

UIC- I - _008-0_

WDW-3

**QUARTERLY
REPORTING**

UIC-1 - 8

**SEE WDW-1
QUARTERLY
REPORTING**

Chavez, Carl J, EMNRD

From: Dade, Lewis (Randy) <Lewis.Dade@HollyFrontier.com>
Sent: Wednesday, July 26, 2017 4:19 PM
To: Chavez, Carl J, EMNRD; Griswold, Jim, EMNRD; Denton, Scott; O'Brien, Robert (Bob) K.; Combs, Robert; Holder, Mike
Cc: Dade, Lewis (Randy)
Subject: 2nd Quarter Injection Report; WDW-1, WDW-2, WDW-3; Navajo Refining Company, L.L.C.
Attachments: 2nd Quarter Injection Report 2017.pdf; 2nd Quarter Analytical_Final_v1.pdf

Please find attached the 2nd Quarter Injection Report and Analytical Data. If there are any questions, please feel free to contact me. Thanks, Randy



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July 26, 2017

Mr. Carl Chavez, CHMM
NM Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505-5472

Certified Mail/Return Receipt
7014 3490 0000 6269 6779

RE: 2017 2nd Quarter Injection Report for Wells WDW-1, WDW-2 and WDW-3, Navajo Refining Company, L.L.C.

Dear Mr. Chavez,

Enclosed, please find the second quarter 2017 sampling results for fluids injected into WDW-1, WDW-2 and WDW-3 and a spread sheet showing various volumes and pressures as required under Permit Condition 2.I.1, Quarterly Reports.

Over the second quarter, the average injection pressure for all three wells was 1214 psig and the average flows were 133 gpm for WDW-1, 106 gpm for WDW-2 and 146 gpm for WDW-3. There were no significant losses from the glycol expansion tanks Well Annulus Monitoring System (WAMS). The quarterly effluent analyses indicated parameters are within permit limits.

This report covers the period from April 1, 2017 to June 30, 2017. We have disposed a total of 1,198,349 barrels of fluid into the three wells during the second quarter of 2017. The volume per well is:

- 410,408 barrels into WDW-1
- 330,960 barrels into WDW-2
- 456,981 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please contact Randy Dade at 575-746-5281.

Respectfully,

Scott Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

Enc.

Electronic cc (w/enc.):
Environmental File:
1,2,3

R. O'Brien, R Orosco, R Combs, M. Holder, L Dade
Injection Wells/Reports C-115 & Quarterly/2017/2nd quarter/2017-7-26 2nd QTR Inj. Rpt. for Wells WDW-

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • <http://www.hollyfrontier.com>

2017 SECOND QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure Av (psig)	Maximum Annular Pressure Mx (psig)	Minimum Annular Pressure Mn (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMULATIVE Volume (barrels)
30-015-27592 WDW-1														
Apr-17	1,045	1,400	1,200	125	141	100	550	731	356	4,286	4,834	3,429	128,571	38,766,265
May-17	1,046	1,400	1,367	139	142	132	570	677	464	4,766	4,869	4,526	142,980	39,037,816
Jun-17	983	1,400	925	135	149	80	552	895	141	4,629	5,108	2,743	138,857	39,176,673
														Previous Quarter
														25,527,251
30-015-20894 WDW-2														
Apr-17	1,383	1,400	1,165	101	119	65	319	490	203	3,463	4,080	2,229	103,886	25,631,137
May-17	1,313	1,400	1,211	113	124	79	372	568	248	3,874	4,251	2,709	120,094	25,751,231
Jun-17	1,267	1,400	928	104	127	0	335	657	220	3,566	4,354	0	106,980	25,858,211
														Previous Quarter
														16,175,602
30-015-26575 WDW-3														
Apr-17	1,344	1,400	1,200	146	165	121	588	706	458	5,006	5,657	4,149	150,180	16,325,782
May-17	1,301	1,400	1,222	159	168	123	610	755	435	5,451	5,760	4,217	168,981	16,494,763
Jun-17	1,246	1,400	933	134	167	8	624	941	246	4,594	5,726	274	137,820	16,632,583
														Previous Quarter
														81,667,467
Total Injected Fluids:														

Monthly Avg.		Monthly Avg.		Total BBLs		Beginning Volume		Ending Volume	
WDW-1	1,025		133	WDW1	410,408	38,766,265		39,176,673	
WDW-2	1,321		106	WDW2	330,960	25,527,251		25,858,211	
WDW-3	1,297		146	WDW3	456,981	16,175,602		16,632,583	
						1,198,349	80,469,118	81,667,467	



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

July 05, 2017

Scott Denton

Navajo Refining Company

P.O. Box 159

Artesia, NM 88211-0159

TEL: (575) 748-3311

FAX

RE: Quarterly WDW-1, 2, &3 Inj Well

OrderNo.: 1705791

Dear Scott Denton:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/16/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705791

Date Reported: 7/5/2017

CLIENT: Navajo Refining Company

Client Sample ID: WDW-1,2,&3 Effluent

Project: Quarterly WDW-1, 2, &3 Inj Well

Collection Date: 5/12/2017 3:09:00 PM

Lab ID: 1705791-001

Matrix: AQUEOUS

Received Date: 5/16/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Fluoride	5.8	0.50	*	mg/L	5	5/17/2017 5:26:02 AM
Chloride	330	25		mg/L	50	5/23/2017 3:47:22 PM
Bromide	0.76	0.50		mg/L	5	5/27/2017 2:44:30 AM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	5/17/2017 5:26:02 AM
Sulfate	1200	25		mg/L	50	5/23/2017 3:47:22 PM
Nitrate+Nitrite as N	ND	1.0		mg/L	5	5/23/2017 3:59:47 PM
EPA METHOD 7470: MERCURY						Analyst: MED
Mercury	ND	0.00020		mg/L	1	5/31/2017 12:02:25 PM
MERCURY, TCLP						Analyst: pmf
Mercury	ND	0.020		mg/L	1	5/30/2017 3:43:27 PM
EPA METHOD 6010B: TCLP METALS						Analyst: MED
Arsenic	ND	5.0		mg/L	1	5/31/2017 10:22:06 AM
Barium	ND	100		mg/L	1	5/30/2017 12:18:52 PM
Cadmium	ND	1.0		mg/L	1	5/30/2017 12:18:52 PM
Chromium	ND	5.0		mg/L	1	5/30/2017 12:18:52 PM
Lead	ND	5.0		mg/L	1	5/30/2017 12:18:52 PM
Selenium	ND	1.0		mg/L	1	5/30/2017 12:18:52 PM
Silver	ND	5.0		mg/L	1	5/30/2017 12:18:52 PM
EPA 6010B: METALS						Analyst: MED
Aluminum	1.0	0.020		mg/L	1	5/31/2017 10:47:21 AM
Antimony	ND	0.050		mg/L	1	5/30/2017 12:47:54 PM
Arsenic	ND	0.020		mg/L	1	5/26/2017 11:12:52 AM
Barium	ND	0.020		mg/L	1	5/26/2017 11:12:52 AM
Beryllium	ND	0.0030		mg/L	1	5/30/2017 12:47:54 PM
Cadmium	ND	0.0020		mg/L	1	5/26/2017 11:12:52 AM
Calcium	170	5.0		mg/L	5	5/31/2017 10:58:14 AM
Chromium	ND	0.0060		mg/L	1	5/26/2017 11:12:52 AM
Cobalt	ND	0.0060		mg/L	1	5/30/2017 12:47:54 PM
Copper	ND	0.0060		mg/L	1	5/30/2017 12:47:54 PM
Iron	1.3	0.050		mg/L	1	5/30/2017 12:47:54 PM
Lead	ND	0.0050		mg/L	1	5/26/2017 11:12:52 AM
Magnesium	55	5.0		mg/L	5	5/31/2017 10:58:14 AM
Manganese	0.14	0.0020		mg/L	1	5/30/2017 12:47:54 PM
Nickel	ND	0.010		mg/L	1	5/30/2017 12:47:54 PM
Potassium	39	1.0		mg/L	1	5/30/2017 12:47:54 PM
Selenium	ND	0.050		mg/L	1	5/26/2017 11:12:52 AM
Silver	ND	0.0050		mg/L	1	5/26/2017 11:12:52 AM

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1705791

Date Reported: 7/5/2017

CLIENT: Navajo Refining Company

Client Sample ID: WDW-1,2,&3 Effluent

Project: Quarterly WDW-1, 2, &3 Inj Well

Collection Date: 5/12/2017 3:09:00 PM

Lab ID: 1705791-001

Matrix: AQUEOUS

Received Date: 5/16/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010B: METALS						Analyst: MED
Sodium	560	10		mg/L	10	6/7/2017 9:41:39 AM
Thallium	ND	0.050		mg/L	1	5/30/2017 12:47:54 PM
Vanadium	ND	0.050		mg/L	1	5/30/2017 12:47:54 PM
Zinc	0.046	0.020		mg/L	1	5/30/2017 12:47:54 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: JRR
Conductivity	3600	1.0		µmhos/cm	1	5/18/2017 3:14:06 PM
SM4500-H+B: PH						Analyst: JRR
pH	7.51		H	pH units	1	5/18/2017 3:14:06 PM
SM2320B: ALKALINITY						Analyst: JRR
Bicarbonate (As CaCO ₃)	199.3	20.00		mg/L CaCO ₃	1	5/18/2017 3:14:06 PM
Carbonate (As CaCO ₃)	ND	2.000		mg/L CaCO ₃	1	5/18/2017 3:14:06 PM
Total Alkalinity (as CaCO ₃)	199.3	20.00		mg/L CaCO ₃	1	5/18/2017 3:14:06 PM
SPECIFIC GRAVITY						Analyst: LGT
Specific Gravity	1.000	0			1	5/26/2017 10:30:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: KS
Total Dissolved Solids	2480	40.0	*D	mg/L	1	5/17/2017 5:54:00 PM

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

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

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number 170517053-001 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-001D / WDW-1,2,&3 EFFLUENT **Sampling Time** 3:09 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,1-Trichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,2-Trichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-Dichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-Dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,3-Trichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dibromoethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,4-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
2,2-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
2-Butanone	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
2-hexanone	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Acetone	20.3	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acetonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acrolein	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acrylonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Allyl Chloride	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number 170517053-001 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-001D / WDW-1,2,&3 EFFLUENT **Sampling Time** 3:09 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromochloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromodichloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromoform	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Carbon disulfide	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Carbon Tetrachloride	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroform	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloromethane	1.05	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroprene	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
cis-1,2-dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
cis-1,3-Dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dibromochloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dibromomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dichlorodifluoromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Ethyl methacrylate	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Ethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Iodomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Isobutanol	ND	ug/L	100	5/26/2017	SAT	EPA 8260C	
m+p-Xylene	ND	ug/L	1	5/26/2017	SAT	EPA 8260C	
Methacrylonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number	170517053-001	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-001D / WDW-1,2,&3 EFFLUENT			Sampling Time	3:09 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methyl Methacrylate	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methylene chloride	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
o-Xylene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Propionitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Styrene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Tetrachloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Toluene	1.09	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1,2-Dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1,3-Dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Trichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Trichlorofluoromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Vinyl acetate	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Vinyl Chloride	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3-Butadiene	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
1,3-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,4-Dioxane	ND	ug/L	20	5/26/2017	SAT	EPA 8260C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 170517053
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Analytical Results Report

Sample Number	170517053-001	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-001D / WDW-1,2,&3 EFFLUENT			Sampling Time	3:09 PM
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Chloroethyl vinyl ether	ND	ug/L	5.0	5/26/2017	SAT	EPA 8260C	
2-Chlorotoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
2-isopropyltoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
4-Chlorotoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Cyclohexane	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Diethyl ether	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Diisopropyl ether (DIPE)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Epichlorohydrin	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	
Ethyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Ethyl tert-butyl ether	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Freon-113	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Hexachlorobutadiene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Isopropyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Isopropylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Methyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Methylcyclohexane	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
methyl-t-butyl ether (MTBE)	ND	ug/L	10	5/26/2017	SAT	EPA 8260C	
n-Amyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Naphthalene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
n-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
n-Hexane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Nitrobenzene	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number 170517053-001 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-001D / WDW-1,2,&3 EFFLUENT **Sampling Time** 3:09 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
n-Propylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Pentachloroethane	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	
p-isopropyltoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
sec-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
t-Amyl methyl ether	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
t-Butyl alcohol	ND	ug/L	5.0	5/26/2017	SAT	EPA 8260C	
tert-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Tetrahydrofuran	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	

Surrogate Data

Sample Number 170517053-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,2-Dichlorobenzene-d4	EPA 8260C	104.0	70-130
1,2-Dichlorobenzene-d4	EPA 8260C	121.6	70-130
4-Bromofluorobenzene	EPA 8260C	109.6	70-130
4-Bromofluorobenzene	EPA 8260C	99.6	70-130
Toluene-d8	EPA 8260C	98.8	70-130
Toluene-d8	EPA 8260C	96.4	70-130

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Batch #: 170517053

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1705791

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	170517053-004	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-002A / TRIP BLANK			Sampling Time	
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,1-Trichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1,2-Trichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-Dichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-Dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,1-dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,3-Trichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dibromoethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,4-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
2,2-Dichloropropane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
2-Butanone	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
2-hexanone	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Acetone	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acetonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acrolein	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Acrylonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Allyl Chloride	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	

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Project Name: 1705791

Analytical Results Report

Sample Number	170517053-004	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-002A / TRIP BLANK			Sampling Time	
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Benzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromochloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromodichloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromoform	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Carbon disulfide	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Carbon Tetrachloride	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroform	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Chloroprene	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
cis-1,2-dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
cis-1,3-Dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dibromochloromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dibromomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Dichlorodifluoromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Ethyl methacrylate	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Ethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Iodomethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Isobutanol	ND	ug/L	100	5/26/2017	SAT	EPA 8260C	
m+p-Xylene	ND	ug/L	1	5/26/2017	SAT	EPA 8260C	
Methacrylonitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	

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Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number 170517053-004 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-002A / TRIP BLANK **Sampling Time**
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methyl Methacrylate	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Methylene chloride	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
o-Xylene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Propionitrile	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Styrene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Tetrachloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Toluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1,2-Dichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1,3-Dichloropropene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
trans-1-4-Dichloro-2-butene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Trichloroethene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Trichlorofluoromethane	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Vinyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Vinyl Chloride	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,3-Trichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,4-Trichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,2,4-Trimethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3,5-Trimethylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,3-Dichlorobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
1,4-Dioxane	ND	ug/L	20	5/26/2017	SAT	EPA 8260C	
2-Chloroethyl vinyl ether	ND	ug/L	5.0	5/26/2017	SAT	EPA 8260C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number	170517053-004	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-002A / TRIP BLANK			Sampling Time	
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
2-Chlorotoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
4-Chlorotoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Bromobenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Cyclohexane	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Diethyl ether	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Diisopropyl ether (DIPE)	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Epichlorohydrin	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	
Ethyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Ethyl tert-butyl ether	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Freon-113	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Hexachlorobutadiene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Isopropyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Isopropylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Methyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Methylcyclohexane	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
methyl-t-butyl ether (MTBE)	ND	ug/L	10	5/26/2017	SAT	EPA 8260C	
n-Amyl acetate	ND	ug/L	2.0	5/26/2017	SAT	EPA 8260C	
Naphthalene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
n-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
n-Hexane	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
Nitrobenzene	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	
n-Propylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Pentachloroethane	ND	ug/L	5	5/26/2017	SAT	EPA 8260C	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Project Name: 1705791

Analytical Results Report

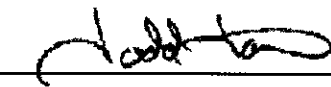
Sample Number 170517053-004 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-002A / TRIP BLANK **Sampling Time**
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
p-isopropyltoluene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
sec-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
t-Amyl methyl ether	ND	ug/L	2.5	5/26/2017	SAT	EPA 8260C	
t-Butyl alcohol	ND	ug/L	5.0	5/26/2017	SAT	EPA 8260C	
tert-Butylbenzene	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	
Tetrahydrofuran	ND	ug/L	0.5	5/26/2017	SAT	EPA 8260C	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
170517053-004	1,2-Dichlorobenzene-d4	EPA 8260C	103.2	70-130
	1,2-Dichlorobenzene-d4	EPA 8260C	105.2	70-130
	4-Bromofluorobenzene	EPA 8260C	99.6	70-130
	4-Bromofluorobenzene	EPA 8260C	92.0	70-130
	Toluene-d8	EPA 8260C	96.4	70-130
	Toluene-d8	EPA 8260C	93.2	70-130

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:CERT0095; FL(NELAP): E871099

Wednesday, July 05, 2017

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Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Trichloroethene	9.83	ug/L	10	98.3	80-120	5/25/2017	5/26/2017
Toluene	10.1	ug/L	10	101.0	80-120	5/25/2017	5/26/2017
Tetrachloroethene	10.0	ug/L	10	100.0	80-120	5/25/2017	5/26/2017
o-Xylene	10.9	ug/L	10	109.0	80-120	5/25/2017	5/26/2017
Ethylbenzene	10.6	ug/L	10	106.0	80-120	5/25/2017	5/26/2017
Chlorobenzene	9.99	ug/L	10	99.9	80-120	5/25/2017	5/26/2017
Benzene	9.99	ug/L	10	99.9	80-120	5/25/2017	5/26/2017
1,1-Dichloroethene	10.0	ug/L	10	100.0	80-120	5/25/2017	5/26/2017

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Trichloroethene	9.67	ug/L	10	96.7	1.6	0-25	5/25/2017	5/26/2017
Toluene	10.2	ug/L	10	102.0	1.0	0-25	5/25/2017	5/26/2017
Tetrachloroethene	9.89	ug/L	10	98.9	1.1	0-25	5/25/2017	5/26/2017
o-Xylene	11.1	ug/L	10	111.0	1.8	0-25	5/25/2017	5/26/2017
Ethylbenzene	10.6	ug/L	10	106.0	0.0	0-25	5/25/2017	5/26/2017
Chlorobenzene	9.75	ug/L	10	97.5	2.4	0-25	5/25/2017	5/26/2017
Benzene	9.94	ug/L	10	99.4	0.5	0-25	5/25/2017	5/26/2017
1,1-Dichloroethene	10.1	ug/L	10	101.0	1.0	0-25	5/25/2017	5/26/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,1,1,2-Tetrachloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1,1-Trichloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1,2,2-Tetrachloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1,2-Trichloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1-Dichloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1-Dichloroethene	ND	ug/L	0.5	5/25/2017	5/26/2017
1,1-dichloropropene	ND	ug/L	0.5	5/25/2017	5/26/2017
1,2,3-Trichloropropane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,2-Dibromo-3-chloropropane(DBCP)	ND	ug/L	0.5	5/25/2017	5/26/2017
1,2-Dibromoethane	ND	ug/L	0.5	5/25/2017	5/26/2017

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2-Dichlorobenzene	ND	ug/L	0.5	5/25/2017	5/26/2017
1,2-Dichloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,2-Dichloropropane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,3-Dichloropropane	ND	ug/L	0.5	5/25/2017	5/26/2017
1,4-Dichlorobenzene	ND	ug/L	0.5	5/25/2017	5/26/2017
2,2-Dichloropropane	ND	ug/L	0.5	5/25/2017	5/26/2017
2-Butanone	ND	ug/L	2.5	5/25/2017	5/26/2017
2-hexanone	ND	ug/L	0.5	5/25/2017	5/26/2017
Acetone	ND	ug/L	2.5	5/25/2017	5/26/2017
Acetonitrile	ND	ug/L	0.5	5/25/2017	5/26/2017
Acrolein	ND	ug/L	2.5	5/25/2017	5/26/2017
Acrylonitrile	ND	ug/L	2.5	5/25/2017	5/26/2017
Allyl Chloride	ND	ug/L	0.5	5/25/2017	5/26/2017
Benzene	ND	ug/L	0.5	5/25/2017	5/26/2017
Bromochloromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Bromodichloromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Bromoform	ND	ug/L	0.5	5/25/2017	5/26/2017
Bromomethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Carbon disulfide	ND	ug/L	0.5	5/25/2017	5/26/2017
Carbon Tetrachloride	ND	ug/L	0.5	5/25/2017	5/26/2017
Chlorobenzene	ND	ug/L	0.5	5/25/2017	5/26/2017
Chloroethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Chloroform	ND	ug/L	0.5	5/25/2017	5/26/2017
Chloromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Chloroprene	ND	ug/L	0.5	5/25/2017	5/26/2017
cis-1,2-dichloroethene	ND	ug/L	0.5	5/25/2017	5/26/2017
cis-1,3-Dichloropropene	ND	ug/L	0.5	5/25/2017	5/26/2017
Dibromochloromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Dibromomethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Dichlorodifluoromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Ethyl methacrylate	ND	ug/L	2.5	5/25/2017	5/26/2017
Ethylbenzene	ND	ug/L	0.5	5/25/2017	5/26/2017
Iodomethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Isobutanol	ND	ug/L	10	5/25/2017	5/26/2017
m+p-Xylene	ND	ug/L	1	5/25/2017	5/26/2017
Methacrylonitrile	ND	ug/L	2.5	5/25/2017	5/26/2017
Methyl ethyl ketone (MEK)	ND	ug/L	2.5	5/25/2017	5/26/2017

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Methyl isobutyl ketone (MIBK)	ND	ug/L	2.5	5/25/2017	5/26/2017
Methyl Methacrylate	ND	ug/L	2.5	5/25/2017	5/26/2017
Methylene chloride	ND	ug/L	2.5	5/25/2017	5/26/2017
o-Xylene	ND	ug/L	0.5	5/25/2017	5/26/2017
Propionitrile	ND	ug/L	2.5	5/25/2017	5/26/2017
Styrene	ND	ug/L	0.5	5/25/2017	5/26/2017
Tetrachloroethene	ND	ug/L	0.5	5/25/2017	5/26/2017
Toluene	ND	ug/L	0.5	5/25/2017	5/26/2017
trans-1,2-Dichloroethene	ND	ug/L	0.5	5/25/2017	5/26/2017
trans-1,3-Dichloropropene	ND	ug/L	0.5	5/25/2017	5/26/2017
trans-1-4-Dichloro-2-butene	ND	ug/L	0.5	5/25/2017	5/26/2017
Trichloroethene	ND	ug/L	0.5	5/25/2017	5/26/2017
Trichlorofluoromethane	ND	ug/L	0.5	5/25/2017	5/26/2017
Vinyl acetate	ND	ug/L	0.5	5/25/2017	5/26/2017
Vinyl Chloride	ND	ug/L	0.5	5/25/2017	5/26/2017

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 170517053
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1705791
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 170517053-002 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-001E / WDW-1,2,&3 EFFLUENT **Extraction Date** 5/17/2017
Matrix Water **Sampling Time** 3:09 PM
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,1-Biphenyl	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
3-Methylcholanthrene	ND	ug/L	0.02	6/13/2017	HSW	EPA 8270D	
Atrazine	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
Benzaldehyde	6.44	ug/L	1	6/13/2017	HSW	EPA 8270D	
Caprolactam	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
Dibenzo(a,h)pyrene	ND	ug/L	0.02	6/13/2017	HSW	EPA 8270D	
Dibenzo(a,i)pyrene	ND	ug/L	0.02	6/13/2017	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
Nitrofen	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
n-nitrosodibutylamine	ND	ug/L	1	6/13/2017	HSW	EPA 8270D	
1,2,4,5-Tetrachlorobenzene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Chlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Methylphenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Nitroaniline	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
2-Nitrophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
3-Nitroaniline	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4-Chloroaniline	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number	170517053-002	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-001E / WDW-1,2,&3 EFFLUENT			Extraction Date	5/17/2017
Matrix	Water	Sampling Time	3:09 PM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
4-Nitroaniline	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
4-Nitrophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Acenaphthene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Acenaphthylene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Acetophenone	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Anthracene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Benzo(g,h,i)perylene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
bis(2-Chloroethyl)ether	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Carbazole	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Chrysene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Dibenzofuran	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Diethylphthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Dimethylphthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Fluoranthene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Fluorene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2	5/23/2017	HSW	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Hexachloroethane	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	5/23/2017	HSW	EPA 8270D	
Isophorone	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Naphthalene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Nitrobenzene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
n-Nitroso-di-n-propylamine	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 170517053
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1705791
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

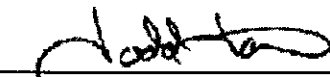
Sample Number	170517053-002	Sampling Date	5/12/2017	Date/Time Received	5/17/2017 11:20 AM
Client Sample ID	1705791-001E / WDW-1,2,&3 EFFLUENT			Extraction Date	5/17/2017
Matrix	Water	Sampling Time	3:09 PM		
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
n-Nitrosodiphenylamine	ND	ug/L	4	5/23/2017	HSW	EPA 8270D	
o-Toluidine	ND	ug/L	4	5/23/2017	HSW	EPA 8270D	
Pentachlorophenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Phenanthrene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Phenol	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Pyrene	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	
Pyridine	ND	ug/L	10	5/23/2017	HSW	EPA 8270D	

Surrogate Data

Sample Number	170517053-002			
Surrogate Standard	Method	Percent Recovery	Control Limits	
2,4,6-Tribromophenol	EPA 8270D	116.0	63-122	
2-Fluorobiphenyl	EPA 8270D	78.8	58-112	
2-Fluorophenol	EPA 8270D	47.6	47-109	
Nitrobenzene-d5	EPA 8270D	74.0	58-110	
Phenol-d5	EPA 8270D	72.2	52-105	
Terphenyl-d14	EPA 8270D	97.2	22-133	
Terphenyl-d14	EPA 8270D	76.4	22-133	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Wednesday, July 05, 2017

Page 3 of 3

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.25	ug/L	5	85.0	45-139	5/17/2017	5/22/2017
Phenol	3.87	ug/L	5	77.4	45-134	5/17/2017	5/22/2017
Pentachlorophenol	7.25	ug/L	5	145.0	22-155	5/17/2017	5/22/2017
n-Nitroso-di-n-propylamine	4.05	ug/L	5	81.0	46-135	5/17/2017	5/22/2017
bis(2-Ethylhexyl)phthalate	4.91	ug/L	5	98.2	43-168	5/17/2017	5/22/2017
Acenaphthene	4.50	ug/L	5	90.0	36-131	5/17/2017	5/22/2017
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	5/17/2017	5/22/2017
4-Chloro-3-methylphenol	4.95	ug/L	5	99.0	42-139	5/17/2017	5/22/2017
2-Chlorophenol	3.93	ug/L	5	78.6	50-131	5/17/2017	5/22/2017
2,4-Dinitrotoluene	4.74	ug/L	5	94.8	49-145	5/17/2017	5/22/2017

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.13	ug/L	5	82.6	2.9	0-36	5/17/2017	5/22/2017
Phenol	3.66	ug/L	5	73.2	5.6	0-35	5/17/2017	5/22/2017
Pentachlorophenol	7.91	ug/L	5	158.2	8.7	0-47	5/17/2017	5/22/2017
n-Nitroso-di-n-propylamine	3.76	ug/L	5	75.2	7.4	0-38	5/17/2017	5/22/2017
bis(2-Ethylhexyl)phthalate	4.85	ug/L	5	97.0	1.2	0-50	5/17/2017	5/22/2017
Acenaphthene	4.34	ug/L	5	86.8	3.6	0-23	5/17/2017	5/22/2017
4-Nitrophenol	5.08	ug/L	5	101.6	8.6	0-50	5/17/2017	5/22/2017
4-Chloro-3-methylphenol	5.12	ug/L	5	102.4	3.4	0-33	5/17/2017	5/22/2017
2-Chlorophenol	3.75	ug/L	5	75.0	4.7	0-50	5/17/2017	5/22/2017
2,4-Dinitrotoluene	4.79	ug/L	5	95.8	1.0	0-47	5/17/2017	5/22/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1-Methylnaphthalene	ND	ug/L	0.5	5/17/2017	5/22/2017
2,3,4,6-Tetrachlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2,4,5-Trichlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2,4,6-Trichlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2,4-Dichlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2,4-Dimethylphenol	ND	ug/L	0.5	5/17/2017	5/22/2017

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 170517053

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1705791

Attn: ANDY FREEMAN

Analytical Results Report

Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
2,4-Dinitrophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2,4-Dinitrotoluene	ND	ug/L	0.5	5/17/2017	5/22/2017
2,6-Dinitrotoluene	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Chloronaphthalene	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Chlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Methylnaphthalene	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Methylphenol	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Nitroaniline	ND	ug/L	0.5	5/17/2017	5/22/2017
2-Nitrophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
3,3'-Dichlorobenzidine	ND	ug/L	0.5	5/17/2017	5/22/2017
3-Nitroaniline	ND	ug/L	0.5	5/17/2017	5/22/2017
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Bromophenyl-phenylether	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Chloro-3-methylphenol	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Chloroaniline	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Chlorophenyl-phenylether	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Nitroaniline	ND	ug/L	0.5	5/17/2017	5/22/2017
4-Nitrophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
Acenaphthene	ND	ug/L	0.5	5/17/2017	5/22/2017
Acenaphthylene	ND	ug/L	0.5	5/17/2017	5/22/2017
Anthracene	ND	ug/L	0.5	5/17/2017	5/22/2017
Benzo(ghi)perylene	ND	ug/L	0.5	5/17/2017	5/22/2017
Benzo[a]anthracene	ND	ug/L	0.5	5/17/2017	5/22/2017
Benzo[a]pyrene	ND	ug/L	0.5	5/17/2017	5/22/2017
Benzo[b]fluoranthene	ND	ug/L	0.5	5/17/2017	5/22/2017
Benzo[k]fluoranthene	ND	ug/L	0.5	5/17/2017	5/22/2017
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	5/17/2017	5/22/2017
bis(2-Chloroethyl)ether	ND	ug/L	0.5	5/17/2017	5/22/2017
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	5/17/2017	5/22/2017
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	5/17/2017	5/22/2017
Butylbenzylphthalate	ND	ug/L	0.5	5/17/2017	5/22/2017
Carbazole	ND	ug/L	0.5	5/17/2017	5/22/2017
Chrysene	ND	ug/L	0.5	5/17/2017	5/22/2017
Dibenz[a,h]anthracene	ND	ug/L	0.5	5/17/2017	5/22/2017
Dibenzofuran	ND	ug/L	0.5	5/17/2017	5/22/2017
Diethylphthalate	ND	ug/L	0.5	5/17/2017	5/22/2017
Dimethylphthalate	ND	ug/L	0.5	5/17/2017	5/22/2017

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 170517053

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1705791

Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Di-n-butylphthalate	ND	ug/L	0.5	5/17/2017	5/22/2017
Di-n-octylphthalate	ND	ug/L	0.5	5/17/2017	5/22/2017
Fluoranthene	ND	ug/L	0.5	5/17/2017	5/22/2017
Fluorene	ND	ug/L	0.5	5/17/2017	5/22/2017
Hexachlorobenzene	ND	ug/L	0.5	5/17/2017	5/22/2017
Hexachlorobutadiene	ND	ug/L	0.5	5/17/2017	5/22/2017
Hexachlorocyclopentadiene	ND	ug/L	0.5	5/17/2017	5/22/2017
Hexachloroethane	ND	ug/L	0.5	5/17/2017	5/22/2017
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	5/17/2017	5/22/2017
Isophorone	ND	ug/L	0.5	5/17/2017	5/22/2017
Naphthalene	ND	ug/L	0.5	5/17/2017	5/22/2017
Nitrobenzene	ND	ug/L	0.5	5/17/2017	5/22/2017
n-Nitroso-di-n-propylamine	ND	ug/L	0.5	5/17/2017	5/22/2017
n-Nitrosodiphenylamine	ND	ug/L	0.5	5/17/2017	5/22/2017
Pentachlorophenol	ND	ug/L	0.5	5/17/2017	5/22/2017
Phenanthrene	ND	ug/L	0.5	5/17/2017	5/22/2017
Phenol	ND	ug/L	0.5	5/17/2017	5/22/2017
Pyrene	ND	ug/L	0.5	5/17/2017	5/22/2017
Pyridine	ND	ug/L	0.5	5/17/2017	5/22/2017

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report

Sample Number 170517053-003 **Sampling Date** 5/12/2017 **Date/Time Received** 5/17/2017 11:20 AM
Client Sample ID 1705791-001F / WDW-1,2,&3 EFFLUENT **Sampling Time** 3:09 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide (reactive)	0.0291	mg/L	0.01	5/22/2017	JEK	SW846 CH7	
Flashpoint	>200	°F		5/30/2017	GPB	EPA 1010	
pH	7.49	ph Units		5/18/2017	KMC	EPA 150.1	
Reactive sulfide	ND	mg/L	0.36	5/25/2017	KMC	SW846 CH7	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170517053
Project Name: 1705791

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Sulfide	0.180	mg/L	0.2	90.0	70-130	5/25/2017	5/25/2017
Cyanide (reactive)	0.528	mg/L	0.5	105.6	80-120	5/19/2017	5/22/2017

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
170519012-001	Sulfide	0.483	1.93	mg/L	1.61	89.9	70-130	5/25/2017	5/25/2017
170512012-001	Cyanide (reactive)	ND	0.549	mg/L	0.5	109.8	80-120	5/19/2017	5/22/2017

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide (reactive)	0.498	mg/L	0.5	99.6	9.7	0-25	5/19/2017	5/22/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide (reactive)	ND	mg/L	1	5/19/2017	5/22/2017
Sulfide	ND	mg/L	0.1	5/25/2017	5/25/2017

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: A42849		RunNo: 42849							
Prep Date:	Analysis Date: 5/16/2017		SeqNo: 1348068		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: A42849		RunNo: 42849							
Prep Date:	Analysis Date: 5/16/2017		SeqNo: 1348069		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.46	0.10	0.5000	0	91.9	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.2	90	110			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R43017		RunNo: 43017							
Prep Date:	Analysis Date: 5/23/2017		SeqNo: 1353804		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R43017		RunNo: 43017							
Prep Date:	Analysis Date: 5/23/2017		SeqNo: 1353805		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.0	90	110			
Sulfate	9.8	0.50	10.00	0	98.1	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.8	90	110			

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: A43119		RunNo: 43119							
Prep Date:	Analysis Date: 5/26/2017		SeqNo: 1357100		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	ND	0.10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	LCS	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	A43119	RunNo:	43119					
Prep Date:		Analysis Date:	5/26/2017	SeqNo:	1357101	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.3	0.10	2.500	0	93.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	MB-32032		SampType: MBLK		TestCode: EPA Method 7470: Mercury					
Client ID:	PBW		Batch ID: 32032		RunNo: 43161					
Prep Date:	5/31/2017		Analysis Date: 5/31/2017		SeqNo: 1358624		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.00020								

Sample ID	LCS-32032		SampType: LCS		TestCode: EPA Method 7470: Mercury					
Client ID:	LCSW		Batch ID: 32032		RunNo: 43161					
Prep Date:	5/31/2017		Analysis Date: 5/31/2017		SeqNo: 1358625		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.9	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	MB-32014		SampType: MBLK		TestCode: MERCURY, TCLP					
Client ID:	PBW		Batch ID: 32014		RunNo: 43138					
Prep Date:	5/30/2017		Analysis Date: 5/30/2017		SeqNo: 1357534		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.020								

Sample ID	LCS-32014		SampType: LCS		TestCode: MERCURY, TCLP					
Client ID:	LCSW		Batch ID: 32014		RunNo: 43138					
Prep Date:	5/30/2017		Analysis Date: 5/30/2017		SeqNo: 1357535		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	98.5	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID MB-31998	SampType: MBLK		TestCode: EPA Method 6010B: TCLP Metals							
Client ID: PBW	Batch ID: 31998		RunNo: 43133							
Prep Date: 5/26/2017	Analysis Date: 5/30/2017		SeqNo: 1357386	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID LCS-31998	SampType: LCS		TestCode: EPA Method 6010B: TCLP Metals							
Client ID: LCSW	Batch ID: 31998		RunNo: 43133							
Prep Date: 5/26/2017	Analysis Date: 5/30/2017		SeqNo: 1357387	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0	105	80	120			
Cadmium	ND	1.0	0.5000	0	106	80	120			
Chromium	ND	5.0	0.5000	0	104	80	120			
Lead	ND	5.0	0.5000	0	99.9	80	120			
Selenium	ND	1.0	0.5000	0	93.5	80	120			
Silver	ND	5.0	0.1000	0	102	80	120			

Sample ID 1705791-001CMS	SampType: MS		TestCode: EPA Method 6010B: TCLP Metals							
Client ID: WDW-1,2,&3 Effluen	Batch ID: 31998		RunNo: 43133							
Prep Date: 5/26/2017	Analysis Date: 5/30/2017		SeqNo: 1357389	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0.03173	102	75	125			
Cadmium	ND	1.0	0.5000	0	107	75	125			
Chromium	ND	5.0	0.5000	0	102	75	125			
Lead	ND	5.0	0.5000	0.005750	96.4	75	125			
Selenium	ND	1.0	0.5000	0	97.0	75	125			
Silver	ND	5.0	0.1000	0	104	75	125			

Sample ID 1705791-001CMSD	SampType: MSD		TestCode: EPA Method 6010B: TCLP Metals							
Client ID: WDW-1,2,&3 Effluen	Batch ID: 31998		RunNo: 43133							
Prep Date: 5/26/2017	Analysis Date: 5/30/2017		SeqNo: 1357390	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	0.03173	104	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	107	75	125	0	20	
Chromium	ND	5.0	0.5000	0	102	75	125	0	20	
Lead	ND	5.0	0.5000	0.005750	96.8	75	125	0	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	1705791-001CMSD	SampType:	MSD	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	WDW-1,2,&3 Effluen	Batch ID:	31998	RunNo:	43133					
Prep Date:	5/26/2017	Analysis Date:	5/30/2017	SeqNo:	1357390	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	1.0	0.5000	0	96.3	75	125	0	20	
Silver	ND	5.0	0.1000	0	105	75	125	0	20	

Sample ID	MB-31998	SampType:	MBLK	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	PBW	Batch ID:	31998	RunNo:	43149					
Prep Date:	5/26/2017	Analysis Date:	5/31/2017	SeqNo:	1358133	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								

Sample ID	LCS-31998	SampType:	LCS	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	LCSW	Batch ID:	31998	RunNo:	43149					
Prep Date:	5/26/2017	Analysis Date:	5/31/2017	SeqNo:	1358134	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	102	80	120			

Sample ID	1705791-001CMS	SampType:	MS	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	WDW-1,2,&3 Effluen	Batch ID:	31998	RunNo:	43149					
Prep Date:	5/26/2017	Analysis Date:	5/31/2017	SeqNo:	1358136	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	113	75	125			

Sample ID	1705791-001CMSD	SampType:	MSD	TestCode:	EPA Method 6010B: TCLP Metals					
Client ID:	WDW-1,2,&3 Effluen	Batch ID:	31998	RunNo:	43149					
Prep Date:	5/26/2017	Analysis Date:	5/31/2017	SeqNo:	1358137	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	113	75	125	0	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	MB-31978	SampType: MBLK			TestCode: EPA 6010B: Metals					
Client ID:	PBW	Batch ID: 31978			RunNo: 43100					
Prep Date:	5/25/2017	Analysis Date: 5/26/2017			SeqNo: 1356797		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.020								
Barium	ND	0.020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Lead	ND	0.0050								
Selenium	ND	0.050								
Silver	ND	0.0050								

Sample ID	LCS-31978		SampType:	LCS		TestCode:	EPA 6010B: Metals				
Client ID:	LCSW		Batch ID:	31978		RunNo:	43100				
Prep Date:	5/25/2017		Analysis Date:	5/26/2017		SeqNo:	1356798		Units:	mg/L	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.50	0.020	0.5000	0	101	80	120			
Barium	0.53	0.020	0.5000	0	105	80	120			
Cadmium	0.53	0.0020	0.5000	0	106	80	120			
Chromium	0.52	0.0060	0.5000	0	104	80	120			
Lead	0.50	0.0050	0.5000	0	101	80	120			
Selenium	0.50	0.050	0.5000	0	100	80	120			
Silver	0.10	0.0050	0.1000	0	103	80	120			

Sample ID	1705791-001BMS	SampType:	MS	TestCode:	EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen	Batch ID:	31978	RunNo:	43100					
Prep Date:	5/25/2017	Analysis Date:	5/26/2017	SeqNo:	1356800	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.56	0.020	0.5000	0.01997	109	75	125			
Barium	0.55	0.020	0.5000	0.01857	105	75	125			
Cadmium	0.55	0.0020	0.5000	0	109	75	125			
Chromium	0.52	0.0060	0.5000	0	104	75	125			
Lead	0.50	0.0050	0.5000	0	100	75	125			
Selenium	0.51	0.050	0.5000	0	101	75	125			
Silver	0.11	0.0050	0.1000	0	106	75	125			

Sample ID	1705791-001BMSD	SampType:	MSD	TestCode:	EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen	Batch ID:	31978	RunNo:	43100					
Prep Date:	5/25/2017	Analysis Date:	5/26/2017	SeqNo:	1356801	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.56	0.020	0.5000	0.01997	108	75	125	0.856	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	1705791-001BMSD		SampType:	MSD		TestCode:	EPA 6010B: Metals			
Client ID:	WDW-1,2,&3 Effluen		Batch ID:	31978		RunNo:	43100			
Prep Date:	5/25/2017		Analysis Date:	5/26/2017		SeqNo:	1356801		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.020	0.5000	0.01857	105	75	125	0.514	20	
Cadmium	0.54	0.0020	0.5000	0	108	75	125	1.02	20	
Chromium	0.52	0.0060	0.5000	0	103	75	125	1.33	20	
Lead	0.50	0.0050	0.5000	0	99.6	75	125	0.519	20	
Selenium	0.53	0.050	0.5000	0	106	75	125	4.26	20	
Silver	0.11	0.0050	0.1000	0	106	75	125	0.565	20	

Sample ID	MB-31978		SampType:	MBLK		TestCode:	EPA 6010B: Metals			
Client ID:	PBW		Batch ID:	31978		RunNo:	43133			
Prep Date:	5/25/2017		Analysis Date:	5/30/2017		SeqNo:	1357403		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Antimony	ND	0.050								
Beryllium	ND	0.0030								
Calcium	ND	1.0								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Thallium	ND	0.050								
Vanadium	ND	0.050								
Zinc	ND	0.020								

Sample ID	LCS-31978		SampType:	LCS		TestCode:	EPA 6010B: Metals			
Client ID:	LCSW		Batch ID:	31978		RunNo:	43133			
Prep Date:	5/25/2017		Analysis Date:	5/30/2017		SeqNo:	1357404		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.58	0.020	0.5000	0	117	80	120			
Antimony	0.51	0.050	0.5000	0	101	80	120			
Beryllium	0.52	0.0030	0.5000	0	105	80	120			
Calcium	52	1.0	50.00	0	103	80	120			
Cobalt	0.51	0.0060	0.5000	0	102	80	120			
Copper	0.53	0.0060	0.5000	0	107	80	120			
Iron	0.52	0.050	0.5000	0	104	80	120			
Magnesium	51	1.0	50.00	0	103	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	LCS-31978		SampType: LCS		TestCode: EPA 6010B: Metals					
Client ID:	LCSW		Batch ID: 31978		RunNo: 43133					
Prep Date:	5/25/2017		Analysis Date: 5/30/2017		SeqNo: 1357404		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.52	0.0020	0.5000	0	104	80	120			
Nickel	0.51	0.010	0.5000	0	102	80	120			
Potassium	50	1.0	50.00	0	101	80	120			
Thallium	0.54	0.050	0.5000	0	108	80	120			
Vanadium	0.52	0.050	0.5000	0	105	80	120			
Zinc	0.51	0.020	0.5000	0	102	80	120			

Sample ID	1705791-001BMS		SampType: MS		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43133					
Prep Date:	5/25/2017		Analysis Date: 5/30/2017		SeqNo: 1357406		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.50	0.050	0.5000	0	100	75	125			
Beryllium	0.52	0.0030	0.5000	0	103	75	125			
Cobalt	0.50	0.0060	0.5000	0.002170	99.7	75	125			
Copper	0.56	0.0060	0.5000	0	113	75	125			
Iron	1.8	0.050	0.5000	1.316	96.4	75	125			
Manganese	0.65	0.0020	0.5000	0.1387	102	75	125			
Nickel	0.50	0.010	0.5000	0.004210	98.4	75	125			
Potassium	87	1.0	50.00	38.51	97.8	75	125			
Thallium	0.54	0.050	0.5000	0.03563	101	75	125			
Vanadium	0.53	0.050	0.5000	0.01117	104	75	125			
Zinc	0.53	0.020	0.5000	0.04639	97.2	75	125			

Sample ID	1705791-001BMSD		SampType: MSD		TestCode: EPA 6010B: Metals						
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43133						
Prep Date:	5/25/2017		Analysis Date: 5/30/2017		SeqNo: 1357407		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Antimony	0.50	0.050	0.5000	0	100	75	125	0.174	20		
Beryllium	0.51	0.0030	0.5000	0	103	75	125	0.471	20		
Cobalt	0.50	0.0060	0.5000	0.002170	100	75	125	0.554	20		
Copper	0.56	0.0060	0.5000	0	112	75	125	0.550	20		
Iron	1.8	0.050	0.5000	1.316	95.8	75	125	0.150	20		
Manganese	0.65	0.0020	0.5000	0.1387	102	75	125	0.116	20		
Nickel	0.50	0.010	0.5000	0.004210	99.5	75	125	1.16	20		
Potassium	88	1.0	50.00	38.51	98.5	75	125	0.355	20		
Thallium	0.52	0.050	0.5000	0.03563	97.7	75	125	2.85	20		
Vanadium	0.53	0.050	0.5000	0.01117	103	75	125	0.319	20		
Zinc	0.54	0.020	0.5000	0.04639	98.7	75	125	1.38	20		

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	1705791-001BMS		SampType: MS		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43149					
Prep Date:	5/25/2017		Analysis Date: 5/31/2017		SeqNo: 1358323		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	1.8	0.020	0.5000	1.036	150	75	125			S

Sample ID	1705791-001BMSD		SampType: MSD		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43149					
Prep Date:	5/25/2017		Analysis Date: 5/31/2017		SeqNo: 1358324		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	1.8	0.020	0.5000	1.036	145	75	125	1.44	20	S

Sample ID	1705791-001BPS		SampType: PS		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43149					
Prep Date:			Analysis Date: 5/31/2017		SeqNo: 1358325		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	1.6	0.020	0.5000	1.036	121	80	120			S

Sample ID	1705791-001BMS		SampType: MS		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43149					
Prep Date:	5/25/2017		Analysis Date: 5/31/2017		SeqNo: 1358327		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	110	5.0	50.00	54.76	105	75	125			

Sample ID	1705791-001BMSD		SampType: MSD		TestCode: EPA 6010B: Metals					
Client ID:	WDW-1,2,&3 Effluen		Batch ID: 31978		RunNo: 43149					
Prep Date:	5/25/2017		Analysis Date: 5/31/2017		SeqNo: 1358328		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	110	5.0	50.00	54.76	112	75	125	3.14	20	

Sample ID	MB-31978		SampType: MBLK		TestCode: EPA 6010B: Metals					
Client ID:	PBW		Batch ID: 31978		RunNo: 43311					
Prep Date:	5/25/2017		Analysis Date: 6/7/2017		SeqNo: 1363473		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	LCS-31978		SampType: LCS		TestCode: EPA 6010B: Metals					
Client ID:	LCSW		Batch ID: 31978		RunNo: 43311					
Prep Date:	5/25/2017		Analysis Date: 6/7/2017		SeqNo: 1363474		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	99.8	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID mb-1	SampType: mblk		TestCode: SM2320B: Alkalinity							
Client ID: PBW	Batch ID: R42905		RunNo: 42905							
Prep Date:	Analysis Date: 5/18/2017		SeqNo: 1350182		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID lcs-1	SampType: lcs		TestCode: SM2320B: Alkalinity							
Client ID: LCSW	Batch ID: R42905		RunNo: 42905							
Prep Date:	Analysis Date: 5/18/2017		SeqNo: 1350183		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.32	20.00	80.00	0	97.9	90	110			

Sample ID lcsd-1	SampType: lcsd		TestCode: SM2320B: Alkalinity							
Client ID: LCSS02	Batch ID: R42905		RunNo: 42905							
Prep Date:	Analysis Date: 5/18/2017		SeqNo: 1350184		Units: mg/L CaCO3					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.08	20.00	80.00	0	97.6	90	110	0.307	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705791

05-Jul-17

Client: Navajo Refining Company
Project: Quarterly WDW-1, 2, &3 Inj Well

Sample ID	MB-31769	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	PBW	Batch ID:	31769	RunNo:	42866
Prep Date:	5/16/2017	Analysis Date:	5/17/2017	SeqNo:	1348678 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND	20.0			

Sample ID	LCS-31769	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids
Client ID:	LCSW	Batch ID:	31769	RunNo:	42866
Prep Date:	5/16/2017	Analysis Date:	5/17/2017	SeqNo:	1348679 Units: mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1030	20.0	1000	0	103 80 120

Qualifiers:

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



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

Sample Log-In Check List

Client Name: NAVAJO REFINING CO

Work Order Number: 1705791

RcptNo: 1

Received By: Erin Melendrez 5/16/2017 9:35:00 AM

Completed By: Ashley Gallegos 5/16/2017 10:23:38 AM

Reviewed By:

aj

5/16/17

UAG

AG

Chain of Custody

1. Custody seals intact on sample bottles? Yes No Not Present ✓
2. Is Chain of Custody complete? Yes ✓ No Not Present
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ✓ No NA
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ✓ No NA
6. Sample(s) in proper container(s)? Yes ✓ No
7. Sufficient sample volume for indicated test(s)? Yes ✓ No
8. Are samples (except VOA and ONG) properly preserved? Yes ✓ No
9. Was preservative added to bottles? Yes No ✓ NA
10. VOA vials have zero headspace? Yes ✓ No No VOA Vials
11. Were any sample containers received broken? Yes No ✓
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ✓ No
13. Are matrices correctly identified on Chain of Custody? Yes ✓ No
14. Is it clear what analyses were requested? Yes ✓ No
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ✓ No
of preserved bottles checked for pH: 2, 1
(≤ 2 or >12 unless noted)
Adjusted? No
Checked by: RE

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✓

Person Notified:

Date

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes			



Navajo Refining Company, LLC
501 E. Main
Artesia, NM 88210
(Tel) 575.748.3311
(Fax) 575.746.5451

Injection Well Quarterly Sample Details Attachment



Sample Type	Physical Property
Grab ☒	Solid ☐
Time Weighted Composite ☐	Liquid ☒
Flow Weighted Composite ☐	Sludge ☐

Parts / Sample Intervals	Type of Sampler
One	Directly to sample jars

Project Name	WDWA-1, 2, & 3 Qrtly Inj Well
Samplers Name	Brady Hubbard
Samplers Affiliation	Navajo Refining Co. LLC
Start Date and Time	5/12/17 @ 3:03 pm
End Date and Time	5/12/17 @ 3:18 pm

Outfall / Sample Location:	Waste water effluent pumps to injection wells.
	☒ P-849 sample point (first from east) ☐ P-855 sample point (third from east)
	☐ P-854 sample point (second from east) ☒ P-857 sample point (fourth from east)

Container	Size	Material	# of Containers	Preservatives							Analysis and/or Method Requested
				Neat (None)	HCL	HNO3	H2SO4	NaOH	Na2S2O3	NaHSO4	
1			3	X			X				Specific Gravity, HCO ₃ , CO ₃ , Cl, SO ₄ , TDS, pH, cond., FI, Cation/anion bal., Br, Eh/40 CFR 136.3
2			1			X					VOCs/SW-846 Method 8260C (see attached list 'VOCs')
3			3		X						SVOCs/SW-846 Method 8270D (see attached list 'SVOCs')
4			2	X							R.C.140 CFR part 261
5			2	X							Metals/SW-846 Mhd 6010, 7470 (see attached list 'Metals')
6			2	X							Ca, K, Mg, Na/40 CFR 136.3
7			1	X							TCLP Metals, only /40 CFR Part 261/ SW-846 Method 1311
8											
9											
10											

Field Data (Weather, Observations, Etc):	5/12/17 Temp: 77.0° F, Humidity 25%, Wind Direction Variable, Wind Speed 5.8 mph, Conditions Clear
Date and Time:	

Field Temp: 39.2°C Field pH: 7.37

Storage Method	Shipping Media
Ice ☒	Ice ☒
Refrigerated ☐	Other ☐
Other ☐	



Navajo Refining Company, LLC
501 E. Main
Anesia, NM 88210
(Tel) 575.748.3311
(Fax) 575.746.5451

Quarterly RO Reject Sample Details Attachment



Project Name	Quarterly RO Reject
Samplers Name	Brady Hubbard
Samplers Affiliation	Navajo Refining Co. LLC
Start Date and Time	5/12/17 @ 3:28 pm
End Date and Time	5/12/17 @ 3:54 pm

Sample Type	Grab ☒
Time Weighted Composite	☐
Flow Weighted Composite	☐

Physical Property	
Solid	☐
Liquid	☒
Sludge	☐

Parts / Sample Intervals	One
--------------------------	-----

Type of Sampler	Directly to sample jars
-----------------	-------------------------

Outfall / Sample Location: ☐ North Field R.O. Reject Discharge ☒ South Field R.O. Reject Discharge

Container	Size	Material	# of Containers	Neat (None)	Preservatives					Other	Analysis and/or Method Requested
					HCL	HNO3	H2SO4	NaOH	Na2S2O3	NaHSO4	
1	500ml	Plastic	2	X			X				pH, Cl, F, SO4, NO2/NO3, TDS
2	40ml	VOA	3		X						8015 GRO
3	500ml	Plastic	1			X					6020 total metals, 7470 Hg
4	125ml	Plastic	1			X					6020 Dissolved Metals
5	500ml	Plastic	2					X			Cyanide
6	1L	Plastic	3			X					Radium 226/228
7	40ml	VOA	2		X						8260 see attached list
8	1L	Glass	1	X							8270 see attached list
9	1L	Glass	2	X							8082 PCDs
10	40ml	VOA	2	X							8015 DRO
11	40ml	VOA	2		X						Radium 226/228

Field Data (Weather, Observations, Etc): 5/12/2017 Temp 78.8 °F, Humidity 26%, Wind Dir. SE, Wind Speed 9.2 mph, Conditions Clear

Date and Time:

Field Temp: 25.0°C
Field pH: 7.68

Storage Method	
Ice	☒
Refrigerated	☐
Other	☐

Shipping Media	
Ice	☒
Other	☐



REFINING COMPANY, LLC

RECEIVED OGD

FAX

(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET, P.O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX

(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

January 28, 2011

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

**RE: 2010 Fourth Quarterly Injection Report for Wells WDW-1, WDW-2 and WDW-3
Navajo Refining Company, L.L.C.**

Dear Mr. Chavez,

Enclosed, please find the sampling results for the fourth quarter of 2010 from the injected fluids and a spread sheet showing various volumes and pressures as requested in your October 6, 1999 letter. You will notice that the annular pressure on the wells continues to vary unpredictably. This is due to the wide range of temperatures we are seeing at the wells. A better gauge to determine if the tubing is leaking is a volume measurement of the fluid in the annular space via the graduated tanks located at the well head. We are closely monitoring the fluid level for these wells. A Mechanical Integrity Test (MIT) on all the wells was last done on August 12, 2010 and a quarterly Bradenhead for WDW-3 was last done on December 16, 2010. All of the wells passed. The quarterly Bradenhead on WDW-3 is per Carl Chavez's email of December 9, 2009 to Darrell Moore. The volumes for these three tanks are reported in the attached Well Annulus Measurement System (WAMS) table.

During the month of September 2010 the Mewbourne Well (WDW-1) experienced a lightning strike to the electrical service to the well. The lightning caused several electrical problems. The low annular pressure reading on WDW-1 from the beginning of October was related to the lightning strike in September and the subsequent electrical repairs.

In November the minimum annular pressure on WDW-1 unexpectedly went below 100 psig. Since then, the annular pressure in WDW-1 has returned to normal operating pressures and the antifreeze level did not drop. This indicates that there was not a leak in the well casing. Navajo will continue to monitor the annular pressure and will report to the NMOCD if any ongoing issues continue.

You will also notice that the minimum annular pressure for the Gains Well (WDW-3) appeared to be reading low at the beginning of October. Navajo investigated but found no cause for the low reading. The low reading was from September 30th to October 1st 2010. Since then, the annular pressure in WDW-3 has returned to normal operating pressures. This was also reported in the 2010 Third Quarterly Injection Report.

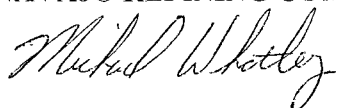
This report covers the period from Oct. 1, 2010 to Dec. 31, 2010. We have disposed a total of 52,065,213 barrels of fluid into the three wells as of December 31, 2010. The volume per well is:

- 29,272,663 barrels into WDW-1
- 15,872,314 barrels into WDW-2
- 6,920,236 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please call me at 575-748-3311.

Respectfully,

NAVAJO REFINING COMPANY

A handwritten signature in cursive script, reading "Michael Whatley".

Michael Whatley
Vice-President, Navajo Refinery

Electronic cc (w/enc.):
Environmental File:

DGM, JEL, AMS
Navajo: (ART: REF - 4 A 02 D)

2010 FOURTH QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMULATIVE Volume (barrels)
WDW-1														
Oct-10	684	777	628	128	142	124	242	366	77	4,385	4,865	4,263	135,942	28,889,783
Nov-10	641	693	280	121	129	76	137	256	15	4,140	4,430	2,616	124,193	29,025,724
Dec-10	634	748	283	115	140	71	420	650	209	3,960	4,814	2,431	122,746	29,149,917
WDW-2														
Oct-10	639	713	150	136	141	98	482	780	175	4,650	4,843	3,368	144,147	15,450,315
Nov-10	628	707	279	133	138	96	291	576	130	4,565	4,733	3,300	136,954	15,594,462
Dec-10	591	683	293	133	142	105	503	728	267	4,545	4,852	3,601	140,898	15,731,416
WDW-3														
Oct-10	687	790	275	189	211	161	258	424	10	6,490	7,248	5,516	201,178	6,331,983
Nov-10	666	724	284	186	193	180	227	356	137	6,363	6,627	6,167	190,880	6,533,161
Dec-10	630	696	285	185	194	146	338	624	197	6,329	6,660	4,997	196,195	6,724,041
Total Injected fluids:														52,065,213

2010 FOURTH QUARTER WEEKLY WAMS LEVEL TABLE

	10/4/10	10/14/10	10/18/10	10/28/10	11/1/10	11/8/10	11/15/10	11/22/10	11/29/10	12/7/10	12/13/10	12/21/10	12/27/10
WDW -1 ¹	155	155	155	155	155	155	155	155	155	155	155	150	150
WDW-2 ¹	150	155	155	155	155	155	150	150	150	150	150	150	150
WDW-3 ¹	150	150	150	150	150	150	150	150	150	150	150	150	150
Comments: Added antifreeze to WDW-1 and to WDW-3 on 12/28/2010. WDW-1 was brought up to 190 gallons and WDW-3 was brought up to 180 gallons. The antifreeze was added as a maintenance procedure, not because of a leak or drop in the antifreeze level.													

¹ Graduated tank gauged weekly in the field. Reading is in gallons.



09-Dec-2010

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 748-3311
Fax: (575) 746-5421

Re: Injection Well Quarterly

Work Order: 1011768

Dear Aaron,

ALS Environmental received 1 sample on 19-Nov-2010 09:10 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 40.

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

Sincerely,

Electronically approved by: Mary K. Knowles

JayLynn F Thibault
Project Manager



Certificate No: T104704231-09A-TX

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1011768

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1011768-01	Effluent	Water		11/18/2010 13:45	11/19/2010 09:10	☐

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Work Order: 1011768

Case Narrative

Batch 48226 Metals (sample 1011646-04) MS/MSD unrelated sample.

Batch 48202, Semivolatiles, Sample 1011768-01B: Sample had low level surrogates added, it was spike at 5PPM.

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Sample ID: Effluent

Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768

Lab ID: 1011768-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			SW7470		Prep Date: 12/1/2010	Analyst: JCJ
Mercury	ND		0.000200	mg/L	1	12/1/2010 06:01 PM
METALS			SW6020		Prep Date: 11/29/2010	Analyst: ALR
Aluminum	1.57		0.0100	mg/L	1	12/1/2010 05:56 AM
Arsenic	0.0365		0.00500	mg/L	1	12/1/2010 05:56 AM
Barium	0.0456		0.00500	mg/L	1	12/1/2010 05:56 AM
Beryllium	ND		0.00200	mg/L	1	12/1/2010 05:56 AM
Boron	0.248		0.0200	mg/L	1	12/1/2010 05:56 AM
Cadmium	ND		0.00200	mg/L	1	12/1/2010 05:56 AM
Calcium	136		0.500	mg/L	1	12/1/2010 05:56 AM
Chromium	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Cobalt	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Copper	0.00568		0.00500	mg/L	1	12/1/2010 05:56 AM
Iron	0.605		0.200	mg/L	1	12/1/2010 05:56 AM
Lead	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Magnesium	41.3		0.200	mg/L	1	12/1/2010 05:56 AM
Manganese	0.0250		0.00500	mg/L	1	12/1/2010 05:56 AM
Molybdenum	0.110		0.00500	mg/L	1	12/1/2010 05:56 AM
Nickel	0.00531		0.00500	mg/L	1	12/1/2010 05:56 AM
Potassium	20.6		0.200	mg/L	1	12/1/2010 05:56 AM
Selenium	0.645		0.00500	mg/L	1	12/1/2010 05:56 AM
Silver	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Sodium	965		20.0	mg/L	100	12/1/2010 08:47 PM
Vanadium	0.00639		0.00500	mg/L	1	12/1/2010 05:56 AM
Zinc	1.51		0.00500	mg/L	1	12/1/2010 05:56 AM
SEMIVOLATILES			SW8270		Prep Date: 11/23/2010	Analyst: ACN
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Methylnaphthalene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Methylphenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Nitrophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
3&4-Methylphenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
3-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
4-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
4-Nitrophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Acenaphthene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Acenaphthylene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM

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

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Sample ID: Effluent

Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768

Lab ID: 1011768-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Anthracene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Benz(a)anthracene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Benzidine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Hexachloroethane	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Isophorone	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Naphthalene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Nitrobenzene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Pentachlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Phenanthrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Phenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Pyrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Surr: 2,4,6-Tribromophenol	75.8		42-124	%REC	1	11/30/2010 12:13 AM
Surr: 2-Fluorobiphenyl	49.1		48-120	%REC	1	11/30/2010 12:13 AM
Surr: 2-Fluorophenol	28.9		20-120	%REC	1	11/30/2010 12:13 AM
Surr: 4-Terphenyl-d14	72.8		51-135	%REC	1	11/30/2010 12:13 AM
Surr: Nitrobenzene-d5	43.4		41-120	%REC	1	11/30/2010 12:13 AM
Surr: Phenol-d6	41.0		20-120	%REC	1	11/30/2010 12:13 AM
VOLATILES			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
2-Butanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
2-Hexanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Acetone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Benzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Bromodichloromethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM

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

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Sample ID: Effluent

Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768

Lab ID: 1011768-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Bromoform	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Bromomethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Carbon disulfide	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chlorobenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloroform	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloromethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Dibromochloromethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Ethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Isopropylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
m,p-Xylene	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Methylene chloride	ND		0.010	mg/L	1	11/19/2010 11:06 PM
n-Butylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
n-Propylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Naphthalene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
o-Xylene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Styrene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Tetrachloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Toluene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Trichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Vinyl chloride	ND		0.0020	mg/L	1	11/19/2010 11:06 PM
Xylenes, Total	ND		0.015	mg/L	1	11/19/2010 11:06 PM
Surr: 1,2-Dichloroethane-d4	115		70-125	%REC	1	11/19/2010 11:06 PM
Surr: 4-Bromofluorobenzene	90.3		72-125	%REC	1	11/19/2010 11:06 PM
Surr: Dibromofluoromethane	104		71-125	%REC	1	11/19/2010 11:06 PM
Surr: Toluene-d8	89.4		75-125	%REC	1	11/19/2010 11:06 PM
REACTIVE CYANIDE			SW-846		Analyst: HN	
Reactive Cyanide	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM
REACTIVE SULFIDE			SW-846		Analyst: HN	
Reactive Sulfide	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM
ANIONS			E300		Analyst: DM	
Chloride	315		5.00	mg/L	10	12/2/2010 06:05 PM

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

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company
 Project: Injection Well Quarterly
 Sample ID: Effluent
 Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768
 Lab ID: 1011768-01
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Sulfate	1,870		50.0	mg/L	100	12/2/2010 06:26 PM
Surr: Selenate (surr)	108		85-115	%REC	10	12/2/2010 06:05 PM
Surr: Selenate (surr)	108		85-115	%REC	100	12/2/2010 06:26 PM
ALKALINITY			SM2320B			Analyst: TDW
Alkalinity, Bicarbonate (As CaCO3)	209		5.00	mg/L	1	12/1/2010 12:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	12/1/2010 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	12/1/2010 12:00 PM
Alkalinity, Total (As CaCO3)	209		5.00	mg/L	1	12/1/2010 12:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: TDW
Specific Conductivity	4,270		1.00	µmhos/cm	1	12/8/2010 05:00 PM
IGNITIBILITY			SW1010			Analyst: JLC
Ignitability	> 212		50.0	°F	1	12/2/2010 10:00 AM
PH			SW9040			Analyst: JLC
pH	6.86	H	0.100	pH units	1	12/2/2010 10:00 AM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: JLC
Total Dissolved Solids (Residue, Filterable)	3,220		10.0	mg/L	1	11/22/2010 10:00 AM

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

ALS Environmental

Date: 09-Dec-10

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48226 Instrument ID ICPMS03 Method: SW6020

MBLK	Sample ID: MBLKW3-112910-48226				Units: mg/L		Analysis Date: 12/1/2010 03:16 AM			
Client ID:	Run ID: ICPMS03_101129A				SeqNo: 2194211		Prep Date: 11/29/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	ND	0.0050								
Cadmium	ND	0.0020								
Lead	0.000411	0.0050								J
Molybdenum	ND	0.0050								
Potassium	ND	0.20								
Silver	ND	0.0050								
Sodium	ND	0.20								

MBLK	Sample ID: MBLKW3-112910-48226				Units: mg/L		Analysis Date: 12/1/2010 06:54 PM			
Client ID:	Run ID: ICPMS03_101201A				SeqNo: 2194999		Prep Date: 11/29/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.004626	0.010								J
Arsenic	ND	0.0050								
Beryllium	ND	0.0020								
Boron	0.006392	0.050								J
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Nickel	ND	0.0050								
Selenium	ND	0.0050								
Vanadium	ND	0.0050								
Zinc	ND	0.0050								

LCS	Sample ID: MLCSW3-112910-48226					Units: mg/L		Analysis Date: 12/1/2010 03:22 AM		
Client ID:	Run ID: ICPMS03_101129A				SeqNo: 2194212		Prep Date: 11/29/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04767	0.0050	0.05	0	95.3	80-120	0			
Cadmium	0.04753	0.0020	0.05	0	95.1	80-120	0			
Lead	0.04766	0.0050	0.05	0	95.3	80-120	0			
Molybdenum	0.0463	0.0050	0.05	0	92.6	80-120	0			
Potassium	4.724	0.20	5	0	94.5	80-120	0			
Silver	0.04823	0.0050	0.05	0	96.5	80-120	0			
Sodium	4.697	0.20	5	0	93.9	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48226 Instrument ID ICPMS03 Method: SW6020

LCS		Sample ID: MLCSW3-112910-48226				Units: mg/L		Analysis Date: 12/1/2010 07:00 PM		
Client ID:		Run ID: ICPMS03_101201A				SeqNo: 2195000		Prep Date: 11/29/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1076	0.010	0.1	0	108	80-120	0			
Arsenic	0.05247	0.0050	0.05	0	105	80-120	0			
Beryllium	0.05118	0.0020	0.05	0	102	80-120	0			
Boron	0.5231	0.050	0.5	0	105	80-120	0			
Calcium	5.42	0.50	5	0	108	80-120	0			
Chromium	0.05208	0.0050	0.05	0	104	80-120	0			
Cobalt	0.05202	0.0050	0.05	0	104	80-120	0			
Copper	0.05348	0.0050	0.05	0	107	80-120	0			
Iron	5.104	0.20	5	0	102	80-120	0			
Magnesium	5.139	0.20	5	0	103	80-120	0			
Manganese	0.05195	0.0050	0.05	0	104	80-120	0			
Nickel	0.05268	0.0050	0.05	0	105	80-120	0			
Selenium	0.05194	0.0050	0.05	0	104	80-120	0			
Vanadium	0.05119	0.0050	0.05	0	102	80-120	0			
Zinc	0.0567	0.0050	0.05	0	113	80-120	0			

MS		Sample ID: 1011646-04DMS				Units: mg/L		Analysis Date: 12/1/2010 07:48 PM		
Client ID:		Run ID: ICPMS03_101201A				SeqNo: 2195009		Prep Date: 11/29/2010		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.195	0.050	0.1	0.09505	100	80-120	0			
Arsenic	0.0706	0.025	0.05	0.01558	110	80-120	0			
Barium	0.2407	0.025	0.05	0.1904	101	80-120	0			
Beryllium	0.04758	0.010	0.05	0.0005875	94	80-120	0			
Boron	6.155	0.25	0.5	5.605	110	80-120	0			O
Cadmium	0.0501	0.010	0.05	-0.0001616	101	80-120	0			
Calcium	845.5	2.5	5	861	-310	80-120	0			SO
Chromium	0.0526	0.025	0.05	-0.0000512	105	80-120	0			
Cobalt	0.0533	0.025	0.05	0.003532	99.5	80-120	0			
Copper	0.04809	0.025	0.05	-0.001918	100	80-120	0			
Iron	6.19	1.0	5	1.05	103	80-120	0			
Lead	0.05295	0.025	0.05	0.001148	104	80-120	0			
Magnesium	296.8	1.0	5	289.2	150	80-120	0			SO
Manganese	1.964	0.025	0.05	1.947	33	80-120	0			SO
Molybdenum	0.05485	0.025	0.05	0.002885	104	80-120	0			
Nickel	0.0512	0.025	0.05	0.001844	98.7	80-120	0			
Potassium	34.36	1.0	5	29.04	106	80-120	0			O
Selenium	0.0531	0.025	0.05	0.002118	102	80-120	0			
Silver	0.04806	0.025	0.05	-0.001506	99.1	80-120	0			
Sodium	ND	1.0	5	2764	-55300	80-120	0			SO
Vanadium	0.05385	0.025	0.05	0.000912	106	80-120	0			
Zinc	0.0608	0.025	0.05	0.009745	102	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48226 Instrument ID ICPMS03 Method: SW6020

MSD		Sample ID: 1011646-04DMSD				Units: mg/L		Analysis Date: 12/1/2010 07:54 PM		
Client ID:		Run ID: ICPMS03_101201A				SeqNo: 2195010		Prep Date: 11/29/2010		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.196	0.050	0.1	0.09505	101	80-120	0.195	0.537	15	
Arsenic	0.06995	0.025	0.05	0.01558	109	80-120	0.0706	0.925	15	
Barium	0.2502	0.025	0.05	0.1904	120	80-120	0.2407	3.89	15	
Beryllium	0.04879	0.010	0.05	0.0005875	96.4	80-120	0.04758	2.51	15	
Boron	6.435	0.25	0.5	5.605	166	80-120	6.155	4.45	15	SO
Cadmium	0.05065	0.010	0.05	-0.0001616	102	80-120	0.0501	1.09	15	
Calcium	866	2.5	5	861	100	80-120	845.5	2.4	15	O
Chromium	0.0519	0.025	0.05	-0.0000512	104	80-120	0.0526	1.34	15	
Cobalt	0.05485	0.025	0.05	0.003532	103	80-120	0.0533	2.87	15	
Copper	0.04901	0.025	0.05	-0.001918	102	80-120	0.04809	1.89	15	
Iron	6.235	1.0	5	1.05	104	80-120	6.19	0.724	15	
Lead	0.05365	0.025	0.05	0.001148	105	80-120	0.05295	1.31	15	
Magnesium	298.6	1.0	5	289.2	188	80-120	296.8	0.638	15	SO
Manganese	2.004	0.025	0.05	1.947	113	80-120	1.964	2.02	15	O
Molybdenum	0.0554	0.025	0.05	0.002885	105	80-120	0.05485	0.998	15	
Nickel	0.05275	0.025	0.05	0.001844	102	80-120	0.0512	2.98	15	
Potassium	35	1.0	5	29.04	119	80-120	34.36	1.83	15	O
Selenium	0.06095	0.025	0.05	0.002118	118	80-120	0.0531	13.8	15	
Silver	0.04926	0.025	0.05	-0.001506	102	80-120	0.04806	2.49	15	
Sodium	ND	1.0	5	2764	-55300	80-120	0	0	15	SO
Vanadium	0.0539	0.025	0.05	0.000912	106	80-120	0.05385	0.0928	15	
Zinc	0.0585	0.025	0.05	0.009745	97.5	80-120	0.0608	3.86	15	

DUP		Sample ID: 1011646-04DDUP				Units: mg/L		Analysis Date: 12/1/2010 07:11 PM		
Client ID:		Run ID: ICPMS03_101201A				SeqNo: 2195002		Prep Date: 11/29/2010		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	5.808	5.0	0	0	0	-0 0	6.459	10.6	25	
Calcium	947.3	50	0	0	0	-0 0	913.1	3.68	25	
Magnesium	288.4	20	0	0	0	-0 0	279.2	3.24	25	
Sodium	2751	20	0	0	0	-0 0	2654	3.59	25	

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48226 Instrument ID ICPMS03 Method: SW6020

DUP Sample ID: 1011646-04DDUP Units: mg/L Analysis Date: 12/1/2010 07:43 PM

Client ID: Run ID: ICPMS03_101201A SeqNo: 2195008 Prep Date: 11/29/2010 DF: 5

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.089	0.050	0	0	0	-0 0	0.09505	6.57	25	
Arsenic	0.01345	0.025	0	0	0	-0 0	0.01558	0	25	J
Barium	0.1912	0.025	0	0	0	-0 0	0.1904	0.419	25	
Beryllium	ND	0.010	0	0	0	-0 0	0.0005875	0	25	
Cadmium	ND	0.010	0	0	0	-0 0	-0.0001616	0	25	
Chromium	ND	0.025	0	0	0	-0 0	-0.0000512	0	25	
Cobalt	0.002645	0.025	0	0	0	-0 0	0.003532	0	25	J
Copper	ND	0.025	0	0	0	-0 0	-0.001918	0	25	
Iron	0.932	1.0	0	0	0	-0 0	1.05	0	25	J
Lead	ND	0.025	0	0	0	-0 0	0.001148	0	25	
Manganese	1.83	0.025	0	0	0	-0 0	1.947	6.22	25	
Molybdenum	ND	0.025	0	0	0	-0 0	0.002885	0	25	
Nickel	ND	0.025	0	0	0	-0 0	0.001844	0	25	
Potassium	29.63	1.0	0	0	0	-0 0	29.04	2.01	25	
Selenium	ND	0.025	0	0	0	-0 0	0.002118	0	25	
Silver	ND	0.025	0	0	0	-0 0	-0.001506	0	25	
Vanadium	ND	0.025	0	0	0	-0 0	0.000912	0	25	
Zinc	ND	0.025	0	0	0	-0 0	0.009745	0	25	

The following samples were analyzed in this batch:

1011768-01C

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48286 Instrument ID Mercury Method: SW7470

MBLK Sample ID: GBLKW4-120110-48286 Units: mg/L Analysis Date: 12/1/2010 05:18 PM

Client ID: Run ID: MERCURY_101201A SeqNo: 2195107 Prep Date: 12/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: GLCSW4-120110-48286 Units: mg/L Analysis Date: 12/1/2010 05:20 PM

Client ID: Run ID: MERCURY_101201A SeqNo: 2195108 Prep Date: 12/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00494	0.00020	0.005	0	98.8	85-115	0			

MS Sample ID: 1011732-12DMS Units: mg/L Analysis Date: 12/1/2010 05:26 PM

Client ID: Run ID: MERCURY_101201A SeqNo: 2195111 Prep Date: 12/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00494	0.00020	0.005	0.000008	98.6	85-115	0			

MSD Sample ID: 1011732-12DMSD Units: mg/L Analysis Date: 12/1/2010 05:28 PM

Client ID: Run ID: MERCURY_101201A SeqNo: 2195112 Prep Date: 12/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00482	0.00020	0.005	0.000008	96.2	85-115	0.00494	2.46	20	

DUP Sample ID: 1011732-12DDUP Units: mg/L Analysis Date: 12/1/2010 05:24 PM

Client ID: Run ID: MERCURY_101201A SeqNo: 2195110 Prep Date: 12/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	-0 0	0.000008	0	20	

The following samples were analyzed in this batch:

1011768-01C

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48202 Instrument ID SV-5 Method: SW8270

MBLK Sample ID: SBLKW1-101123-48202 Units: µg/L Analysis Date: 11/30/2010 01:20 PM

Client ID: Run ID: SV-5_101129E SeqNo: 2192961 Prep Date: 11/23/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
2-Nitroaniline	ND	5.0								
2-Nitrophenol	ND	5.0								
3&4-Methylphenol	ND	5.0								
3-Nitroaniline	ND	5.0								
4-Nitroaniline	ND	5.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	5.0								
Anthracene	ND	5.0								
Benz(a)anthracene	ND	5.0								
Benzidine	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	5.0								
Isophorone	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	5.0								
Naphthalene	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	5.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
Surr: 2,4,6-Tribromophenol	75.2	5.0	100	0	75.2	42-124		0		
Surr: 2-Fluorobiphenyl	83.41	5.0	100	0	83.4	48-120		0		
Surr: 2-Fluorophenol	69.51	5.0	100	0	69.5	20-120		0		
Surr: 4-Terphenyl-d14	81.34	5.0	100	0	81.3	51-135		0		
Surr: Nitrobenzene-d5	81.6	5.0	100	0	81.6	41-120		0		
Surr: Phenol-d6	65.15	5.0	100	0	65.1	20-120		0		

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48202 Instrument ID SV-5 Method: SW8270

LCS Sample ID: SLCSW1-101123-48202 Units: µg/L Analysis Date: 11/29/2010 06:49 PM

Client ID: Run ID: SV-5_101129E SeqNo: 2192962 Prep Date: 11/23/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	39.52	5.0	50	0	79	50-120	0			
2,4,5-Trichlorophenol	79.13	5.0	100	0	79.1	50-120	0			
2,4,6-Trichlorophenol	81.61	5.0	100	0	81.6	50-120	0			
2-Methylnaphthalene	39.02	5.0	50	0	78	55-120	0			
2-Methylphenol	80.67	5.0	100	0	80.7	50-120	0			
2-Nitroaniline	38.92	5.0	50	0	77.8	55-120	0			
2-Nitrophenol	78.68	5.0	100	0	78.7	55-120	0			
3&4-Methylphenol	119.9	5.0	150	0	79.9	55-120	0			
3-Nitroaniline	33.62	5.0	50	0	67.2	40-120	0			
4-Nitroaniline	38.09	5.0	50	0	76.2	50-120	0			
4-Nitrophenol	83.06	5.0	100	0	83.1	45-120	0			
Acenaphthene	41.06	5.0	50	0	82.1	55-120	0			
Acenaphthylene	41.01	5.0	50	0	82	55-120	0			
Aniline	32.43	5.0	50	0	64.9	30-120	0			
Anthracene	41.79	5.0	50	0	83.6	55-120	0			
Benz(a)anthracene	40.63	5.0	50	0	81.3	55-120	0			
Benzidine	10.97	5.0	50	0	21.9	10-120	0			
Hexachloroethane	38.94	5.0	50	0	77.9	55-120	0			
Indeno(1,2,3-cd)pyrene	41.26	5.0	50	0	82.5	55-120	0			
Isophorone	40.91	5.0	50	0	81.8	55-120	0			
N-Nitrosodi-n-propylamine	41.09	5.0	50	0	82.2	50-120	0			
N-Nitrosodimethylamine	34.5	5.0	50	0	69	45-120	0			
N-Nitrosodiphenylamine	42.57	5.0	50	0	85.1	55-120	0			
Naphthalene	41.08	5.0	50	0	82.2	55-120	0			
Nitrobenzene	40.05	5.0	50	0	80.1	55-120	0			
Pentachlorophenol	69.13	5.0	100	0	69.1	55-120	0			
Phenanthrene	40.84	5.0	50	0	81.7	55-120	0			
Phenol	83.5	5.0	100	0	83.5	50-120	0			
Pyrene	42.69	5.0	50	0	85.4	55-120	0			
Surr: 2,4,6-Tribromophenol	78.84	5.0	100	0	78.8	42-124	0			
Surr: 2-Fluorobiphenyl	79.43	5.0	100	0	79.4	48-120	0			
Surr: 2-Fluorophenol	82.23	5.0	100	0	82.2	20-120	0			
Surr: 4-Terphenyl-d14	77.71	5.0	100	0	77.7	51-135	0			
Surr: Nitrobenzene-d5	78.25	5.0	100	0	78.3	41-120	0			
Surr: Phenol-d6	81.38	5.0	100	0	81.4	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 48202 Instrument ID SV-5 Method: SW8270

LCSO Sample ID: SLCSOW1-101123-48202 Units: µg/L Analysis Date: 11/29/2010 07:11 PM

Client ID: Run ID: SV-5_101129E SeqNo: 2192963 Prep Date: 11/23/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	41.57	5.0	50	0	83.1	50-120	39.52	5.08	20	
2,4,5-Trichlorophenol	82.32	5.0	100	0	82.3	50-120	79.13	3.95	20	
2,4,6-Trichlorophenol	83.05	5.0	100	0	83.1	50-120	81.61	1.75	20	
2-Methylnaphthalene	39.87	5.0	50	0	79.7	55-120	39.02	2.15	20	
2-Methylphenol	80.77	5.0	100	0	80.8	50-120	80.67	0.115	20	
2-Nitroaniline	41.2	5.0	50	0	82.4	55-120	38.92	5.69	20	
2-Nitrophenol	82.78	5.0	100	0	82.8	55-120	78.68	5.08	20	
3&4-Methylphenol	119.4	5.0	150	0	79.6	55-120	119.9	0.413	20	
3-Nitroaniline	32.62	5.0	50	0	65.2	40-120	33.62	3.03	20	
4-Nitroaniline	38.59	5.0	50	0	77.2	50-120	38.09	1.3	20	
4-Nitrophenol	82.17	5.0	100	0	82.2	45-120	83.06	1.07	20	
Acenaphthene	43.41	5.0	50	0	86.8	55-120	41.06	5.58	20	
Acenaphthylene	42.22	5.0	50	0	84.4	55-120	41.01	2.91	20	
Aniline	33.23	5.0	50	0	66.5	30-120	32.43	2.45	20	
Anthracene	43.38	5.0	50	0	86.8	55-120	41.79	3.74	20	
Benz(a)anthracene	42.16	5.0	50	0	84.3	55-120	40.63	3.7	20	
Benzidine	11.21	5.0	50	0	22.4	10-120	10.97	2.17	20	
Hexachloroethane	41.26	5.0	50	0	82.5	55-120	38.94	5.79	20	
Indeno(1,2,3-cd)pyrene	45.85	5.0	50	0	91.7	55-120	41.26	10.5	20	
Isophorone	42.04	5.0	50	0	84.1	55-120	40.91	2.73	20	
N-Nitrosodi-n-propylamine	41.39	5.0	50	0	82.8	50-120	41.09	0.71	20	
N-Nitrosodimethylamine	36.61	5.0	50	0	73.2	45-120	34.5	5.93	20	
N-Nitrosodiphenylamine	45.12	5.0	50	0	90.2	55-120	42.57	5.82	20	
Naphthalene	42.26	5.0	50	0	84.5	55-120	41.08	2.84	20	
Nitrobenzene	41.63	5.0	50	0	83.3	55-120	40.05	3.89	20	
Pentachlorophenol	71.24	5.0	100	0	71.2	55-120	69.13	3.01	20	
Phenanthrene	41.67	5.0	50	0	83.3	55-120	40.84	2.02	20	
Phenol	83.36	5.0	100	0	83.4	50-120	83.5	0.169	20	
Pyrene	46.62	5.0	50	0	93.2	55-120	42.69	8.81	20	
Surr: 2,4,6-Tribromophenol	82.68	5.0	100	0	82.7	42-124	78.84	4.75	20	
Surr: 2-Fluorobiphenyl	85.13	5.0	100	0	85.1	48-120	79.43	6.93	20	
Surr: 2-Fluorophenol	83.97	5.0	100	0	84	20-120	82.23	2.09	20	
Surr: 4-Terphenyl-d14	85.28	5.0	100	0	85.3	51-135	77.71	9.28	20	
Surr: Nitrobenzene-d5	81.53	5.0	100	0	81.5	41-120	78.25	4.1	20	
Surr: Phenol-d6	80.68	5.0	100	0	80.7	20-120	81.38	0.863	20	

The following samples were analyzed in this batch:

1011768-01B

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228 Instrument ID VOA1 Method: SW8260

MBLK Sample ID: VBLKW-111910-R101228 Units: µg/L Analysis Date: 11/19/2010 01:48 PM

Client ID: Run ID: VOA1_101119A SeqNo: 2180477 Prep Date: DF: 1

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

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228 Instrument ID VOA1 Method: SW8260

trans-1,3-Dichloropropene	ND	5.0						
Trichloroethene	ND	5.0						
Vinyl chloride	ND	2.0						
Xylenes, Total	ND	15						
Surr: 1,2-Dichloroethane-d4	52.32	5.0	50	0	105	70-125	0	
Surr: 4-Bromofluorobenzene	45.3	5.0	50	0	90.6	72-125	0	
Surr: Dibromofluoromethane	50.06	5.0	50	0	100	71-125	0	
Surr: Toluene-d8	47.65	5.0	50	0	95.3	75-125	0	

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228 Instrument ID VOA1 Method: SW8260

LCS Sample ID: VLCSW-111910-R101228 Units: µg/L Analysis Date: 11/19/2010 12:31 PM

Client ID: Run ID: VOA1_101119A SeqNo: 2180476 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	51.44	5.0	50	0	103	80-120	0			
1,1,2,2-Tetrachloroethane	48.17	5.0	50	0	96.3	72-120	0			
1,1,2-Trichloroethane	50.65	5.0	50	0	101	80-120	0			
1,1-Dichloroethane	52.84	5.0	50	0	106	76-120	0			
1,1-Dichloroethene	49.9	5.0	50	0	99.8	73-124	0			
1,2,4-Trimethylbenzene	43.91	5.0	50	0	87.8	68-123	0			
1,2-Dibromoethane	50.93	5.0	50	0	102	80-120	0			
1,2-Dichloroethane	53.92	5.0	50	0	108	78-120	0			
1,2-Dichloropropane	53.41	5.0	50	0	107	80-120	0			
1,3,5-Trimethylbenzene	45.56	5.0	50	0	91.1	80-120	0			
2-Butanone	100.2	10	100	0	100	58-132	0			
2-Hexanone	105.8	10	100	0	106	61-130	0			
4-Isopropyltoluene	46.7	5.0	50	0	93.4	79-120	0			
4-Methyl-2-pentanone	101.9	10	100	0	102	65-127	0			
Acetone	95.44	10	100	0	95.4	59-137	0			
Benzene	51.29	5.0	50	0	103	73-121	0			
Bromodichloromethane	51.9	5.0	50	0	104	80-120	0			
Bromoform	52.58	5.0	50	0	105	79-120	0			
Bromomethane	61.16	5.0	50	0	122	66-137	0			
Carbon disulfide	101.7	10	100	0	102	68-141	0			
Carbon tetrachloride	47.91	5.0	50	0	95.8	75-124	0			
Chlorobenzene	48.72	5.0	50	0	97.4	80-120	0			
Chloroethane	54.97	5.0	50	0	110	76-121	0			
Chloroform	53.29	5.0	50	0	107	80-120	0			
Chloromethane	52.83	5.0	50	0	106	67-123	0			
cis-1,2-Dichloroethene	50.15	5.0	50	0	100	78-120	0			
cis-1,3-Dichloropropene	51.03	5.0	50	0	102	80-120	0			
Dibromochloromethane	51.58	5.0	50	0	103	80-120	0			
Ethylbenzene	47.52	5.0	50	0	95	80-120	0			
Isopropylbenzene	47.25	5.0	50	0	94.5	80-120	0			
m,p-Xylene	98	10	100	0	98	78-121	0			
Methyl tert-butyl ether	54.73	5.0	50	0	109	73-121	0			
Methylene chloride	51.74	10	50	0	103	65-133	0			
n-Butylbenzene	45.57	5.0	50	0	91.1	77-120	0			
n-Propylbenzene	46.77	5.0	50	0	93.5	78-120	0			
Naphthalene	47.99	5.0	50	0	96	65-127	0			
o-Xylene	47.53	5.0	50	0	95.1	80-120	0			
sec-Butylbenzene	46.79	5.0	50	0	93.6	78-120	0			
Styrene	47.69	5.0	50	0	95.4	80-120	0			
Tetrachloroethene	49.52	5.0	50	0	99	79-120	0			
Toluene	48.76	5.0	50	0	97.5	80-120	0			
trans-1,2-Dichloroethene	50.72	5.0	50	0	101	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228	Instrument ID VOA1		Method: SW8260					
trans-1,3-Dichloropropene	53.79	5.0	50	0	108	80-120	0	
Trichloroethene	51.66	5.0	50	0	103	80-120	0	
Vinyl chloride	51.85	2.0	50	0	104	70-127	0	
Xylenes, Total	145.5	15	150	0	97	80-120	0	
Surr: 1,2-Dichloroethane-d4	50.21	5.0	50	0	100	70-125	0	
Surr: 4-Bromofluorobenzene	47.16	5.0	50	0	94.3	72-125	0	
Surr: Dibromofluoromethane	48.26	5.0	50	0	96.5	71-125	0	
Surr: Toluene-d8	47.43	5.0	50	0	94.9	75-125	0	

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228 Instrument ID VOA1 Method: SW8260

MS	Sample ID: 1011667-03ZMS	Units: µg/L					Analysis Date: 11/19/2010 03:30 PM			
Client ID:	Run ID: VOA1_101119A	SeqNo: 2180479			Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.62	5.0	50	0	95.2	80-120	0			
1,1,2,2-Tetrachloroethane	49.17	5.0	50	0	98.3	72-120	0			
1,1,2-Trichloroethane	51.75	5.0	50	0	104	80-120	0			
1,1-Dichloroethane	55.24	5.0	50	0	110	76-120	0			
1,1-Dichloroethene	43.85	5.0	50	0	87.7	73-124	0			
1,2,4-Trimethylbenzene	41.88	5.0	50	0	83.8	68-123	0			
1,2-Dibromoethane	51.19	5.0	50	0	102	80-120	0			
1,2-Dichloroethane	59.64	5.0	50	0	119	78-120	0			
1,2-Dichloropropane	55.96	5.0	50	0	112	80-120	0			
1,3,5-Trimethylbenzene	44.47	5.0	50	0	88.9	80-120	0			
2-Butanone	99.49	10	100	0	99.5	58-132	0			
2-Hexanone	114.5	10	100	0	115	61-130	0			
4-Isopropyltoluene	40.22	5.0	50	0	80.4	79-120	0			
4-Methyl-2-pentanone	111.1	10	100	0	111	65-127	0			
Acetone	99.3	10	100	0	99.3	59-137	0			
Benzene	52.98	5.0	50	0	106	73-121	0			
Bromodichloromethane	52.66	5.0	50	0	105	80-120	0			
Bromoform	53.48	5.0	50	0	107	79-120	0			
Bromomethane	59.55	5.0	50	0	119	66-137	0			
Carbon disulfide	99.61	10	100	0	99.6	68-141	0			
Carbon tetrachloride	44.07	5.0	50	0	88.1	75-124	0			
Chlorobenzene	49.55	5.0	50	0	99.1	80-120	0			
Chloroethane	53.18	5.0	50	0	106	76-121	0			
Chloroform	54.79	5.0	50	0	110	80-120	0			
Chloromethane	51.21	5.0	50	0	102	67-123	0			
cis-1,2-Dichloroethene	50.92	5.0	50	0	102	78-120	0			
cis-1,3-Dichloropropene	56.6	5.0	50	0	113	80-120	0			
Dibromochloromethane	51.45	5.0	50	0	103	80-120	0			
Ethylbenzene	46.04	5.0	50	0	92.1	80-120	0			
Isopropylbenzene	44.73	5.0	50	0	89.5	80-120	0			
m,p-Xylene	94.15	10	100	0	94.2	78-121	0			
Methyl tert-butyl ether	56.37	5.0	50	0	113	73-121	0			
Methylene chloride	54.11	10	50	0	108	65-133	0			
n-Butylbenzene	39.86	5.0	50	0	79.7	77-120	0			
n-Propylbenzene	42.13	5.0	50	0	84.3	78-120	0			
Naphthalene	46.5	5.0	50	0	93	65-127	0			
o-Xylene	46.64	5.0	50	0	93.3	80-120	0			
sec-Butylbenzene	41.15	5.0	50	0	82.3	78-120	0			
Styrene	49.7	5.0	50	0	99.4	80-120	0			
Tetrachloroethene	44.69	5.0	50	0	89.4	79-120	0			
Toluene	48.22	5.0	50	0	96.4	80-120	0			
trans-1,2-Dichloroethene	49.3	5.0	50	0	98.6	78-120	0			

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228	Instrument ID VOA1	Method: SW8260					
trans-1,3-Dichloropropene	58.81	5.0	50	0	118	80-120	0
Trichloroethene	51.9	5.0	50	0	104	80-120	0
Vinyl chloride	48.8	2.0	50	0	97.6	70-127	0
Xylenes, Total	140.8	15	150	0	93.9	80-120	0
Surr: 1,2-Dichloroethane-d4	52.55	5.0	50	0	105	70-125	0
Surr: 4-Bromofluorobenzene	45.88	5.0	50	0	91.8	72-125	0
Surr: Dibromofluoromethane	51.44	5.0	50	0	103	71-125	0
Surr: Toluene-d8	48.27	5.0	50	0	96.5	75-125	0

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228 Instrument ID VOA1 Method: SW8260

MSD Sample ID: 1011667-03ZMSD Units: µg/L Analysis Date: 11/19/2010 03:55 PM

Client ID: Run ID: VOA1_101119A SeqNo: 2180480 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	53.86	5.0	50	0	108	80-120	47.62	12.3	20	
1,1,2,2-Tetrachloroethane	49.64	5.0	50	0	99.3	72-120	49.17	0.957	20	
1,1,2-Trichloroethane	54.17	5.0	50	0	108	80-120	51.75	4.57	20	
1,1-Dichloroethane	56.66	5.0	50	0	113	76-120	55.24	2.54	20	
1,1-Dichloroethene	48.59	5.0	50	0	97.2	73-124	43.85	10.2	20	
1,2,4-Trimethylbenzene	41.45	5.0	50	0	82.9	68-123	41.88	1.04	20	
1,2-Dibromoethane	53.48	5.0	50	0	107	80-120	51.19	4.37	20	
1,2-Dichloroethane	57.77	5.0	50	0	116	78-120	59.64	3.18	20	
1,2-Dichloropropane	56.13	5.0	50	0	112	80-120	55.96	0.308	20	
1,3,5-Trimethylbenzene	45.13	5.0	50	0	90.3	80-120	44.47	1.49	20	
2-Butanone	106	10	100	0	106	58-132	99.49	6.3	20	
2-Hexanone	114.2	10	100	0	114	61-130	114.5	0.297	20	
4-Isopropyltoluene	41.9	5.0	50	0	83.8	79-120	40.22	4.09	20	
4-Methyl-2-pentanone	118.3	10	100	0	118	65-127	111.1	6.26	20	
Acetone	98.5	10	100	0	98.5	59-137	99.3	0.803	20	
Benzene	51.34	5.0	50	0	103	73-121	52.98	3.14	20	
Bromodichloromethane	53.92	5.0	50	0	108	80-120	52.66	2.37	20	
Bromoform	54.95	5.0	50	0	110	79-120	53.48	2.72	20	
Bromomethane	69.02	5.0	50	0	138	66-137	59.55	14.7	20	S
Carbon disulfide	102.8	10	100	0	103	68-141	99.61	3.12	20	
Carbon tetrachloride	47.37	5.0	50	0	94.7	75-124	44.07	7.21	20	
Chlorobenzene	49.72	5.0	50	0	99.4	80-120	49.55	0.342	20	
Chloroethane	56.84	5.0	50	0	114	76-121	53.18	6.64	20	
Chloroform	54.92	5.0	50	0	110	80-120	54.79	0.23	20	
Chloromethane	55.66	5.0	50	0	111	67-123	51.21	8.32	20	
cis-1,2-Dichloroethene	52.84	5.0	50	0	106	78-120	50.92	3.71	20	
cis-1,3-Dichloropropene	54.69	5.0	50	0	109	80-120	56.6	3.44	20	
Dibromochloromethane	54.63	5.0	50	0	109	80-120	51.45	6.01	20	
Ethylbenzene	49.61	5.0	50	0	99.2	80-120	46.04	7.47	20	
Isopropylbenzene	48.08	5.0	50	0	96.2	80-120	44.73	7.22	20	
m,p-Xylene	103.3	10	100	0	103	78-121	94.15	9.24	20	
Methyl tert-butyl ether	57.02	5.0	50	0	114	73-121	56.37	1.15	20	
Methylene chloride	55.48	10	50	0	111	65-133	54.11	2.51	20	
n-Butylbenzene	43.86	5.0	50	0	87.7	77-120	39.86	9.55	20	
n-Propylbenzene	45.77	5.0	50	0	91.5	78-120	42.13	8.28	20	
Naphthalene	49.1	5.0	50	0	98.2	65-127	46.5	5.43	20	
o-Xylene	52.15	5.0	50	0	104	80-120	46.64	11.1	20	
sec-Butylbenzene	42.44	5.0	50	0	84.9	78-120	41.15	3.09	20	
Styrene	53.56	5.0	50	0	107	80-120	49.7	7.47	20	
Tetrachloroethene	52.02	5.0	50	0	104	79-120	44.69	15.2	20	
Toluene	52.12	5.0	50	0	104	80-120	48.22	7.78	20	
trans-1,2-Dichloroethene	49.95	5.0	50	0	99.9	78-120	49.3	1.32	20	

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101228	Instrument ID VOA1		Method: SW8260						
trans-1,3-Dichloropropene	57.6	5.0	50	0	115	80-120	58.81	2.09	20
Trichloroethene	53.58	5.0	50	0	107	80-120	51.9	3.19	20
Vinyl chloride	54.85	2.0	50	0	110	70-127	48.8	11.7	20
Xylenes, Total	155.4	15	150	0	104	80-120	140.8	9.87	20
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>53.85</i>	<i>5.0</i>	<i>50</i>	<i>0</i>	<i>108</i>	<i>70-125</i>	<i>52.55</i>	<i>2.45</i>	<i>20</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.59</i>	<i>5.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>72-125</i>	<i>45.88</i>	<i>9.76</i>	<i>20</i>
<i>Surr: Dibromofluoromethane</i>	<i>52.57</i>	<i>5.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>71-125</i>	<i>51.44</i>	<i>2.19</i>	<i>20</i>
<i>Surr: Toluene-d8</i>	<i>50.57</i>	<i>5.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>75-125</i>	<i>48.27</i>	<i>4.64</i>	<i>20</i>

The following samples were analyzed in this batch:

1011768-01A

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101446 Instrument ID Balance1 Method: M2540C

MBLK Sample ID: BLANK-R101446 Units: mg/L Analysis Date: 11/22/2010 10:00 AM

Client ID: Run ID: BALANCE1_101122P SeqNo: 2184816 Prep Date: DF: 1

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

LCS Sample ID: LCS-R101446 Units: mg/L Analysis Date: 11/22/2010 10:00 AM

Client ID: Run ID: BALANCE1_101122P SeqNo: 2184817 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	986	10	1000	0	98.6	85-115	0			

DUP Sample ID: 1011766-02CDUP Units: mg/L Analysis Date: 11/22/2010 10:00 AM

Client ID: Run ID: BALANCE1_101122P SeqNo: 2184812 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	5950	10	0	0	0	0-0	5430	9.14	20	

The following samples were analyzed in this batch:

1011768-01E

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101835 Instrument ID WetChem Method: SM2320B

MBLK Sample ID: WBLKW1-120110-R101835 Units: mg/L Analysis Date: 12/1/2010 12:00 PM

Client ID: Run ID: WETCHEM_101201F SeqNo: 2194508 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0								
Alkalinity, Carbonate (As CaCO3)	ND	5.0								
Alkalinity, Hydroxide (As CaCO3)	ND	5.0								
Alkalinity, Total (As CaCO3)	ND	5.0								

LCS Sample ID: WLCSW1-120110-R101835 Units: mg/L Analysis Date: 12/1/2010 12:00 PM

Client ID: Run ID: WETCHEM_101201F SeqNo: 2194509 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	994.6	5.0	1000	0	99.5	80-120	0			
Alkalinity, Total (As CaCO3)	994.6	5.0	1000	0	99.5	80-120	0			

DUP Sample ID: 1011869-01FDUP Units: mg/L Analysis Date: 12/1/2010 12:00 PM

Client ID: Run ID: WETCHEM_101201F SeqNo: 2194532 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	258.6	5.0	0	0	0	0-0	258.6	0	20	
Alkalinity, Carbonate (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	258.6	5.0	0	0	0	0-0	258.6	0	20	

The following samples were analyzed in this batch:

1011768-01E

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: **R101876** Instrument ID **WetChem** Method: **SW1010**

LCS Sample ID: **WLCS-120210-R101876** Units: °F Analysis Date: **12/2/2010 10:00 AM**

Client ID: Run ID: **WETCHEM_101202A** SeqNo: **2195699** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	83	50	83	0	100	80-120	0			

DUP Sample ID: **1011734-01ADUP** Units: °F Analysis Date: **12/2/2010 10:00 AM**

Client ID: Run ID: **WETCHEM_101202A** SeqNo: **2195707** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	ND	50	0	0	0	-0 0	0	0	25	

The following samples were analyzed in this batch:

1011768-01E

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101879 Instrument ID WetChem Method: SW9040

LCS Sample ID: WLCS-120210-R101879 Units: pH units Analysis Date: 12/2/2010 10:00 AM

Client ID: Run ID: WETCHEM_101202B SeqNo: 2195860 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6	0.10	6	0	100	90-110	0			

DUP Sample ID: 1011768-01EDUP Units: pH units Analysis Date: 12/2/2010 10:00 AM

Client ID: Effluent Run ID: WETCHEM_101202B SeqNo: 2195864 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.86	0.10	0	0	0	-0 0	6.86	0	20	H

The following samples were analyzed in this batch:

1011768-01E

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

Client: Navajo Refining Company
 Work Order: 1011768
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R101909 Instrument ID ICS3K2 Method: E300

MBLK	Sample ID: WBLKW2-120210-R101909				Units: mg/L		Analysis Date: 12/2/2010 01:23 PM			
Client ID:	Run ID: ICS3K2_101202A				SeqNo: 2196403		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Surr: Selenate (surr)	5.164	0.10	5	0	103	85-115	0			

LCS	Sample ID: WLCW2-120210-R101909				Units: mg/L		Analysis Date: 12/2/2010 01:44 PM			
Client ID:	Run ID: ICS3K2_101202A				SeqNo: 2196404		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.31	0.50	20	0	107	90-110	0			
Sulfate	19.62	0.50	20	0	98.1	90-110	0			
Surr: Selenate (surr)	5.161	0.10	5	0	103	85-115	0			

LCSD	Sample ID: WLCSDW2-120210-R101909				Units: mg/L		Analysis Date: 12/2/2010 02:06 PM			
Client ID:	Run ID: ICS3K2_101202A				SeqNo: 2196405		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.28	0.50	20	0	106	90-110	21.31	0.169	20	
Sulfate	19.74	0.50	20	0	98.7	90-110	19.62	0.594	20	
Surr: Selenate (surr)	5.117	0.10	5	0	102	85-115	5.161	0.856	20	

MS	Sample ID: 1011730-01EMS				Units: mg/L		Analysis Date: 12/2/2010 04:16 PM			
Client ID:	Run ID: ICS3K2_101202A				SeqNo: 2196411		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	74.09	0.50	10	64.71	93.7	80-120	0			O
Sulfate	79.68	0.50	10	71.3	83.9	80-120	0			O
Surr: Selenate (surr)	5.495	0.10	5	0	110	85-115	0			

MSD	Sample ID: 1011730-01EMSD				Units: mg/L		Analysis Date: 12/2/2010 04:38 PM			
Client ID:	Run ID: ICS3K2_101202A				SeqNo: 2196412		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	74.15	0.50	10	64.71	94.4	80-120	74.09	0.0837	20	O
Sulfate	79.76	0.50	10	71.3	84.7	80-120	79.68	0.0991	20	O
Surr: Selenate (surr)	5.576	0.10	5	0	112	85-115	5.495	1.46	20	

The following samples were analyzed in this batch:

1011768-01E

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

Client: Navajo Refining Company
Work Order: 1011768
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: **R102199** Instrument ID **WetChem** Method: **M2510 B**

MBLK Sample ID: **WBLKW-120810-R102199** Units: **µmhos/cm** Analysis Date: **12/8/2010 05:00 PM**

Client ID: Run ID: **WETCHEM_101208D** SeqNo: **2203694** Prep Date: DF: **1**

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

LCS Sample ID: **WLCSW-120810-R102199** Units: **µmhos/cm** Analysis Date: **12/8/2010 05:00 PM**

Client ID: Run ID: **WETCHEM_101208D** SeqNo: **2203695** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1420	1.0	1490	0	95.3	80-120	0			

LCSD Sample ID: **WLCSDW-120810-R102199** Units: **µmhos/cm** Analysis Date: **12/8/2010 05:00 PM**

Client ID: Run ID: **WETCHEM_101208D** SeqNo: **2203704** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1410	1.0	1490	0	94.6	80-120	1420	0.707	20	

DUP Sample ID: **1011768-01EDUP** Units: **µmhos/cm** Analysis Date: **12/8/2010 05:00 PM**

Client ID: **Effluent** Run ID: **WETCHEM_101208D** SeqNo: **2203702** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	4250	1.0	0	0	0		4270	0.469	20	

The following samples were analyzed in this batch:

1011768-01E

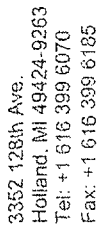
Client: Navajo Refining Company
Project: Injection Well Quarterly
WorkOrder: 1011768

**QUALIFIERS,
ACRONYMS, UNITS**

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

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

<u>Units Reported</u>	<u>Description</u>
°F	Fahrenheit degrees
µmhos/cm	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
pH units	



ALS Work Order #: 01768

Note:

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

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ALS Environmental

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 19-Nov-10 09:10

Work Order: 1011768

Received by: RNG

Checklist completed by *Joe Credeur*
eSignature

19-Nov-10
Date

Reviewed by: *Lynne F. Thibault*
eSignature

21-Nov-10
Date

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☒	No ☐	Not Present ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>12</u>	<u>002</u>	
Cooler(s)/Kit(s):	<u>3706</u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u>-</u>		
Login Notes:			

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ALS Group USA, Corp

Date: 03-Dec-10

Client: ALS Environmental
Project: 1011768
Work Order: 1011690

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1011690-01	1011768-01D	Water		11/18/2010 13:45	11/30/2010 10:00	☐

Client: ALS Environmental
Project: 1011768
WorkOrder: 1011690

**QUALIFIERS,
ACRONYMS, UNITS**

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

ALS Group USA, Corp

Date: 03-Dec-10

Client: ALS Environmental
Project: 1011768
Sample ID: 1011768-01D
Collection Date: 11/18/2010 01:45 PM

Work Order: 1011690
Lab ID: 1011690-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE Cyanide, Reactive	ND		SW7.3.3.2 40.0	mg/Kg	1	Analyst: EE 12/2/2010 12:00 PM
SULFIDE, REACTIVE Sulfide, Reactive	ND		SW7.3.4.2 40.0	mg/Kg	1	Analyst: EE 12/2/2010 12:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 03-Dec-10

Client: ALS Environmental

QC BATCH REPORT

Work Order: 1011690

Project: 1011768

Batch ID: R84400

Instrument ID WETCHEM

Method: SW7.3.4.2

MBLK Sample ID: WBLKW1-120210-R84400

Units: mg/Kg

Analysis Date: 12/2/2010 12:00 PM

Client ID:

Run ID: WETCHEM_101202A

SeqNo: 1496062

Prep Date:

DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch:

1011690-01A

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

Client: ALS Environmental
Work Order: 1011690
Project: 1011768

QC BATCH REPORT

Batch ID: R84401 Instrument ID WETCHEM Method: SW7.3.3.2

MBLK Sample ID: WBLKW1-120210-R84401 Units: mg/Kg Analysis Date: 12/2/2010 12:00 PM

Client ID: Run ID: WETCHEM_101202B SeqNo: 1496063 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: WLCBW1-120210-R84401 Units: mg/Kg Analysis Date: 12/2/2010 12:00 PM

Client ID: Run ID: WETCHEM_101202B SeqNo: 1496064 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	75-125	0			

LCSD Sample ID: WLCSDW1-120210-R84401 Units: mg/Kg Analysis Date: 12/2/2010 12:00 PM

Client ID: Run ID: WETCHEM_101202B SeqNo: 1496072 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	75-125	234.9	6.06	35	

MS Sample ID: 1011690-01A MS Units: mg/Kg Analysis Date: 12/2/2010 12:00 PM

Client ID: 1011768-01D Run ID: WETCHEM_101202B SeqNo: 1496068 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	50-150	0			

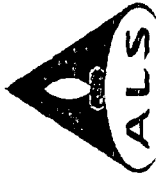
MSD Sample ID: 1011690-01A MSD Units: mg/Kg Analysis Date: 12/2/2010 12:00 PM

Client ID: 1011768-01D Run ID: WETCHEM_101202B SeqNo: 1496069 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	50-150	234.9	6.45	35	

The following samples were analyzed in this batch: 1011690-01A

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



Subcontractor:
ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

CHAIN-OF-CUSTODY RECORD

Date: 23-Nov-10
COC ID: 9726
Due Date 03-Dec-10

Page 1 of 1

Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order	10-2119680	Project Name	1011768	A	Reactive Cyanide (SW-846)												
Work Order		Project Number		B	Reactive Sulfide (SW-846)												
Company Name	ALS Group USA, Corp.	Bill To Company	ALS Group USA, Corp.	C													
Send Report To	JayLynn F Thibault	Inv Attn	Accounts Payable	D													
Address	10450 Standcliff Rd, Suite 210	Address	10450 Standcliff Rd, Suite 210	E													
				F													
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G													
Phone	(281) 530-5656	Phone	(281) 530-5656	H													
Fax	(281) 530-5887	Fax	(281) 530-5887	I													
eMail Address	jaylynn.thibault@alsenviro.com	eMail CC	mary.knowles@alsglobal.com	J													
Sample ID																	
1011768-01D (Effluent)																	
Matrix				Collection Date	24hr	Bottle											
Water				18/Nov/2010 13:45	(2) 1LPNEAT												
				A	B	C	D	E	F	G	H	I	J				
				X	X												

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 12/3/10. Send report to Jaylynn Thibault, jaylynn.thibault@alsglobal.com, and CC: results to Glenda Ramos, glenda.ramos@alsglobal.com and Mary Knowles, mary.knowles@alsglobal.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler ID's	Report/QC Level
	11/23/10 - FedEx		11/30/10 1000		Std
Relinquished by:	Date/Time	Received by:	Date/Time		

4.6 c

mc

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: ALS - HOUSTON

Date/Time Received: 30-Nov-10 10:00

Work Order: 1011690

Received by: DS

Checklist completed by Diane Shan
eSignature

30-Nov-10
Date

Reviewed by: Bill Carey
eSignature

02-Dec-10
Date

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>4.6 c</u>		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:			
Login Notes:			

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

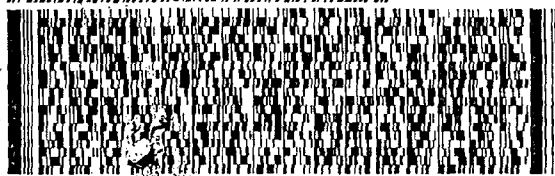
Regarding:

Comments:

CorrectiveAction:

BILL SENDER

REF: (SUB CONTRACT)



TUE - 30 NOV A4
PRIORITY OVERNIGHT

49424
MI-US
GRR



505C1/BCDA/DA47

Parl # 156148-434 NRIT V3 12-09



REFINING COMPANY, LLC

RECEIVED OGD

FAX

(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX

2010 JUL 30 2:11 PM
(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

July 29, 2010

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

**RE: 2010 Second Quarterly Injection Report for Wells WDW-1, WDW-2 and WDW-3
Navajo Refining Company, L.L.C.**

Dear Mr. Chavez,

Enclosed, please find the sampling results for the second quarter of 2010 from the injected fluids and a spread sheet showing various volumes and pressures as requested in your October 6, 1999 letter. You will notice that the annular pressure on the wells continues to vary unpredictably. This is due to the wide range of temperatures we are seeing at the wells. A better gauge to determine if the tubing is leaking is a volume measurement of the fluid in the annular space via the graduated tanks located at the well head. We track this fluid level and have found it to be dropping at a very slow rate in WDW-3. We are closely monitoring the fluid level for these wells. A Mechanical Integrity Test (MIT) on all the wells was last done in October 2009 and a quarterly MIT for WDW-3 was last done in June 2010. All of the wells passed. The quarterly MIT on WDW-3 is per Carl Chavez's email of December 9, 2009 to Darrell Moore. The volumes for these three tanks are reported in the attached Well Annulus Measurement System (WAMS) table.

This report covers the period from April 1, 2010 to June 30, 2010. We have disposed a total of 49,261,631 barrels of fluid into the three wells as of December 31, 2009. The volume per well is:

- 28,481,528 barrels into WDW-1
- 15,013,110 barrels into WDW-2
- 5,766,994 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please call me at 575-748-3311.

Respectfully,

NAVAJO REFINING COMPANY

Michael Whatley
Vice-President, Navajo Refinery

Electronic cc (w/enc.):
Environmental File:

DGM, JEL, AMS
Navajo: (ART: REF - 4 A 02 D)

2010 SECOND QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
WDW-1														
Apr-10	605	653	517	127	135	112	343	535	203	4,364	4,611	3,846	135,279	28,072,838
May-10	548	659	366	130	139	111	462	592	245	4,472	4,749	3,792	138,633	28,208,117
Jun-09	532	622	297	131	136	126	315	456	214	4,493	4,661	4,303	134,777	28,346,751
WDW-2														
Apr-10	624	672	502	142	145	128	442	652	251	4,854	4,988	4,404	150,481	14,577,051
May-10	660	926	523	135	142	123	396	551	252	4,630	4,866	4,227	143,524	14,727,532
Jun-09	648	668	583	138	143	135	322	537	124	4,735	4,889	4,625	142,053	14,871,056
WDW-3														
Apr-10	635	668	507	204	217	184	371	538	263	7,004	7,452	6,314	217,122	5,185,671
May-10	620	688	460	169	195	128	324	448	253	5,807	6,678	4,374	180,017	5,402,793
Jun-09	655	679	596	179	187	154	338	435	251	6,139	6,402	5,287	184,185	5,582,809
Total Injected fluids:													49,261,631	5,766,994

2010 FIRST QUARTER WEEKLY WAMS LEVEL TABLE

	4/5/10	4/12/10	4/20/10	4/26/10	5/3/10	5/10/10	5/17/10	5/25/10	6/1/10	6/7/10	6/14/10	6/21/10	6/28/10
WDW -1'	155	155	155	155	155	155	155	155	155	155	155	155	155
WDW-2'	185	185	185	185	185	185	185	180	170	170	165	165	155
WDW-3'	145	145	165	165	165	160	160	155	155	155	155	155	155
Comments: Added antifreeze to WDW-3 on 04/15/2010.													

¹ Graduated tank gauged weekly in the field. Reading is in gallons.

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



Environmental Division

07-Jun-2010

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 748-6733
Fax: (575) 746-5421

Re: Injection Well Quarterly

Work Order: 1005694

Dear Aaron,

ALS Laboratory Group received 1 sample on 20-May-2010 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 37.

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

Sincerely,

Jay Lynn F Thibault

Electronically approved by: Tiffany Van

JayLynn F Thibault
Project Manager



Certificate No: T104704231-09A-TX

ALS Group USA, Corp.

Part of the **ALS Laboratory Group**

10450 Standliff Rd, Suite 210 Houston, Texas 77099-4338

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A Campbell Brothers Limited Company

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1005694

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1005694-01	Inj. Well	Liquid		5/19/2010 08:16	5/20/2010 10:00	☐

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1005694

Case Narrative

Batch 43309 Mercury (sample 1005615-01) MS/MSD unrelated sample.

Batch 43419 Metals (sample 1005872-02) MS/MSD unrelated sample.

Batch R91922 Chloride (sample 1005932-02) MS/MSD unrelated sample.

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Sample ID: Inj. Well

Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694

Lab ID: 1005694-01

Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			SW7470		Prep Date: 5/28/2010	Analyst: JCJ
Mercury	ND		0.000200	mg/L	1	5/28/2010 02:09 PM
METALS			SW6020		Prep Date: 6/3/2010	Analyst: ALR
Aluminum	0.132		0.0200	mg/L	2	6/5/2010 02:42 PM
Arsenic	0.0700		0.00500	mg/L	1	6/5/2010 02:31 AM
Barium	0.0235		0.0100	mg/L	2	6/5/2010 02:42 PM
Beryllium	ND		0.00200	mg/L	1	6/5/2010 02:31 AM
Boron	0.164		0.0400	mg/L	2	6/7/2010 02:38 PM
Cadmium	ND		0.00400	mg/L	2	6/5/2010 02:42 PM
Calcium	175		10.0	mg/L	20	6/5/2010 02:25 AM
Chromium	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Cobalt	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Copper	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Iron	0.545		0.400	mg/L	2	6/5/2010 02:42 PM
Lead	ND		0.0100	mg/L	2	6/5/2010 02:42 PM
Magnesium	53.6		4.00	mg/L	20	6/5/2010 02:25 AM
Manganese	0.0446		0.00500	mg/L	1	6/5/2010 02:31 AM
Molybdenum	0.114		0.0100	mg/L	2	6/5/2010 02:42 PM
Nickel	0.0136		0.0100	mg/L	2	6/5/2010 02:42 PM
Potassium	9.45		0.400	mg/L	2	6/5/2010 02:42 PM
Selenium	0.407		0.00500	mg/L	1	6/5/2010 02:31 AM
Silver	ND		0.0100	mg/L	2	6/5/2010 02:42 PM
Sodium	1,210		4.00	mg/L	20	6/5/2010 02:25 AM
Vanadium	0.0196		0.00500	mg/L	1	6/5/2010 02:31 AM
Zinc	1.92		0.100	mg/L	20	6/5/2010 02:25 AM
SEMIVOLATILES			SW8270		Prep Date: 5/24/2010	Analyst: ACN
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Methylphenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Nitrophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
3-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
4-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
4-Nitrophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Acenaphthene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Acenaphthylene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM

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

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Anthracene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Benzidine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Hexachloroethane	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Isophorone	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Naphthalene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Nitrobenzene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Pentachlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Phenanthrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Phenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Pyrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Surr: 2,4,6-Tribromophenol	81.7		42-124	%REC	1	6/3/2010 09:50 PM
Surr: 2-Fluorobiphenyl	77.6		48-120	%REC	1	6/3/2010 09:50 PM
Surr: 2-Fluorophenol	63.6		20-120	%REC	1	6/3/2010 09:50 PM
Surr: 4-Terphenyl-d14	77.8		51-135	%REC	1	6/3/2010 09:50 PM
Surr: Nitrobenzene-d5	65.7		41-120	%REC	1	6/3/2010 09:50 PM
Surr: Phenol-d6	61.1		20-120	%REC	1	6/3/2010 09:50 PM
VOLATILES			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
2-Butanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	5/29/2010 04:39 PM
2-Hexanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Acetone	0.031		0.010	mg/L	1	5/29/2010 04:39 PM
Benzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromodichloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromoform	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromomethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Carbon disulfide	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	5/29/2010 04:39 PM

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

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloroform	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Dibromochloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Ethylbenzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
m,p-Xylene	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Methylene chloride	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Styrene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Tetrachloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Toluene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Trichloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Vinyl acetate	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Vinyl chloride	ND		0.0020	mg/L	1	5/29/2010 04:39 PM
Xylenes, Total	ND		0.015	mg/L	1	5/29/2010 04:39 PM
Surr: 1,2-Dichloroethane-d4	82.5		70-125	%REC	1	5/29/2010 04:39 PM
Surr: 4-Bromofluorobenzene	86.0		72-125	%REC	1	5/29/2010 04:39 PM
Surr: Dibromofluoromethane	89.7		71-125	%REC	1	5/29/2010 04:39 PM
Surr: Toluene-d8	91.7		75-125	%REC	1	5/29/2010 04:39 PM
REACTIVE CYANIDE			SW-846			Analyst: HN
Reactive Cyanide	ND		40.0	mg/Kg	1	5/27/2010
REACTIVE SULFIDE			SW-846			Analyst: HN
Reactive Sulfide	ND		40.0	mg/Kg	1	5/27/2010
ANIONS			E300			Analyst: IGF
Chloride	308		25.0	mg/L	50	6/2/2010 10:16 AM
Sulfate	3,510		25.0	mg/L	50	6/2/2010 10:16 AM
Surr: Selenate (surr)	87.0		85-115	%REC	50	6/2/2010 10:16 AM
ALKALINITY			SM2320B			Analyst: TDW
Alkalinity, Bicarbonate (As CaCO3)	312		5.00	mg/L	1	5/24/2010 06:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	5/24/2010 06:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	5/24/2010 06:00 PM
Alkalinity, Total (As CaCO3)	312		5.00	mg/L	1	5/24/2010 06:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: IGF
Specific Conductivity	7,240		1.00	µmhos/cm	1	6/2/2010 06:40 PM
IGNITIBILITY			SW1010			Analyst: JLC

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

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company

Project: Injection Well Quarterly

Work Order: 1005694

Sample ID: Inj. Well

Lab ID: 1005694-01

Collection Date: 5/19/2010 08:16 AM

Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ignitability	> 212		50.0	°F	1	5/26/2010 11:00 AM
PH			SM4500H+ B			Analyst: JLC
pH	7.29	H	0.100	pH units	1	5/21/2010
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: TDW
Total Dissolved Solids (Residue, Filterable)	5,900		10.0	mg/L	1	5/25/2010 05:00 PM

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

ALS Laboratory Group

Date: 07-Jun-10

Client: Navajo Refining Company
Work Order: 1005694
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43309 Instrument ID HG02 Method: SW7470

MBLK Sample ID: GBLKW1-052810-43309 Units: mg/L Analysis Date: 5/28/2010 01:31 PM
Client ID: Run ID: HG02_100528A SeqNo: 1976041 Prep Date: 5/28/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: GLCSW1-052810-43309 Units: mg/L Analysis Date: 5/28/2010 01:38 PM
Client ID: Run ID: HG02_100528A SeqNo: 1976045 Prep Date: 5/28/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00533	0.00020	0.005	0	107	85-115	0			

MS Sample ID: 1005615-01BMS Units: mg/L Analysis Date: 5/28/2010 01:53 PM
Client ID: Run ID: HG02_100528A SeqNo: 1976055 Prep Date: 5/28/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00329	0.00020	0.005	0	65.8	85-115	0			S

MSD Sample ID: 1005615-01BMDS Units: mg/L Analysis Date: 5/28/2010 01:56 PM
Client ID: Run ID: HG02_100528A SeqNo: 1976060 Prep Date: 5/28/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00341	0.00020	0.005	0	68.2	85-115	0.00329	3.58	20	S

DUP Sample ID: 1005615-01BDUP Units: mg/L Analysis Date: 5/28/2010 01:46 PM
Client ID: Run ID: HG02_100528A SeqNo: 1976052 Prep Date: 5/28/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	0	0	20	

The following samples were analyzed in this batch:

1005694-01B

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43419 Instrument ID ICPMS03 Method: SW6020

MBLK Sample ID: MBLKW1-060310-43419 Units: mg/L Analysis Date: 6/4/2010 02:37 AM

Client ID: Run ID: ICPMS03_100603A SeqNo: 1982064 Prep Date: 6/3/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Boron	0.007883	0.050								J
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Sodium	ND	0.20								
Zinc	ND	0.0050								

LCS Sample ID: MLCSW1-060310-43419 Units: mg/L Analysis Date: 6/4/2010 02:43 AM

Client ID: Run ID: ICPMS03_100603A SeqNo: 1982065 Prep Date: 6/3/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1067	0.010	0.1	0	107	80-120	0			
Arsenic	0.05184	0.0050	0.05	0	104	80-120	0			
Barium	0.05029	0.0050	0.05	0	101	80-120	0			
Boron	0.471	0.050	0.5	0	94.2	80-120	0			
Cadmium	0.05197	0.0020	0.05	0	104	80-120	0			
Calcium	5.068	0.50	5	0	101	80-120	0			
Chromium	0.05	0.0050	0.05	0	100	80-120	0			
Cobalt	0.05051	0.0050	0.05	0	101	80-120	0			
Copper	0.05117	0.0050	0.05	0	102	80-120	0			
Iron	4.873	0.20	5	0	97.5	80-120	0			
Lead	0.04874	0.0050	0.05	0	97.5	80-120	0			
Magnesium	4.967	0.20	5	0	99.3	80-120	0			
Nickel	0.05086	0.0050	0.05	0	102	80-120	0			
Potassium	4.87	0.20	5	0	97.4	80-120	0			
Sodium	4.927	0.20	5	0	98.5	80-120	0			
Zinc	0.05879	0.0050	0.05	0	118	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43419 Instrument ID ICPMS03 Method: SW6020

MS	Sample ID: 1005872-02DMS				Units: mg/L		Analysis Date: 6/4/2010 03:04 AM			
Client ID:	Run ID: ICPMS03_100603A				SeqNo: 1982069		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1563	0.010	0.1	0.04208	114	80-120	0			
Arsenic	0.05782	0.0050	0.05	0.003511	109	80-120	0			
Barium	0.08013	0.0050	0.05	0.02596	108	80-120	0			
Boron	0.5589	0.050	0.5	0.05727	100	80-120	0			
Cadmium	0.04786	0.0020	0.05	-0.0002037	96.1	80-120	0			
Calcium	40.42	0.50	5	33.97	129	80-120	0			SO
Chromium	0.05349	0.0050	0.05	0.0008945	105	80-120	0			
Cobalt	0.05227	0.0050	0.05	0.0007399	103	80-120	0			
Copper	0.05205	0.0050	0.05	0.001567	101	80-120	0			
Iron	5.355	0.20	5	0.3718	99.7	80-120	0			
Magnesium	41.01	0.20	5	35.19	116	80-120	0			O
Nickel	0.05848	0.0050	0.05	0.006901	103	80-120	0			
Potassium	24.57	0.20	5	19.08	110	80-120	0			
Sodium	443.9	0.20	5	437.2	134	80-120	0			SEO
Zinc	0.08962	0.0050	0.05	0.03829	103	80-120	0			

MS	Sample ID: 1005872-02DMS					Units: mg/L		Analysis Date: 6/4/2010 04:00 PM		
Client ID:	Run ID: ICPMS03_100604A				SeqNo: 1982893		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.05298	0.0050	0.05	0.0003457	105	80-120	0			

MSD	Sample ID: 1005872-02DMSD					Units: mg/L		Analysis Date: 6/4/2010 03:14 AM		
Client ID:	Run ID: ICPMS03_100603A				SeqNo: 1982070		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1581	0.010	0.1	0.04208	116	80-120	0.1563	1.15	15	
Arsenic	0.05536	0.0050	0.05	0.003511	104	80-120	0.05782	4.35	15	
Barium	0.07986	0.0050	0.05	0.02596	108	80-120	0.08013	0.338	15	
Boron	0.5562	0.050	0.5	0.05727	99.8	80-120	0.5589	0.484	15	
Cadmium	0.04841	0.0020	0.05	-0.0002037	97.2	80-120	0.04786	1.14	15	
Calcium	40.08	0.50	5	33.97	122	80-120	40.42	0.845	15	SO
Chromium	0.05187	0.0050	0.05	0.0008945	102	80-120	0.05349	3.08	15	
Cobalt	0.05081	0.0050	0.05	0.0007399	100	80-120	0.05227	2.83	15	
Copper	0.05041	0.0050	0.05	0.001567	97.7	80-120	0.05205	3.2	15	
Iron	5.366	0.20	5	0.3718	99.9	80-120	5.355	0.205	15	
Magnesium	41.94	0.20	5	35.19	135	80-120	41.01	2.24	15	SO
Nickel	0.05859	0.0050	0.05	0.006901	103	80-120	0.05848	0.188	15	
Potassium	25.35	0.20	5	19.08	125	80-120	24.57	3.12	15	S
Sodium	461.3	0.20	5	437.2	482	80-120	443.9	3.84	15	SEO
Zinc	0.09181	0.0050	0.05	0.03829	107	80-120	0.08962	2.41	15	

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43419 Instrument ID ICPMS03 Method: SW6020

MSD	Sample ID: 1005872-02DMSD				Units: mg/L		Analysis Date: 6/4/2010 04:10 PM			
Client ID:	Run ID: ICPMS03_100604A				SeqNo: 1982948		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.05395	0.0050	0.05	0.0003457	107	80-120	0.05298	1.81	15	

DUP	Sample ID: 1005872-02DDUP					Units: mg/L		Analysis Date: 6/4/2010 02:53 AM		
Client ID:	Run ID: ICPMS03_100603A				SeqNo: 1982067		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.04385	0.010	0	0	0	0-0	0.04208	4.12	25	
Arsenic	0.003367	0.0050	0	0	0	0-0	0.003511	0	25	J
Barium	0.02611	0.0050	0	0	0	0-0	0.02596	0.576	25	
Boron	0.05626	0.050	0	0	0	0-0	0.05727	1.78	25	
Cadmium	ND	0.0020	0	0	0	0-0	-0.0002037	0	25	
Calcium	35.01	0.50	0	0	0	0-0	33.97	3.02	25	
Chromium	0.00117	0.0050	0	0	0	0-0	0.0008945	0	25	J
Cobalt	0.0007027	0.0050	0	0	0	0-0	0.0007399	0	25	J
Copper	0.001599	0.0050	0	0	0	0-0	0.001567	0	25	J
Iron	0.3721	0.20	0	0	0	0-0	0.3718	0.0807	25	
Magnesium	36.33	0.20	0	0	0	0-0	35.19	3.19	25	
Nickel	0.006782	0.0050	0	0	0	0-0	0.006901	1.74	25	
Potassium	19.3	0.20	0	0	0	0-0	19.08	1.15	25	
Zinc	0.03724	0.0050	0	0	0	0-0	0.03829	2.78	25	

DUP	Sample ID: 1005872-02DDUP					Units: mg/L		Analysis Date: 6/4/2010 03:02 PM		
Client ID:	Run ID: ICPMS03_100604A				SeqNo: 1982880		Prep Date: 6/3/2010		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	489.1	20	0	0	0	0-0	491.1	0.408	25	

DUP	Sample ID: 1005872-02DDUP					Units: mg/L		Analysis Date: 6/4/2010 03:39 PM		
Client ID:	Run ID: ICPMS03_100604A				SeqNo: 1982888		Prep Date: 6/3/2010		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	ND	0.0050	0	0	0	0-0	0.0003457	0	25	

The following samples were analyzed in this batch:

1005694-01B

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43178 Instrument ID SV-5 Method: SW8270

MBLK Sample ID: SBLKW3-100524-43178 Units: µg/L Analysis Date: 6/1/2010 05:21 PM
 Client ID: Run ID: SV-5_100601A SeqNo: 1982573 Prep Date: 5/24/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
2-Nitroaniline	ND	5.0								
2-Nitrophenol	ND	5.0								
3&4-Methylphenol	ND	5.0								
3-Nitroaniline	ND	5.0								
4-Nitroaniline	ND	5.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	5.0								
Anthracene	ND	5.0								
Benz(a)anthracene	ND	5.0								
Benzidine	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	5.0								
Isophorone	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	5.0								
Naphthalene	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	5.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
Surr: 2,4,6-Tribromophenol	67.77	5.0	100	0	67.8	42-124	0			
Surr: 2-Fluorobiphenyl	72.69	5.0	100	0	72.7	48-120	0			
Surr: 2-Fluorophenol	67.9	5.0	100	0	67.9	20-120	0			
Surr: 4-Terphenyl-d14	68.97	5.0	100	0	69	51-135	0			
Surr: Nitrobenzene-d5	72.6	5.0	100	0	72.6	41-120	0			
Surr: Phenol-d6	63.97	5.0	100	0	64	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43178 Instrument ID SV-5 Method: SW8270

LCS Sample ID: SLCSW3-100524-43178 Units: µg/L Analysis Date: 6/1/2010 04:23 PM

Client ID: Run ID: SV-5_100601A SeqNo: 1982414 Prep Date: 5/24/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	38.26	5.0	50	0	76.5	50-120	0			
2,4,5-Trichlorophenol	86.1	5.0	100	0	86.1	50-120	0			
2,4,6-Trichlorophenol	79.74	5.0	100	0	79.7	50-120	0			
2-Methylnaphthalene	41.29	5.0	50	0	82.6	55-120	0			
2-Methylphenol	81.08	5.0	100	0	81.1	50-120	0			
2-Nitroaniline	42.28	5.0	50	0	84.6	55-120	0			
2-Nitrophenol	79.44	5.0	100	0	79.4	55-120	0			
3&4-Methylphenol	123.7	5.0	150	0	82.5	55-120	0			
3-Nitroaniline	41.31	5.0	50	0	82.6	40-120	0			
4-Nitroaniline	34.07	5.0	50	0	68.1	50-120	0			
4-Nitrophenol	88.77	5.0	100	0	88.8	45-120	0			
Acenaphthene	40.75	5.0	50	0	81.5	55-120	0			
Acenaphthylene	40.05	5.0	50	0	80.1	55-120	0			
Aniline	34.48	5.0	50	0	69	30-120	0			
Anthracene	41.66	5.0	50	0	83.3	55-120	0			
Benz(a)anthracene	41.17	5.0	50	0	82.3	55-120	0			
Benzidine	11.73	5.0	50	0	23.5	10-120	0			
Hexachloroethane	32.79	5.0	50	0	65.6	55-120	0			
Indeno(1,2,3-cd)pyrene	36.38	5.0	50	0	72.8	55-120	0			
Isophorone	39.28	5.0	50	0	78.6	55-120	0			
N-Nitrosodi-n-propylamine	38.62	5.0	50	0	77.2	50-120	0			
N-Nitrosodimethylamine	35.82	5.0	50	0	71.6	45-120	0			
N-Nitrosodiphenylamine	40.61	5.0	50	0	81.2	55-120	0			
Naphthalene	38.76	5.0	50	0	77.5	55-120	0			
Nitrobenzene	39.41	5.0	50	0	78.8	55-120	0			
Pentachlorophenol	84	5.0	100	0	84	55-120	0			
Phenanthrene	40.31	5.0	50	0	80.6	55-120	0			
Phenol	82.31	5.0	100	0	82.3	50-120	0			
Pyrene	39.36	5.0	50	0	78.7	55-120	0			
Surr: 2,4,6-Tribromophenol	74.31	5.0	100	0	74.3	42-124	0			
Surr: 2-Fluorobiphenyl	76.21	5.0	100	0	76.2	48-120	0			
Surr: 2-Fluorophenol	82.91	5.0	100	0	82.9	20-120	0			
Surr: 4-Terphenyl-d14	71.22	5.0	100	0	71.2	51-135	0			
Surr: Nitrobenzene-d5	74.92	5.0	100	0	74.9	41-120	0			
Surr: Phenol-d6	80.6	5.0	100	0	80.6	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 43178 Instrument ID SV-5 Method: SW8270

LCSD Sample ID: SLCSDW3-100524-43178 Units: µg/L Analysis Date: 6/1/2010 04:45 PM

Client ID: Run ID: SV-5_100601A SeqNo: 1982418 Prep Date: 5/24/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	41.44	5.0	50	0	82.9	50-120	38.26	7.98	20	
2,4,5-Trichlorophenol	94.19	5.0	100	0	94.2	50-120	86.1	8.98	20	
2,4,6-Trichlorophenol	90.68	5.0	100	0	90.7	50-120	79.74	12.8	20	
2-Methylnaphthalene	42.52	5.0	50	0	85	55-120	41.29	2.93	20	
2-Methylphenol	88.34	5.0	100	0	88.3	50-120	81.08	8.57	20	
2-Nitroaniline	45.34	5.0	50	0	90.7	55-120	42.28	6.98	20	
2-Nitrophenol	86.99	5.0	100	0	87	55-120	79.44	9.07	20	
3&4-Methylphenol	136.5	5.0	150	0	91	55-120	123.7	9.79	20	
3-Nitroaniline	44.4	5.0	50	0	88.8	40-120	41.31	7.22	20	
4-Nitroaniline	34.17	5.0	50	0	68.3	50-120	34.07	0.281	20	
4-Nitrophenol	90.27	5.0	100	0	90.3	45-120	88.77	1.67	20	
Acenaphthene	44.34	5.0	50	0	88.7	55-120	40.75	8.44	20	
Acenaphthylene	44.17	5.0	50	0	88.3	55-120	40.05	9.78	20	
Aniline	40.22	5.0	50	0	80.4	30-120	34.48	15.4	20	
Anthracene	46.48	5.0	50	0	93	55-120	41.66	10.9	20	
Benz(a)anthracene	44.29	5.0	50	0	88.6	55-120	41.17	7.29	20	
Benzidine	10.64	5.0	50	0	21.3	10-120	11.73	9.71	20	
Hexachloroethane	39.63	5.0	50	0	79.3	55-120	32.79	18.9	20	
Indeno(1,2,3-cd)pyrene	40.85	5.0	50	0	81.7	55-120	36.38	11.6	20	
Isophorone	41.24	5.0	50	0	82.5	55-120	39.28	4.86	20	
N-Nitrosodi-n-propylamine	43.6	5.0	50	0	87.2	50-120	38.62	12.1	20	
N-Nitrosodimethylamine	48.9	5.0	50	0	97.8	45-120	35.82	30.9	20	R
N-Nitrosodiphenylamine	45.87	5.0	50	0	91.7	55-120	40.61	12.2	20	
Naphthalene	42.03	5.0	50	0	84.1	55-120	38.76	8.09	20	
Nitrobenzene	41.09	5.0	50	0	82.2	55-120	39.41	4.19	20	
Pentachlorophenol	92.79	5.0	100	0	92.8	55-120	84	9.94	20	
Phenanthrene	43.39	5.0	50	0	86.8	55-120	40.31	7.36	20	
Phenol	91.04	5.0	100	0	91	50-120	82.31	10.1	20	
Pyrene	39.99	5.0	50	0	80	55-120	39.36	1.59	20	
Surr: 2,4,6-Tribromophenol	77.66	5.0	100	0	77.7	42-124	74.31	4.42	20	
Surr: 2-Fluorobiphenyl	87.03	5.0	100	0	87	48-120	76.21	13.3	20	
Surr: 2-Fluorophenol	104.3	5.0	100	0	104	20-120	82.91	22.9	20	R
Surr: 4-Terphenyl-d14	72.72	5.0	100	0	72.7	51-135	71.22	2.08	20	
Surr: Nitrobenzene-d5	81.65	5.0	100	0	81.6	41-120	74.92	8.59	20	
Surr: Phenol-d6	89.31	5.0	100	0	89.3	20-120	80.6	10.3	20	

The following samples were analyzed in this batch:

1005694-01E

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91780 Instrument ID VOA1 Method: SW8260

MBLK Sample ID: VBLKW-052910-R91780 Units: µg/L Analysis Date: 5/29/2010 01:39 PM
 Client ID: Run ID: VOA1_100529A SeqNo: 1978015 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
2-Butanone	ND	10								
2-Chloroethyl vinyl ether	ND	10								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methylene chloride	ND	10								
Styrene	ND	5.0								
Tetrachloroethene	ND	5.0								
Toluene	ND	5.0								
trans-1,3-Dichloropropene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl acetate	ND	10								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	15								
Surr: 1,2-Dichloroethane-d4	45.19	5.0	50	0	90.4	70-125	0			
Surr: 4-Bromofluorobenzene	46.07	5.0	50	0	92.1	72-125	0			
Surr: Dibromofluoromethane	46.03	5.0	50	0	92.1	71-125	0			
Surr: Toluene-d8	45.04	5.0	50	0	90.1	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91780 Instrument ID VOA1 Method: SW8260

LCS Sample ID: VLCSW-052910-R91780 Units: µg/L Analysis Date: 5/29/2010 12:22 PM

Client ID: Run ID: VOA1_100529A SeqNo: 1978013 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.71	5.0	50	0	93.4	80-120	0			
1,1,2,2-Tetrachloroethane	53.94	5.0	50	0	108	72-120	0			
1,1,2-Trichloroethane	54.54	5.0	50	0	109	80-120	0			
1,1-Dichloroethane	50.08	5.0	50	0	100	76-120	0			
1,1-Dichloroethene	52.5	5.0	50	0	105	73-124	0			
1,2-Dichloroethane	49.76	5.0	50	0	99.5	78-120	0			
2-Butanone	118.4	10	100	0	118	58-132	0			
2-Chloroethyl vinyl ether	111.7	10	100	0	112	74-120	0			
2-Hexanone	122.8	10	100	0	123	61-130	0			
4-Methyl-2-pentanone	119.5	10	100	0	119	65-127	0			
Acetone	106.5	10	100	0	106	59-137	0			
Benzene	51.54	5.0	50	0	103	73-121	0			
Bromodichloromethane	50.31	5.0	50	0	101	80-120	0			
Bromoform	55.73	5.0	50	0	111	79-120	0			
Bromomethane	59.97	5.0	50	0	120	66-137	0			
Carbon disulfide	95.09	10	100	0	95.1	68-141	0			
Carbon tetrachloride	45.78	5.0	50	0	91.6	75-124	0			
Chlorobenzene	50.02	5.0	50	0	100	80-120	0			
Chloroethane	50.17	5.0	50	0	100	76-121	0			
Chloroform	50.56	5.0	50	0	101	80-120	0			
Chloromethane	48.7	5.0	50	0	97.4	67-123	0			
cis-1,3-Dichloropropene	49.35	5.0	50	0	98.7	80-120	0			
Dibromochloromethane	53.42	5.0	50	0	107	80-120	0			
Ethylbenzene	47.48	5.0	50	0	95	80-120	0			
m,p-Xylene	95.61	10	100	0	95.6	78-121	0			
Methylene chloride	49.45	10	50	0	98.9	65-133	0			
Styrene	51.49	5.0	50	0	103	80-120	0			
Tetrachloroethene	51.3	5.0	50	0	103	79-120	0			
Toluene	49.05	5.0	50	0	98.1	80-120	0			
trans-1,3-Dichloropropene	52.4	5.0	50	0	105	80-120	0			
Trichloroethene	49.43	5.0	50	0	98.9	80-120	0			
Vinyl acetate	96.36	10	100	0	96.4	67-139	0			
Vinyl chloride	45.33	2.0	50	0	90.7	70-127	0			
Xylenes, Total	145.9	15	150	0	97.2	80-120	0			
Surr: 1,2-Dichloroethane-d4	43.35	5.0	50	0	86.7	70-125	0			
Surr: 4-Bromofluorobenzene	47.62	5.0	50	0	95.2	72-125	0			
Surr: Dibromofluoromethane	45.12	5.0	50	0	90.2	71-125	0			
Surr: Toluene-d8	48.7	5.0	50	0	97.4	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91780 Instrument ID VOA1 Method: SW8260

MS	Sample ID: 1005758-03AMS				Units: µg/L		Analysis Date: 5/29/2010 03:22 PM			
Client ID:	Run ID: VOA1_100529A			SeqNo: 1978025		Prep Date:		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	4689	500	5000	0	93.8	80-120	0			
1,1,2,2-Tetrachloroethane	5492	500	5000	0	110	72-120	0			
1,1,2-Trichloroethane	5065	500	5000	0	101	80-120	0			
1,1-Dichloroethane	5211	500	5000	0	104	76-120	0			
1,1-Dichloroethene	5059	500	5000	0	101	73-124	0			
1,2-Dichloroethane	5565	500	5000	0	111	78-120	0			
2-Butanone	12090	1,000	10000	0	121	58-132	0			
2-Chloroethyl vinyl ether	9005	1,000	10000	0	90.1	74-120	0			
2-Hexanone	11980	1,000	10000	0	120	61-130	0			
4-Methyl-2-pentanone	11410	1,000	10000	0	114	65-127	0			
Acetone	10730	1,000	10000	0	107	59-137	0			
Benzene	9427	500	5000	3688	115	73-121	0			
Bromodichloromethane	5281	500	5000	0	106	80-120	0			
Bromoform	5182	500	5000	0	104	79-120	0			
Bromomethane	5806	500	5000	0	116	66-137	0			
Carbon disulfide	9246	1,000	10000	0	92.5	68-141	0			
Carbon tetrachloride	4804	500	5000	0	96.1	75-124	0			
Chlorobenzene	4702	500	5000	0	94	80-120	0			
Chloroethane	4824	500	5000	0	96.5	76-121	0			
Chloroform	5148	500	5000	0	103	80-120	0			
Chloromethane	4946	500	5000	0	98.9	67-123	0			
cis-1,3-Dichloropropene	5651	500	5000	0	113	80-120	0			
Dibromochloromethane	5106	500	5000	0	102	80-120	0			
Ethylbenzene	5103	500	5000	359.9	94.9	80-120	0			
m,p-Xylene	9896	1,000	10000	506.9	93.9	78-121	0			
Methylene chloride	5168	1,000	5000	0	103	65-133	0			
Styrene	4801	500	5000	0	96	80-120	0			
Tetrachloroethene	4554	500	5000	0	91.1	79-120	0			
Toluene	4579	500	5000	97.48	89.6	80-120	0			
trans-1,3-Dichloropropene	5459	500	5000	0	109	80-120	0			
Trichloroethene	5251	500	5000	0	105	80-120	0			
Vinyl acetate	10250	1,000	10000	0	102	67-139	0			
Vinyl chloride	4577	200	5000	0	91.5	70-127	0			
Xylenes, Total	14710	1,500	15000	982.5	91.5	80-120	0			
Surr: 1,2-Dichloroethane-d4	4506	500	5000	0	90.1	70-125	0			
Surr: 4-Bromofluorobenzene	4104	500	5000	0	82.1	72-125	0			
Surr: Dibromofluoromethane	4700	500	5000	0	94	71-125	0			
Surr: Toluene-d8	4583	500	5000	0	91.7	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91780 Instrument ID VOA1 Method: SW8260

MSD Sample ID: 1005758-03AMSD Units: µg/L Analysis Date: 5/29/2010 03:48 PM

Client ID: Run ID: VOA1_100529A SeqNo: 1978027 Prep Date: DF: 100

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	4707	500	5000	0	94.1	80-120	4689	0.392	20	
1,1,2,2-Tetrachloroethane	5386	500	5000	0	108	72-120	5492	1.95	20	
1,1,2-Trichloroethane	4720	500	5000	0	94.4	80-120	5065	7.05	20	
1,1-Dichloroethane	5034	500	5000	0	101	76-120	5211	3.47	20	
1,1-Dichloroethene	4866	500	5000	0	97.3	73-124	5059	3.89	20	
1,2-Dichloroethane	5093	500	5000	0	102	78-120	5565	8.86	20	
2-Butanone	12990	1,000	10000	0	130	58-132	12090	7.16	20	
2-Chloroethyl vinyl ether	8688	1,000	10000	0	86.9	74-120	9005	3.58	20	
2-Hexanone	12010	1,000	10000	0	120	61-130	11980	0.195	20	
4-Methyl-2-pentanone	11510	1,000	10000	0	115	65-127	11410	0.88	20	
Acetone	10770	1,000	10000	0	108	59-137	10730	0.333	20	
Benzene	8593	500	5000	3688	98.1	73-121	9427	9.25	20	
Bromodichloromethane	4989	500	5000	0	99.8	80-120	5281	5.69	20	
Bromoform	5109	500	5000	0	102	79-120	5182	1.42	20	
Bromomethane	5910	500	5000	0	118	66-137	5806	1.76	20	
Carbon disulfide	9118	1,000	10000	0	91.2	68-141	9246	1.4	20	
Carbon tetrachloride	4260	500	5000	0	85.2	75-124	4804	12	20	
Chlorobenzene	4818	500	5000	0	96.4	80-120	4702	2.43	20	
Chloroethane	4865	500	5000	0	97.3	76-121	4824	0.839	20	
Chloroform	5151	500	5000	0	103	80-120	5148	0.0572	20	
Chloromethane	4680	500	5000	0	93.6	67-123	4946	5.51	20	
cis-1,3-Dichloropropene	4841	500	5000	0	96.8	80-120	5651	15.4	20	
Dibromochloromethane	5129	500	5000	0	103	80-120	5106	0.455	20	
Ethylbenzene	4774	500	5000	359.9	88.3	80-120	5103	6.66	20	
m,p-Xylene	9383	1,000	10000	506.9	88.8	78-121	9896	5.33	20	
Methylene chloride	4979	1,000	5000	0	99.6	65-133	5168	3.71	20	
Styrene	4668	500	5000	0	93.4	80-120	4801	2.82	20	
Tetrachloroethene	4367	500	5000	0	87.3	79-120	4554	4.21	20	
Toluene	4296	500	5000	97.48	84	80-120	4579	6.38	20	
trans-1,3-Dichloropropene	5050	500	5000	0	101	80-120	5459	7.77	20	
Trichloroethene	4989	500	5000	0	99.8	80-120	5251	5.11	20	
Vinyl acetate	9926	1,000	10000	0	99.3	67-139	10250	3.2	20	
Vinyl chloride	4352	200	5000	0	87	70-127	4577	5.04	20	
Xylenes, Total	13860	1,500	15000	982.5	85.8	80-120	14710	5.96	20	
Surr: 1,2-Dichloroethane-d4	4443	500	5000	0	88.9	70-125	4506	1.41	20	
Surr: 4-Bromofluorobenzene	4564	500	5000	0	91.3	72-125	4104	10.6	20	
Surr: Dibromofluoromethane	4753	500	5000	0	95.1	71-125	4700	1.13	20	
Surr: Toluene-d8	4495	500	5000	0	89.9	75-125	4583	1.93	20	

The following samples were analyzed in this batch:

1005694-01A

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

Client: Navajo Refining Company
Work Order: 1005694
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91331 Instrument ID WetChem Method: SM4500H+ B

LCS		Sample ID: WLCS-052110-R91331				Units: pH units		Analysis Date: 5/21/2010		
Client ID:		Run ID: WETCHEM_100521E				SeqNo: 1967400		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.01	0.10	6	0	100	90-110	0			
DUP		Sample ID: 1005702-02FDUP				Units: pH units		Analysis Date: 5/21/2010		
Client ID:		Run ID: WETCHEM_100521E				SeqNo: 1967417		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.81	0.10	0	0	0	0-0	9.8	0.102	20	H

The following samples were analyzed in this batch:

1005694-01D

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91470 Instrument ID WetChem Method: SM2320B

MBLK Sample ID: WBLKW1-52410-R91470 Units: mg/L Analysis Date: 5/24/2010 06:00 PM

Client ID: Run ID: WETCHEM_100524J SeqNo: 1970785 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0								
Alkalinity, Carbonate (As CaCO3)	ND	5.0								
Alkalinity, Hydroxide (As CaCO3)	ND	5.0								
Alkalinity, Total (As CaCO3)	ND	5.0								

LCS Sample ID: WLCSW1-52410-R91470 Units: mg/L Analysis Date: 5/24/2010 06:00 PM

Client ID: Run ID: WETCHEM_100524J SeqNo: 1970786 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	1005	5.0	1000	0	100	80-120	0			
Alkalinity, Total (As CaCO3)	1005	5.0	1000	0	100	80-120	0			

DUP Sample ID: 1005392-01ddup Units: mg/L Analysis Date: 5/24/2010 06:00 PM

Client ID: Run ID: WETCHEM_100524J SeqNo: 1970810 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	824	5.0	0	0	0	0-0	824	0	20	
Alkalinity, Carbonate (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	824	5.0	0	0	0	0-0	824	0	20	

The following samples were analyzed in this batch: 1005694-01C

Client: Navajo Refining Company
Work Order: 1005694
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91533 Instrument ID WetChem Method: SW1010

LCS Sample ID: WLCS-052610-R91533 Units: °F Analysis Date: 5/26/2010 11:00 AM

Client ID: Run ID: WETCHEM_100526B SeqNo: 1972146 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	83	50	83	0	100	80-120	0			

DUP Sample ID: 1005792-01ADUP Units: °F Analysis Date: 5/26/2010 11:00 AM

Client ID: Run ID: WETCHEM_100526B SeqNo: 1972162 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	125	50	0	0	0	0-0	130	3.92	25	

The following samples were analyzed in this batch:

1005694-01D

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91564 Instrument ID Balance1 Method: M2540C

MBLK Sample ID: BLK-R91564 Units: mg/L Analysis Date: 5/25/2010 05:00 PM

Client ID: Run ID: BALANCE1_100525H SeqNo: 1972694 Prep Date: DF: 1

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

LCS Sample ID: LCS-R91564 Units: mg/L Analysis Date: 5/25/2010 05:00 PM

Client ID: Run ID: BALANCE1_100525H SeqNo: 1972695 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	962	10	1000	0	96.2	85-115	0			

DUP Sample ID: 1005690-01CDUP Units: mg/L Analysis Date: 5/25/2010 05:00 PM

Client ID: Run ID: BALANCE1_100525H SeqNo: 1972675 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	406	10	0	0	0	0-0	422	3.86	20	

The following samples were analyzed in this batch:

1005694-01C

Client: Navajo Refining Company
Work Order: 1005694
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91867 Instrument ID WetChem Method: M2510 B

MBLK Sample ID: WBLKW1-060210-R91867 Units: μ mhos/cm Analysis Date: 6/2/2010 06:40 PM

Client ID: Run ID: WETCHEM_100602G SeqNo: 1980053 Prep Date: DF: 1

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

LCS Sample ID: WLCSW1-060210-R91867 Units: μ mhos/cm Analysis Date: 6/2/2010 06:40 PM

Client ID: Run ID: WETCHEM_100602G SeqNo: 1980054 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1420	1.0	1413	0	100	80-120	0			

DUP Sample ID: 1005809-01BDUP Units: μ mhos/cm Analysis Date: 6/2/2010 06:40 PM

Client ID: Run ID: WETCHEM_100602G SeqNo: 1980058 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	123	1.0	0	0	0		122	0.816	20	

The following samples were analyzed in this batch:

1005694-01C

Client: Navajo Refining Company
 Work Order: 1005694
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91922 Instrument ID ICS2100 Method: E300

MBLK	Sample ID: WBLKW3-060210-R91922				Units: mg/L		Analysis Date: 6/2/2010 09:47 AM			
Client ID:	Run ID: ICS2100_100602A				SeqNo: 1981387		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Surr: Selenate (surr)	4.659	0.10	5	0	93.2	85-115	0			

LCS	Sample ID: WLCSW3-060210-R91922				Units: mg/L		Analysis Date: 6/2/2010 10:02 AM			
Client ID:	Run ID: ICS2100_100602A				SeqNo: 1981388		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.41	0.50	20	0	97	90-110	0			
Sulfate	19.32	0.50	20	0	96.6	90-110	0			
Surr: Selenate (surr)	4.784	0.10	5	0	95.7	85-115	0			

MS	Sample ID: 1005932-02BMS				Units: mg/L		Analysis Date: 6/2/2010 10:45 AM			
Client ID:	Run ID: ICS2100_100602A				SeqNo: 1981392		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	107.6	0.50	10	101.2	64.4	80-120	0			SEO
Sulfate	11.31	0.50	10	2.164	91.4	80-120	0			
Surr: Selenate (surr)	4.853	0.10	5	0	97.1	85-115	0			

MS	Sample ID: 1005891-25BMS				Units: mg/L		Analysis Date: 6/2/2010 03:11 PM			
Client ID:	Run ID: ICS2100_100602A				SeqNo: 1981408		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	552.3	0.50	10	536.5	158	80-120	0			SEO
Sulfate	91.48	0.50	10	81.26	102	80-120	0			O
Surr: Selenate (surr)	4.886	0.10	5	0	97.7	85-115	0			

MSD	Sample ID: 1005932-02BMSD				Units: mg/L		Analysis Date: 6/2/2010 11:00 AM			
Client ID:	Run ID: ICS2100_100602A				SeqNo: 1981396		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	109.6	0.50	10	101.2	84.3	80-120	107.6	1.83	20	EO
Sulfate	11.59	0.50	10	2.164	94.3	80-120	11.31	2.5	20	
Surr: Selenate (surr)	4.98	0.10	5	0	99.6	85-115	4.853	2.58	20	

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

Client: Navajo Refining Company
Work Order: 1005694
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R91922 Instrument ID ICS2100 Method: E300

MSD Sample ID: 1005891-25BMSD Units: mg/L Analysis Date: 6/2/2010 03:25 PM

Client ID: Run ID: ICS2100_100602A SeqNo: 1981409 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	538.2	0.50	10	536.5	17.1	80-120	552.3	2.59	20	SEO
Sulfate	88.14	0.50	10	81.26	68.8	80-120	91.48	3.72	20	SO
Surr: Selenate (surr)	4.721	0.10	5	0	94.4	85-115	4.886	3.43	20	

The following samples were analyzed in this batch:

1005694-01C

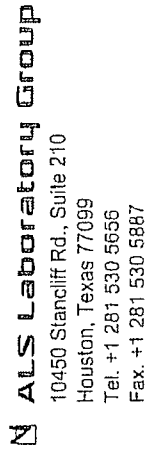
Client: Navajo Refining Company
Project: Injection Well Quarterly
WorkOrder: 1005694

QUALIFIERS, ACRONYMS, UNITS

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

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

<u>Units Reported</u>	<u>Description</u>
°F	Fahrenheit degrees
µmbos/cm	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
pH units	



☐ ALS Laboratory Group

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[illegible]

Note: L. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

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

1005641

	ALS Laboratory Group	
	10450 Standliff Rd., Suite 210	
	Houston, Texas 77099	
	Tel: +1 281 530 5656	
	Fax: +1 281 530 5887	
	Date: 5	
	Name: A	
	Company:	

CUSTODY SEAL		 Seal Broken By:
Date: 5-19-10	Time: 1615	
Mark Strange Navajo Refining Co.		Date: 5/20/10

ALS Laboratory Group

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 20-May-10 10:00

Work Order: 1005694

Received by: RNG

Checklist completed by Robert D. Harris 20-May-10
eSignature Date

Reviewed by: _____
eSignature Date

Matrices: waters

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.3c</u>	<u>002</u>	
Cooler(s)/Kit(s):	<u></u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u></u>		
Login Notes:	<u></u>		

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ALS Laboratory Group

Date: 01-Jun-10

Client: ALS Laboratory Group
Project: 1005694
Work Order: 1005516

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1005516-01	1005694-01F	Liquid		5/19/2010 08:16	5/22/2010 11:00	☐

ALS Laboratory Group

Date: 01-Jun-10

Client: ALS Laboratory Group
Project: 1005694
WorkOrder: 1005516

**QUALIFIERS,
ACRONYMS, UNITS**

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
SQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

ALS Laboratory Group

Date: 01-Jun-10

Client: ALS Laboratory Group

Project: 1005694

Work Order: 1005516

Sample ID: 1005694-01F

Lab ID: 1005516-01

Collection Date: 5/19/2010 08:16 AM

Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2			Analyst: EE
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/27/2010
SULFIDE, REACTIVE			SW7.3.4.2			Analyst: EE
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/27/2010

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Laboratory Group

Date: 01-Jun-10

Client: ALS Laboratory Group

Work Order: 1005516

Project: 1005694

QC BATCH REPORT

Batch ID: R77806 Instrument ID WETCHEM Method: SW7.3.4.2

MBLK Sample ID: WBLKW1-052710-R77806 Units: mg/Kg Analysis Date: 5/27/2010

Client ID: Run ID: WETCHEM_100527A SeqNo: 1341204 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch:

1005516-01A

Client: ALS Laboratory Group
 Work Order: 1005516
 Project: 1005694

QC BATCH REPORT

Batch ID: R77807 Instrument ID WETCHEM Method: SW7.3.3.2

MBLK	Sample ID: WBLKW1-052710-R77807				Units: mg/Kg		Analysis Date: 5/27/2010			
Client ID:	Run ID: WETCHEM_100527B				SeqNo: 1341207		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS	Sample ID: WLCSW1-052710-R77807				Units: mg/Kg		Analysis Date: 5/27/2010			
Client ID:	Run ID: WETCHEM_100527B				SeqNo: 1341208		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	75-125	0			

LCSD	Sample ID: WLCSDW1-052710-R77807				Units: mg/Kg		Analysis Date: 5/27/2010			
Client ID:	Run ID: WETCHEM_100527B				SeqNo: 1341214		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	75-125	249.6	6.06	35	

MS	Sample ID: 1005516-01A MS				Units: mg/Kg		Analysis Date: 5/27/2010			
Client ID: 1005694-01F	Run ID: WETCHEM_100527B				SeqNo: 1341211		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	50-150	0			

MSD	Sample ID: 1005516-01A MSD				Units: mg/Kg		Analysis Date: 5/27/2010			
Client ID: 1005694-01F	Run ID: WETCHEM_100527B				SeqNo: 1341212		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	50-150	234.9	0	35	

The following samples were analyzed in this batch:

1005516-01A

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

wo #1005516

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Date: 20-May-10
COC ID: 8893
Due Date: 01-Jun-10

Customer Information		Project Information		Parameter/Method Request for Analysis									
Purchase Order		Project Name	1005694	A	B	C	D	E	F	G	H	I	J
Work Order		Project Number		B									
Company Name	ALS Group USA, Corp.	Bill To Company	ALS Group USA, Corp.	C									
Sent Report To	JayLynn F Thibault	Inv Attn	Accounts Payable	D									
Address	10450 Stanciliff Rd, Suite 210	Address	10450 Stanciliff Rd, Suite 210	E									
				F									
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338	G									
Phone	(281) 530-5656	Phone	(281) 530-5656	H									
Fax	(281) 530-5887	Fax	(281) 530-5887	I									
eMail Address	jaylynn.thibault@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com	J									
Sample ID		Matrix	Collection Date	24hr	Bottle								
1005694-01F (Inj. Well)	Liquid		5/19/2010	8:16	(1) 1LPNEAT	X	X						

Comments:

Please analyze for Reactive Cyanide & Reactive Sulfide.

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler IDs	Report/QC Level
 	5/22/10 11:00	 	5/22/10 11:00		

ALS Laboratory Group

Sample Receipt Checklist

Client Name: ALS - HOUSTON

Date/Time Received: 22-May-10 11:00

Work Order: 1005516

Received by: KRW

Checklist completed by *Anna Shum* 24-May-10
eSignature Date

Reviewed by: *Anna Shum* 24-May-10
eSignature Date

Matrices: Liquid

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.6-5.0 c</u>		
Cooler(s)/Kit(s):	<u></u>		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
pH adjusted?	Yes ☐	No ☐	N/A ☒
pH adjusted by:	<u></u>		
Login Notes:	<u></u>		

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ORIGIN ID: JGGA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

Ship Date: 21MAY10
ActWgt: 39.2 LB
CAD: 300130/CAFE2453

TO RECEIVING
ALS LABORATORY
3352 128TH AVE.

(616) 399-6070

FedEx
Express

HOLLAND, MI 49424

(US)



Trk# 4340 2159 6361

PRIORITY OVERNIGHT



3352 128TH AVE.

Part # 156148-104 NRIIT V3 12-08

PLACE THIS LABEL ON PACKAGE
NEXT TO THE SHIPPING LABEL



REFINING COMPANY, LLC

RECEIVED OGD

FAX

FAX
(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 1159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

April 28, 2010

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

**RE: 2010 First Quarterly Injection Report for Wells WDW-1, WDW-2 and WDW-3
Navajo Refining Company, L.L.C.**

Dear Mr. Chavez,

Enclosed, please find the sampling results for the first quarter of 2010 from the injected fluids and a spread sheet showing various volumes and pressures as requested in your October 6, 1999 letter. You will notice that the annular pressure on the wells continues to vary unpredictably. This is due to the wide range of temperatures we are seeing at the wells. A better gauge to determine if the tubing is leaking is a volume measurement of the fluid in the annular space via the graduated tanks located at the well head. We track this fluid level and have found it to be dropping at a very slow rate in WDW-3. We are closely monitoring the fluid level for these wells. A Mechanical Integrity Test (MIT) on all the wells was last done in October 2009 and a quarterly MIT for WDW-3 was last done in February 2010. All of the wells passed. The quarterly MIT on WDW-3 is per Carl Chavez's email of December 9, 2009 to Darrell Moore. The volumes for these three tanks are reported in the attached Well Annulus Measurement System (WAMS) table. As you will notice, WDW-1 has a small decrease in WAMS level also. We are monitoring this closely to see if further testing is warranted.

You will also notice that the minimum annular pressure for the Mewbourne well (WDW-1) appears to be reading low in October 2009. We have investigated the low reading. There was a burnt connector and a bad fuse to the motors that allowed the pressure to drop. The burnt connector and fuse was replaced. The pumps have since been working correctly.

This report covers the period from January 1, 2010 to March 31, 2010. We have disposed a total of 47,835,560 barrels of fluid into the three wells as of December 31, 2009. The volume per well is:

- 28,072,838 barrels into WDW-1
- 14,577,051 barrels into WDW-2
- 5,185,671 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please call me at 575-748-3311.

Respectfully,
NAVAJO REFINING COMPANY

Michael Whatley
Vice-President, Navajo Refinery

Electronic cc (w/enc.): DGM, JEL, AMS
Environmental File: Navajo: (ART: REF - 4 A 02 D)

2010 FIRST QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
WDW-1													Previous Quarter	
Jan-10	597	688	569	149	274	131	169	268	46	5,108	9,401	4,478	158,333	27,647,056
Feb-10	582	627	429	134	145	109	206	407	99	4,578	4,971	3,737	128,195	27,805,389
Mar-09	605	636	582	131	135	125	414	528	271	4,492	4,638	4,286	139,254	27,933,584
WDW-2													Previous Quarter	
Jan-10	605	625	560	149	153	142	210	346	128	5,122	5,252	4,882	158,777	14,124,671
Feb-10	588	625	442	145	149	130	346	530	257	4,963	5,097	4,465	138,969	14,283,448
Mar-09	625	650	598	145	153	142	499	616	360	4,988	5,240	4,857	154,635	14,422,416
WDW-3													Previous Quarter	
Jan-10	614	637	572	199	208	183	262	357	223	6,828	7,120	6,275	211,672	4,559,320
Feb-10	587	639	422	200	212	170	320	403	251	6,871	7,275	5,834	192,376	4,770,992
Mar-09	633	657	570	209	217	187	379	529	236	7,171	7,446	6,406	222,303	4,963,368
													Total Injected fluids:	47,835,560

2010 FIRST QUARTER WEEKLY WAMS LEVEL TABLE

	1/7/10	1/11/10	1/20/10	1/27/10	2/1/10	2/8/10	2/16/10	2/22/10	3/1/10	3/8/10	3/15/10	3/22/10	3/29/10
WDW -1 ¹	175	170	165	165	165	155	155	155	155	155	155	155	155
WDW-2 ¹	125	125	125	125	125	185	185	185	185	185	185	185	185
WDW-3 ¹	165	155	150	150	155	145	145	145	145	145	145	145	145
Comments: Added 55 gallons of antifreeze to WDW-2 on 02/03/2010.													

¹ Graduated tank gauged weekly in the field. Reading is in gallons.

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



Environmental Division

09-Mar-2010

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 748-6733
Fax: (575) 746-5421

Re: Injection Well Quarterly

Work Order: 1002802

Dear Aaron,

ALS Laboratory Group received 1 sample on 26-Feb-2010 08:50 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 41.

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

Sincerely,

JayLynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager



Certificate No: T104704231-09A-TX

ALS Group USA, Corp.

Part of the **ALS Laboratory Group**

10450 Standcliff Rd, Suite 210 Houston, Texas 77099-4338

Phone: (281) 530-5656 Fax: (281) 530-5887

www.alsglobal.com www.elabi.com

A Campbell Brothers Limited Company

ALS Laboratory Group

Date: 09-Mar-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1002802

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1002802-01	Inj Well	Water		2/25/2010 09:37	2/26/2010 08:50	☐

ALS Laboratory Group

Date: 09-Mar-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1002802

Case Narrative

Batch R87705 Volatiles (sample 1002730-13) MS/MSD unrelated sample.

Batch 41332 Metals (sample 1002768-01) MS/MSD unrelated sample.

ALS Laboratory Group

Date: 09-Mar-10

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY						
Mercury	ND		SW7470 0.000200	mg/L	Prep Date: 3/2/2010 1	Analyst: JCJ 3/2/2010 02:48 PM
METALS						
Aluminum	0.587		SW6020 0.0100	mg/L	Prep Date: 3/1/2010 1	Analyst: ALR 3/2/2010 01:44 PM
Arsenic	0.0502		0.00500	mg/L	1	3/1/2010 10:20 PM
Barium	0.0243		0.00500	mg/L	1	3/1/2010 10:20 PM
Beryllium	ND		0.00200	mg/L	1	3/2/2010 01:44 PM
Boron	0.159		0.0200	mg/L	1	3/2/2010 01:44 PM
Cadmium	ND		0.00200	mg/L	1	3/1/2010 10:20 PM
Calcium	151		0.500	mg/L	1	3/1/2010 10:20 PM
Chromium	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Cobalt	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Copper	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Iron	0.658		0.200	mg/L	1	3/1/2010 10:20 PM
Lead	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Magnesium	36.4		0.200	mg/L	1	3/1/2010 10:20 PM
Manganese	0.285		0.00500	mg/L	1	3/1/2010 10:20 PM
Molybdenum	0.143		0.00500	mg/L	1	3/1/2010 10:20 PM
Nickel	0.0109		0.00500	mg/L	1	3/1/2010 10:20 PM
Potassium	80.5		0.200	mg/L	1	3/1/2010 10:20 PM
Selenium	0.189		0.00500	mg/L	1	3/1/2010 10:20 PM
Silver	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Sodium	970		10.0	mg/L	50	3/2/2010 01:39 PM
Vanadium	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Zinc	1.60		0.00500	mg/L	1	3/1/2010 10:20 PM
SEMIVOLATILES						
1,2,4-Trichlorobenzene	ND		SW8270 0.0050	mg/L	Prep Date: 3/2/2010 1	Analyst: ACN 3/3/2010 06:15 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Methylphenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Nitrophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
3-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
4-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
4-Nitrophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Acenaphthene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Acenaphthylene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM

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

ALS Laboratory Group

Date: 09-Mar-10

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Anthracene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Benzidine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Hexachloroethane	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Isophorone	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Naphthalene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Nitrobenzene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Pentachlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Phenanthrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Phenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Pyrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Surr: 2,4,6-Tribromophenol	85.8		42-124	%REC	1	3/3/2010 06:15 PM
Surr: 2-Fluorobiphenyl	97.5		48-120	%REC	1	3/3/2010 06:15 PM
Surr: 2-Fluorophenol	86.0		20-120	%REC	1	3/3/2010 06:15 PM
Surr: 4-Terphenyl-d14	81.2		51-135	%REC	1	3/3/2010 06:15 PM
Surr: Nitrobenzene-d5	74.6		41-120	%REC	1	3/3/2010 06:15 PM
Surr: Phenol-d6	80.9		20-120	%REC	1	3/3/2010 06:15 PM
VOLATILES			SW8260		Analyst: PC	
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	3/1/2010 01:48 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Acetone	0.015		0.010	mg/L	1	3/1/2010 01:48 PM
Benzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2010 01:48 PM

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

ALS Laboratory Group

Date: 09-Mar-10

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Styrene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Toluene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Vinyl acetate	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2010 01:48 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2010 01:48 PM
Surr: 1,2-Dichloroethane-d4	95.7		70-125	%REC	1	3/1/2010 01:48 PM
Surr: 4-Bromofluorobenzene	93.7		72-125	%REC	1	3/1/2010 01:48 PM
Surr: Dibromofluoromethane	99.6		71-125	%REC	1	3/1/2010 01:48 PM
Surr: Toluene-d8	93.7		75-125	%REC	1	3/1/2010 01:48 PM
REACTIVE CYANIDE			SW-846			Analyst: HN
Reactive Cyanide	ND		40.0	mg/Kg	1	3/2/2010
REACTIVE SULFIDE			SW-846			Analyst: HN
Reactive Sulfide	ND		40.0	mg/Kg	1	3/2/2010
ANIONS			E300			Analyst: JBA
Chloride	327		25.0	mg/L	50	2/28/2010 07:52 PM
Fluoride	15.2		0.100	mg/L	1	2/28/2010 04:24 AM
Sulfate	2,470		25.0	mg/L	50	2/28/2010 07:52 PM
Surr: Selenate (surr)	87.3		85-115	%REC	50	2/28/2010 07:52 PM
Surr: Selenate (surr)	102		85-115	%REC	1	2/28/2010 04:24 AM
ALKALINITY			SM2320B			Analyst: TDW
Alkalinity, Bicarbonate (As CaCO3)	56.7		5.00	mg/L	1	3/4/2010 12:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	3/4/2010 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	3/4/2010 12:00 PM
Alkalinity, Total (As CaCO3)	56.7		5.00	mg/L	1	3/4/2010 12:00 PM
SPECIFIC CONDUCTIVITY			M2510 B			Analyst: TDW
Specific Conductivity	6,050		1.00	µmhos/cm	1	3/8/2010 02:00 PM

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

ALS Laboratory Group

Date: 09-Mar-10

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
IGNITIBILITY			SW1010			Analyst: JLC
Ignitability	>212		50.0	°F	1	3/1/2010
PH			SM4500H+ B			Analyst: JLC
pH	7.15	H	0.100	pH units	1	3/1/2010
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: TDW
Total Dissolved Solids (Residue, Filterable)	4,200		10.0	mg/L	1	3/2/2010 05:00 PM

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

ALS Laboratory Group

Date: 09-Mar-10

Client: Navajo Refining Company
Work Order: 1002802
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

MBLK Sample ID: MBLKW2-030110-41332 Units: mg/L Analysis Date: 3/1/2010 04:35 PM

Client ID: Run ID: ICPMS03_100301A SeqNo: 1890961 Prep Date: 3/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.004023	0.010								J
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Beryllium	ND	0.0020								
Boron	0.005812	0.050								J
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	ND	0.0050								
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	ND	0.0050								
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Vanadium	ND	0.0050								
Zinc	ND	0.0050								

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

LCS Sample ID: MLCSW2-030110-41332 Units: mg/L Analysis Date: 3/1/2010 04:40 PM
 Client ID: Run ID: ICPMS03_100301A SeqNo: 1890963 Prep Date: 3/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09859	0.010	0.1	0	98.6	80-120	0			
Arsenic	0.05168	0.0050	0.05	0	103	80-120	0			
Barium	0.05049	0.0050	0.05	0	101	80-120	0			
Beryllium	0.05009	0.0020	0.05	0	100	80-120	0			
Boron	0.4772	0.050	0.5	0	95.4	80-120	0			
Cadmium	0.0512	0.0020	0.05	0	102	80-120	0			
Calcium	5.062	0.50	5	0	101	80-120	0			
Chromium	0.05099	0.0050	0.05	0	102	80-120	0			
Cobalt	0.05052	0.0050	0.05	0	101	80-120	0			
Copper	0.05032	0.0050	0.05	0	101	80-120	0			
Iron	5.083	0.20	5	0	102	80-120	0			
Lead	0.04911	0.0050	0.05	0	98.2	80-120	0			
Magnesium	5.001	0.20	5	0	100	80-120	0			
Manganese	0.05022	0.0050	0.05	0	100	80-120	0			
Molybdenum	0.04983	0.0050	0.05	0	99.7	80-120	0			
Nickel	0.05	0.0050	0.05	0	100	80-120	0			
Potassium	5.05	0.20	5	0	101	80-120	0			
Selenium	0.05833	0.0050	0.05	0	117	80-120	0			
Silver	0.05105	0.0050	0.05	0	102	80-120	0			
Sodium	5.048	0.20	5	0	101	80-120	0			
Vanadium	0.05032	0.0050	0.05	0	101	80-120	0			
Zinc	0.05841	0.0050	0.05	0	117	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

MS		Sample ID: 1002768-01BMS				Units: mg/L		Analysis Date: 3/1/2010 08:00 PM		
Client ID:		Run ID: ICPMS03_100301A				SeqNo: 1891171		Prep Date: 3/1/2010		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1887	0.010	0.1	0.05322	135	80-120	0			S
Arsenic	0.05437	0.0050	0.05	0.0006206	107	80-120	0			
Barium	0.1353	0.0050	0.05	0.07416	122	80-120	0			S
Beryllium	0.05138	0.0020	0.05	-0.0003913	104	80-120	0			
Boron	0.7581	0.050	0.5	0.2207	107	80-120	0			
Cadmium	0.05295	0.0020	0.05	-0.0007701	107	80-120	0			
Calcium	133.4	0.50	5	122.4	220	80-120	0			SO
Chromium	0.05283	0.0050	0.05	0.0006298	104	80-120	0			
Cobalt	0.05137	0.0050	0.05	-0.00003754	103	80-120	0			
Copper	0.05207	0.0050	0.05	0.001487	101	80-120	0			
Iron	5.304	0.20	5	-0.004417	106	80-120	0			
Lead	0.05455	0.0050	0.05	0.0008749	107	80-120	0			
Magnesium	18.3	0.20	5	12.38	118	80-120	0			
Manganese	0.05639	0.0050	0.05	0.004264	104	80-120	0			
Molybdenum	0.05559	0.0050	0.05	0.00174	108	80-120	0			
Nickel	0.05226	0.0050	0.05	0.0008087	103	80-120	0			
Potassium	8.001	0.20	5	2.554	109	80-120	0			
Selenium	0.05864	0.0050	0.05	0.003845	110	80-120	0			
Silver	0.0513	0.0050	0.05	-0.0006232	104	80-120	0			
Sodium	74.61	0.20	5	66.21	168	80-120	0			SO
Vanadium	0.05436	0.0050	0.05	0.001474	106	80-120	0			
Zinc	0.06092	0.0050	0.05	0.005501	111	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

MSD Sample ID: 1002768-01BMSD Units: mg/L Analysis Date: 3/1/2010 08:05 PM
 Client ID: Run ID: ICPMS03_100301A SeqNo: 1891172 Prep Date: 3/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1749	0.010	0.1	0.05322	122	80-120	0.1887	7.59	15	S
Arsenic	0.0533	0.0050	0.05	0.0006206	105	80-120	0.05437	1.99	15	
Barium	0.1322	0.0050	0.05	0.07416	116	80-120	0.1353	2.32	15	
Beryllium	0.05073	0.0020	0.05	-0.0003913	102	80-120	0.05138	1.27	15	
Boron	0.7763	0.050	0.5	0.2207	111	80-120	0.7581	2.37	15	
Cadmium	0.05062	0.0020	0.05	-0.0007701	103	80-120	0.05295	4.5	15	
Calcium	131.2	0.50	5	122.4	176	80-120	133.4	1.66	15	SO
Chromium	0.05183	0.0050	0.05	0.0006298	102	80-120	0.05283	1.91	15	
Cobalt	0.05051	0.0050	0.05	-0.00003754	101	80-120	0.05137	1.69	15	
Copper	0.05145	0.0050	0.05	0.001487	99.9	80-120	0.05207	1.2	15	
Iron	5.353	0.20	5	-0.004417	107	80-120	5.304	0.92	15	
Lead	0.05312	0.0050	0.05	0.0008749	104	80-120	0.05455	2.66	15	
Magnesium	17.77	0.20	5	12.38	108	80-120	18.3	2.94	15	
Manganese	0.05617	0.0050	0.05	0.004264	104	80-120	0.05639	0.391	15	
Molybdenum	0.05465	0.0050	0.05	0.00174	106	80-120	0.05559	1.71	15	
Nickel	0.05078	0.0050	0.05	0.0008087	99.9	80-120	0.05226	2.87	15	
Potassium	7.896	0.20	5	2.554	107	80-120	8.001	1.32	15	
Selenium	0.05582	0.0050	0.05	0.003845	104	80-120	0.05864	4.93	15	
Silver	0.04978	0.0050	0.05	-0.0006232	101	80-120	0.0513	3.01	15	
Sodium	73.91	0.20	5	66.21	154	80-120	74.61	0.943	15	SO
Vanadium	0.05313	0.0050	0.05	0.001474	103	80-120	0.05436	2.29	15	
Zinc	0.0589	0.0050	0.05	0.005501	107	80-120	0.06092	3.37	15	

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

DUP Sample ID: 1002768-01BDUP Units: mg/L Analysis Date: 3/1/2010 07:49 PM

Client ID: Run ID: ICPMS03_100301A SeqNo: 1891169 Prep Date: 3/1/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.05712	0.010	0	0	0	0-0	0.05322	7.07	25	
Arsenic	ND	0.0050	0	0	0	0-0	0.0006206	0	25	
Barium	0.07356	0.0050	0	0	0	0-0	0.07416	0.812	25	
Beryllium	ND	0.0020	0	0	0	0-0	-0.0003913	0	25	
Boron	0.2242	0.050	0	0	0	0-0	0.2207	1.57	25	
Cadmium	ND	0.0020	0	0	0	0-0	-0.0007701	0	25	
Calcium	126.1	0.50	0	0	0	0-0	122.4	2.98	25	
Chromium	0.0006429	0.0050	0	0	0	0-0	0.0006298	0	25	J
Cobalt	ND	0.0050	0	0	0	0-0	-0.00003754	0	25	
Copper	0.001417	0.0050	0	0	0	0-0	0.001487	0	25	J
Iron	ND	0.20	0	0	0	0-0	-0.004417	0	25	
Lead	0.0007599	0.0050	0	0	0	0-0	0.0008749	0	25	J
Magnesium	11.72	0.20	0	0	0	0-0	12.38	5.48	25	
Manganese	0.00435	0.0050	0	0	0	0-0	0.004264	0	25	J
Molybdenum	0.001674	0.0050	0	0	0	0-0	0.00174	0	25	J
Nickel	ND	0.0050	0	0	0	0-0	0.0008087	0	25	
Potassium	2.495	0.20	0	0	0	0-0	2.554	2.34	25	
Silver	ND	0.0050	0	0	0	0-0	-0.0006232	0	25	
Sodium	63.34	0.20	0	0	0	0-0	66.21	4.43	25	
Vanadium	0.001371	0.0050	0	0	0	0-0	0.001474	0	25	J
Zinc	0.005255	0.0050	0	0	0	0-0	0.005501	4.57	25	

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

PDS Sample ID: 1002768-01BBS Units: mg/L Analysis Date: 3/1/2010 08:10 PM

Client ID: Run ID: ICPMS03_100301A SeqNo: 1891173 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1665	0.010	0.1	0.05322	113	75-125	0			
Arsenic	0.1054	0.0050	0.1	0.0006206	105	75-125	0			
Barium	0.1784	0.0050	0.1	0.07416	104	75-125	0			
Beryllium	0.1025	0.0020	0.1	-0.0003913	103	75-125	0			
Boron	1.263	0.050	1	0.2207	104	75-125	0			
Cadmium	0.1009	0.0020	0.1	-0.0007701	102	75-125	0			
Calcium	131.2	0.50	10	122.4	88	75-125	0			O
Chromium	0.1029	0.0050	0.1	0.0006298	102	75-125	0			
Cobalt	0.1008	0.0050	0.1	-0.00003754	101	75-125	0			
Copper	0.1003	0.0050	0.1	0.001487	98.8	75-125	0			
Iron	10.37	0.20	10	-0.004417	104	75-125	0			
Lead	0.1048	0.0050	0.1	0.0008749	104	75-125	0			
Magnesium	22.53	0.20	10	12.38	102	75-125	0			
Manganese	0.1076	0.0050	0.1	0.004264	103	75-125	0			
Molybdenum	0.107	0.0050	0.1	0.00174	105	75-125	0			
Nickel	0.1013	0.0050	0.1	0.0008087	100	75-125	0			
Potassium	13.1	0.20	10	2.554	105	75-125	0			
Selenium	0.1087	0.0050	0.1	0.003845	105	75-125	0			
Silver	0.1002	0.0050	0.1	-0.0006232	101	75-125	0			
Sodium	75.66	0.20	10	66.21	94.5	75-125	0			O
Vanadium	0.1032	0.0050	0.1	0.001474	102	75-125	0			
Zinc	0.111	0.0050	0.1	0.005501	105	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41332 Instrument ID ICPMS03 Method: SW6020

SD Sample ID: 1002768-01B DIL SX Units: mg/L Analysis Date: 3/1/2010 07:54 PM

Client ID: Run ID: ICPMS03_100301A SeqNo: 1891170 Prep Date: DF: 5

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.06975	0.050	0	0	0	0-0	0.05322	31.1	10	R
Arsenic	ND	0.025	0	0	0	0-0	0.0006206	0	10	
Barium	0.07355	0.025	0	0	0	0-0	0.07416	0.823	10	
Beryllium	ND	0.010	0	0	0	0-0	-0.0003913	0	10	
Boron	0.2637	0.25	0	0	0	0-0	0.2207	0	10	
Cadmium	ND	0.010	0	0	0	0-0	-0.0007701	0	10	
Calcium	121.8	2.5	0	0	0	0-0	122.4	0.449	10	
Chromium	ND	0.025	0	0	0	0-0	0.0006298	0	10	
Cobalt	ND	0.025	0	0	0	0-0	-0.00003754	0	10	
Copper	ND	0.025	0	0	0	0-0	0.001487	0	10	
Iron	ND	1.0	0	0	0	0-0	-0.004417	0	10	
Lead	ND	0.025	0	0	0	0-0	0.0008749	0	10	
Magnesium	11.88	1.0	0	0	0	0-0	12.38	4.04	10	
Manganese	ND	0.025	0	0	0	0-0	0.004264	0	10	
Molybdenum	ND	0.025	0	0	0	0-0	0.00174	0	10	
Nickel	ND	0.025	0	0	0	0-0	0.0008087	0	10	
Potassium	2.256	1.0	0	0	0	0-0	2.554	11.7	10	R
Selenium	ND	0.025	0	0	0	0-0	0.003845	0	10	
Silver	ND	0.025	0	0	0	0-0	-0.0006232	0	10	
Sodium	64.45	1.0	0	0	0	0-0	66.21	2.66	10	
Vanadium	ND	0.025	0	0	0	0-0	0.001474	0	10	
Zinc	ND	0.025	0	0	0	0-0	0.005501	0	10	

The following samples were analyzed in this batch:

1002802-01B

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41351 Instrument ID HG02 Method: SW7470

MBLK Sample ID: GBLKW3-030210-41351 Units: mg/L Analysis Date: 3/2/2010 02:36 PM

Client ID: Run ID: HG02_100302A SeqNo: 1891822 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: GLCSW3-030210-41351 Units: mg/L Analysis Date: 3/2/2010 02:38 PM

Client ID: Run ID: HG02_100302A SeqNo: 1891823 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00536	0.00020	0.005	0	107	85-115	0			

MS Sample ID: 1002799-01AMS Units: mg/L Analysis Date: 3/2/2010 02:44 PM

Client ID: Run ID: HG02_100302A SeqNo: 1891826 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00499	0.00020	0.005	-0.00001	100	85-115	0			

MSD Sample ID: 1002799-01AMSD Units: mg/L Analysis Date: 3/2/2010 02:46 PM

Client ID: Run ID: HG02_100302A SeqNo: 1891827 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00508	0.00020	0.005	-0.00001	102	85-115	0.00499	1.79	20	

DUP Sample ID: 1002799-01ADUP Units: mg/L Analysis Date: 3/2/2010 02:42 PM

Client ID: Run ID: HG02_100302A SeqNo: 1891825 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.00001	0	20	

The following samples were analyzed in this batch:

1002802-01B

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41362 Instrument ID SV-3 Method: SW8270

MBLK Sample ID: SBLKW3-100302-41362 Units: µg/L Analysis Date: 3/3/2010 03:08 PM

Client ID: Run ID: SV-3_100303B SeqNo: 1893489 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
2-Nitroaniline	ND	5.0								
2-Nitrophenol	ND	5.0								
3&4-Methylphenol	ND	5.0								
3-Nitroaniline	ND	5.0								
4-Nitroaniline	ND	5.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	5.0								
Anthracene	ND	5.0								
Benz(a)anthracene	ND	5.0								
Benzidine	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	5.0								
Isophorone	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	5.0								
Naphthalene	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	5.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
Surr: 2,4,6-Tribromophenol	74.66	5.0	100	0	74.7	42-124	0			
Surr: 2-Fluorobiphenyl	86.34	5.0	100	0	86.3	48-120	0			
Surr: 2-Fluorophenol	72.62	5.0	100	0	72.6	20-120	0			
Surr: 4-Terphenyl-d14	90.71	5.0	100	0	90.7	51-135	0			
Surr: Nitrobenzene-d5	78.98	5.0	100	0	79	41-120	0			
Surr: Phenol-d6	75.59	5.0	100	0	75.6	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41362 Instrument ID SV-3 Method: SW8270

LCS Sample ID: SLCSW3-100302-41362 Units: µg/L Analysis Date: 3/3/2010 03:31 PM

Client ID: Run ID: SV-3_100303B SeqNo: 1893490 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	38.91	5.0	50	0	77.8	50-120	0			
2,4,5-Trichlorophenol	85.46	5.0	100	0	85.5	50-120	0			
2,4,6-Trichlorophenol	88.3	5.0	100	0	88.3	50-120	0			
2-Methylnaphthalene	34.82	5.0	50	0	69.6	55-120	0			
2-Methylphenol	72.79	5.0	100	0	72.8	50-120	0			
2-Nitroaniline	48.28	5.0	50	0	96.6	55-120	0			
2-Nitrophenol	83.2	5.0	100	0	83.2	55-120	0			
3&4-Methylphenol	100.9	5.0	150	0	67.2	55-120	0			
3-Nitroaniline	32.22	5.0	50	0	64.4	40-120	0			
4-Nitroaniline	38.57	5.0	50	0	77.1	50-120	0			
4-Nitrophenol	80.94	5.0	100	0	80.9	45-120	0			
Acenaphthene	44.71	5.0	50	0	89.4	55-120	0			
Acenaphthylene	45.34	5.0	50	0	90.7	55-120	0			
Aniline	25.09	5.0	50	0	50.2	30-120	0			
Anthracene	42.17	5.0	50	0	84.3	55-120	0			
Benz(a)anthracene	41.77	5.0	50	0	83.5	55-120	0			
Benzidine	15.43	5.0	50	0	30.9	10-120	0			
Hexachloroethane	39.06	5.0	50	0	78.1	55-120	0			
Indeno(1,2,3-cd)pyrene	40.68	5.0	50	0	81.4	55-120	0			
Isophorone	34.63	5.0	50	0	69.3	55-120	0			
N-Nitrosodi-n-propylamine	31.39	5.0	50	0	62.8	50-120	0			
N-Nitrosodimethylamine	43.08	5.0	50	0	86.2	45-120	0			
N-Nitrosodiphenylamine	44.23	5.0	50	0	88.5	55-120	0			
Naphthalene	38.97	5.0	50	0	77.9	55-120	0			
Nitrobenzene	39.44	5.0	50	0	78.9	55-120	0			
Pentachlorophenol	79.65	5.0	100	0	79.7	55-120	0			
Phenanthrene	42.1	5.0	50	0	84.2	55-120	0			
Phenol	70.61	5.0	100	0	70.6	50-120	0			
Pyrene	45.7	5.0	50	0	91.4	55-120	0			
Surr: 2,4,6-Tribromophenol	77.84	5.0	100	0	77.8	42-124	0			
Surr: 2-Fluorobiphenyl	88.36	5.0	100	0	88.4	48-120	0			
Surr: 2-Fluorophenol	78.52	5.0	100	0	78.5	20-120	0			
Surr: 4-Terphenyl-d14	77.61	5.0	100	0	77.6	51-135	0			
Surr: Nitrobenzene-d5	72.58	5.0	100	0	72.6	41-120	0			
Surr: Phenol-d6	72.49	5.0	100	0	72.5	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 41362 Instrument ID SV-3 Method: SW8270

LCSD Sample ID: SLCSDW3-100302-41362 Units: µg/L Analysis Date: 3/3/2010 03:54 PM

Client ID: Run ID: SV-3_100303B SeqNo: 1893491 Prep Date: 3/2/2010 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	43.36	5.0	50	0	86.7	50-120	38.91	10.8	20	
2,4,5-Trichlorophenol	87.34	5.0	100	0	87.3	50-120	85.46	2.18	20	
2,4,6-Trichlorophenol	86.95	5.0	100	0	86.9	50-120	88.3	1.54	20	
2-Methylnaphthalene	38.65	5.0	50	0	77.3	55-120	34.82	10.4	20	
2-Methylphenol	81.67	5.0	100	0	81.7	50-120	72.79	11.5	20	
2-Nitroaniline	52.68	5.0	50	0	105	55-120	48.28	8.71	20	
2-Nitrophenol	92.09	5.0	100	0	92.1	55-120	83.2	10.1	20	
3&4-Methylphenol	115.1	5.0	150	0	76.8	55-120	100.9	13.2	20	
3-Nitroaniline	32.59	5.0	50	0	65.2	40-120	32.22	1.16	20	
4-Nitroaniline	38.07	5.0	50	0	76.1	50-120	38.57	1.3	20	
4-Nitrophenol	87.52	5.0	100	0	87.5	45-120	80.94	7.81	20	
Acenaphthene	43.72	5.0	50	0	87.4	55-120	44.71	2.24	20	
Acenaphthylene	45.12	5.0	50	0	90.2	55-120	45.34	0.487	20	
Aniline	28.45	5.0	50	0	56.9	30-120	25.09	12.6	20	
Anthracene	46.8	5.0	50	0	93.6	55-120	42.17	10.4	20	
Benz(a)anthracene	46.52	5.0	50	0	93	55-120	41.77	10.8	20	
Benzidine	14.51	5.0	50	0	29	10-120	15.43	6.16	20	
Hexachloroethane	41.89	5.0	50	0	83.8	55-120	39.06	6.99	20	
Indeno(1,2,3-cd)pyrene	46.02	5.0	50	0	92	55-120	40.68	12.3	20	
Isophorone	38.5	5.0	50	0	77	55-120	34.63	10.6	20	
N-Nitrosodi-n-propylamine	37.93	5.0	50	0	75.9	50-120	31.39	18.9	20	
N-Nitrosodimethylamine	45.74	5.0	50	0	91.5	45-120	43.08	6	20	
N-Nitrosodiphenylamine	50.62	5.0	50	0	101	55-120	44.23	13.5	20	
Naphthalene	43.34	5.0	50	0	86.7	55-120	38.97	10.6	20	
Nitrobenzene	44.07	5.0	50	0	88.1	55-120	39.44	11.1	20	
Pentachlorophenol	84.56	5.0	100	0	84.6	55-120	79.65	5.98	20	
Phenanthrene	46.4	5.0	50	0	92.8	55-120	42.1	9.73	20	
Phenol	85.73	5.0	100	0	85.7	50-120	70.61	19.3	20	
Pyrene	48.48	5.0	50	0	97	55-120	45.7	5.89	20	
Surr: 2,4,6-Tribromophenol	77.39	5.0	100	0	77.4	42-124	77.84	0.58	20	
Surr: 2-Fluorobiphenyl	88.93	5.0	100	0	88.9	48-120	88.36	0.643	20	
Surr: 2-Fluorophenol	92.82	5.0	100	0	92.8	20-120	78.52	16.7	20	
Surr: 4-Terphenyl-d14	84.31	5.0	100	0	84.3	51-135	77.61	8.27	20	
Surr: Nitrobenzene-d5	84.33	5.0	100	0	84.3	41-120	72.58	15	20	
Surr: Phenol-d6	83.54	5.0	100	0	83.5	20-120	72.49	14.2	20	

The following samples were analyzed in this batch:

1002802-01E

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87705 Instrument ID VOA1 Method: SW8260

MBLK Sample ID: VBLKW-030110-R87705 Units: µg/L Analysis Date: 3/1/2010 12:07 PM

Client ID: Run ID: VOA1_100301B SeqNo: 1891402 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
2-Butanone	ND	10								
2-Chloroethyl vinyl ether	ND	10								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methylene chloride	ND	10								
Styrene	ND	5.0								
Tetrachloroethene	ND	5.0								
Toluene	ND	5.0								
trans-1,3-Dichloropropene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl acetate	ND	10								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	15								
Surr: 1,2-Dichloroethane-d4	44.58	5.0	50	0	89.2	70-125	0			
Surr: 4-Bromofluorobenzene	45.46	5.0	50	0	90.9	72-125	0			
Surr: Dibromofluoromethane	47.36	5.0	50	0	94.7	71-125	0			
Surr: Toluene-d8	50.56	5.0	50	0	101	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87705 Instrument ID VOA1 Method: SW8260

LCS Sample ID: VLCSW-030110-R87705 Units: µg/L Analysis Date: 3/1/2010 11:17 AM

Client ID: Run ID: VOA1_100301B SeqNo: 1891401 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	48.3	5.0	50	0	96.6	80-120	0			
1,1,2,2-Tetrachloroethane	46.46	5.0	50	0	92.9	72-120	0			
1,1,2-Trichloroethane	46.04	5.0	50	0	92.1	80-120	0			
1,1-Dichloroethane	44.27	5.0	50	0	88.5	76-120	0			
1,1-Dichloroethene	47.32	5.0	50	0	94.6	73-124	0			
1,2-Dichloroethane	46.89	5.0	50	0	93.8	78-120	0			
2-Butanone	97.99	10	100	0	98	58-132	0			
2-Chloroethyl vinyl ether	100.4	10	100	0	100	74-120	0			
2-Hexanone	101	10	100	0	101	61-130	0			
4-Methyl-2-pentanone	101.4	10	100	0	101	65-127	0			
Acetone	91.42	10	100	0	91.4	59-137	0			
Benzene	46.57	5.0	50	0	93.1	73-121	0			
Bromodichloromethane	48.44	5.0	50	0	96.9	80-120	0			
Bromoform	45.84	5.0	50	0	91.7	79-120	0			
Bromomethane	46.49	5.0	50	0	93	66-137	0			
Carbon disulfide	92.81	10	100	0	92.8	68-141	0			
Carbon tetrachloride	48.2	5.0	50	0	96.4	75-124	0			
Chlorobenzene	46.74	5.0	50	0	93.5	80-120	0			
Chloroethane	47.74	5.0	50	0	95.5	76-121	0			
Chloroform	46.55	5.0	50	0	93.1	80-120	0			
Chloromethane	49.05	5.0	50	0	98.1	67-123	0			
cis-1,3-Dichloropropene	48.44	5.0	50	0	96.9	80-120	0			
Dibromochloromethane	47.1	5.0	50	0	94.2	80-120	0			
Ethylbenzene	48.04	5.0	50	0	96.1	80-120	0			
m,p-Xylene	95	10	100	0	95	78-121	0			
Methylene chloride	45.09	10	50	0	90.2	65-133	0			
Styrene	49.96	5.0	50	0	99.9	80-120	0			
Tetrachloroethene	48.45	5.0	50	0	96.9	79-120	0			
Toluene	47.23	5.0	50	0	94.5	80-120	0			
trans-1,3-Dichloropropene	47.68	5.0	50	0	95.4	80-120	0			
Trichloroethene	49.34	5.0	50	0	98.7	80-120	0			
Vinyl acetate	93.37	10	100	0	93.4	67-139	0			
Vinyl chloride	49.23	2.0	50	0	98.5	70-127	0			
Xylenes, Total	143.3	15	150	0	95.6	80-120	0			
Surr: 1,2-Dichloroethane-d4	43.32	5.0	50	0	86.6	70-125	0			
Surr: 4-Bromofluorobenzene	45.56	5.0	50	0	91.1	72-125	0			
Surr: Dibromofluoromethane	45.45	5.0	50	0	90.9	71-125	0			
Surr: Toluene-d8	49.19	5.0	50	0	98.4	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87705 Instrument ID VOA1 Method: SW8260

MS		Sample ID: 1002730-13AMS				Units: µg/L		Analysis Date: 3/1/2010 03:29 PM		
Client ID:		Run ID: VOA1_100301B				SeqNo: 1891407		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	41.35	5.0	50	0	82.7	80-120	0			
1,1,2,2-Tetrachloroethane	44.1	5.0	50	0	88.2	72-120	0			
1,1,2-Trichloroethane	46.28	5.0	50	0	92.6	80-120	0			
1,1-Dichloroethane	43.09	5.0	50	0	86.2	76-120	0			
1,1-Dichloroethene	41.72	5.0	50	0	83.4	73-124	0			
1,2-Dichloroethane	46.02	5.0	50	0	92	78-120	0			
2-Butanone	92.79	10	100	0	92.8	58-132	0			
2-Chloroethyl vinyl ether	ND	10	100	0	0	74-120	0			S
2-Hexanone	107.9	10	100	0	108	61-130	0			
4-Methyl-2-pentanone	107.4	10	100	0	107	65-127	0			
Acetone	83.22	10	100	0	83.2	59-137	0			
Benzene	44.95	5.0	50	0	89.9	73-121	0			
Bromodichloromethane	45.46	5.0	50	0	90.9	80-120	0			
Bromoform	45.41	5.0	50	0	90.8	79-120	0			
Bromomethane	38.9	5.0	50	0	77.8	66-137	0			
Carbon disulfide	85.71	10	100	0	85.7	68-141	0			
Carbon tetrachloride	42.09	5.0	50	0	84.2	75-124	0			
Chlorobenzene	45.49	5.0	50	0	91	80-120	0			
Chloroethane	43.25	5.0	50	0	86.5	76-121	0			
Chloroform	44.56	5.0	50	0	89.1	80-120	0			
Chloromethane	43.88	5.0	50	0	87.8	67-123	0			
cis-1,3-Dichloropropene	44.8	5.0	50	0	89.6	80-120	0			
Dibromochloromethane	46.53	5.0	50	0	93.1	80-120	0			
Ethylbenzene	48.04	5.0	50	0	96.1	80-120	0			
m,p-Xylene	92.51	10	100	0	92.5	78-121	0			
Methylene chloride	45.25	10	50	0	90.5	65-133	0			
Styrene	50.21	5.0	50	0	100	80-120	0			
Tetrachloroethene	43.56	5.0	50	0	87.1	79-120	0			
Toluene	45.43	5.0	50	0	90.9	80-120	0			
trans-1,3-Dichloropropene	46.36	5.0	50	0	92.7	80-120	0			
Trichloroethene	44.35	5.0	50	0	88.7	80-120	0			
Vinyl acetate	97.53	10	100	0	97.5	67-139	0			
Vinyl chloride	42.91	2.0	50	0	85.8	70-127	0			
Xylenes, Total	141.2	15	150	0	94.1	80-120	0			
Surr: 1,2-Dichloroethane-d4	43.31	5.0	50	0	86.6	70-125	0			
Surr: 4-Bromofluorobenzene	49.72	5.0	50	0	99.4	72-125	0			
Surr: Dibromofluoromethane	45.25	5.0	50	0	90.5	71-125	0			
Surr: Toluene-d8	47.51	5.0	50	0	95	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87705 Instrument ID VOA1 Method: SW8260

MSD Sample ID: 1002730-13AMSD Units: µg/L Analysis Date: 3/1/2010 03:55 PM

Client ID: Run ID: VOA1_100301B SeqNo: 1891408 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	44.7	5.0	50	0	89.4	80-120	41.35	7.78	20	
1,1,2,2-Tetrachloroethane	47.39	5.0	50	0	94.8	72-120	44.1	7.21	20	
1,1,2-Trichloroethane	47.18	5.0	50	0	94.4	80-120	46.28	1.92	20	
1,1-Dichloroethane	46.98	5.0	50	0	94	76-120	43.09	8.63	20	
1,1-Dichloroethene	43.28	5.0	50	0	86.6	73-124	41.72	3.69	20	
1,2-Dichloroethane	47.44	5.0	50	0	94.9	78-120	46.02	3.05	20	
2-Butanone	100.6	10	100	0	101	58-132	92.79	8.12	20	
2-Chloroethyl vinyl ether	ND	10	100	0	0	74-120	0	0	20	S
2-Hexanone	124.1	10	100	0	124	61-130	107.9	13.9	20	
4-Methyl-2-pentanone	118.7	10	100	0	119	65-127	107.4	9.96	20	
Acetone	89.93	10	100	0	89.9	59-137	83.22	7.75	20	
Benzene	46.36	5.0	50	0	92.7	73-121	44.95	3.09	20	
Bromodichloromethane	46.08	5.0	50	0	92.2	80-120	45.46	1.34	20	
Bromoform	48.32	5.0	50	0	96.6	79-120	45.41	6.2	20	
Bromomethane	45.23	5.0	50	0	90.5	66-137	38.9	15	20	
Carbon disulfide	89.56	10	100	0	89.6	68-141	85.71	4.4	20	
Carbon tetrachloride	39.42	5.0	50	0	78.8	75-124	42.09	6.55	20	
Chlorobenzene	47.93	5.0	50	0	95.9	80-120	45.49	5.24	20	
Chloroethane	44.68	5.0	50	0	89.4	76-121	43.25	3.25	20	
Chloroform	45.92	5.0	50	0	91.8	80-120	44.56	3	20	
Chloromethane	47.31	5.0	50	0	94.6	67-123	43.88	7.53	20	
cis-1,3-Dichloropropene	48.46	5.0	50	0	96.9	80-120	44.8	7.84	20	
Dibromochloromethane	49.58	5.0	50	0	99.2	80-120	46.53	6.34	20	
Ethylbenzene	51.24	5.0	50	0	102	80-120	48.04	6.46	20	
m,p-Xylene	101	10	100	0	101	78-121	92.51	8.73	20	
Methylene chloride	49.11	10	50	0	98.2	65-133	45.25	8.18	20	
Styrene	51.41	5.0	50	0	103	80-120	50.21	2.36	20	
Tetrachloroethene	45.28	5.0	50	0	90.6	79-120	43.56	3.88	20	
Toluene	46.77	5.0	50	0	93.5	80-120	45.43	2.91	20	
trans-1,3-Dichloropropene	47.16	5.0	50	0	94.3	80-120	46.36	1.72	20	
Trichloroethene	46.31	5.0	50	0	92.6	80-120	44.35	4.31	20	
Vinyl acetate	101.9	10	100	0	102	67-139	97.53	4.42	20	
Vinyl chloride	45.02	2.0	50	0	90	70-127	42.91	4.79	20	
Xylenes, Total	151.2	15	150	0	101	80-120	141.2	6.88	20	
Surr: 1,2-Dichloroethane-d4	46.32	5.0	50	0	92.6	70-125	43.31	6.72	20	
Surr: 4-Bromofluorobenzene	48.69	5.0	50	0	97.4	72-125	49.72	2.1	20	
Surr: Dibromofluoromethane	48.43	5.0	50	0	96.9	71-125	45.25	6.79	20	
Surr: Toluene-d8	48.89	5.0	50	0	97.8	75-125	47.51	2.86	20	

The following samples were analyzed in this batch:

1002802-01A

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

Client: Navajo Refining Company
Work Order: 1002802
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87653 Instrument ID WetChem Method: SW1010

LCS	Sample ID: WLCS-03012010-R87653	Units: °F	Analysis Date: 3/1/2010							
Client ID:	Run ID: WETCHEM_100301B	SeqNo: 1890229	Prep Date: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	83	50	83	0	100	80-120	0			

DUP	Sample ID: 1002802-01DDUP	Units: °F	Analysis Date: 3/1/2010							
Client ID: Inj Well	Run ID: WETCHEM_100301B	SeqNo: 1890239	Prep Date: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	ND	50	0	0	0	0-0	0	0	25	

The following samples were analyzed in this batch:

1002802-01D

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87661 Instrument ID ICS3K2 Method: E300

MBLK Sample ID: WBLKW1-022710-R87661 Units: mg/L Analysis Date: 2/27/2010 06:00 PM

Client ID: Run ID: ICS3K2_100227A SeqNo: 1890433 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.267	0.50								J
Fluoride	ND	0.10								
Sulfate	ND	0.50								
Surr: Selenate (surr)	4.791	0.10	5	0	95.8	85-115	0			

LCS Sample ID: WLC5W1-022710-R87661 Units: mg/L Analysis Date: 2/27/2010 06:22 PM

Client ID: Run ID: ICS3K2_100227A SeqNo: 1890434 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.06	0.50	20	0	95.3	90-110	0			
Fluoride	3.944	0.10	4	0	98.6	90-110	0			
Sulfate	19.45	0.50	20	0	97.2	90-110	0			
Surr: Selenate (surr)	4.635	0.10	5	0	92.7	85-115	0			

LCSD Sample ID: WLC5DW1-022710-R87661 Units: mg/L Analysis Date: 2/27/2010 06:43 PM

Client ID: Run ID: ICS3K2_100227A SeqNo: 1890435 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.38	0.50	20	0	96.9	90-110	19.06	1.66	20	
Fluoride	4.035	0.10	4	0	101	90-110	3.944	2.28	20	
Sulfate	19.1	0.50	20	0	95.5	90-110	19.45	1.81	20	
Surr: Selenate (surr)	4.673	0.10	5	0	93.5	85-115	4.635	0.817	20	

MS Sample ID: 1002811-02EMS Units: mg/L Analysis Date: 2/27/2010 11:02 PM

Client ID: Run ID: ICS3K2_100227A SeqNo: 1890459 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.2	0.50	10	2.201	89.9	80-120	0			
Fluoride	1.915	0.10	2	-0.006	96	80-120	0			
Sulfate	12.52	0.50	10	3.38	91.4	80-120	0			
Surr: Selenate (surr)	4.371	0.10	5	0	87.4	85-115	0			

MSD Sample ID: 1002811-02EMSD Units: mg/L Analysis Date: 2/27/2010 11:23 PM

Client ID: Run ID: ICS3K2_100227A SeqNo: 1890460 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	11.2	0.50	10	2.201	90	80-120	11.2	0.0179	20	
Fluoride	1.912	0.10	2	-0.006	95.9	80-120	1.915	0.157	20	
Sulfate	12.46	0.50	10	3.38	90.8	80-120	12.52	0.488	20	
Surr: Selenate (surr)	4.385	0.10	5	0	87.7	85-115	4.371	0.32	20	

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

Client: Navajo Refining Company
Work Order: 1002802
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87661 Instrument ID ICS3K2 Method: E300

The following samples were analyzed in this batch:

1002802-01C

Client: Navajo Refining Company
Work Order: 1002802
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: **R87685** Instrument ID **WetChem** Method: **SM4500H+ B**

LCS Sample ID: **WLCS-03012010-R87685** Units: **pH units** Analysis Date: **3/1/2010**
Client ID: Run ID: **WETCHEM_100301J** SeqNo: **1890814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.03	0.10	6	0	100	90-110	0			

DUP Sample ID: **1003007-01BDUP** Units: **pH units** Analysis Date: **3/1/2010**
Client ID: Run ID: **WETCHEM_100301J** SeqNo: **1890856** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	1.82	0.10	0	0	0	0-0	1.85	1.63	20	

The following samples were analyzed in this batch:

1002802-01D

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

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87748 Instrument ID Balance1 Method: M2540C

MBLK Sample ID: BLANK-R87748 Units: mg/L Analysis Date: 3/2/2010 05:00 PM

Client ID: Run ID: BALANCE1_100302E SeqNo: 1892329 Prep Date: DF: 1

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

LCS Sample ID: lcs-R87748 Units: mg/L Analysis Date: 3/2/2010 05:00 PM

Client ID: Run ID: BALANCE1_100302E SeqNo: 1892330 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	988	10	1000	0	98.8	85-115	0			

DUP Sample ID: 1003020-01ADUP Units: mg/L Analysis Date: 3/2/2010 05:00 PM

Client ID: Run ID: BALANCE1_100302E SeqNo: 1892323 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filt	6455	10	0	0	0	0-0	6600	2.22	20	

The following samples were analyzed in this batch:

1002802-01C

Client: Navajo Refining Company
 Work Order: 1002802
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R87847 Instrument ID WetChem Method: SM2320B

MBLK Sample ID: WBLKW1-3410-R87847 Units: mg/L Analysis Date: 3/4/2010 12:00 PM

Client ID: Run ID: WETCHEM_100304J SeqNo: 1894463 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0								
Alkalinity, Carbonate (As CaCO3)	ND	5.0								
Alkalinity, Hydroxide (As CaCO3)	ND	5.0								
Alkalinity, Total (As CaCO3)	ND	5.0								

LCS Sample ID: WLCSW1-3410-R87847 Units: mg/L Analysis Date: 3/4/2010 12:00 PM

Client ID: Run ID: WETCHEM_100304J SeqNo: 1894464 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	1012	5.0	1000	0	101	80-120	0			
Alkalinity, Total (As CaCO3)	1012	5.0	1000	0	101	80-120	0			

DUP Sample ID: 1002698-15bdup Units: mg/L Analysis Date: 3/4/2010 12:00 PM

Client ID: Run ID: WETCHEM_100304J SeqNo: 1894485 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	184.2	5.0	0	0	0	0-0	184.2	0	20	
Alkalinity, Carbonate (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	184.2	5.0	0	0	0	0-0	184.2	0	20	

The following samples were analyzed in this batch: 1002802-01C

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

Client: Navajo Refining Company
Work Order: 1002802
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: **R87923** Instrument ID **WetChem** Method: **M2510 B**

MBLK Sample ID: **WBLKW1-3810-R87923** Units: **µmhos/cm** Analysis Date: **3/8/2010 02:00 PM**

Client ID: Run ID: **WETCHEM_100308D** SeqNo: **1895895** Prep Date: DF: **1**

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

LCS Sample ID: **WLCSW1-3810-R87923** Units: **µmhos/cm** Analysis Date: **3/8/2010 02:00 PM**

Client ID: Run ID: **WETCHEM_100308D** SeqNo: **1895896** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1420	1.0	1413	0	100	80-120	0			

DUP Sample ID: **1002802-01cdup** Units: **µmhos/cm** Analysis Date: **3/8/2010 02:00 PM**

Client ID: **Inj Well** Run ID: **WETCHEM_100308D** SeqNo: **1895900** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	6040	1.0	0	0	0		6050	0.165	20	

The following samples were analyzed in this batch:

1002802-01C

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

ALS Laboratory Group

Date: 09-Mar-10

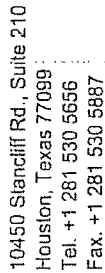
Client: Navajo Refining Company
Project: Injection Well Quarterly
WorkOrder: 1002802

**QUALIFIERS,
ACRONYMS, UNITS**

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

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

<u>Units Reported</u>	<u>Description</u>
°F	Fahrenheit degrees
µmhos/cm	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
pH units	



☐ ALS Laboratory Group

3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

Page 1 of 1

Customer Information				Project Information				ALS Project Manager: <u>ALS Work Order #:</u> <u>1002502</u>												Parameter/Method Request for Analysis											
Project Name				Injection Well Quarterly				A. VOC (8260) Select																							
Project Number								B. SVOC (8270) Select																							
Bill To Company				Navajo Refining Company				C. Total Metals (8020/7000) Select																							
Invoice Attn				Aaron Strange				D. RCI Profile																							
Address				PO Box 150				E. Anions (300) Cl, SO4																							
City/State/Zip				Artesia, NM 88211				F. Alkalinity																							
Phone				(505) 746-3311				G. pH																							
Fax				(505) 746-5421				H. Conductivity																							
e-Mail Address								I. TDS																							
e-Mail Address								J. Other																							
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold														
1	Inj well	2/25/10	0937	L	Y	9	X	X	X	X	X	X	X	X	X	X															
2	Temp blank																														
3	Tripl blank																														
4																															
5																															
6																															
7																															
8																															
9																															
10																															

Sampler(s) Please Print & Sign: Aaron Strange

Relinquished by: Aaron Strange

Relinquished by:

Shipment Method: FedEx

Received by: Aaron Strange

Checked by (Laboratory): Lab

Required Turnaround Time: (Check Box) ☒ 24 Hrs ☐ 48 Hrs ☐ 72 Hrs

Results Due Date: 2/25/10

Date: 2/25/10

Time: 1615

Date: 2/25/10

Time: 0850

Notes: 1002502

Logged by (Laboratory): Aaron Strange

Preservative Key: 1-HCl, 2-HNO3, 3-H2SO4, 4-NaOH, 5-Na2S2O8, 6-NAHSO3, 7-Other: 8-4°C, 9-5039

QC Package: (Check One Box Below)

☐ Level II Std QC ☐ Level III Std QC ☐ Level IV Std QC ☐ Other

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Laboratory Group

Sample Receipt Checklist

Client Name: **NAVAJO REFINING**

Date/Time Received: **26-Feb-10 08:50**

Work Order: **1002802**

Received by: **RDH**

Checklist completed by Raymond N. Grubbs 26-Feb-10
eSignature Date

Reviewed by: Lay Ann F. Thibault 02-Mar-10
eSignature Date

Matrices: **Water**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.1c</u> <u>002</u>		
Cooler(s)/Kit(s):	<u></u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u></u>		
Login Notes:	<u></u>		

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ORIGIN ID: P
NAVAJO ARTS
501 E MAIN
ARTESIA, N.E. 8713440
UNITED STATES

SHIP DATE: 25FEB10
ACTWGT: 55.0 LB MAIN
CAD: 634483/CAFE2434

BILL RECIPIENT

TO

ALS LABORATORY GROUP
10450 STANCLIFF RD., SUITE 210

HOUSTON TX 77099

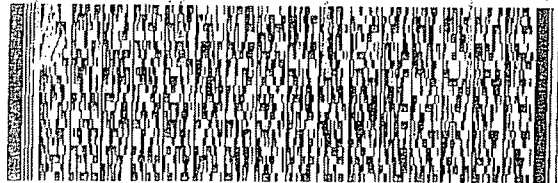
(281) 530-5656

INV:

REF:

PD:

DEPT:



FedEx
Express



CS01103080212234

TRKH
0201 4347 1017 8146

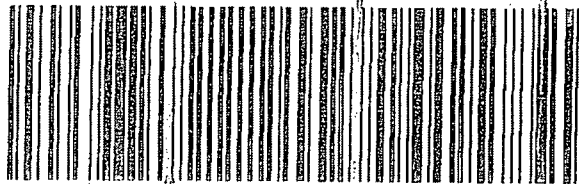
FRI - 26FEB A2
PRIORITY OVERNIGHT

AB JGQA

77099

TX-US

IAH



ALS Laboratory Group

10450 Stancliff Rd., Suite 210

Houston, Texas 77099

Tel. +1 281 530 5656

Fax. +1 281 530 5887

Date: 2-25-

Name: NAF

Company: NA

CUSTODY SEAL

TO: 10 Time: 1615
on storage
Waja Refining Co.

Seal Broken By:

2/26/10

ALS Laboratory Group

Date: 03-Mar-10

Client: ALS Laboratory Group
Project: 1002802
Work Order: 1003056

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1003056-01	1002802-01F	Water		2/25/2010 09:37	3/2/2010 09:00	☐

ALS Laboratory Group

Date: 03-Mar-10

Client: ALS Laboratory Group**Project:** 1002802**WorkOrder:** 1003056**QUALIFIERS,
ACRONYMS, UNITS**

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

ALS Laboratory Group

Date: 03-Mar-10

Client: ALS Laboratory Group

Project: 1002802

Work Order: 1003056

Sample ID: 1002802-01F

Lab ID: 1003056-01

Collection Date: 2/25/2010 09:37 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2			Analyst: EE
Cyanide, Reactive	ND		40.0	mg/Kg	1	3/2/2010
SULFIDE, REACTIVE			SW7.3.4.2			Analyst: EE
Sulfide, Reactive	ND		40.0	mg/Kg	1	3/2/2010

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Laboratory Group

Date: 03-Mar-10

Client: ALS Laboratory Group

Work Order: 1003056

Project: 1002802

QC BATCH REPORT

Batch ID: R75358 Instrument ID WETCHEM Method: SW7.3.4.2

MBLK Sample ID: WBLKW1-030110-R75358 Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301H SeqNo: 1292828 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND	40								

The following samples were analyzed in this batch:

1003056-01A

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

Client: ALS Laboratory Group
 Work Order: 1003056
 Project: 1002802

QC BATCH REPORT

Batch ID: R75361 Instrument ID WETCHEM Method: SW7.3.3.2

MBLK Sample ID: WBLKW1-030110-R75361 Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301J SeqNo: 1292838 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: WLC SW1-030110-R75361 Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301J SeqNo: 1292839 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250		0	94	75-125	0		

LCSD Sample ID: WLCSDW1-030110-R75361 Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301J SeqNo: 1292845 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250		0	94	75-125	234.9	0	35

MS Sample ID: 1003006-01A MS Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301J SeqNo: 1292841 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250		0	94	50-150	0		

MSD Sample ID: 1003006-01A MSD Units: mg/Kg Analysis Date: 3/1/2010 01:00 PM

Client ID: Run ID: WETCHEM_100301J SeqNo: 1292842 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250		0	94	50-150	234.9	0	35

The following samples were analyzed in this batch:

1003056-01A

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

W047 1003056

Date: 26-Feb-10
COC ID: 10593
Due Date: 08-Mar-10

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:
ALS Laboratory Group
3362 128th Ave.
Holland, MI 49424

TEL: (616) 398-6070
FAX: (616) 398-6185
Acct #:

Parameter/Method Request for Analysis

A Reactive Cyanide (SW-846)
B Reactive Sulfide (SW-846)

Project Information

Project Name: 1002802

Customer Information

Purchase Order: 10-2117791

W01 Order: ALS Group USA, Corp.
Company Name: Jaylynn F Thibault
Sent Report To: 10450 Stancliff Rd, Suite 210
Address: Houston, Texas 77099-4338
City/State/Zip: (281) 530-5656
Phone: (281) 530-5887
Fax: eMail Address: jaylynn.thibault@alsenviro.com
Sample ID: 1002802-01F (In Well)

Bill To Company: ALS Group USA, Corp.
Accounts Payable: 10450 Stancliff Rd, Suite 210
Address: Houston, Texas 77099-4338
City/State/Zip: (281) 530-5656
Phone: (281) 530-5887
Fax: eMail Address: glenda.ramos@alsenviro.com
Collection Date: 2/26/2010 9:37
Matrix: Water

Bottle: (1) LPNEAT
Date/Time: 2/26/2010 9:37

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 3/2/10. Please send report to Jaylynn Thibault, jaylynn.thibault@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Report/QC Level
Std
JF

Cooler IDs

Date/Time

Received by:

Date/Time

Relinquished by:

Date/Time

Relinquished by:

Date/Time

Received by: Jim F. Smith 3/2/10 9:00
Received by:

Sample Receipt Checklist

Client Name: ALS - HOUSTON

Date/Time Received: 02-Mar-10 09:00

Work Order: 1003056

Received by: DS

Checklist completed by *Dianne Shaw* 02-Mar-10
eSignature Date

Reviewed by: *Anna Fasten* 03-Mar-10
eSignature Date

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.8 c</u>		
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

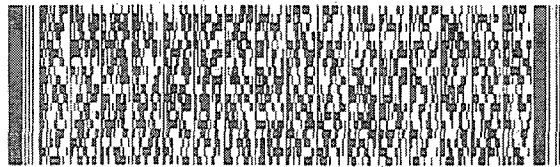
ORIGIN ID: JGQA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 01MAR10
ACTWGT: 23.9 LB
CAD: 300130/CAFE2450

BILL SENDER

TO RECEIVING
ALS LABORATORY
3352 128TH AVE.

HOLLAND MI 49424
(616) 399-6070
REF: SUBCONTRACT



FedEx
Express



J09200911302223

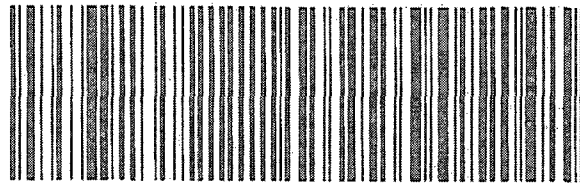
TRK# 4340 2158 7985
0201

TUE - 02MAR AA
PRIORITY OVERNIGHT

NI GRR

49424
MI-US
GRR

20# 155140-404 HRT Y3 12-00





REFINING COMPANY, LLC

RECEIVED

FAX

(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

FAX

2010 FEB 1 PM 1 58
501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

January 29, 2010

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

**RE: 2009 Fourth Quarterly Injection Report for Wells WDW-1, WDW-2 and WDW-3
Navajo Refining Company, L.L.C.**

Dear Mr. Chavez,

Enclosed, please find the sampling results for the fourth quarter of 2009 from the injected fluids and a spread sheet showing various volumes and pressures as requested in your October 6, 1999 letter. You will notice that the annular pressure on the wells continues to vary unpredictably. This is due to the wide range of temperatures we are seeing at the wells. A better gauge to determine if the tubing is leaking is a volume measurement of the fluid in the annular space via the graduated tanks located at the well head. We track this fluid level and have found it to be dropping at a very slow rate in WDW-1 and WDW-3. We are closely monitoring the fluid level for these wells. A Mechanical Integrity Test (MIT) on all the wells was last done in October 2009. All of the wells passed. Our consultants have stated that the loss rate is so small that we would not be able to find the leak. The volumes for these three tanks are reported in the attached Well Annulus Measurement System (WAMS) table.

You will also notice that the minimum annular pressure for the Mewbourne well (WDW-1) appears to be reading low in October 2009. We have investigated the low reading. There was a burnt connector and a bad fuse to the motors that allowed the pressure to drop. The burnt connector and fuse was replaced. The pumps have since been working correctly.

This report covers the period from October 1, 2009 to December 31, 2009. We have disposed a total of 46,331,047 barrels of fluid into the three wells as of December 31, 2009. The volume per well is:

- 27,647,056 barrels into WDW-1
- 14,124,671 barrels into WDW-2
- 4,559,320 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please call me at 575-748-3311.

Respectfully,
NAVAJO REFINING COMPANY

Michael Whatley
Vice-President, Navajo Refinery

ccc: DGM, JEL
File: REF:ART: 4 A 02 D

2009 FORTH QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
WDW-1														
Oct-09	445	901	149	142	244	115	390	605	25	4,873	8,366	3,938	151,065	27,199,719
Nov-09	498	544	444	126	136	110	482	1,000	149	4,331	4,653	3,786	129,935	27,350,784
Dec-09	557	665	309	156	333	108	412	621	221	5,366	11,426	3,704	166,336	27,480,719
WDW-2														
Oct-09	408	565	171	113	120	103	551	918	119	3,865	4,116	3,533	119,817	13,717,586
Nov-09	510	604	434	111	161	76	579	894	347	3,790	5,528	2,589	113,692	13,837,403
Dec-09	594	884	513	163	342	138	320	557	109	5,599	11,739	4,746	173,576	13,951,095
WDW-3														
Oct-09	386	529	10	201	217	188	310	549	206	6,903	7,442	6,449	213,990	14,124,671
Nov-09	540	651	479	206	250	172	312	533	241	7,067	8,577	5,895	212,016	3,912,141
Dec-09	587	625	551	208	219	184	335	500	234	7,135	7,511	6,320	221,173	4,126,131
Total Injected fluids:														46,331,047

2009 FORTH QUARTER WEEKLY WAMS LEVEL TABLE

	10/2/09	10/9/09	10/16/09	10/23/09	10/30/09	11/6/09	11/13/09	11/20/09	11/25/09	12/6/09	12/15/09	12/22/09
WDW -1 ¹	130	130	115	100	75	75	65	175	175	175	175	175
WDW-2 ¹	145	145	140	135	135	130	130	130	125	125	125	125
WDW-3 ¹	215	215	215	210	205	205	200	200	175	175	170	165
Comments: Added 110 gallons of antifreeze to WDW-1 on 11/20/09.												

¹ Graduated tank gauged weekly in the field. Reading is in gallons.

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



Environmental Division

08-Dec-2009

Aaron Strange
Navajo Refining Company
PO Box 159
Artesia, NM 88211

Tel: (575) 748-6733
Fax: (575) 746-5421

Re: Injection Well Quarterly

Work Order: 0911524

Dear Aaron,

ALS Laboratory Group received 1 sample on 20-Nov-2009 09:20 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 38.

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

Sincerely,

Jay Lynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager



Certificate No: T104704231-09A-TX

ALS Group USA, Corp.

Part of the **ALS Laboratory Group**

10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338

Phone: (281) 530-5656 Fax: (281) 530-5887

www.alsglobal.com www.elabi.com

A Campbell Brothers Limited Company

ALS Laboratory Group

Date: 08-Dec-09

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 0911524

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
0911524-01	Injection Well	Water		11/19/2009 13:58	11/20/2009 09:20	☐

ALS Laboratory Group*Date: 08-Dec-09***Client:** Navajo Refining Company**Project:** Injection Well Quarterly**Work Order:** 0911524**Case Narrative**

Batch R84328 Volatiles (Sample 0911621-01)MS/MSD unrelated sample.

Batch 39668 Metals (sample 0911561-01) MS/MSD unrelated sample.

ALS Laboratory Group

Date: 08-Dec-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY						
Mercury	ND		SW7470 0.000200	mg/L	1	Prep Date: 11/25/2009 Analyst: JCJ 11/25/2009 03:14 PM
METALS						
Aluminum	0.329		SW6020 0.0100	mg/L	1	Prep Date: 11/25/2009 Analyst: ALR 11/25/2009 08:09 PM
Arsenic	0.111		0.00500	mg/L	1	11/25/2009 08:09 PM
Barium	0.0198		0.00500	mg/L	1	11/25/2009 08:09 PM
Beryllium	ND		0.00200	mg/L	1	11/25/2009 08:09 PM
Boron	0.258		0.0200	mg/L	1	11/25/2009 08:09 PM
Cadmium	ND		0.00200	mg/L	1	11/25/2009 08:09 PM
Calcium	147		0.500	mg/L	1	11/25/2009 08:09 PM
Chromium	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Cobalt	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Copper	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Iron	ND		0.200	mg/L	1	11/25/2009 08:09 PM
Lead	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Magnesium	46.6		0.200	mg/L	1	11/25/2009 08:09 PM
Manganese	0.0634		0.00500	mg/L	1	11/25/2009 08:09 PM
Molybdenum	0.155		0.00500	mg/L	1	11/25/2009 08:09 PM
Nickel	0.00618		0.00500	mg/L	1	11/25/2009 08:09 PM
Potassium	16.4		0.200	mg/L	1	11/25/2009 08:09 PM
Selenium	0.428		0.0500	mg/L	10	11/30/2009 05:14 PM
Silver	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Sodium	1,060		40.0	mg/L	200	11/30/2009 07:41 PM
Vanadium	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Zinc	0.0382		0.00500	mg/L	1	11/25/2009 08:09 PM
SEMIVOLATILES						
1,2,4-Trichlorobenzene	ND		SW8270 0.0050	mg/L	1	Prep Date: 11/24/2009 Analyst: ACN 12/3/2009 07:19 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Methylphenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Nitrophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
3-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
4-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
4-Nitrophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Acenaphthene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Acenaphthylene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM

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

ALS Laboratory Group

Date: 08-Dec-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Anthracene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Benidine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Hexachloroethane	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Isophorone	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Naphthalene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Nitrobenzene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Pentachlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Phenanthrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Phenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Pyrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Surr: 2,4,6-Tribromophenol	79.3		42-124	%REC	1	12/3/2009 07:19 PM
Surr: 2-Fluorobiphenyl	70.6		48-120	%REC	1	12/3/2009 07:19 PM
Surr: 2-Fluorophenol	63.0		20-120	%REC	1	12/3/2009 07:19 PM
Surr: 4-Terphenyl-d14	66.4		51-135	%REC	1	12/3/2009 07:19 PM
Surr: Nitrobenzene-d5	69.2		41-120	%REC	1	12/3/2009 07:19 PM
Surr: Phenol-d6	63.3		20-120	%REC	1	12/3/2009 07:19 PM
VOLATILES			SW8260			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
2-Butanone	0.010		0.010	mg/L	1	11/26/2009 12:50 AM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	11/26/2009 12:50 AM
2-Hexanone	ND		0.010	mg/L	1	11/26/2009 12:50 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Acetone	0.043		0.010	mg/L	1	11/26/2009 12:50 AM
Benzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromodichloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromoform	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromomethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Carbon disulfide	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	11/26/2009 12:50 AM

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

ALS Laboratory Group

Date: 08-Dec-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloroform	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Dibromochloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Ethylbenzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
m,p-Xylene	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Methylene chloride	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Styrene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Tetrachloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Toluene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Trichloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Vinyl acetate	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Vinyl chloride	ND		0.0020	mg/L	1	11/26/2009 12:50 AM
Xylenes, Total	ND		0.015	mg/L	1	11/26/2009 12:50 AM
Surr: 1,2-Dichloroethane-d4	105		70-125	%REC	1	11/26/2009 12:50 AM
Surr: 4-Bromofluorobenzene	99.3		72-125	%REC	1	11/26/2009 12:50 AM
Surr: Dibromofluoromethane	84.1		71-125	%REC	1	11/26/2009 12:50 AM
Surr: Toluene-d8	98.9		75-125	%REC	1	11/26/2009 12:50 AM
REACTIVE CYANIDE			SW-846		Analyst: HN	
Reactive Cyanide	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
REACTIVE SULFIDE			SW-846		Analyst: HN	
Reactive Sulfide	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
ANIONS			E300		Analyst: IGF	
Chloride	735		25.0	mg/L	50	11/23/2009 07:41 PM
Sulfate	1,900		25.0	mg/L	50	11/23/2009 07:41 PM
Surr: Selenate (surr)	107		85-115	%REC	50	11/23/2009 07:41 PM
ALKALINITY			SM2320B		Analyst: TDW	
Alkalinity, Bicarbonate (As CaCO3)	131		5.00	mg/L	1	11/21/2009 01:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	11/21/2009 01:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	11/21/2009 01:00 PM
Alkalinity, Total (As CaCO3)	131		5.00	mg/L	1	11/21/2009 01:00 PM
SPECIFIC CONDUCTIVITY			M2510 B		Analyst: TDW	
Specific Conductivity	5,970		1.00	µmhos/cm	1	12/1/2009 04:00 PM
IGNITIBILITY			SW1010		Analyst: RPM	

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

ALS Laboratory Group

Date: 08-Dec-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ignitability	> 160		50.0	°F	1	12/4/2009 01:30 PM
PH			SM4500H+ B			Analyst: TDW
pH	7.00	H	0.100	pH units	1	11/20/2009 07:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: TDW
Total Dissolved Solids (Residue, Filterable)	4,010		10.0	mg/L	1	11/21/2009 12:00 PM

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

ALS Laboratory Group

Date: 08-Dec-09

Client: Navajo Refining Company

Work Order: 0911524

Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39668 Instrument ID ICPMS02 Method: SW6020

MBLK Sample ID: MBLKW1-112509-39668 Units: mg/L Analysis Date: 11/25/2009 02:42 PM

Client ID: Run ID: ICPMS02_091125A SeqNo: 1822643 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	ND	0.010								
Arsenic	ND	0.0050								
Barium	ND	0.0050								
Cadmium	ND	0.0020								
Calcium	ND	0.50								
Chromium	ND	0.0050								
Cobalt	ND	0.0050								
Copper	ND	0.0050								
Iron	ND	0.20								
Lead	0.0008137	0.0050								J
Magnesium	ND	0.20								
Manganese	ND	0.0050								
Molybdenum	0.0008733	0.0050								J
Nickel	ND	0.0050								
Potassium	ND	0.20								
Selenium	ND	0.0050								
Silver	ND	0.0050								
Sodium	ND	0.20								
Vanadium	ND	0.0050								
Zinc	ND	0.0050								

MBLK Sample ID: MBLKW1-112509-39668 Units: mg/L Analysis Date: 11/25/2009 05:13 PM

Client ID: Run ID: ICPMS02_091125A SeqNo: 1822838 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.0006241	0.0020								J
Boron	0.01032	0.050								J

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39668 Instrument ID ICPMS02 Method: SW6020

LCS Sample ID: MLCSW1-112509-39668 Units: mg/L Analysis Date: 11/25/2009 02:48 PM

Client ID: Run ID: ICPMS02_091125A SeqNo: 1822644 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09438	0.010	0.1	0	94.4	80-120	0			
Arsenic	0.04633	0.0050	0.05	0	92.7	80-120	0			
Barium	0.04922	0.0050	0.05	0	98.4	80-120	0			
Cadmium	0.04862	0.0020	0.05	0	97.2	80-120	0			
Calcium	4.574	0.50	5	0	91.5	80-120	0			
Chromium	0.04545	0.0050	0.05	0	90.9	80-120	0			
Cobalt	0.046	0.0050	0.05	0	92	80-120	0			
Copper	0.04608	0.0050	0.05	0	92.2	80-120	0			
Iron	4.704	0.20	5	0	94.1	80-120	0			
Lead	0.04769	0.0050	0.05	0	95.4	80-120	0			
Magnesium	4.466	0.20	5	0	89.3	80-120	0			
Manganese	0.04533	0.0050	0.05	0	90.7	80-120	0			
Molybdenum	0.04726	0.0050	0.05	0	94.5	80-120	0			
Nickel	0.04762	0.0050	0.05	0	95.2	80-120	0			
Potassium	4.555	0.20	5	0	91.1	80-120	0			
Selenium	0.04945	0.0050	0.05	0	98.9	80-120	0			
Silver	0.0492	0.0050	0.05	0	98.4	80-120	0			
Sodium	4.486	0.20	5	0	89.7	80-120	0			
Vanadium	0.0455	0.0050	0.05	0	91	80-120	0			
Zinc	0.04926	0.0050	0.05	0	98.5	80-120	0			

LCS Sample ID: MLCSW1-112509-39668 Units: mg/L Analysis Date: 11/25/2009 05:20 PM

Client ID: Run ID: ICPMS02_091125A SeqNo: 1822839 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.04597	0.0020	0.05	0	91.9	80-120	0			
Boron	0.4568	0.050	0.5	0	91.4	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39668 Instrument ID ICPMS02 Method: SW6020

MS Sample ID: 0911561-01CMS Units: mg/L Analysis Date: 11/25/2009 07:26 PM
 Client ID: Run ID: ICPMS02_091125A SeqNo: 1822994 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1212	0.010	0.1	0.01542	106	80-120	0			
Arsenic	0.06692	0.0050	0.05	0.01469	104	80-120	0			
Barium	0.2288	0.0050	0.05	0.1662	125	80-120	0			S
Beryllium	0.05243	0.0020	0.05	0.0006254	104	80-120	0			
Boron	0.692	0.050	0.5	0.1727	104	80-120	0			
Cadmium	0.05211	0.0020	0.05	0.0002283	104	80-120	0			
Calcium	157.3	0.50	5	159.6	-46	80-120	0			SO
Chromium	0.05071	0.0050	0.05	0.0009071	99.6	80-120	0			
Cobalt	0.05107	0.0050	0.05	0.001202	99.7	80-120	0			
Copper	0.05812	0.0050	0.05	0.009049	98.1	80-120	0			
Iron	11.42	0.20	5	6.396	100	80-120	0			
Lead	0.0531	0.0050	0.05	0.001434	103	80-120	0			
Magnesium	35.73	0.20	5	30.84	97.8	80-120	0			O
Manganese	2.244	0.0050	0.05	2.259	-30	80-120	0			SEO
Molybdenum	0.05426	0.0050	0.05	0.001892	105	80-120	0			
Nickel	0.0565	0.0050	0.05	0.005352	102	80-120	0			
Potassium	5.699	0.20	5	0.6167	102	80-120	0			
Selenium	0.05374	0.0050	0.05	-0.000454	108	80-120	0			
Silver	0.04964	0.0050	0.05	0.0001281	99	80-120	0			
Sodium	124.3	0.20	5	119.4	98	80-120	0			O
Vanadium	0.05495	0.0050	0.05	0.003428	103	80-120	0			
Zinc	0.06082	0.0050	0.05	0.007692	106	80-120	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39668 Instrument ID ICPMS02 Method: SW6020

MSD Sample ID: 0911561-01CMSD Units: mg/L Analysis Date: 11/25/2009 07:32 PM
 Client ID: Run ID: ICPMS02_091125A SeqNo: 1822995 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1192	0.010	0.1	0.01542	104	80-120	0.1212	1.66	15	
Arsenic	0.06978	0.0050	0.05	0.01469	110	80-120	0.06692	4.18	15	
Barium	0.2295	0.0050	0.05	0.1662	127	80-120	0.2288	0.305	15	S
Beryllium	0.05212	0.0020	0.05	0.0006254	103	80-120	0.05243	0.593	15	
Boron	0.6907	0.050	0.5	0.1727	104	80-120	0.692	0.188	15	
Cadmium	0.05021	0.0020	0.05	0.0002283	100	80-120	0.05211	3.71	15	
Calcium	162.8	0.50	5	159.6	64	80-120	157.3	3.44	15	SO
Chromium	0.05183	0.0050	0.05	0.0009071	102	80-120	0.05071	2.18	15	
Cobalt	0.05156	0.0050	0.05	0.001202	101	80-120	0.05107	0.955	15	
Copper	0.0586	0.0050	0.05	0.009049	99.1	80-120	0.05812	0.822	15	
Iron	11.46	0.20	5	6.396	101	80-120	11.42	0.35	15	
Lead	0.05208	0.0050	0.05	0.001434	101	80-120	0.0531	1.94	15	
Magnesium	35.87	0.20	5	30.84	101	80-120	35.73	0.391	15	O
Manganese	2.33	0.0050	0.05	2.259	142	80-120	2.244	3.76	15	SEO
Molybdenum	0.05327	0.0050	0.05	0.001892	103	80-120	0.05426	1.84	15	
Nickel	0.05521	0.0050	0.05	0.005352	99.7	80-120	0.0565	2.31	15	
Potassium	5.734	0.20	5	0.6167	102	80-120	5.699	0.612	15	
Selenium	0.0541	0.0050	0.05	-0.000454	109	80-120	0.05374	0.668	15	
Silver	0.04907	0.0050	0.05	0.0001281	97.9	80-120	0.04964	1.15	15	
Sodium	125.6	0.20	5	119.4	124	80-120	124.3	1.04	15	SO
Vanadium	0.05574	0.0050	0.05	0.003428	105	80-120	0.05495	1.43	15	
Zinc	0.05891	0.0050	0.05	0.007692	102	80-120	0.06082	3.19	15	

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39668 Instrument ID ICPMS02 Method: SW6020

DUP Sample ID: 0911561-01CDUP Units: mg/L Analysis Date: 11/25/2009 05:32 PM

Client ID: Run ID: ICPMS02_091125A SeqNo: 1822841 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.01445	0.010	0	0	0	0-0	0.01542	6.49	25	
Arsenic	0.01365	0.0050	0	0	0	0-0	0.01469	7.34	25	
Barium	0.1571	0.0050	0	0	0	0-0	0.1662	5.63	25	
Beryllium	0.0005435	0.0020	0	0	0	0-0	0.0006254	0	25	J
Boron	0.1579	0.050	0	0	0	0-0	0.1727	8.95	25	
Cadmium	ND	0.0020	0	0	0	0-0	0.0002283	0	25	
Calcium	146.9	0.50	0	0	0	0-0	159.6	8.29	25	
Chromium	0.0006784	0.0050	0	0	0	0-0	0.0009071	0	25	J
Cobalt	0.001083	0.0050	0	0	0	0-0	0.001202	0	25	J
Copper	0.008754	0.0050	0	0	0	0-0	0.009049	3.31	25	
Iron	5.969	0.20	0	0	0	0-0	6.396	6.91	25	
Lead	0.001357	0.0050	0	0	0	0-0	0.001434	0	25	J
Magnesium	28.2	0.20	0	0	0	0-0	30.84	8.94	25	
Molybdenum	0.001759	0.0050	0	0	0	0-0	0.001892	0	25	J
Nickel	0.004974	0.0050	0	0	0	0-0	0.005352	0	25	J
Potassium	0.5687	0.20	0	0	0	0-0	0.6167	8.1	25	
Selenium	ND	0.0050	0	0	0	0-0	-0.000454	0	25	
Silver	ND	0.0050	0	0	0	0-0	0.0001281	0	25	
Sodium	110	0.20	0	0	0	0-0	119.4	8.2	25	
Vanadium	0.003084	0.0050	0	0	0	0-0	0.003428	0	25	J
Zinc	0.007174	0.0050	0	0	0	0-0	0.007692	6.97	25	

DUP Sample ID: 0911561-01CDUP Units: mg/L Analysis Date: 11/30/2009 02:00 PM

Client ID: Run ID: ICPMS02_091130A SeqNo: 1823801 Prep Date: 11/25/2009 DF: 50

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	2.136	0.25	0	0	0	0-0	2.085	2.42	25	

The following samples were analyzed in this batch:

0911524-01B

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39677 Instrument ID Mercury Method: SW7470

MBLK Sample ID: GBLKW1-112509-39677 Units: mg/L Analysis Date: 11/25/2009 02:42 PM

Client ID: Run ID: MERCURY_091125A SeqNo: 1822654 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020								

LCS Sample ID: GLCSW1-112509-39677 Units: mg/L Analysis Date: 11/25/2009 02:44 PM

Client ID: Run ID: MERCURY_091125A SeqNo: 1822655 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00462	0.00020	0.005	0	92.4	85-115	0			

MS Sample ID: 0911515-01EMS Units: mg/L Analysis Date: 11/25/2009 02:50 PM

Client ID: Run ID: MERCURY_091125A SeqNo: 1822658 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00464	0.00020	0.005	-0.000008	93	85-115	0			

MSD Sample ID: 0911515-01EMSD Units: mg/L Analysis Date: 11/25/2009 02:52 PM

Client ID: Run ID: MERCURY_091125A SeqNo: 1822659 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0046	0.00020	0.005	-0.000008	92.2	85-115	0.00464	0.866	20	

DUP Sample ID: 0911515-01EDUP Units: mg/L Analysis Date: 11/25/2009 02:48 PM

Client ID: Run ID: MERCURY_091125A SeqNo: 1822657 Prep Date: 11/25/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.00020	0	0	0	0-0	-0.000008	0	20	

The following samples were analyzed in this batch:

0911524-01B

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39646 Instrument ID SV-3 Method: SW8270

MBLK Sample ID: SBLKW1-091124-39646 Units: µg/L Analysis Date: 12/1/2009 03:06 PM
 Client ID: Run ID: SV-3_091201B SeqNo: 1826603 Prep Date: 11/24/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
2-Nitroaniline	ND	5.0								
2-Nitrophenol	ND	5.0								
3&4-Methylphenol	ND	5.0								
3-Nitroaniline	ND	5.0								
4-Nitroaniline	ND	5.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	5.0								
Anthracene	ND	5.0								
Benz(a)anthracene	ND	5.0								
Benzidine	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	5.0								
Isophorone	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	5.0								
Naphthalene	ND	5.0								
Nitrobenzene	ND	5.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	5.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
Surr: 2,4,6-Tribromophenol	57.56	5.0	100	0	57.6	42-124	0			
Surr: 2-Fluorobiphenyl	53.67	5.0	100	0	53.7	48-120	0			
Surr: 2-Fluorophenol	45.47	5.0	100	0	45.5	20-120	0			
Surr: 4-Terphenyl-d14	64.86	5.0	100	0	64.9	51-135	0			
Surr: Nitrobenzene-d5	52.73	5.0	100	0	52.7	41-120	0			
Surr: Phenol-d6	47.51	5.0	100	0	47.5	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39646 Instrument ID SV-3 Method: SW8270

LCS Sample ID: SLCSW1-091124-39646 Units: µg/L Analysis Date: 12/1/2009 03:30 PM

Client ID: Run ID: SV-3_091201B SeqNo: 1826604 Prep Date: 11/24/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	37.44	5.0	50	0	74.9	50-120	0			
2,4,5-Trichlorophenol	77.97	5.0	100	0	78	50-120	0			
2,4,6-Trichlorophenol	79.97	5.0	100	0	80	50-120	0			
2-Methylnaphthalene	40.26	5.0	50	0	80.5	55-120	0			
2-Methylphenol	68.39	5.0	100	0	68.4	50-120	0			
2-Nitroaniline	46.89	5.0	50	0	93.8	55-120	0			
2-Nitrophenol	79.99	5.0	100	0	80	55-120	0			
3&4-Methylphenol	125.1	5.0	150	0	83.4	55-120	0			
3-Nitroaniline	34.38	5.0	50	0	68.8	40-120	0			
4-Nitroaniline	36.85	5.0	50	0	73.7	50-120	0			
4-Nitrophenol	99.41	5.0	100	0	99.4	45-120	0			
Acenaphthene	37.81	5.0	50	0	75.6	55-120	0			
Acenaphthylene	37.54	5.0	50	0	75.1	55-120	0			
Aniline	27.63	5.0	50	0	55.3	30-120	0			
Anthracene	37.51	5.0	50	0	75	55-120	0			
Benz(a)anthracene	41.04	5.0	50	0	82.1	55-120	0			
Benzidine	20.3	5.0	50	0	40.6	10-120	0			
Hexachloroethane	36.9	5.0	50	0	73.8	55-120	0			
Indeno(1,2,3-cd)pyrene	40.52	5.0	50	0	81	55-120	0			
Isophorone	38.1	5.0	50	0	76.2	55-120	0			
N-Nitrosodi-n-propylamine	35.74	5.0	50	0	71.5	50-120	0			
N-Nitrosodimethylamine	35.97	5.0	50	0	71.9	45-120	0			
N-Nitrosodiphenylamine	36.89	5.0	50	0	73.8	55-120	0			
Naphthalene	36.91	5.0	50	0	73.8	55-120	0			
Nitrobenzene	38.99	5.0	50	0	78	55-120	0			
Pentachlorophenol	81.1	5.0	100	0	81.1	55-120	0			
Phenanthrene	37.23	5.0	50	0	74.5	55-120	0			
Phenol	68.65	5.0	100	0	68.6	50-120	0			
Pyrene	38.26	5.0	50	0	76.5	55-120	0			
Surr: 2,4,6-Tribromophenol	79.88	5.0	100	0	79.9	42-124	0			
Surr: 2-Fluorobiphenyl	70.53	5.0	100	0	70.5	48-120	0			
Surr: 2-Fluorophenol	66.97	5.0	100	0	67	20-120	0			
Surr: 4-Terphenyl-d14	67.45	5.0	100	0	67.4	51-135	0			
Surr: Nitrobenzene-d5	69.44	5.0	100	0	69.4	41-120	0			
Surr: Phenol-d6	63.24	5.0	100	0	63.2	20-120	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: 39646 Instrument ID SV-3 Method: SW8270

LCSD Sample ID: SLCSDW1-091124-39646 Units: µg/L Analysis Date: 12/1/2009 03:54 PM

Client ID: Run ID: SV-3_091201B SeqNo: 1826605 Prep Date: 11/24/2009 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4-Trichlorobenzene	39.08	5.0	50	0	78.2	50-120	37.44	4.3	20	
2,4,5-Trichlorophenol	80.18	5.0	100	0	80.2	50-120	77.97	2.8	20	
2,4,6-Trichlorophenol	84.77	5.0	100	0	84.8	50-120	79.97	5.84	20	
2-Methylnaphthalene	39.5	5.0	50	0	79	55-120	40.26	1.91	20	
2-Methylphenol	65.93	5.0	100	0	65.9	50-120	68.39	3.66	20	
2-Nitroaniline	49.72	5.0	50	0	99.4	55-120	46.89	5.85	20	
2-Nitrophenol	78.88	5.0	100	0	78.9	55-120	79.99	1.4	20	
3&4-Methylphenol	124.3	5.0	150	0	82.9	55-120	125.1	0.611	20	
3-Nitroaniline	36.77	5.0	50	0	73.5	40-120	34.38	6.7	20	
4-Nitroaniline	39.33	5.0	50	0	78.7	50-120	36.85	6.52	20	
4-Nitrophenol	97.68	5.0	100	0	97.7	45-120	99.41	1.76	20	
Acenaphthene	39.85	5.0	50	0	79.7	55-120	37.81	5.25	20	
Acenaphthylene	39.14	5.0	50	0	78.3	55-120	37.54	4.16	20	
Aniline	27.18	5.0	50	0	54.4	30-120	27.63	1.66	20	
Anthracene	38.25	5.0	50	0	76.5	55-120	37.51	1.96	20	
Benz(a)anthracene	39.85	5.0	50	0	79.7	55-120	41.04	2.95	20	
Benzidine	18.09	5.0	50	0	36.2	10-120	20.3	11.5	20	
Hexachloroethane	36.14	5.0	50	0	72.3	55-120	36.9	2.07	20	
Indeno(1,2,3-cd)pyrene	39.39	5.0	50	0	78.8	55-120	40.52	2.83	20	
Isophorone	38.07	5.0	50	0	76.1	55-120	38.1	0.0801	20	
N-Nitrosodi-n-propylamine	35.45	5.0	50	0	70.9	50-120	35.74	0.829	20	
N-Nitrosodimethylamine	35.02	5.0	50	0	70	45-120	35.97	2.68	20	
N-Nitrosodiphenylamine	36.68	5.0	50	0	73.4	55-120	36.89	0.553	20	
Naphthalene	37.07	5.0	50	0	74.1	55-120	36.91	0.423	20	
Nitrobenzene	38.82	5.0	50	0	77.6	55-120	38.99	0.443	20	
Pentachlorophenol	80.93	5.0	100	0	80.9	55-120	81.1	0.203	20	
Phenanthrene	37.41	5.0	50	0	74.8	55-120	37.23	0.474	20	
Phenol	64.83	5.0	100	0	64.8	50-120	68.65	5.72	20	
Pyrene	41.53	5.0	50	0	83.1	55-120	38.26	8.2	20	
Surr: 2,4,6-Tribromophenol	85.03	5.0	100	0	85	42-124	79.88	6.24	20	
Surr: 2-Fluorobiphenyl	71.35	5.0	100	0	71.4	48-120	70.53	1.15	20	
Surr: 2-Fluorophenol	60.09	5.0	100	0	60.1	20-120	66.97	10.8	20	
Surr: 4-Terphenyl-d14	71.05	5.0	100	0	71.1	51-135	67.45	5.2	20	
Surr: Nitrobenzene-d5	66.32	5.0	100	0	66.3	41-120	69.44	4.59	20	
Surr: Phenol-d6	61.26	5.0	100	0	61.3	20-120	63.24	3.18	20	

The following samples were analyzed in this batch:

0911524-01E

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84328 Instrument ID VOA2 Method: SW8260

MBLK Sample ID: VBLKW-112509-R84328 Units: µg/L Analysis Date: 11/25/2009 05:31 PM

Client ID: Run ID: VOA2_091125A SeqNo: 1823486 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0								
1,1-Dichloroethene	ND	5.0								
1,2-Dichloroethane	ND	5.0								
2-Butanone	ND	10								
2-Chloroethyl vinyl ether	ND	10								
2-Hexanone	ND	10								
4-Methyl-2-pentanone	ND	10								
Acetone	ND	10								
Benzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Bromomethane	ND	5.0								
Carbon disulfide	ND	10								
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0								
Chloroethane	ND	5.0								
Chloroform	ND	5.0								
Chloromethane	ND	5.0								
cis-1,3-Dichloropropene	ND	5.0								
Dibromochloromethane	ND	5.0								
Ethylbenzene	ND	5.0								
m,p-Xylene	ND	10								
Methylene chloride	ND	10								
Styrene	ND	5.0								
Tetrachloroethene	ND	5.0								
Toluene	ND	5.0								
trans-1,3-Dichloropropene	ND	5.0								
Trichloroethene	ND	5.0								
Vinyl acetate	ND	10								
Vinyl chloride	ND	2.0								
Xylenes, Total	ND	15								
Surr: 1,2-Dichloroethane-d4	51.62	5.0	50	0	103	70-125	0			
Surr: 4-Bromofluorobenzene	49.16	5.0	50	0	98.3	72-125	0			
Surr: Dibromofluoromethane	44.86	5.0	50	0	89.7	71-125	0			
Surr: Toluene-d8	49.15	5.0	50	0	98.3	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84328 Instrument ID VOA2 Method: SW8260

LCS Sample ID: VLCSW-112509-R84328 Units: µg/L Analysis Date: 11/25/2009 04:18 PM

Client ID: Run ID: VOA2_091125A SeqNo: 1823484 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	47.04	5.0	50	0	94.1	80-120	0			
1,1,2,2-Tetrachloroethane	47.97	5.0	50	0	95.9	72-120	0			
1,1,2-Trichloroethane	48.14	5.0	50	0	96.3	80-120	0			
1,1-Dichloroethane	46.8	5.0	50	0	93.6	76-120	0			
1,1-Dichloroethene	48.09	5.0	50	0	96.2	73-124	0			
1,2-Dichloroethane	46.4	5.0	50	0	92.8	78-120	0			
2-Butanone	92.2	10	100	0	92.2	58-132	0			
2-Chloroethyl vinyl ether	97.97	10	100	0	98	74-120	0			
2-Hexanone	93.78	10	100	0	93.8	61-130	0			
4-Methyl-2-pentanone	96.12	10	100	0	96.1	65-127	0			
Acetone	97.31	10	100	0	97.3	59-137	0			
Benzene	47.07	5.0	50	0	94.1	73-121	0			
Bromodichloromethane	48.85	5.0	50	0	97.7	80-120	0			
Bromoform	46.92	5.0	50	0	93.8	79-120	0			
Bromomethane	51.43	5.0	50	0	103	66-137	0			
Carbon disulfide	97.46	10	100	0	97.5	68-141	0			
Carbon tetrachloride	46.5	5.0	50	0	93	75-124	0			
Chlorobenzene	47.27	5.0	50	0	94.5	80-120	0			
Chloroethane	45.92	5.0	50	0	91.8	76-121	0			
Chloroform	44.92	5.0	50	0	89.8	80-120	0			
Chloromethane	46.8	5.0	50	0	93.6	67-123	0			
cis-1,3-Dichloropropene	49.43	5.0	50	0	98.9	80-120	0			
Dibromochloromethane	44.9	5.0	50	0	89.8	80-120	0			
Ethylbenzene	48.04	5.0	50	0	96.1	80-120	0			
m,p-Xylene	95.34	10	100	0	95.3	78-121	0			
Methylene chloride	46.3	10	50	0	92.6	65-133	0			
Styrene	47.43	5.0	50	0	94.9	80-120	0			
Tetrachloroethene	47.82	5.0	50	0	95.6	79-120	0			
Toluene	46.57	5.0	50	0	93.1	80-120	0			
trans-1,3-Dichloropropene	45.46	5.0	50	0	90.9	80-120	0			
Trichloroethene	47.27	5.0	50	0	94.5	80-120	0			
Vinyl acetate	103.1	10	100	0	103	67-139	0			
Vinyl chloride	46.73	2.0	50	0	93.5	70-127	0			
Xylenes, Total	143	15	150	0	95.3	80-120	0			
Surr: 1,2-Dichloroethane-d4	49.44	5.0	50	0	98.9	70-125	0			
Surr: 4-Bromofluorobenzene	49.44	5.0	50	0	98.9	72-125	0			
Surr: Dibromofluoromethane	49.18	5.0	50	0	98.4	71-125	0			
Surr: Toluene-d8	49.22	5.0	50	0	98.4	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84328 Instrument ID VOA2 Method: SW8260

MS	Sample ID: 0911621-01AMS	Units: µg/L					Analysis Date: 11/25/2009 07:09 PM			
Client ID:	Run ID: VOA2_091125A	SeqNo: 1823493			Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	46.75	5.0	50	0	93.5	80-120	0			
1,1,2,2-Tetrachloroethane	48.65	5.0	50	0	97.3	72-120	0			
1,1,2-Trichloroethane	49.59	5.0	50	0	99.2	80-120	0			
1,1-Dichloroethane	47.47	5.0	50	0	94.9	76-120	0			
1,1-Dichloroethene	45.96	5.0	50	0	91.9	73-124	0			
1,2-Dichloroethane	47.8	5.0	50	0	95.6	78-120	0			
2-Butanone	92.97	10	100	0	93	58-132	0			
2-Chloroethyl vinyl ether	ND	10	100	0	0	74-120	0			S
2-Hexanone	94.67	10	100	0	94.7	61-130	0			
4-Methyl-2-pentanone	97.29	10	100	0	97.3	65-127	0			
Acetone	93.97	10	100	0	94	59-137	0			
Benzene	47.49	5.0	50	0	95	73-121	0			
Bromodichloromethane	50.51	5.0	50	0	101	80-120	0			
Bromoform	47.32	5.0	50	0	94.6	79-120	0			
Bromomethane	52.68	5.0	50	0	105	66-137	0			
Carbon disulfide	95.81	10	100	0	95.8	68-141	0			
Carbon tetrachloride	45.02	5.0	50	0	90	75-124	0			
Chlorobenzene	48.26	5.0	50	0	96.5	80-120	0			
Chloroethane	46.89	5.0	50	0	93.8	76-121	0			
Chloroform	53.31	5.0	50	0	107	80-120	0			
Chloromethane	46.89	5.0	50	0	93.8	67-123	0			
cis-1,3-Dichloropropene	50.6	5.0	50	0	101	80-120	0			
Dibromochloromethane	45.43	5.0	50	0	90.9	80-120	0			
Ethylbenzene	47.92	5.0	50	0	95.8	80-120	0			
m,p-Xylene	95.79	10	100	0	95.8	78-121	0			
Methylene chloride	47.59	10	50	0	95.2	65-133	0			
Styrene	48.35	5.0	50	0	96.7	80-120	0			
Tetrachloroethene	45.97	5.0	50	0	91.9	79-120	0			
Toluene	47.57	5.0	50	0	95.1	80-120	0			
trans-1,3-Dichloropropene	47.01	5.0	50	0	94	80-120	0			
Trichloroethene	46.68	5.0	50	0	93.4	80-120	0			
Vinyl acetate	95.44	10	100	0	95.4	67-139	0			
Vinyl chloride	46.3	2.0	50	0	92.6	70-127	0			
Xylenes, Total	144.1	15	150	0	96.1	80-120	0			
Surr: 1,2-Dichloroethane-d4	50.22	5.0	50	0	100	70-125	0			
Surr: 4-Bromofluorobenzene	50.89	5.0	50	0	102	72-125	0			
Surr: Dibromofluoromethane	49.72	5.0	50	0	99.4	71-125	0			
Surr: Toluene-d8	50.18	5.0	50	0	100	75-125	0			

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

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84328 Instrument ID VOA2 Method: SW8260

MSD Sample ID: 0911621-01AMSD Units: µg/L Analysis Date: 11/25/2009 07:33 PM

Client ID: Run ID: VOA2_091125A SeqNo: 1823496 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	45.45	5.0	50	0	90.9	80-120	46.75	2.83	20	
1,1,2,2-Tetrachloroethane	48.38	5.0	50	0	96.8	72-120	48.65	0.554	20	
1,1,2-Trichloroethane	48.6	5.0	50	0	97.2	80-120	49.59	2.01	20	
1,1-Dichloroethane	48.24	5.0	50	0	96.5	76-120	47.47	1.61	20	
1,1-Dichloroethene	43.23	5.0	50	0	86.5	73-124	45.96	6.12	20	
1,2-Dichloroethane	48.47	5.0	50	0	96.9	78-120	47.8	1.38	20	
2-Butanone	94.81	10	100	0	94.8	58-132	92.97	1.96	20	
2-Chloroethyl vinyl ether	ND	10	100	0	0	74-120	0	0	20	S
2-Hexanone	94.23	10	100	0	94.2	61-130	94.67	0.46	20	
4-Methyl-2-pentanone	94.57	10	100	0	94.6	65-127	97.29	2.84	20	
Acetone	95.01	10	100	0	95	59-137	93.97	1.1	20	
Benzene	46.88	5.0	50	0	93.8	73-121	47.49	1.3	20	
Bromodichloromethane	51.77	5.0	50	0	104	80-120	50.51	2.48	20	
Bromoform	49.65	5.0	50	0	99.3	79-120	47.32	4.81	20	
Bromomethane	53.01	5.0	50	0	106	66-137	52.68	0.633	20	
Carbon disulfide	92.31	10	100	0	92.3	68-141	95.81	3.73	20	
Carbon tetrachloride	42.64	5.0	50	0	85.3	75-124	45.02	5.42	20	
Chlorobenzene	47.2	5.0	50	0	94.4	80-120	48.26	2.21	20	
Chloroethane	45.64	5.0	50	0	91.3	76-121	46.89	2.71	20	
Chloroform	53.85	5.0	50	0	108	80-120	53.31	1	20	
Chloromethane	46.79	5.0	50	0	93.6	67-123	46.89	0.197	20	
cis-1,3-Dichloropropene	52.17	5.0	50	0	104	80-120	50.6	3.05	20	
Dibromochloromethane	46.96	5.0	50	0	93.9	80-120	45.43	3.32	20	
Ethylbenzene	45.8	5.0	50	0	91.6	80-120	47.92	4.51	20	
m,p-Xylene	92.62	10	100	0	92.6	78-121	95.79	3.36	20	
Methylene chloride	48.17	10	50	0	96.3	65-133	47.59	1.23	20	
Styrene	47.86	5.0	50	0	95.7	80-120	48.35	1.03	20	
Tetrachloroethene	42.2	5.0	50	0	84.4	79-120	45.97	8.55	20	
Toluene	46.34	5.0	50	0	92.7	80-120	47.57	2.61	20	
trans-1,3-Dichloropropene	47.76	5.0	50	0	95.5	80-120	47.01	1.59	20	
Trichloroethene	45.91	5.0	50	0	91.8	80-120	46.68	1.65	20	
Vinyl acetate	98.62	10	100	0	98.6	67-139	95.44	3.28	20	
Vinyl chloride	42.98	2.0	50	0	86	70-127	46.3	7.44	20	
Xylenes, Total	139.5	15	150	0	93	80-120	144.1	3.28	20	
Surr: 1,2-Dichloroethane-d4	49.45	5.0	50	0	98.9	70-125	50.22	1.54	20	
Surr: 4-Bromofluorobenzene	48.82	5.0	50	0	97.6	72-125	50.89	4.14	20	
Surr: Dibromofluoromethane	49.57	5.0	50	0	99.1	71-125	49.72	0.309	20	
Surr: Toluene-d8	48.83	5.0	50	0	97.7	75-125	50.18	2.74	20	

The following samples were analyzed in this batch:

0911524-01A

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

Client: Navajo Refining Company
Work Order: 0911524
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84114 Instrument ID WetChem Method: SM4500H+ B

LCS Sample ID: WLCSW1-112009-R84114 Units: pH units Analysis Date: 11/20/2009 07:00 PM

Client ID: Run ID: WETCHEM_091120H SeqNo: 1818552 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.03	0.10	6	0	100	90-110	0			

DUP Sample ID: 0911537-01bdup Units: pH units Analysis Date: 11/20/2009 07:00 PM

Client ID: Run ID: WETCHEM_091120H SeqNo: 1818556 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.02	0.10	0	0	0	0-0	9.05	0.332	20	H

The following samples were analyzed in this batch: 0911524-01C

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84165 Instrument ID Balance1 Method: M2540C

MBLK Sample ID: BLANK-R84165 Units: mg/L Analysis Date: 11/21/2009 12:00 PM
 Client ID: Run ID: BALANCE1_091121C SeqNo: 1819986 Prep Date: DF: 1

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

LCS Sample ID: LCS-R84165 Units: mg/L Analysis Date: 11/21/2009 12:00 PM
 Client ID: Run ID: BALANCE1_091121C SeqNo: 1819987 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	1000	10	1000	0	100	85-115	0			

DUP Sample ID: 0911511-03ADUP Units: mg/L Analysis Date: 11/21/2009 12:00 PM
 Client ID: Run ID: BALANCE1_091121C SeqNo: 1819983 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Fil	5070	10	0	0	0	0-0	5070	0	20	

The following samples were analyzed in this batch:

0911524-01D

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84178 Instrument ID WetChem Method: SM2320B

MBLK Sample ID: WBLKW1-112109-R84178 Units: mg/L Analysis Date: 11/21/2009 01:00 PM

Client ID: Run ID: WETCHEM_091121E SeqNo: 1820135 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0								
Alkalinity, Carbonate (As CaCO3)	ND	5.0								
Alkalinity, Hydroxide (As CaCO3)	ND	5.0								
Alkalinity, Total (As CaCO3)	ND	5.0								

LCS Sample ID: WLCSW1-112109-R84178 Units: mg/L Analysis Date: 11/21/2009 01:00 PM

Client ID: Run ID: WETCHEM_091121E SeqNo: 1820136 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	1010	5.0	1000	0	101	80-120	0			
Alkalinity, Total (As CaCO3)	1010	5.0	1000	0	101	80-120	0			

DUP Sample ID: 0911292-01bdup Units: mg/L Analysis Date: 11/21/2009 01:00 PM

Client ID: Run ID: WETCHEM_091121E SeqNo: 1820150 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	32.3	5.0	0	0	0	0-0	32.3	0	20	
Alkalinity, Carbonate (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Hydroxide (As CaCO3)	ND	5.0	0	0	0	0-0	0	0	20	
Alkalinity, Total (As CaCO3)	32.3	5.0	0	0	0	0-0	32.3	0	20	

The following samples were analyzed in this batch:

0911524-01D

Client: Navajo Refining Company
 Work Order: 0911524
 Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84234 Instrument ID ICS3000 Method: E300

MBLK Sample ID: WBLKW1-112309-R84234 Units: mg/L Analysis Date: 11/23/2009 02:56 PM

Client ID: Run ID: ICS3000_091123A SeqNo: 1821422 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.446	0.50								J
Sulfate	ND	0.50								
Surr: Selenate (surr)	5.063	0.10	5	0	101	85-115	0			

LCS Sample ID: WLCSW1-112309-R84234 Units: mg/L Analysis Date: 11/23/2009 03:20 PM

Client ID: Run ID: ICS3000_091123A SeqNo: 1821423 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.73	0.50	20	0	98.7	90-110	0			
Sulfate	19.52	0.50	20	0	97.6	90-110	0			
Surr: Selenate (surr)	4.947	0.10	5	0	98.9	85-115	0			

MS Sample ID: 0911505-01AMS Units: mg/L Analysis Date: 11/23/2009 04:55 PM

Client ID: Run ID: ICS3000_091123A SeqNo: 1821427 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.28	0.50	10	11.4	98.8	80-120	0			
Sulfate	30.25	0.50	10	20.56	96.9	80-120	0			
Surr: Selenate (surr)	5.353	0.10	5	0	107	85-115	0			

MSD Sample ID: 0911505-01AMSD Units: mg/L Analysis Date: 11/23/2009 05:19 PM

Client ID: Run ID: ICS3000_091123A SeqNo: 1821428 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.31	0.50	10	11.4	99	80-120	21.28	0.127	20	
Sulfate	30.29	0.50	10	20.56	97.3	80-120	30.25	0.126	20	
Surr: Selenate (surr)	5.362	0.10	5	0	107	85-115	5.353	0.168	20	

The following samples were analyzed in this batch:

0911524-01D

Client: Navajo Refining Company
Work Order: 0911524
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84416 Instrument ID WetChem Method: M2510 B

MBLK Sample ID: WBLKW1-12109-R84416 Units: $\mu\text{mhos/cm}$ Analysis Date: 12/1/2009 04:00 PM

Client ID: Run ID: WETCHEM_091201C SeqNo: 1824944 Prep Date: DF: 1

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

LCS Sample ID: WLCSW1-12109-R84416 Units: $\mu\text{mhos/cm}$ Analysis Date: 12/1/2009 04:00 PM

Client ID: Run ID: WETCHEM_091201C SeqNo: 1824945 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1420	1.0	1413	0	100	80-120	0			

DUP Sample ID: 0911590-01BDUP Units: $\mu\text{mhos/cm}$ Analysis Date: 12/1/2009 04:00 PM

Client ID: Run ID: WETCHEM_091201C SeqNo: 1824961 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	371	1.0	0	0	0		368	0.812	20	

The following samples were analyzed in this batch:

0911524-01D

Client: Navajo Refining Company
Work Order: 0911524
Project: Injection Well Quarterly

QC BATCH REPORT

Batch ID: R84558 Instrument ID WetChem Method: SW1010

LCS Sample ID: WLCSW1-120409-R84558 Units: °F Analysis Date: 12/4/2009 01:30 PM

Client ID: Run ID: WETCHEM_091204C SeqNo: 1827634 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	80	50	83	0	96.4	80-120	0			

DUP Sample ID: 0911524-01CDUP Units: °F Analysis Date: 12/4/2009 01:30 PM

Client ID: Injection Well Run ID: WETCHEM_091204C SeqNo: 1827637 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ignitability	ND	50	0	0	0	0-0	0	0	25	

The following samples were analyzed in this batch:

0911524-01C

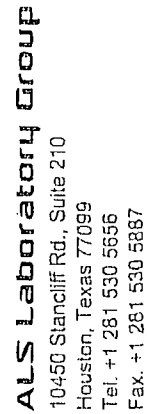
Client: Navajo Refining Company
Project: Injection Well Quarterly
WorkOrder: 0911524

QUALIFIERS, ACRONYMS, UNITS

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

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

<u>Units Reported</u>	<u>Description</u>
°F	Fahrenheit degrees
µmhos/cm	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
pH units	



Chain of Custody Form

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[illegible]

1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

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ALS Laboratory Group

Sample Receipt Checklist

Client Name: NAVAJO REFINING

Date/Time Received: 20-Nov-09 09:20

Work Order: 0911524

Received by: RNG

Checklist completed by Raymond Garcia
eSignature

20-Nov-09
Date

Reviewed by: Loatell
eSignature

23-Nov-09
Date

Matrices: Water

Carrier name: Client

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>1.4c</u> <u>002</u>		
Cooler(s)/Kit(s):	<u>3262</u>		
Water - VOA vials have zero headspace?	Yes ☒	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☒	N/A ☐
pH adjusted by:	<u></u>		
Login Notes:			

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:

W.O. # 0311524

SIN: ID: ROMA (2003) / 48-3311
330 REFINING
330 REFINING COMPANY
E. MAIN STREET

Ship Date: 19NOV09
ActWgt: 59.0 LB MAN
System#: 185697/CAFE2353
Account: S 113684186

ESIR, NM 88210
UNITED STATES US

SAMPLE RECEIVING

(281) 530-5656

ELAB/ALS

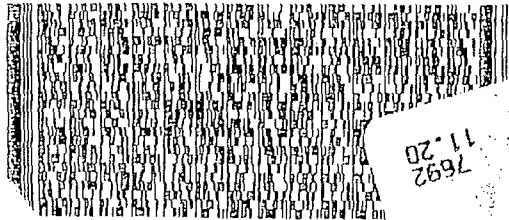
FedEx
Express

10450 STANCLIFF RD. SUITE 210

HOUSTON, TX 77099



CLS050107/22/23



Delivery Address
Barcode

07:11
7692

0 15
0 18

ITY OVERNIGHT

FRI

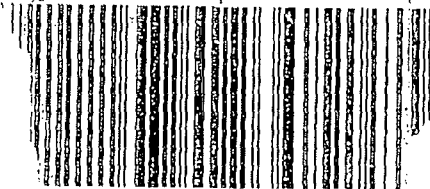
Deliver By:
20NOV09

91 8023 7692 Form
0201

IAH A2

-TX-US

AB JGQA



ALS Laboratory Group

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

CUSTODY SEAL

Date: 11-19-09 Time: 1615
Name: ALCOA STANCLIFF
Company: NANO REFINING CO.

Seal Broken By:

11-20-09

ALS Laboratory Group

Date: 25-Nov-09

Client: ALS Laboratory Group
Project: 0911524
Work Order: 0911500

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
0911500-01	0911524-01F	Water		11/19/2009 13:58	11/21/2009 10:40	☐

ALS Laboratory Group

Date: 25-Nov-09

Client: ALS Laboratory Group
Project: 0911524
WorkOrder: 0911500

QUALIFIERS, ACRONYMS, UNITS

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

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution

<u>Units Reported</u>	<u>Description</u>
mg/Kg	Milligrams per Kilogram

ALS Laboratory Group

Date: 25-Nov-09

Client: ALS Laboratory Group

Project: 0911524

Work Order: 0911500

Sample ID: 0911524-01F

Lab ID: 0911500-01

Collection Date: 11/19/2009 01:58 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2			Analyst: AJK
Cyanide, Reactive	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
SULFIDE, REACTIVE			SW7.3.4.2			Analyst: AJK
Sulfide, Reactive	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Laboratory Group

Date: 25-Nov-09

Client: ALS Laboratory Group

Work Order: 0911500

Project: 0911524

QC BATCH REPORT

Batch ID: R73058 Instrument ID WETCHEM Method: SW7.3.3.2

MBLK Sample ID: WBLKW1-112309-R73058 Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123J SeqNo: 1248304 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	ND	40								

LCS Sample ID: WLCBW1-112309-R73058 Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123J SeqNo: 1248305 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	75-125	0			

LCSD Sample ID: WLCSDW1-112309-R73058 Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123J SeqNo: 1248314 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	234.9	40	250	0	94	75-125	220.2	6.45	35	

MS Sample ID: 0911413-01 MS Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123J SeqNo: 1248315 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	249.6	40	250	0	99.8	50-150	0			

MSD Sample ID: 0911413-01 MSD Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123J SeqNo: 1248316 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Reactive	220.2	40	250	0	88.1	50-150	249.6	12.5	35	

The following samples were analyzed in this batch:

0911500-01A

Client: ALS Laboratory Group
Work Order: 0911500
Project: 0911524

QC BATCH REPORT

Batch ID: R73059 Instrument ID WETCHEM Method: SW7.3.4.2

MBLK Sample ID: WBLKW1-112309-R73059 Units: mg/Kg Analysis Date: 11/23/2009 11:00 AM

Client ID: Run ID: WETCHEM_091123K SeqNo: 1248317 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide, Reactive	ND		40							

The following samples were analyzed in this batch:

0911500-01A

0911500

CHAIN-OF-CUSTODY RECORD

Subcontractor:
ALS Laboratory Group
3352 128th Ave
Holland, MI 49424

TEL: (616) 399-6070
FAX: (616) 399-6185
Acct #:

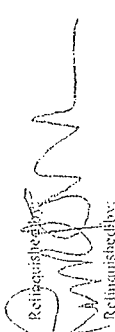
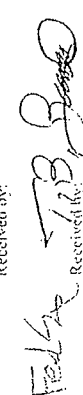
Date: 20-Nov-09
COC ID: 8320
Due Date: 04-Dec-09

Page 1 of 1

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order	Work Order	Project Name	Project Number	A	B	C	D	E	F	G	H	I	J			
10-2117291		0911524		Reactive Cyanide (SW-846)	Reactive Sulfide (SW-846)											
Company Name	ALS Group USA, Corp.	Bill To Company	ALS Group USA, Corp.													
Send Report To	JayLynn F Thibault	Inv Attn	Accounts Payable													
Address	10450 Stanchiff Rd, Suite 210	Address	10450 Stanchiff Rd, Suite 210													
City/State/Zip	Houston, Texas 77099-4338	City/State/Zip	Houston, Texas 77099-4338													
Phone	(281) 530-5656	Phone	(281) 530-5656													
Fax	(281) 530-5887	Fax	(281) 530-5887													
eMail Address	jaylynn.thibault@alsenviro.com	eMail CC	glenda.ramos@alsenviro.com													
Sample ID	0911524-01F (Injection Well)	Matrix	Water	A	B	C	D	E	F	G	H	I	J			
		Collection Date	11/19/2009 13:58	X	X											
		Bottle	(1) 1LPNEAT													

Comments:

Please analyze for Reactive Cyanide and Reactive Sulfide. Report is due on 12/4/09. Please send report to jaylynn.thibault@alsenviro.com, and CC: results to Glenda Ramos, glenda.ramos@alsenviro.com

Relinquished by:	Date/Time	Received by:	Date/Time	Cooler ID's	Report QC Level
	11/20/09		11/21/09 1040		Std
Relinquished by:	Date/Time	Received by:	Date/Time		

3.90C

ALS Laboratory Group

Sample Receipt Checklist

Client Name: ALS - HOUSTON

Date/Time Received: 21-Nov-09 10:40

Work Order: 0911500

Received by: TBB

Checklist completed by *Joseph L. Riba*
eSignature

21-Nov-09
Date

Reviewed by: *Ann F. Austin*
eSignature

23-Nov-09
Date

Matrices: water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	

Temperature(s)/Thermometer(s):

3.9 c

Cooler(s)/Kit(s):

Water - VOA vials have zero headspace?

Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☒ No ☐ N/A ☐

pH adjusted?

Yes ☐ No ☒ N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

SHIP ID: JGQA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

Ship Date: 20NOV09
ActWgt: 12.9 LB MAN
System#: 300130/CAFE2361
Account: S *****

TO RECEIVING
ALS LABORATORY
3352 128TH AVE.

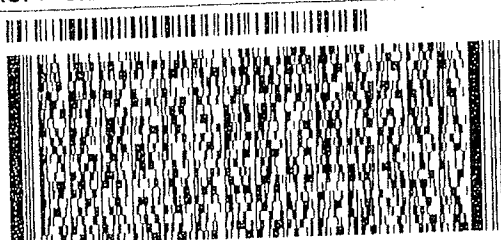
(616) 399-6070

FedEx
Express



HOLLAND, MI 49424

Ref: Subcontract



BILL SENDER

PRIORITY SATURDAY

Deliver By:

TRK# 4340 2157 9830 Form 0201

21NOV09

GRR AA

49424 -MI-US

X0 GRRR

Part # 155143-134 NRIT V3 03-05





REFINING COMPANY, LLC

FAX

(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

2009 NOV 2 PM 1 51

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX

(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

October 30, 2009

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

**RE: 2009 Third Quarterly Injection Report for Wells WDW-1, WDW-2 and WDW-3
Navajo Refining Company, L.L.C.**

Dear Mr. Chavez,

Enclosed, please find the sampling results for the second quarter of 2009 from the injected fluids and a spread sheet showing various volumes and pressures as requested in your October 6, 1999 letter. You will notice that the annular pressure on wells WDW-1 and WDW-2 continues to vary unpredictably. This is due to the wide range of temperatures we are seeing at the wells. A better gauge to determine if the tubing is leaking is a volume measurement of the fluid in the annular space via the graduated tanks located at the well head. We track this fluid level and have found it to be dropping at a very slow rate in WDW-3. We are closely monitoring the fluid level for this well. A Mechanical Integrity Test (MIT) on all the wells was last done in August 2009. All of the wells passed. Our consultants have stated that the loss rate is so small that we would not be able to find the leak. The volumes for these three tanks are reported in the attached Well Annulus Measurement System (WAMS) table.

You will also notice that the injection pressure for the Mewbourne well (WDW-1) appears to be reading low in July and August 2009. We have investigated the low reading. The conduit to the pressure transmitter had a crack in it that allowed rain water to collect in the transmitter, resulting in a false (low) pressure reading. The transmitter and conduit were replaced on August 8, 2009 and we have added low level alarms set at 150 psi. The low level alarms will help operations to identify transmitter problems to enable timely repair. The transmitter is now sending the correct pressure readings.

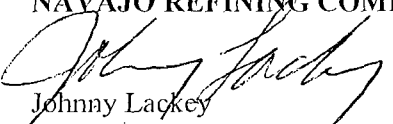
This report covers the period from July 1, 2009 to September 30, 2009. We have disposed a total of 44,829,447 barrels of fluid into the three wells as of September 30, 2009. The volume per well is:

- 27,199,719 barrels into WDW-1
- 13,717,586 barrels into WDW-2
- 3,912,141 barrels into WDW-3

This report is signed and certified in accordance with WQCC section 5101.G. If there are any questions, please call me at 575-748-3311.

Respectfully,

NAVAJO REFINING COMPANY


Johnny Lackey
Environmental Manager, Navajo Refinery

M:\Injection Wells\Reports\2009\3rd QRTLY INJ.doc

An Independent Refinery Serving . . .
NEW MEXICO • ARIZONA • WEST TEXAS • NORTHERN MEXICO

2009 THIRD QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
WDW-1														
Jul-09	9	69	1	99	105	82	86	154	58	3,378	3,586	2,806	104,706	26,876,380
Aug-09	333	610	0	85	99	50	87	140	56	2,903	3,390	1,711	89,987	26,981,086
Sep-09	431	486	153	125	138	115	356	755	32	4,288	4,727	3,939	128,647	27,071,073
WDW-2														
Jul-09	150	159	127	99	113	89	144	228	93	3,395	3,869	3,068	105,260	13,399,252
Aug-09	419	616	160	84	124	49	145	213	79	2,885	4,264	1,697	89,440	13,504,512
Sep-09	531	802	468	120	180	99	647	919	206	4,121	6,164	3,380	123,634	13,593,952
WDW-3														
Jul-09	485	531	381	192	215	160	283	368	227	6,576	7,357	5,501	203,871	3,292,755
Aug-09	484	832	162	199	305	156	204	307	19	6,819	10,441	5,332	211,401	3,496,626
Sep-09	440	519	177	198	209	187	332	404	236	6,804	7,150	6,414	204,114	3,708,027
													Total Injected fluids:	
													44,829,447	

2009 THIRD QUARTER WEEKLY WAMS LEVEL TABLE

	7/2/09	7/9/09	7/14/09	7/20/09	7/27/09	8/4/09	8/12/09	8/19/09	8/26/09	9/2/09	9/9/09	9/18/09	9/24/09
WDW -1'	135	135	135	135	135	135	135	135	135	135	135	135	130
WDW-2'	150	150	150	150	150	150	150	150	150	150	150	150	150
WDW-3'	235	225	215	200	185	170	155	140	245	240	230	225	220
Comments: Added 110 gallons of antifreeze to WDW-3 on 8/19/09.													

¹ Graduated tank gauged weekly in the field. Reading is in gallons.

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, September 25, 2009 3:05 PM
To: 'Bob Patterson'; 'Imolleur@keyenergy.com'; 'Schmaltz, Randy'; DARRELL MOORE; Lackey, Johnny
Cc: Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; VonGonten, Glenn, EMNRD
Subject: New Mexico Oil Conservation Division Class I (non-hazardous) Disposal Well Operator Notice--QUARTERLY & ANNUAL REPORTING

Gentlemen:

Re: UIC Class I Disposal Well **Quarterly and Annual Reporting**

You are receiving this message because you are currently operating a Underground Injection Control (UIC) Class I (non-hazardous) Disposal Well in New Mexico under an Oil Conservation Division (OCD) Discharge Permit. You may be aware of the most recent events related to OCD Class III Wells in New Mexico and can find out more by visiting the OCD's Brine Well Webpage at <http://www.emnrd.state.nm.us/OCD/brinewells.htm> and OCD Brine Well Work Group Website at <http://ocdimage.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0906359521>.

The OCD is writing to inform you that it will be monitoring more closely the receipt of your "Quarterly Reports" and "Annual Reports" required under the applicable section(s) of your OCD Discharge Permit. After reexamining our UIC Program subsequent to the UIC Class III Solution Mining Wells that collapsed in July and November of 2008, the OCD identified that it has been deficient in tracking reporting obligations in the past; however, the OCD has recently upgraded its online electronic system to better track operators who are not meeting the reporting requirements as specified in their OCD Discharge Permits. Please plan on submitting reports with required information by the date specified in your discharge permit. Operators undergoing permit renewal will notice changes to the OCD's discharge permit, which will include "Annual Reports" in addition to the Quarterly Reporting requirement(s).

To access your OCD Discharge Permit Online for the date of submittal and required contents of the report(s), please go to OCD Online at <http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx> (enter "Order Type" as UICI and your "Order Number"). The OCD has placed a "Quarterly Reporting" and "Annual Reports" thumbnails into each of your online well files and will be scanning all received reports into them upon receipt from now on.

If you have been delinquent in submitting your Quarterly (more recent permits require Annual Reports), a historical review of your production or disposal records will be required in order to provide cumulative injection or disposal information in this year's report.

Please contact me if you have questions or need assistance.

Thank you in advance for your cooperation in this matter.

Copy: Class I (non-hazardous) Disposal Well Files UICI- 5, 9, 8, 8-1 & 8-0 (Quarterly Reporting & Annual Reports)

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")