0.785	2.17	130	1230	2880	< 1.00	
	Oct-13				399	191	0.958	2.58	131	1310	2720	< 0.500	
	Apr-14				410	172	0.671	2.36	130	1300	2910	< 0.150	
	Nov-14				450	200	0.83	2.3	160	1600	2800	< 0.02	
MW-52	Apr-12			< 0.0200	150	215	1.74	0.29	298	927	2360	1.51	
	Oct-12			< 0.0200	173	151	1.91	< 0.400	285	1150	2400	< 1.00	
	Apr-13			< 0.0200	171	287	1.83	0.321	289	944	2570	2.06	
	Oct-13		FD	< 0.0200	172	149	1.87	0.381	279	856	2250	2.09	
	Oct-13			< 0.0200	181	149	1.84	0.379	288	856	2270	2.17	
	Apr-14		FD	< 0.00500 H	161	225	1.51	0.186 J	218	821	2510	1.38	
	Apr-14			< 0.00500 H	156	223	1.57	0.204	257	820	2580	1.19	
	Nov-14			< 0.0018	190	150	1.5	0.3 J	320	990	2000	1.9	
	MW-65		Nov-14			260	470	0.72	0.89 J	290	310	1900	< 0.02

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL: 0.2	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
S Refinery	MW-66	Apr-12		< 0.0200	143	224	1.07	0.915	177	3.56	1100	< 1.00
		Oct-12		< 0.0200	162	211	1.3	1.02	183	1.9	1180	< 1.00
		Apr-13		< 0.0200	152	229	1.12	0.984	188	1.66	1160	< 1.00
		Oct-13	FD	< 0.0200	146	237	1.3	0.936	184	0.841	1140	< 0.500
		Oct-13		< 0.0200	141	237	1.25	0.935	177	0.99	1100	< 0.500
		Apr-14		< 0.00500 B	151	209	1.12	0.785	180	< 0.200 B	1170	< 0.150
		Nov-14		< 0.0018	140	150	1.2	1	160	0.51 J	990	< 0.02
	MW-99	Nov-14			170	180	0.42	3.9	170	140	1100	< 0.02
	MW-101	Apr-12			193	231	0.97	0.518	153	167	1350	< 1.00
		Oct-12			174	245	0.993	0.656	150	198	1500	< 1.00
		Apr-13			175	242	1.24	0.565	145	191	1350	< 1.00
		Oct-13			201	238	0.985	0.5	158	171	1430	< 0.500
		Apr-14			209	217	0.779	0.504	153	161	1440	< 0.150
		Nov-14			280	230	1	0.81 J	150	340	1600	< 0.02
	MW-102	Nov-14			290	220	0.61	0.8 J	430	590	2200	< 0.02
	MW-103	Apr-12			13	501	8.85	0.558	952	47.9	2580	< 1.00
		Apr-13			19.2	661	6.88	0.759	1120	82.2	2800	< 1.00
	MW-104	Apr-14			24.5	1040	7.45	0.831	1420	< 10.0 B	3820	< 0.150
		Apr-12			252	106	2.01	6.14	57.3	818	1500	< 1.00
		Oct-12			288	178	2.38	9.41	118	914	1830	< 1.00
		Apr-13			264	104	1.64	6.85	89.8	863	1580	< 1.00
		Oct-13			247	124	2.22	8.35	108	798	1570	< 0.500
		Apr-14	FD		235	82.4	2.24	5.52	91.9	679	1440	< 0.150
		Apr-14			232	86	2.26	5.06	95.7	690	1390	< 0.150
		Nov-14	FD		230	54	1.8	6.3	67	800	1300	< 0.02
		Nov-14			230	54	2.1	6	69	710	1300	< 0.02
		MW-105	Nov-14			660	37	0.96	7	29	1300	2400
	MW-106	Apr-12			355	83.3	1.23	0.74	178	1280	3040	< 1.00
		Oct-12			269	44.1	1.39	1.92	78.8	999	1960	< 1.00
		Apr-13			330	151	0.901	1.08	129	1090	2550	< 1.00
		Oct-13			335	174	1.17	0.594	141	1010	2290	< 0.500
		Apr-14			400	160	1	1.9	195	1500	3350	< 0.150
	MW-107	Apr-12	FD		138	275	1.42	0.706	69.9	< 2.50	1100	< 1.00
		Apr-12			143	281	1.42	0.694	70.3	< 2.50	1130	< 1.00
		Oct-12			151	282	1.71	0.949	74.1	1.09	1280	< 1.00
		Apr-13			140	280	1.34	0.695	70.2	< 0.500	1190	< 1.00
		Oct-13			130	298	1.55	0.795	68.6	0.57	1240	< 0.500
		Apr-14			144	261	1.2	0.562	75.2	< 0.200 B	1250	< 0.150
		Nov-14			230	300	1.7	0.73 J	83	160	1200	< 0.02
	MW-109	Apr-12			90.5	540	1.5	0.817	542	191	2080	< 0.500
		Oct-12			144	90.4	1.41	< 0.400	327	828	1900	< 1.00
		Apr-13			87.4	464	1.51	0.69	515	228	2060	< 1.00
		Oct-13			77.9	349	1.53	0.577	516	270	1930	< 0.500
		Apr-14			92.9	393	1.26	0.634	465	237	1980	< 0.150
	Nov-14			280	270	2.4	1.3	490	920	2500	< 0.02	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters								
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
				CGWSL:	---	250	1.6	---	---	600	1000	10	
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL					
S Refinery	MW-110	Apr-12		140	128	1.32	0.226	320	621	1770	< 0.500		
		Oct-12		81.8	492	1.51	< 0.400	496	222	2050	< 1.00		
		Apr-13		129	85.9	1.38	< 0.200	306	626	1750	< 1.00		
		Oct-13		115	88.5	1.49	< 0.200	294	474	1490	< 0.500		
		Apr-14		79	92.4	1.25	0.129 J	249	364	1260	< 0.150		
	Nov-14		100	86	1.5	0.14 J	270	1100	1200	< 0.02			
	RA-313	Apr-12		163	16.5	0.89	1.01	15.6	402	918	< 1.00		
		Apr-13		166	14.8	0.699	1.11	16.4	389	824	< 1.00		
Apr-14			171	17.2	1.01	0.935		450	868	< 0.150			
S RO Reject Field	MW-114*	Feb-13		< 0.02	158	1.76			2200	3760	1.43 H		
		Nov-13		< 0.02	422	1.37			3060	5390	< 1.00		
		Apr-14			611	167	2.07	2.84	152	1920	3620	< 0.150	
		Nov-14			620	200	2.2	2.7	130	2300	3400	0.36	
	MW-115*	Feb-13			< 0.02	422	1.1			2790	4960	0.962 H	
		Nov-13			< 0.02	428	1.36			3090	5370	< 1.00	
		Apr-14				569	222	1.29	0.645	227	2470	4880	< 0.150
		Nov-14				690 V	500	1.5	0.72 J	340 V	3000	5700	< 0.02
	MW-116*	Feb-13			< 0.02	389	1.31			2250	3650	1.37 H	
		Nov-13			< 0.02	331	1.61			2470	4570	0.457 J	
		Nov-13	FD		< 0.02	331	1.51			2470	4210	0.487 J	
		Apr-14				607	221	1.43	1.39	241	2160	4520	2.86
Nov-14				580	240	1.7	1.6	230	2200	3700	0.74		
TEL	MW-49	Apr-12	FD	< 0.0200	176	387	1.54	1.82	310	408	2000	< 1.00	
		Apr-12		< 0.0200	173	382	1.39	1.83	302	405	1980	< 1.00	
		Oct-12		< 0.0200	174	393	1.62	2	318	454	2240	< 1.00	
		Apr-13	FD	< 0.0200	173	365	1.04	1.69	316	439	2180	< 1.00	
		Apr-13		< 0.0200	177	376	1.05	1.76	322	450	2010	< 1.00	
		Oct-13		< 0.0200	175	390	1.54	2.17	311	416	1940	< 0.500	
		Apr-14		< 0.00500 B	189	366	0.896	1.6	338	472	2280	< 0.150	
		Nov-14		< 0.0018	280	380	1.6	3.3	320	500	2100	< 0.02	
		TEL-1	Apr-11			264	308	2.2	1.02	500	1060	2870	< 0.5
			Sep-11			251	232	1.9	< 1.00	391	1150	3030	< 0.500
	Apr-12		FD		262	285	2.17	0.929	470	992	2760	< 1.00	
	Apr-12				278	288	2.17	0.948	477	970	2640	< 1.00	
	Oct-12		FD		513	257	2.37	1.8	468	2040	4150	< 1.00	
	Oct-12				504	253	2.37	1.76	465	2060	4240	< 1.00	
	Apr-13				493	169	2.05	1.72	362	1770	3630	< 1.00	
	Oct-13				383	257	2.62	1.37	413	1430	3260	< 0.500	
	Apr-14		FD		359	224	1.9	1.3	427	1370	3140	< 0.150	
	Apr-14				383	228	2	1.35	460	1380	3080	< 0.150	
	Nov-14			600	150	3.1	1.9	340	1900	3600	< 0.02		
	TEL-2	Apr-12			214	253	1.03	1.48	354	606	2560	< 1.00	
		Oct-12			270	221	1.41	2.92	312	1040	3030	< 1.00	
		Apr-13			222	224	0.902	2.04	343	696	2590	< 1.00	
		Oct-13			202	242	1.07	2.03	350	623	2600	< 0.500	
		Apr-14			158	312	1.22	1.42	378	554	2340	< 0.150	
		Nov-14			250	300	1.4	1.3	390	580	2400	< 0.02	

Table 4 - Analytical Summary Table2014

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Area	Location	Date	Dup	Analyte Group:	Water Quality Parameters							
				Cyanide	Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite
				mg/l	mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l
				CGWSL:	---	250	1.6	---	---	600	1000	10
CGWSL Source:	EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL				
TEL	TEL-3	Apr-12		601	63.6	3.17	4.26	42.2	1520	3090	< 1.00	
		Oct-12		611	30.1	3.3	7.6	35.2	1440	2800	< 1.00	
		Apr-13		616	49.1	2.54	6.29	61.6	1410	2950	< 1.00	
		Oct-13		592	39.6	3.39	7.79	36	1370	2720	< 0.500	
		Apr-14		573	127	3.06	7.6	143	1320	2900	< 0.150	
		Nov-14		710	50	3.7	6.6	49	1600	2900	< 0.02	
	TEL-4	Apr-12		331	567	0.78	0.53	255	657	3180	< 1.00	
		Oct-12		311	479	1.21	0.618	351	995	3420	< 1.00	
		Apr-13		278	504	0.872	0.479	316	860	3360	< 1.00	
		Oct-13		397	545	1.29	0.64	549	2040	4940	< 0.500	
		Apr-14		332	588	0.429	0.575	565	1480	4480	< 0.150	
		Nov-14	FD	360	480	1.3	0.62 J	520	2100	4100	< 0.02	
		Nov-14		380	440	1.9	0.62 J	530	1800	4200	< 0.02	
		TMD	MW-8	Apr-12		412	572	2.03	1.94	381	2830	5610
Oct-12				490	513	2.04	2.18	415	3120	5390	18.3	
Apr-13				469	424	1.99	2.12	408	2630	5220	9.43	
Oct-13				454	399	2.31	1.91	410	2590	4960	5.33	
Apr-14				486	383	1.78	2.05	388	2710	5060	5.2	
MW-16	Apr-12			459	358	2.44	8.3	381	2080	4110	< 1.00	
	Apr-13			503	346	2.04	9.42	363	2000	4710	< 1.00	
	Apr-14			531	422	2.79	8.99	388	2170	4020	0.269 J	
MW-20	Apr-12			450	327	2.7	0.419	254	2910	5260	< 1.00	
	Apr-13			479	347	2.27	< 0.400	237	2730	5020	1.29	
	Apr-14		FD	487	440	1.72	0.419	247	2700	4840	6.5	
	Apr-14			505	457	2.11	0.416	249	2580	4900	6.74	
MW-21	Apr-12			501	690	2.05	2	434	2770	5830	31.1	
	Oct-12			528	632	1.89	2.19	438	3100	5610	29.7	
	Apr-13			514	577	1.74	2.2	430	2830	5500	27.9	
	Oct-13		FD	562	524	2.08	1.74	475	2760	5550	17.5	
	Oct-13			529	522	2.08	1.87	449	2760	5580	19.3	
	Apr-14			510	537	1.7	0.491	97.1	2970	5560	22.6	
	Nov-14			600	450	2.4	1.9	430	2900	5200	17	
MW-25	Apr-12			260	744	1.25	2.94	427	1160	3170	< 1.00	
	Apr-13			325	776	1.36	3.7	469	1320	3120	< 1.00	
	Apr-14			985	4440	0.635	6.8	1220	2060	11700	< 0.150	
MW-26	Apr-12			493	429	1.99	4.24	393	2900	5250	< 1.00	
	Apr-13			497	378	1.83	4.86	352	2580	4720	< 1.00	
	Apr-14			718	953	2.16	6.01	662	4330	8280	0.252 J	
MW-27	Apr-12			160	1.32				1270		< 1.00	
	Apr-12			374			9.35	142		2430		
	Apr-13			350	139	1.44	9.67	139	1320	2420	< 1.00	
	Apr-14			431	148	0.983	9.89	159	1600	2600	0.632 J	

Table 4 - Summary of Groundwater Analytical Data
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Analyte Group:				Water Quality Parameters								
Analyte:				Calcium	Chloride	Fluoride	Potassium	Sodium	Sulfate	TDS	Nitrate/Nitrite	
Units:				mg/L	mg/L	mg/L	mg/l	mg/L	mg/L	mg/l	mg/l	
CGWSL:				0.2	---	250	1.6	---	600	1000	10	
CGWSL Source:				EPA MCL	WQCC Dom	WQCC HH			WQCC Dom	WQCC Dom	USEPA MCL	
Area	Location	Date	Dup									
TMD	MW-46R	Apr-12		453	238	1.88	1.03	171	2300	4120	< 1.00	
		Oct-12		563	241	1.76	1.29	207	2380	4230	< 1.00	
		Apr-13		503	231	1.56	1.6	194	2150	4180	< 1.00	
		Oct-13		566	232	1.66	0.86	214	2060	3890	< 0.500	
		Apr-14		592	191	1.61	1.56	165	2120	4540	0.394 J	
		Nov-14		650	290	1.9	2.3	170	2300	3800	< 0.02	
	MW-68	Apr-12		398	468	1.78	4.83	247	1440	3280	7.2	
		Apr-13		376	426	1.68	5.57	238	1380	3240	7.58	
	MW-71	Apr-14		375	299	1.79	4.84	207	1330	2920	5.1	
		Apr-12		< 0.0200	655	986	1.47	3.51	477	2580	6270	53.3
		Sep-12		< 0.0200	783	995	1.65	4.04	569	2590	6230	61.7
		Apr-13	FD	< 0.0200	626	937	1.44	4.14	466	2610	6280	58.3
		Apr-13		< 0.0200	638	926	1.49	3.92	443	2590	6600	59.5
		Oct-13		< 0.0200	656	1080	1.49	3.76	472	2790	6250	52.3
	MW-89	Apr-14		< 0.00500	558	887	1.39	4.15	399	2740	6280	53.6
		Apr-12			536	230	2.96	10.7	191	1840	3420	1.4
		Apr-13			456	200	2.48	9.81	150	1530	2960	< 1.00
	NP-1	Apr-14			542	248	2.4	10.5	188	2030	3360	1.34
		Apr-12			502	516	1.92	5.02	397	2570	5350	13.1
		Sep-12										
		Apr-13			477	486	1.83	5.64	366	2600	5040	12.9
		Oct-13										
	NP-2	Apr-14			439	434	1.82	4.95	352	2560	4820	11.6
		Nov-14										
	NP-6	Apr-13			517	379	1.7	1.63	258	2660	5160	1.74
	Upgradient	UG-1	Apr-12		< 0.0200	410	152	0.797	1.85	72.7	1610	3090
Apr-13				< 0.0200	466	132	0.62	1.62	79.8	1580	3090	7.8
Apr-14				< 0.00500	474	126	0.58	1.59	79.6	1720	2960	10.1
UG-2		Apr-12		< 0.0200	322	157	1.43	3.11	93.7	797	2180	10.9
		Apr-13	FD	< 0.0200	338	136	1.13	2.52	117	1080	2400	4.59
		Apr-13		< 0.0200	331	137	1.16	2.52	123	1090	2410	4.44
UG-3R		Apr-14		< 0.00500	403	97.1	1.14	1.75	104	1530	2660	3.77
		Apr-12	FD	< 0.0200	348	23.8	0.68	1.75	39.1	1050	1930	< 1.00
		Apr-12		< 0.0200	341	23.8	0.668	1.73	39.1	1050	1990	< 1.00
		Apr-13		< 0.0200	270	20.9	0.561	1.57	42	785	1590	1.11
		Apr-14	FD	< 0.00500	389	46.8	0.496	1.53	53.6	1500	2400	2.2
Apr-14			< 0.00500	422	46.8	0.492	1.65	56.9	1480	2340	2.26	

**Table 4 - Summary of Groundwater Analytical Data
2013 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico**

Abbreviations	Definitions
X	Reported concentration equal to X was above the CGWSL.
X	Analyte was detected above the reporting limit at a concentration equal to X.
< x	Analyte was not detected at reporting limit equal to x. If the < x value is bolded, the reporting limit exceeded the CGWSL.
CGWSL	Critical Groundwater Screening Level (see Table 3)
CGWSL Source	Source for CGWSL value (see Table 3)
DRO	diesel range organics
Dup	duplicate sample indicator
FD	field duplicate sample
GRO	gasoline range organics
mg/L	milligrams per liter
MTBE	methyl tert-butyl ether
NMED TPH	New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation, February 2012, Table 6-2 TPH Screening Guidelines for Potable Groundwater
NMED TW	New Mexico Environment Department Risk Assessment Guidance for Site Investigations and Remediation, February 2012, Tap Water Screening Level
TDS	total dissolved solids
TPH	total petroleum hydrocarbons
µg/L	micrograms per liter
USEPA MCL	United States Environmental Protection Agency Maximum Contaminant Level from "Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites"
USEPA TW	United States Environmental Protection Agency Tap Water screening level from "Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites"
WQCC Dom	NMED Groundwater standard for domestic exposure taken from 20.6.2.3103.B
WQCC HH	NMED Groundwater standard for human health exposure taken from 20.6.2.3103.A
WQCC Irr	NMED Groundwater standard for irrigation exposure taken from 20.6.2.3103.C
*	Dissolved metals data is reported for the North and South RO Reject Fields wells during the 2013 semiannual events. The data reported for 2014 is total metals.
Lab Footnote	Definition
J	Indicates an estimated value.
U or "<"	The compound was analyzed for but not detected at the reporting limit shown.

Notes
Blank cell indicates analyte was not analyzed for during the indicated sampling event.

Table 5 - Summary of Production from Recovery Trenches and Wells
2014 Annual Groundwater Report
Navajo Refinery, Artesia, New Mexico

Recovery or Monitoring Well	Recovery Method	Volume of Water Recovered (gallons)					Volume of PSH Recovered (gallons)				
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total 2014	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total 2014
RW-1R	Automated Pump	14,447	52,294	86,723	130,420	283,884	-	-	-	-	-
RW-2R	Automated Pump	-	106,166	70,057	235,052	411,275	-	10,947	132	1	11,080
RW-4R	Automated Pump	4,019	22	-	-	4,041	-	-	-	-	-
RW-5R	Automated Pump	9,894	4,589	9,490	-	23,973	39	12	2,141	20	2,212
RW-6R	Automated Pump	9,502	60,383	157,013	242,723	469,621	-	1	25	4	30
RW-7R	Automated Pump	-	-	-	-	-	-	-	-	-	-
RW-8R	Automated Pump	8,785	24,309	30,530	35,325	98,949	-	7,296	18,343	7,129	32,768
RW-12R	Automated Pump	9	224	-	-	233	4	3,638	1,073	30	4,745
RW-13R	Automated Pump	34,413	144,959	43,662.00	-	223,034	5,748	611	7	-	6,366
RW-14R	Automated Pump	141,332	62,736	142,863	-	346,931	21,050	8,790	9,965	223	40,028
RW-15	Automated Pump	-	-	-	-	-	115	381	313	122	931
RW-19	Automated Pump	12,714	33,649	10,818	104	57,285	50	192	10	6	258
RW-20	Automated Pump	-	-	-	996,779	996,779	-	-	1	2	3
RW-22	Automated Pump	-	24,898	27,479	49	52,426	-	2,440	3,299	-	5,739
KWB-4	Manual Pumping	--	--	--	260	260	--	--	--	7	7
KWB-6	Manual Pumping	--	--	--	100	100	--	--	--	2	2
MW-65	Manual Pumping	--	--	--	45	45	--	--	--	3	3
MW-94	Manual Pumping	--	--	--	15	15	--	--	--	1	1
MW-112	Manual Pumping	--	--	--	30	30	--	--	--	35	35
MW-129	Manual Pumping	--	--	--	75	75	--	--	--	4	4
MW-132	Manual Pumping	--	--	--	100	100	--	--	--	50	50
MW-133	Manual Pumping	--	--	--	10	10	--	--	--	10	10
TOTAL (rounded to nearest gallon):		235,115	514,229	578,635	1,641,087	2,969,066	27,006	34,308	35,309	7,649	104,272

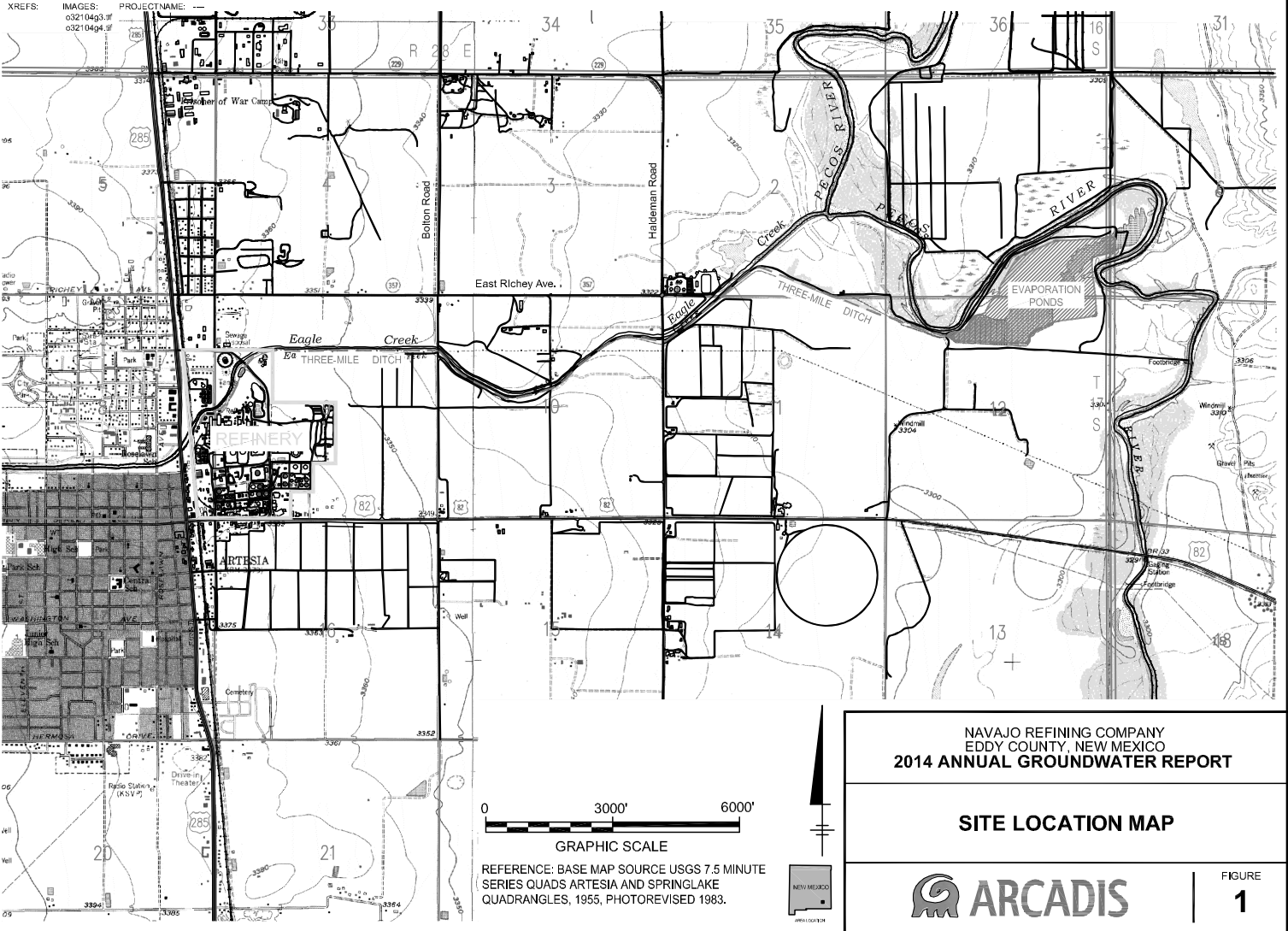
Recovery Method

Automated Pump indicates that the recovery well is connected to the upgraded recovery system.

Manual Pump indicates that the well was pumped with a pump operated manually.

Volumes not associated with the recovery system are based on field estimates.

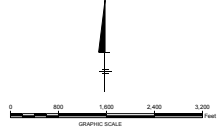
Figures





CITY OF SANDOZ INC. 100 S. KENNY, D. K. SCHNEBLE, P.E., P.M., P. HERRIGER, D.T.M.
 PROJECT: ARTESIA REFINERY GROUNDWATER MONITORING AND RECOVERY SYSTEM
 DATE: 12/15/2014

- LEGEND:**
- ◆ MONITORING WELL
 - ◆ RECOVERY WELL
 - IRRIGATION WELL
 - ABANDONED WELL



NAVAJO REFINING COMPANY ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO 2014 ANNUAL GROUNDWATER REPORT	
WELL LOCATIONS	
	FIGURE 2

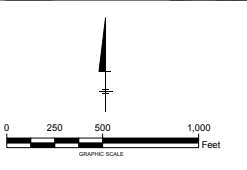


Tank Number	Location in Relation to AOC & SWMU	Diameter (ft)	Height (ft)	Capacity (gallons)	Date Constructed	Contents (2011)
5	RW-3 within AOC-1					Out of Service
11	RW-1 between AOC-1 & AOC-4	80	29	11,500	B 1983	Out of Service
12	AOC-1	80	29	11,500	B 1983	Refinery
13	AOC-1	100	20	2,500	1999	Blank
18	SWMU-1	50	24	2,500	B 1979	Out of Service
40	Between AOC-1 & AOC-4	8	72	700		Spent Catalyst
41	Between AOC-1 & AOC-4	9	72	700		Spent Catalyst
42	Between AOC-1 & AOC-4	9	67	700		Wet Sulfuric
43	Between AOC-1 & AOC-4	11	90	1,800		Substrate
44	Between AOC-1 & AOC-4	11	90	1,800		Substrate
45	West of AOC-4	11	90	1,800		Out of Service
46	Between AOC-1 & AOC-4	11	90	1,800		Out of Service
47	AOC-1	45	36	10,000	BBLT 1979	Blank
48	AOC-1	45	36	10,000	BBLT 1979	Blank
49	AOC-1	50	49	15,000	1981	Beaker Liner Pond
50	SWMU-1	30	30	4,500	B 1979	Out of Service
51	SWMU-1	30	30	4,500	B 1979	Light Crk. & O2
52	SWMU-1	30	30	4,500	B 1987	Light Crk. & O2
53	SWMU-1	51	50	10,000	B 1987	Carbon Black O2
54	SWMU-1	46	47	6,500	1959	Carbon Black O2
55	West of AOC-1	103	44	714		Propane
56	West of AOC-1	103	44	714		Propane
57	West of AOC-1	103	44	714		Propane
58	West of AOC-1	103	44	714		Propane
59	West of AOC-1	103	44	714		Propane
60	West of AOC-1	103	44	714		Propane
61	West of AOC-1	103	44	714		Propane
62	West of AOC-1	103	44	714		Propane
63	West of AOC-1	103	44	714		Propane
64	West of AOC-1	103	44	714		Propane
65	West of AOC-1	103	44	714		Propane
66	West of AOC-1	103	44	714		Propane
67	West of AOC-1	103	44	714		Propane
68	West of AOC-1	103	44	714		Propane
69	West of AOC-1	103	44	714		Propane
70	West of AOC-1	103	44	714		Propane
71	West of AOC-1	103	44	714		Propane
72	West of AOC-1	103	44	714		Propane
73	West of AOC-1	103	44	714		Propane
74	West of AOC-1	103	44	714		Propane
75	West of AOC-1	103	44	714		Propane
76	West of AOC-1	103	44	714		Propane
77	West of AOC-1	103	44	714		Propane
78	West of AOC-1	103	44	714		Propane
79	West of AOC-1	103	44	714		Propane
80	West of AOC-1	103	44	714		Propane
81	West of AOC-1	103	44	714		Propane
82	West of AOC-1	103	44	714		Propane
83	West of AOC-1	103	44	714		Propane
84	West of AOC-1	103	44	714		Propane
85	West of AOC-1	103	44	714		Propane
86	West of AOC-1	103	44	714		Propane
87	West of AOC-1	103	44	714		Propane
88	West of AOC-1	103	44	714		Propane
89	West of AOC-1	103	44	714		Propane
90	West of AOC-1	103	44	714		Propane
91	West of AOC-1	103	44	714		Propane
92	West of AOC-1	103	44	714		Propane
93	West of AOC-1	103	44	714		Propane
94	West of AOC-1	103	44	714		Propane
95	West of AOC-1	103	44	714		Propane
96	West of AOC-1	103	44	714		Propane
97	West of AOC-1	103	44	714		Propane
98	West of AOC-1	103	44	714		Propane
99	West of AOC-1	103	44	714		Propane
100	West of AOC-1	103	44	714		Propane
101	West of AOC-1	103	44	714		Propane
102	West of AOC-1	103	44	714		Propane
103	West of AOC-1	103	44	714		Propane
104	West of AOC-1	103	44	714		Propane
105	West of AOC-1	103	44	714		Propane
106	West of AOC-1	103	44	714		Propane
107	West of AOC-1	103	44	714		Propane
108	West of AOC-1	103	44	714		Propane
109	West of AOC-1	103	44	714		Propane
110	West of AOC-1	103	44	714		Propane
111	West of AOC-1	103	44	714		Propane
112	West of AOC-1	103	44	714		Propane
113	West of AOC-1	103	44	714		Propane
114	West of AOC-1	103	44	714		Propane
115	West of AOC-1	103	44	714		Propane
116	West of AOC-1	103	44	714		Propane
117	West of AOC-1	103	44	714		Propane
118	West of AOC-1	103	44	714		Propane
119	West of AOC-1	103	44	714		Propane
120	West of AOC-1	103	44	714		Propane
121	West of AOC-1	103	44	714		Propane
122	West of AOC-1	103	44	714		Propane
123	West of AOC-1	103	44	714		Propane
124	West of AOC-1	103	44	714		Propane
125	West of AOC-1	103	44	714		Propane
126	West of AOC-1	103	44	714		Propane
127	West of AOC-1	103	44	714		Propane
128	West of AOC-1	103	44	714		Propane
129	West of AOC-1	103	44	714		Propane
130	West of AOC-1	103	44	714		Propane
131	West of AOC-1	103	44	714		Propane
132	West of AOC-1	103	44	714		Propane
133	West of AOC-1	103	44	714		Propane
134	West of AOC-1	103	44	714		Propane
135	West of AOC-1	103	44	714		Propane
136	West of AOC-1	103	44	714		Propane
137	West of AOC-1	103	44	714		Propane
138	West of AOC-1	103	44	714		Propane
139	West of AOC-1	103	44	714		Propane
140	West of AOC-1	103	44	714		Propane
141	West of AOC-1	103	44	714		Propane
142	West of AOC-1	103	44	714		Propane
143	West of AOC-1	103	44	714		Propane
144	West of AOC-1	103	44	714		Propane
145	West of AOC-1	103	44	714		Propane
146	West of AOC-1	103	44	714		Propane
147	West of AOC-1	103	44	714		Propane
148	West of AOC-1	103	44	714		Propane
149	West of AOC-1	103	44	714		Propane
150	West of AOC-1	103	44	714		Propane
151	West of AOC-1	103	44	714		Propane
152	West of AOC-1	103	44	714		Propane
153	West of AOC-1	103	44	714		Propane
154	West of AOC-1	103	44	714		Propane
155	West of AOC-1	103	44	714		Propane
156	West of AOC-1	103	44	714		Propane
157	West of AOC-1	103	44	714		Propane
158	West of AOC-1	103	44	714		Propane
159	West of AOC-1	103	44	714		Propane
160	West of AOC-1	103	44	714		Propane
161	West of AOC-1	103	44	714		Propane
162	West of AOC-1	103	44	714		Propane
163	West of AOC-1	103	44	714		Propane
164	West of AOC-1	103	44	714		Propane
165	West of AOC-1	103	44	714		Propane
166	West of AOC-1	103	44	714		Propane
167	West of AOC-1	103	44	714		Propane
168	West of AOC-1	103	44	714		Propane
169	West of AOC-1	103	44	714		Propane
170	West of AOC-1	103	44	714		Propane
171	West of AOC-1	103	44	714		Propane
172	West of AOC-1	103	44	714		Propane
173	West of AOC-1	103	44	714		Propane
174	West of AOC-1	103	44	714		Propane
175	West of AOC-1	103	44	714		Propane
176	West of AOC-1	103	44	714		Propane
177	West of AOC-1	103	44	714		Propane
178	West of AOC-1	103	44	714		Propane
179	West of AOC-1	103	44	714		Propane
180	West of AOC-1	103	44	714		Propane
181	West of AOC-1	103	44	714		Propane
182	West of AOC-1	103	44	714		Propane
183	West of AOC-1	103	44	714		Propane
184	West of AOC-1	103	44	714		Propane
185	West of AOC-1	103	44	714		Propane
186	West of AOC-1	103	44	714		Propane
187	West of AOC-1	103	44	714		Propane
188	West of AOC-1	103	44	714		Propane
189	West of AOC-1	103	44	714		Propane
190	West of AOC-1	103	44	714		Propane
191	West of AOC-1	103	44	714		Propane
192	West of AOC-1	103	44	714		Propane
193	West of AOC-1	103	44	714		Propane
194	West of AOC-1	103	44	714		Propane
195	West of AOC-1	103	44	714		Propane
196	West of AOC-1	103	44	714		Propane
197	West of AOC-1	103	44	714		Propane
198	West of AOC-1	103	44	714		Propane
199	West of AOC-1	103	44	714		Propane
200	West of AOC-1	103	44	714		Propane

LEGEND:

- MONITORING WELL
- RECOVERY WELL
- IRRIGATION WELL
- ABANDONED WELL

TANK TABLE NOTES:
 AOC = AREA OF CONCERN
 B = BEFORE DATE SHOWN, ACTUAL DATE UNKNOWN
 RBLT = RESULT DATE SHOWN
 SWMU = SOLID WASTE MANAGEMENT UNIT
 BLANK CELLS INDICATE DATA IS UNKNOWN OR UNAVAILABLE AT THIS TIME.



NAVAJO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
 2014 ANNUAL GROUNDWATER REPORT

WELL LOCATIONS AND TANK INFORMATION WITHIN REFINERY

ARCADIS

FIGURE 3

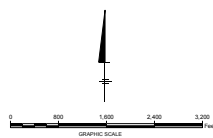


LEGEND:

- ◆ MONITORING WELL
- RECOVERY WELL
- SHALLOW SATURATED ZONE POTENTIOMETRIC SURFACE CONTOURS (HASHED WHERE DEPRESSED)

NOTES:

1. POTENTIOMETRIC SURFACE ELEVATION IN FEET ABOVE MEAN SEA LEVEL.
2. * = NOT USED TO CONSTRUCT CONTOURS.
3. ** = INACCESSIBLE WELL.



NAVAJO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
2014 GROUNDWATER MONITORING REPORT
SHALLOW SATURATED ZONE
POTENTIOMETRIC SURFACE MAP
2014 SECOND SEMIANNUAL EVENT (NOV)

ARCADIS | **FIGURE 6**

CITY: TUCSON, AZ; DATE: 11/14/2014; PROJECT: ARTESIA REFINERY GROUNDWATER MONITORING; DRAWING: POTENTIOMETRIC SURFACE MAP; SCALE: AS SHOWN; SHEET: 6 OF 6



LEGEND:

- ABANDONED WELL
- IRRIGATION WELL
- ◆ MONITORING WELL
- MONITORING WELL
- RECOVERY WELL

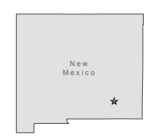
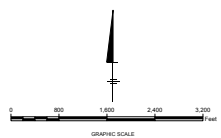
WELLS WITH PSH

- MONITORING WELL
- RECOVERY WELL

□ PHASE SEPARATED HYDROCARBON PLUME

NOTES:

1. WELLS NOT GAUGED DURING THIS EVENT ARE SHOWN IN GRAY
2. ALL PSH THICKNESSES ARE PROVIDED IN FEET.
3. DATA FROM THE CONTAMINANT MIGRATION EVALUATION INVESTIGATION WERE USED WITH THE 2014 GAUGING DATA TO DETERMINE THE PSH PLUME.



NAVAJO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
2014 ANNUAL GROUNDWATER REPORT
PHASE SEPARATED HYDROCARBON
2014 SECOND SEMI-ANNUAL EVENT

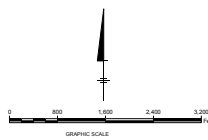
ARCADIS | **FIGURE 9**

DATE: 01/20/2015 09:58:11 AM
 PROJECT: PHASE SEPARATED HYDROCARBON PLUME MONITORING
 DRAWING: PHASE SEPARATED HYDROCARBON PLUME MONITORING
 SCALE: AS SHOWN
 SHEET: 9 OF 10
 DRAWN BY: J. HARRIS
 CHECKED BY: J. HARRIS
 APPROVED BY: J. HARRIS
 DATE: 01/20/2015 09:58:11 AM



- LEGEND:**
- ABANDONED WELL
 - IRRIGATION WELL
 - ◆ MONITORING WELL
 - ★ RECOVERY WELL
- WELLS EXCEEDING SCREENING LEVEL**
- MONITORING WELL
 - ★ RECOVERY WELL
- DIESEL RANGE ORGANIC (DRO) GROUNDWATER EXCEEDANCE AREA**

- NOTES:**
1. WELLS NOT SAMPLED DURING THIS EVENT ARE SHOWN IN GRAY.
 2. x INDICATES THAT THE ANALYTE WAS NOT DETECTED AT A REPORTING LIMIT EQUAL TO X.
 3. J INDICATES AN ESTIMATED VALUE.
 4. ALL CONCENTRATIONS ARE IN MEGAGRAMS PER LITER (MG/L).
 5. CRITICAL GROUNDWATER SCREENING LEVEL FOR DRO IS 0.2 MG/L.
 6. PSH INDICATES PHASE SEPARATED HYDROCARBONS (PSH) WERE OBSERVED IN THE IDENTIFIED WELL.



NAVAJO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
2014 ANNUAL GROUNDWATER REPORT

DRO CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREAS
2014 FIRST SEMIANNUAL EVENT

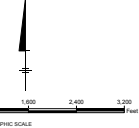
FIGURE 10



- LEGEND:**
- ABANDONED WELL
 - IRRIGATION WELL
 - ◆ MONITORING WELL
 - ◆ MONITORING WELL
 - ◆ RECOVERY WELL
- WELLS EXCEEDING SCREENING LEVEL**
- ◆ MONITORING WELL
 - ◆ RECOVERY WELL

☐ DIESEL RANGE ORGANIC (DRO) GROUNDWATER EXCEEDANCE AREA

- NOTES:**
1. WELLS NOT SAMPLED DURING THIS EVENT ARE SHOWN IN GRAY.
 2. < X INDICATES THAT THE ANALYTE WAS NOT DETECTED AT A REPORTING LIMIT EQUAL TO X.
 3. J INDICATES AN ESTIMATED VALUE.
 4. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
 5. CRITICAL GROUNDWATER SCREENING LEVEL FOR DRO IS 0.2 mg/L.
 6. PSH INDICATES PHASE SEPARATED HYDROCARBONS (PSH) WERE OBSERVED IN THE IDENTIFIED WELL.
 7. * INDICATES GROUNDWATER SAMPLE WAS COLLECTED AND ANALYZED BECAUSE PSH WAS MEASURED AS < 0.03 FEET THICK.



NAVAJEO REFINING COMPANY
 ARTESAS REFINERY, EDDY COUNTY, NEW MEXICO
2014 ANNUAL GROUNDWATER REPORT

**DRO CRITICAL GROUNDWATER SCREENING
 LEVEL EXCEEDANCE AREAS
 2014 SECOND SEMI-ANNUAL EVENT**

FIGURE
11

CITY OF SANDOVAL COUNTY OF NEW MEXICO, U.S. K. SCHNEIDER, P.E., P. H. ROBERTSON, T.R.
 PROJECT: ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
 DRAWING: 2014 ANNUAL GROUNDWATER REPORT, 2014 FIRST SEMIANNUAL SCREENING LEVEL EXCEEDANCE AREA



LEGEND:

- ABANDONED WELL
- IRRIGATION WELL
- ◆ MONITORING WELL
- MONITORING WELL
- RECOVERY WELL

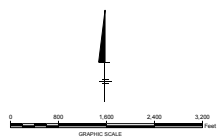
WELLS EXCEEDING SCREENING LEVEL

- ◆ MONITORING WELL
- RECOVERY WELL

BENZENE GROUNDWATER EXCEEDANCE AREA

NOTES:

1. WELLS NOT SAMPLED DURING THIS EVENT ARE SHOWN IN GRAY.
2. < X INDICATES THAT THE ANALYTE WAS NOT DETECTED AT A REPORTING LIMIT EQUAL TO X.
3. J INDICATES AN ESTIMATED VALUE.
4. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
5. CRITICAL GROUNDWATER SCREENING LEVEL FOR BENZENE IS 0.005 mg/L.
6. FISH INDICATES PHASE SEPARATED HYDROCARBONS (PSH) WERE OBSERVED IN THE IDENTIFIED WELL.



NAVAJEO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
 2014 ANNUAL GROUNDWATER REPORT

**BENZENE CRITICAL GROUNDWATER
 SCREENING LEVEL EXCEEDANCE AREA
 2014 FIRST SEMIANNUAL EVENT**

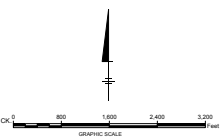
FIGURE
14



CITY OF SANSBOURNE, INDIANA, 10000 SANSBOURNE AVENUE, SANSBOURNE, INDIANA 47578
 PROJECT: 2014 ANNUAL GROUNDWATER REPORT, NAVAJO REFINERY, EDDY COUNTY, NEW MEXICO
 DATE: 12/15/2014

- LEGEND:**
- ABANDONED WELL
 - IRRIGATION WELL
 - ◆ MONITORING WELL
 - ★ RECOVERY WELL
- WELLS EXCEED SCREENING CRITERIA**
- ◆ MONITORING WELL
 - ★ RECOVERY WELL
- BENZENE GROUNDWATER EXCEEDANCE AREAS**

- NOTES:**
1. WELLS NOT SAMPLED DURING THIS EVENT ARE SHOWN IN GRAY.
 2. N/A INDICATES THAT THE ANALYTE WAS NOT DETECTED AT A REPORTING LIMIT EQUAL TO X.
 3. J INDICATES AN ESTIMATED VALUE.
 4. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER (mg/L).
 5. CRITICAL GROUNDWATER SCREENING LEVEL FOR BENZENE IS 0.05 mg/L.
 6. FISH INDICATES PHASE SEPARATED HYDROCARBONS FISH WERE OBSERVED IN THE IDENTIFIED WELL.
 7. * INDICATES GROUNDWATER SAMPLE WAS COLLECTED AND ANALYZED BECAUSE FISH WAS MEASURED AS > 0.03 FEET THICK.



NAVAJO REFINING COMPANY
 ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
2014 ANNUAL GROUNDWATER REPORT
BENZENE CRITICAL GROUNDWATER SCREENING LEVEL EXCEEDANCE AREAS 2014 SECOND SEMI-ANNUAL EVENT

ARCADIS | **FIGURE 15**

