GW – 028

Annual DP Report (Part 5 of 16)

2015

Method Blank (MB)

(MB) 04/16/15 23:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00271	0.0100
Anthracene	U		0.000291	0.00100
Atrazine	U		0.00153	0.0100
Benzaldehyde	U		0.00140	0.0100
Benzo(a)anthracene	U		0.000111	0.00100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.000161	0.00100
Benzo(a)pyrene	U		0.000340	0.00100
Biphenyl	U		0.000206	0.0100
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Caprolactam	U		0.000583	0.0100
Carbazole	U		0.000162	0.0100
4-Chloroaniline	U		0.000382	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.000279	0.00100
Dibenzofuran	U		0.000338	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
1-Methylnaphthalene	U		0.000217	0.00100
2-Methylnaphthalene	U		0.000311	0.00100
Naphthalene	U		0.000372	0.00100
2-Nitroaniline	U		0.00190	0.0100

Method Blank (MB)

(MB) 04/16/15 23:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
3-Nitroaniline	U		0.000308	0.0100
4-Nitroaniline	U		0.000349	0.0100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.000304	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	0.00173		0.000709	0.00300
Di-n-butyl phthalate	0.000410		0.000266	0.00300
Diethyl phthalate	U		0.000282	0.00300
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	0.000388		0.000278	0.00300
Pyrene	U		0.000330	0.00100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.00100
Phenol	U		0.000334	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
(S) Nitrobenzene-d5	*65.1*			*21.8-123*
(S) 2-Fluorobiphenyl	*77.9*			*29.5-131*
(S) p-Terphenyl-d14	*71.5*			*29.3-137*
(S) Phenol-d5	*29.8*			*5.00-70.1*
(S) 2-Fluorophenol	*42.8*			*10.0-77.9*
(S) 2,4,6-Tribromophenol	*67.2*			*11.2-130*

Method Blank (MB)

(MB) 04/17/15 12:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,3,5-Trinitrobenzene	U		0.00132	0.0100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 04/16/15 23:10 • (LCSD) 04/16/15 23:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0250	0.0209	0.0208	83.6	83.0	38.7-109			0.670	21.5
Acenaphthylene	0.0250	0.0206	0.0205	82.3	82.0	36.0-106			0.330	21
Acetophenone	0.0250	0.0173	0.0168	69.3	67.1	41.6-104			3.22	24.8
Anthracene	0.0250	0.0207	0.0208	82.7	83.1	43.6-113			0.520	18.8
Atrazine	0.0250	0.0218	0.0212	87.2	84.7	50.0-123			2.98	21.5
Benzaldehyde	0.0250	0.0258	0.0235	103	94.0	11.7-132			9.31	25.2
Benzo(a)anthracene	0.0250	0.0216	0.0213	86.5	85.3	51.2-112			1.33	20
Benzo(b)fluoranthene	0.0250	0.0217	0.0216	86.8	86.3	47.6-111			0.620	20
Benzo(k)fluoranthene	0.0250	0.0220	0.0201	88.1	80.4	49.4-114			9.18	20
Benzo(g,h,i)perylene	0.0250	0.0238	0.0234	95.1	93.6	45.2-117			1.61	20
Benzo(a)pyrene	0.0250	0.0216	0.0207	86.3	82.6	45.6-106			4.38	20
Biphenyl	0.0250	0.0210	0.0208	84.0	83.2	38.0-103			0.950	20.1
Bis(2-chlorethoxy)methane	0.0250	0.0194	0.0188	77.5	75.2	37.2-111			3.11	24.1
Bis(2-chloroethyl)ether	0.0250	0.0176	0.0179	70.3	71.7	22.6-108			2.07	27.9
Bis(2-chloroisopropyl)ether	0.0250	0.0207	0.0204	82.7	81.4	32.9-100			1.59	25.1
4-Bromophenyl-phenylether	0.0250	0.0206	0.0211	82.3	84.6	40.7-116			2.72	21
Caprolactam	0.0250	0.00570	0.00540	22.8	21.6	10.0-40.4			5.33	40
Carbazole	0.0250	0.0218	0.0213	87.2	85.1	49.0-110			2.48	20
4-Chloroaniline	0.0250	0.0166	0.0175	66.3	70.1	32.0-104			5.45	26.4
2-Chloronaphthalene	0.0250	0.0211	0.0208	84.3	83.1	33.6-105			1.45	23
4-Chlorophenyl-phenylether	0.0250	0.0215	0.0207	85.9	83.0	39.0-113			3.47	20.9
Chrysene	0.0250	0.0211	0.0203	84.3	81.3	54.6-120			3.67	20
Dibenz(a,h)anthracene	0.0250	0.0231	0.0228	92.4	91.1	42.8-118			1.36	20
Dibenzofuran	0.0250	0.0205	0.0206	81.9	82.3	42.4-105			0.480	20
3,3-Dichlorobenzidine	0.0250	0.0228	0.0225	91.3	90.0	27.2-142			1.48	22.3
2,4-Dinitrotoluene	0.0250	0.0210	0.0216	84.1	86.4	31.2-105			2.69	22
2,6-Dinitrotoluene	0.0250	0.0221	0.0208	88.4	83.3	30.6-106			5.84	23.1
Fluoranthene	0.0250	0.0208	0.0208	83.3	83.4	45.9-115			0.0500	20
Fluorene	0.0250	0.0206	0.0208	82.4	83.2	41.0-112			0.910	20.2
Hexachlorobenzene	0.0250	0.0207	0.0210	82.9	84.1	38.5-116			1.34	20.1
Hexachloro-1,3-butadiene	0.0250	0.0176	0.0176	70.3	70.3	16.1-104			0.0600	31.2

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 04/16/15 23:10 • (LCSD) 04/16/15 23:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Hexachlorocyclopentadiene	0.0250	0.0124	0.0125	49.5	49.9	10.0-121			0.810	27.9
Hexachloroethane	0.0250	0.0176	0.0166	70.3	66.4	16.5-89.8			5.64	30.7
Indeno(1,2,3-cd)pyrene	0.0250	0.0232	0.0233	92.9	93.1	45.0-116			0.240	20
Isophorone	0.0250	0.0204	0.0200	81.6	79.9	35.4-112			2.15	21.5
1-Methylnaphthalene	0.0250	0.0216	0.0210	86.2	84.2	34.7-102			2.44	24.9
2-Methylnaphthalene	0.0250	0.0191	0.0187	76.4	75.0	33.8-98.6			1.86	24.2
Naphthalene	0.0250	0.0186	0.0181	74.4	72.6	32.2-101			2.44	23.8
2-Nitroaniline	0.0250	0.0198	0.0202	79.2	80.9	35.6-113			2.16	20.9
3-Nitroaniline	0.0250	0.0195	0.0206	78.1	82.6	33.6-103			5.58	21.8
4-Nitroaniline	0.0250	0.0233	0.0227	93.3	91.0	35.4-124			2.49	23.1
Nitrobenzene	0.0250	0.0186	0.0183	74.3	73.3	31.4-106			1.34	25.7
n-Nitrosodiphenylamine	0.0250	0.0211	0.0210	84.3	84.0	44.4-113			0.370	20
n-Nitrosodi-n-propylamine	0.0250	0.0191	0.0191	76.5	76.2	33.2-106			0.400	23.7
Phenanthrene	0.0250	0.0208	0.0210	83.4	84.0	46.4-113			0.720	20
Benzylbutyl phthalate	0.0250	0.0208	0.0210	83.1	83.9	31.8-123			0.980	20.7
Bis(2-ethylhexyl)phthalate	0.0250	0.0230	0.0220	92.2	88.1	36.9-134			4.45	23.6
Di-n-butyl phthalate	0.0250	0.0215	0.0215	86.0	85.9	41.8-120			0.200	20.2
Diethyl phthalate	0.0250	0.0221	0.0217	88.4	86.8	36.5-129			1.78	20
Dimethyl phthalate	0.0250	0.0219	0.0210	87.5	84.1	35.3-128			3.99	20.8
Di-n-octyl phthalate	0.0250	0.0213	0.0202	85.3	80.9	39.7-112			5.19	21.1
Pyrene	0.0250	0.0225	0.0219	89.9	87.5	46.3-117			2.75	20
4-Chloro-3-methylphenol	0.0250	0.0190	0.0194	76.0	77.5	35.7-100			2.02	22.9
2-Chlorophenol	0.0250	0.0161	0.0166	64.6	66.4	26.2-91.5			2.77	26.5
2-Methylphenol	0.0250	0.0158	0.0164	63.2	65.4	26.4-86.9			3.53	26.5
3&4-Methyl Phenol	0.0250	0.0162	0.0170	64.6	67.9	27.9-92.0			4.98	27
2,4-Dichlorophenol	0.0250	0.0193	0.0191	77.3	76.6	31.4-103			0.940	24.9
2,4-Dimethylphenol	0.0250	0.0193	0.0195	77.1	78.1	31.9-107			1.32	25.7
4,6-Dinitro-2-methylphenol	0.0250	0.0200	0.0194	80.1	77.8	18.4-148			2.87	24.4
2,4-Dinitrophenol	0.0250	0.0111	0.0107	44.6	42.8	24.2-128			4.14	20.5
2-Nitrophenol	0.0250	0.0181	0.0203	72.4	81.2	25.9-106			11.5	26.9
4-Nitrophenol	0.0250	0.00617	0.00872	24.7	34.9	10.0-52.7			34.2	40
Pentachlorophenol	0.0250	0.0117	0.0133	46.8	53.1	10.0-97.4			12.7	35.1
Phenol	0.0250	0.00847	0.0103	33.9	41.2	10.0-57.9			19.6	35
2,4,5-Trichlorophenol	0.0250	0.0210	0.0214	83.9	85.5	34.9-112			1.94	23.9
2,4,6-Trichlorophenol	0.0250	0.0196	0.0199	78.6	79.5	29.8-107			1.13	24.1
(S) Nitrobenzene-d5				*68.4*	*70.2*	*21.8-123*				
(S) 2-Fluorobiphenyl				*81.5*	*82.0*	*29.5-131*				
(S) p-Terphenyl-d14				*73.6*	*76.6*	*29.3-137*				
(S) Phenol-d5				*30.2*	*36.2*	*5.00-70.1*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 04/16/15 23:10 • (LCSD) 04/16/15 23:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) 2-Fluorophenol				*37.8*	*44.7*	*10.0-77.9*				
(S) 2,4,6-Tribromophenol				*75.3*	*78.1*	*11.2-130*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [14]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

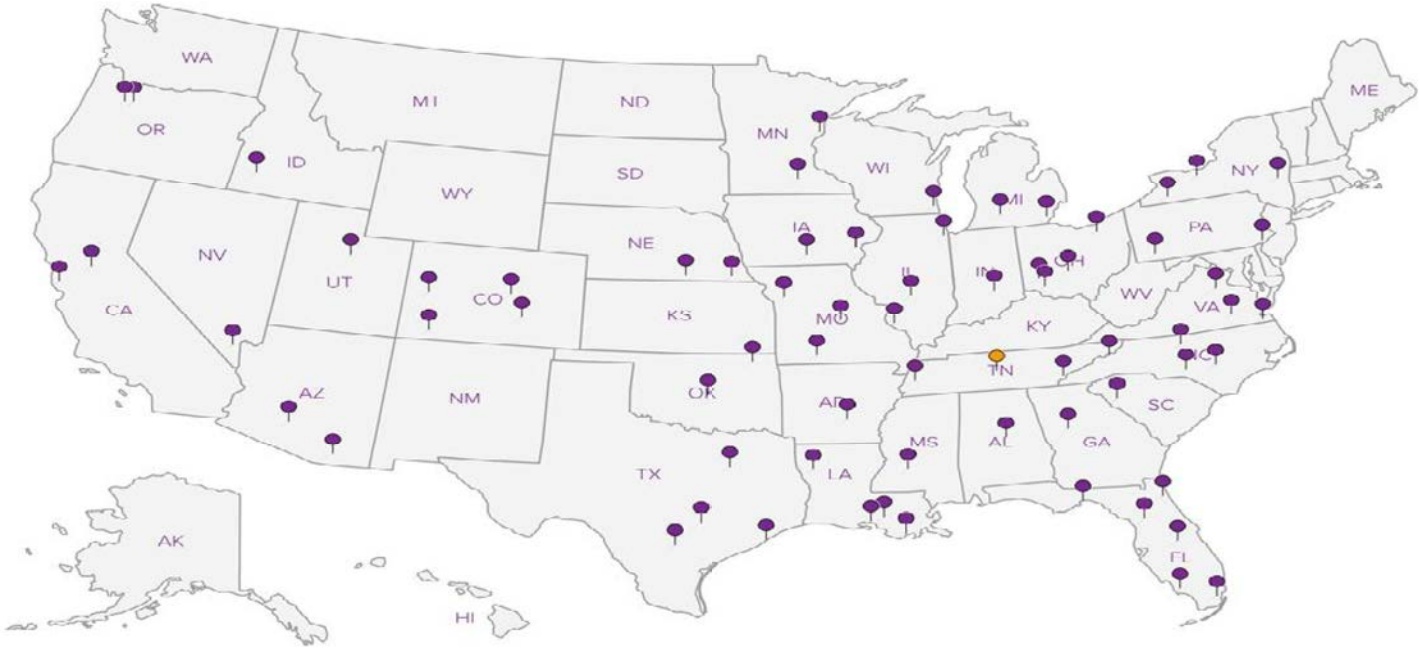
[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
Canada	1461.01	DOD	1461.01
EPA–Crypto	TN00003	USDA	S-67674

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



Company Name/Address:
Arcadis
2929 Briarpark Drive Suite 300
Houston, TX 77043

Billing Information:

Report to: Pamela Kruger
Email To: pam.kruger@arcadis-us.com

Project Description: Reject
City/State Collected: Artesia, NM

Phone: 713-953-4816
Fax:

Client Project #
Lab Project #

Collected by (print): Scott Ude
Site/Facility ID #
P.O. #

Collected by (signature): Scott Ude
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed
Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L789281

B157

Acctnum: ARCADEPTX
Template:
Prelogin:
TSR: Mark Beasley
Cooler:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260 (WQCC List)	GRO	DRO/ORO	SVOC8270 (WQCC List)	Diss. Metals-Al,As,Ba,Bo,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mn,Hg Field Filtered by Hach (0.45-u Filter) 2	Radium 226/228 4	Chloride, Fluoride, Sulfate	Nitrate/Nitrite 2	Cyanide 12	TDS	Rem./Contaminant	Sample # (lab only)
~~South Field RO Reject~~		~~GW~~ SW				M												
~~North Field RO Reject~~		~~GW~~ SW																
Regular Unit South Field RO Reject	Grab	GW/WW	~~1330~~ SW	4/14/15	1330	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		01
Temporary Unit South Field RO Reject	Grab	GW/WW	~~1315~~ SW	4/14/15	1315	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		02

6/94 495) Pill

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other ___

Remarks: Regular Unit discharge pipe = 6-in white PVC
Temporary Unit discharge pipe = 4-in black HDPE

pH ___ Temp ___
Flow ___ Other ___

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Scott Ude	4/14/15	1400	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ___
Temp: 3.1 °C Bottles Received: 36
Date: 4/15/15 Time: 09:00

Hold #
Condition: (lab use only) NS
COC Seal Intact: ✓ Y ___N ___NA
pH Checked: 12.7/12 NCF:

Company Name/Address:
Arcadis
2929 Briarpark Drive Suite 300
Houston, TX 77043

Billing Information:

Report to: Pamela Kruger

Email To: pam.kruger@arcadis-us.com

Project Description: Reject

City/State Collected: Artesia, NM

Phone: 713-953-4816
Fax:

Client Project #

Lab Project #

Collected by (print): Scott Ude

Site/Facility ID #

P.O. #

Collected by (signature): Scott Ude
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ✓Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 159281

Table #

Acctnum: ARCADEPTX

Template:

Prelogin:

TSR: Mark Beasley

Cooler:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PCBs	Field-measured pH									Rem./Contaminant	Sample # (lab only)
~~South Field RO Reject~~		GW SW																
~~North Field RO Reject~~		GW SW																
Regular Unit South Field RO Reject	Grab	GW/WW		4/14/15	1330 ~~MST~~ CST		✓	7.12										01
Temporary Unit South Field RO Reject	Grab	GW/WW		4/14/15	1315 ~~MST~~ CST		✓	7.48										02

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: Field-measured pH by HMI, per ARCADIS

pH _____ Temp _____

Flow _____ Other _____

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Scott Ude	4/14/15	1400	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 36

Date: 4/15/15 Time: 09:00

Condition: (lab use only) NCF

COC Seal Intact: ✓ Y ___ N ___ NA

pH Checked: 12 7/2

NCF:

Attachment 3
Stipulated Penalty Calculation

Calculation of Stipulated Penalties - April 2015

Order Section III., Paragraph Number	Penalty	Payment per day	No. of Days (per violation)	Amount
2.b.i	Exceedance of the 10,000 barrel per day RO reject fluid discharge volume limit specified in Discharge Permit GW-028:	--	--	--
	- **Prior** to Navajo submitting a discharge permit modification application	$1,000	2	$2,000
	- If the daily volume is between 10,000 and 15,000 barrels **after** Navajo submits discharge permit modification application	$100		$0
	- If the daily volume exceeds 15,000 barrels **after** Navajo submits discharge permit modification application	$500		$0
2.b.ii	Failure to timely conduct sampling as required in Exhibit A of Order	$2,000		$0
2.b.iii	Failure to timely submit any report or notifications as required in Exhibit A of Order	$1,000		$0
2.b.iv	Failure to record the daily discharge flow from the permanent and the temporary RO units	$1,000		$0
		Total Amount:		**$2,000**

HOLLYFRONTIER.

June 15, 2015

Submitted electronically via email to jim.griswold@state.nm.us and carlj.chavez@state.nm.us

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

RE: WQA-OCD-CO-2015-002
Monthly Report – May 2015 Reporting Period

Dear Sirs:

In accordance with Exhibit A, Paragraph 5, to Agreed Compliance Order No. WQA-OCD-CO-2015-002 (the Order), the Navajo Refining Company, L.L.C. (Navajo), Artesia, New Mexico, Refinery (the Refinery) hereby submits the required monthly report to the New Mexico Energy, Minerals, and Natural Resources Department Oil Conservation Division (OCD). This letter and all attachments provided herein constitute Navajo's June 2015 monthly report under the Order.

Specifically, this report covers the May 2015 reporting period and includes the following data and information as required by Exhibit A, Paragraph 2, Paragraph 3, and Paragraph 5.a – c:

- Daily discharge flow measurements for each reverse osmosis (RO) unit and for all RO units together.
- Results of the monthly discharge sample results.
- Calculation of stipulated penalties, if any, required under Section III, Paragraph 2 of the Order.
- Updates on any new developments related to the treatment and disposal of RO reject fluid at the facility.

A discussion of each topic is provided below and the associated data is provided in Attachments 1 and 2.

Daily RO Reject Fluid Discharge Flow Measurements

Flow rate for the RO reject fluid is monitored from the two permanent RO units and the temporary RO unit on a daily basis. Daily discharge volumes are provided in Attachment 1.

Monthly Discharge Sample Results

In accordance with Exhibit A, Paragraph 3 of the Order, Navajo collected a sample of the RO reject fluid discharge from the temporary RO unit on April 28, 2015, within 5 business days of the date of the Order (April 27, 2015). Navajo also collected a sample from the permanent RO units (combined discharge) on that same day. The analytical lab report for these samples was provided previously to OCD on May 15, 2015. It should be noted that, beginning with the July 2015 monthly report for the period of June 2015, and as required by Exhibit A Paragraph 3, Navajo's reports will reflect that a sample is collected on or around the first business day of the month, beginning with June 1, 2015.

Stipulated Penalties

In accordance with Exhibit A, Paragraph 1 of the Order, Navajo submitted the GW-028 discharge permit modification request to OCD on May 22, 2015, within 30 days of the date of the Order. Paragraph III.2.b.i.1 of the Order governs the calculation of stipulated penalties for exceedances of GW-028's daily RO reject fluid discharge volume limit prior to submittal of the discharge permit modification application. Paragraph III.2.b.i.2 of the Order governs the calculation of stipulated penalties for exceedances of this limit after Navajo submits the discharge permit modification application (and prior to OCD's approval or denial of the application). Therefore, for the May 1 through 21 timeframe, Paragraph III.2.b.i.1 is applicable, and from May 22 onward, Paragraph III.2.b.i.2 of the Order is applicable. Stipulated penalties were calculated for each day prior to and following Navajo's submittal of the permit modification request, and prior to OCD action on that request, as follows:

- $1,000 per day for each daily RO reject fluid discharge volume exceeding 10,000 barrels from May 1 to May 21.
- $100 per day for each daily RO reject fluid discharge volume between 10,000 and 15,000 barrels from May 22 to May 31.
- $500 per day for each daily RO reject fluid discharge volume that exceeds 15,000 barrels from May 22 to May 31.

Navajo has calculated a penalty of $22,000 for May 2015. The daily discharge volume exceeded the 10,000 barrels/day (bbl/day) limit, but was under 15,000 barrels total, on 31 days in May. Calculations conducted in accordance with Paragraph III.2.b.i.1 and 2 of the Agreed Compliance Order are provided in Attachment 2.

Payment of the stipulated penalty will be sent to the OCD Director's mailing address within 30 days after the date of this monthly report pursuant to Paragraph III.2.b. of the Order.

Updates Regarding Treatment and Disposal of RO Reject Fluid

As described in the Order, Navajo is working to enhance its water management system and reduce the total volume of RO reject fluid that is discharged pursuant to its groundwater discharge permit.

Options under consideration include the installation of a third permanent RO unit to replace the temporary RO unit and the installation of a secondary RO unit to reduce the total volume of RO reject fluid produced. Navajo is also evaluating options for the underground injection of RO reject fluid. In addition, Navajo is conducting a study of background groundwater concentrations of key chemical constituents of the RO reject fluid discharged under its groundwater discharge permit to determine whether concentrations of these constituents exceed background levels.

In accordance with Exhibit A, Paragraph 1 of the Order, Navajo submitted a GW-028 discharge permit modification request on May 22, 2015. The requested modifications include operating a temporary RO unit at the Navajo Refinery and increasing the total maximum volume of RO reject fluids that can be applied to the surface of Navajo's discharge fields, from approximately 10,000 bbl/day to approximately 20,000 bbl/day calculated on a rolling 12-month average.

Navajo is also seeking OCD authorization of a new non-hazardous waste injection well for use in disposal of Refinery fluids, including RO reject water. OCD notified Navajo that the application for a Discharge Permit for the new injection well (WDW-4) is administratively complete by letter dated April 23, 2015. Accordingly, Navajo has completed its part of the public notice process as required by 20.6.2.3108B New Mexico Administrative Code (NMAC) and has provided the necessary documentation of the public notice completion to the OCD by submittal dated June 4, 2015.

Navajo has completed the application for the OCD Class II Order also required for the new WDW-4 injection well. Public notices of submittal of the application for the Class II Order were mailed by Navajo to persons within ½ mile of the proposed location pursuant to OCD regulations. Submittal of an amended application for authorization to inject, including the C-108 form with a revised affirmation, the affidavit of publication of the public notice, and proof of mailing of the notice and application to persons within ½ mile of the proposed location were submitted to OCD on May 21, 2015.

Navajo is committed to proactively meeting the requirements of the Order and working cooperatively with OCD. If you have any questions or comments, please contact me at 575-746-5487.

Sincerely,

Scott M. Denton
Environmental Manager

Enclosures:

Attachment 1: Daily Discharge Flow Rates
Attachment 2: Stipulated Penalty Calculation

cc. HFC: D. McWatters, R. O'Brien, M. Holder
OCD: A. Marks, B. Brancard

Attachment 1
Daily Discharge Flow Rates

Daily RO Reject Discharge Flow Rate Measurements and Calculated Daily Discharge

	Permanent RO Units				Temporary Unit		Daily Discharge Volume
	Metered Data		Combined RO Reject Discharge (Calculated)		Total RO Reject Discharge (Calculated from Log Data)		
	GPM	GPM	GPM	BBL/DAY	GPM	BBL/DAY	BBL
	SOUTH	NORTH					
5/1/2015	117	105	222	7611	146	5001	12612
5/2/2015	121	106	227	7783	149	5104	12887
5/3/2015	117	104	221	7577	151	5171	12748
5/4/2015	122	107	229	7851	151	5182	13033
5/5/2015	121	100	221	7577	154	5270	12847
5/6/2015	120	97	217	7440	152	5212	12652
5/7/2015	121	100	221	7577	154	5267	12844
5/8/2015	132	109	241	8263	155	5322	13585
5/9/2015	133	103	236	8091	154	5280	13371
5/10/2015	131	104	235	8057	155	5314	13371
5/11/2015	131	106	237	8126	157	5417	13543
5/12/2015	132	107	239	8194	156	5349	13543
5/13/2015	131	103	234	8023	156	5361	13384
5/14/2015	133	111	244	8366	142	4854	13220
5/15/2015	139	111	250	8571	136	4669	13240
5/16/2015	134	105	239	8194	62	2117	10311
5/17/2015	136	111	247	8469	62	2115	10584
5/18/2015	135	111	246	8434	62	2130	10564
5/19/2015	134	112	246	8434	64	2187	10621
5/20/2015	136	105	241	8263	64	2194	10457
5/21/2015	136	110	246	8434	66	2270	10704
5/22/2015	135	112	247	8469	68	2331	10800
5/23/2015	138	114	252	8640	71	2448	11088
5/24/2015	133	106	239	8194	80	2739	10933
5/25/2015	135	102	237	8126	81	2765	10891
5/26/2015	131	111	242	8297	73	2501	10798
5/27/2015	138	108	246	8434	60	2054	10488
5/28/2015	131	100	231	7920	68	2330	10250
5/29/2015	130	99	229	7851	63	2160	10011
5/30/2015	132	110	242	8297	63	2160	10457
5/31/2015	140	107	247	8469	61	2084	10553

Attachment 2
Stipulated Penalty Calculation

Calculation of Stipulated Penalties - May 2015

Order Section III., Paragraph Number	Penalty	Payment per day	No. of Days (per violation)	Amount
2.b.i	Exceedance of the 10,000 barrel per day RO reject fluid discharge volume limit specified in Discharge Permit GW-028:	--	--	--
	- **Prior** to Navajo submitting a discharge permit modification application	$1,000	21	$21,000
	- If the daily volume is between 10,000 and 15,000 barrels **after** Navajo submits discharge permit modification application	$100	10	$1,000
	- If the daily volume exceeds 15,000 barrels **after** Navajo submits discharge permit modification application	$500		$0
2.b.ii	Failure to conduct sampling as required in Exhibit A of Order	$2,000		$0
2.b.iii	Failure to timely submit any report or notifications as required in Exhibit A of Order	$1,000		$0
2.b.iv	Failure to record the daily discharge flow from the permanent and the temporary RO units	$1,000		$0
		Total Amount:		**$22,000**

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 13, 2015

Scott Denton
Navajo Refining Company
P.O. Box 159
Artesia, NM 88211-0159
TEL: (575) 748-3311
FAX

RE: Monthly RO Reject OrderNo.: 1504C23

Dear Scott Denton:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/29/2015 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1504C23**
Date Reported: **5/13/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: Temporary R.O.
Project: Monthly RO Reject
Collection Date: 4/28/2015 8:30:00 AM
Lab ID: 1504C23-001 **Matrix:** AQUEOUS **Received Date:** 4/29/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **JME**
1,2-Dibromoethane	ND	0.010		µg/L	1	4/30/2015 5:05:45 PM
EPA METHOD 8082: PCB'S						Analyst: **SCC**
Aroclor 1016	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1221	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1232	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1242	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1248	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1254	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Aroclor 1260	ND	1.0		µg/L	1	5/5/2015 3:05:44 PM
Surr: Decachlorobiphenyl	96.4	44.5-110		%REC	1	5/5/2015 3:05:44 PM
Surr: Tetrachloro-m-xylene	107	31.8-95.7	S	%REC	1	5/5/2015 3:05:44 PM
EPA METHOD 8015D: DIESEL RANGE						Analyst: **KJH**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	4/29/2015 3:54:05 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/29/2015 3:54:05 PM
Surr: DNOP	106	76.5-150		%REC	1	4/29/2015 3:54:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	5/4/2015 3:32:42 PM
Surr: BFB	94.3	80-120		%REC	1	5/4/2015 3:32:42 PM
EPA METHOD 8310: PAHS						Analyst: **SCC**
Naphthalene	ND	2.0		µg/L	1	5/5/2015 11:03:03 AM
1-Methylnaphthalene	ND	2.0		µg/L	1	5/5/2015 11:03:03 AM
2-Methylnaphthalene	ND	2.0		µg/L	1	5/5/2015 11:03:03 AM
Benzo(a)pyrene	ND	0.070		µg/L	1	5/5/2015 11:03:03 AM
Surr: Benzo(e)pyrene	94.8	30.8-125		%REC	1	5/5/2015 11:03:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **LGT**
Fluoride	2.9	2.0		mg/L	20	4/29/2015 3:12:59 PM
Chloride	52	10		mg/L	20	4/29/2015 3:12:59 PM
Nitrogen, Nitrate (As N)	2.1	2.0		mg/L	20	4/29/2015 3:12:59 PM
Sulfate	1500	50		mg/L	100	5/6/2015 12:47:21 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Aluminum	ND	0.020		mg/L	1	4/29/2015 6:12:35 PM
Barium	0.062	0.0020		mg/L	1	4/29/2015 6:12:35 PM
Boron	0.10	0.040		mg/L	1	4/29/2015 6:12:35 PM
Cadmium	ND	0.0020		mg/L	1	4/30/2015 1:03:21 PM
Chromium	ND	0.0060		mg/L	1	4/29/2015 6:12:35 PM
Cobalt	ND	0.0060		mg/L	1	4/29/2015 6:12:35 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: Temporary R.O.
Project: Monthly RO Reject
Collection Date: 4/28/2015 8:30:00 AM
Lab ID: 1504C23-001 **Matrix:** AQUEOUS **Received Date:** 4/29/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Copper	ND	0.0060		mg/L	1	4/29/2015 6:12:35 PM
Iron	ND	0.020		mg/L	1	4/29/2015 6:12:35 PM
Manganese	ND	0.0020		mg/L	1	4/29/2015 6:12:35 PM
Molybdenum	ND	0.0080		mg/L	1	4/30/2015 1:03:21 PM
Nickel	ND	0.010		mg/L	1	4/29/2015 6:12:35 PM
Silver	ND	0.0050		mg/L	1	4/30/2015 1:03:21 PM
Zinc	0.11	0.010		mg/L	1	4/29/2015 6:12:35 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	ND	0.0050		mg/L	5	5/7/2015 2:26:28 PM
Lead	ND	0.0010		mg/L	1	5/5/2015 11:01:02 AM
Selenium	0.0088	0.0010		mg/L	1	5/5/2015 11:01:02 AM
Uranium	0.0066	0.0010		mg/L	1	5/5/2015 11:01:02 AM
EPA METHOD 245.1: MERCURY						Analyst: **MED**
Mercury	ND	0.00020		mg/L	1	5/4/2015 2:00:03 PM
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**
Benzene	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Toluene	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Ethylbenzene	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Chloroform	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Methylene Chloride	ND	3.0		µg/L	1	4/29/2015 5:03:52 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/29/2015 5:03:52 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Vinyl chloride	ND	1.0		µg/L	1	4/29/2015 5:03:52 PM
Xylenes, Total	ND	1.5		µg/L	1	4/29/2015 5:03:52 PM
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%REC	1	4/29/2015 5:03:52 PM
Surr: 4-Bromofluorobenzene	91.6	70-130		%REC	1	4/29/2015 5:03:52 PM
Surr: Dibromofluoromethane	98.8	70-130		%REC	1	4/29/2015 5:03:52 PM
Surr: Toluene-d8	102	70-130		%REC	1	4/29/2015 5:03:52 PM
TOTAL PHENOLICS BY SW-846 9067						Analyst: **SCC**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: Temporary R.O.
Project: Monthly RO Reject
Collection Date: 4/28/2015 8:30:00 AM
Lab ID: 1504C23-001 **Matrix:** AQUEOUS **Received Date:** 4/29/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL PHENOLICS BY SW-846 9067						Analyst: **SCC**
Phenolics, Total Recoverable	ND	2.5		µg/L	1	4/30/2015
EPA 335.4: TOTAL CYANIDE SUBBED						Analyst: **SUB**
Cyanide	ND	0.0100		mg/L	1	5/5/2015
SM4500-H+B: PH						Analyst: **JRR**
pH	7.92	1.68	H	pH units	1	5/5/2015 5:53:07 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	3390	20.0	*	mg/L	1	5/1/2015 3:30:00 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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Client Sample ID: Trip Blank
Project: Monthly RO Reject
Collection Date:
Lab ID: 1504C23-002
Matrix: TRIP BLANK
Received Date: 4/29/2015 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8011/504.1: EDB						Analyst: **JME**
1,2-Dibromoethane	ND	0.010		µg/L	1	4/30/2015 5:19:35 PM
EPA METHOD 8260B: VOLATILES						Analyst: **cadg**
Benzene	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Toluene	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Ethylbenzene	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Chloroform	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Methylene Chloride	ND	3.0		µg/L	1	4/29/2015 5:32:34 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/29/2015 5:32:34 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Vinyl chloride	ND	1.0		µg/L	1	4/29/2015 5:32:34 PM
Xylenes, Total	ND	1.5		µg/L	1	4/29/2015 5:32:34 PM
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%REC	1	4/29/2015 5:32:34 PM
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	4/29/2015 5:32:34 PM
Surr: Dibromofluoromethane	103	70-130		%REC	1	4/29/2015 5:32:34 PM
Surr: Toluene-d8	104	70-130		%REC	1	4/29/2015 5:32:34 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
RL	Reporting Detection Limit

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1504C23
Pace Project No.: 30147056

Sample: 1504C23-001H Temporary R.O. **Lab ID: 30147056001** Collected: 04/28/15 08:30 Received: 05/01/15 09:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**1.41 ± 0.654 (0.675)** **C:NA T:80%**	pCi/L	05/13/15 10:06	13982-63-3	
Radium-228	EPA 904.0	**0.441 ± 0.439 (0.877)** **C:75% T:74%**	pCi/L	05/11/15 17:31	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1504C23
Pace Project No.: 30147056

QC Batch: RADC/24384
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30147056001

METHOD BLANK: 890250
Matrix: Water
Associated Lab Samples: 30147056001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.437 ± 0.426 (0.869) C:70% T:70%	pCi/L	05/11/15 17:33	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1504C23
Pace Project No.: 30147056

QC Batch: RADC/24322
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30147056001

METHOD BLANK: 888781
Matrix: Water
Associated Lab Samples: 30147056001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.256 ± 0.438 (0.767) C:NA T:98%	pCi/L	05/13/15 09:55	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R25851**	RunNo: **25851**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766029** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Boron	ND	0.040								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R25851**	RunNo: **25851**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766030** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.51	0.020	0.5000	0	103	85	115			
Barium	0.47	0.0020	0.5000	0	93.0	85	115			
Boron	0.49	0.040	0.5000	0	97.9	85	115			
Chromium	0.48	0.0060	0.5000	0	95.5	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.4	85	115			
Copper	0.47	0.0060	0.5000	0	94.3	85	115			
Iron	0.47	0.020	0.5000	0	94.6	85	115			
Manganese	0.44	0.0020	0.5000	0	88.9	85	115			
Nickel	0.48	0.010	0.5000	0	96.6	85	115			
Zinc	0.48	0.010	0.5000	0	95.6	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R25881**	RunNo: **25881**
Prep Date:	Analysis Date: **4/30/2015**	SeqNo: **767040** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Molybdenum	ND	0.0080								
Silver	ND	0.0050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R25881**	RunNo: **25881**
Prep Date:	Analysis Date: **4/30/2015**	SeqNo: **767041** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.4	85	115			
Silver	0.088	0.0050	0.1000	0	87.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R25950**	RunNo: **25950**
Prep Date:	Analysis Date: **5/5/2015**	SeqNo: **769414** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.024	0.0010	0.02500	0	96.4	85	115			
Selenium	0.024	0.0010	0.02500	0	94.9	85	115			
Uranium	0.025	0.0010	0.02500	0	98.7	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R25950**	RunNo: **25950**
Prep Date:	Analysis Date: **5/5/2015**	SeqNo: **769415** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R26042**	RunNo: **26042**
Prep Date:	Analysis Date: **5/7/2015**	SeqNo: **772040** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R26042**	RunNo: **26042**
Prep Date:	Analysis Date: **5/7/2015**	SeqNo: **772041** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18982**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**				
Client ID:	**PBW**	Batch ID:	**18982**	RunNo:	**25930**				
Prep Date:	**4/30/2015**	Analysis Date:	**5/4/2015**	SeqNo:	**768647**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-18982**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**				
Client ID:	**LCSW**	Batch ID:	**18982**	RunNo:	**25930**				
Prep Date:	**4/30/2015**	Analysis Date:	**5/4/2015**	SeqNo:	**768648**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R25872**	RunNo: **25872**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766806** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R25872**	RunNo: **25872**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766807** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.46	0.10	0.5000	0	92.4	90	110			
Chloride	4.5	0.50	5.000	0	91.0	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.2	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R25994**	RunNo: **25994**
Prep Date:	Analysis Date: **5/5/2015**	SeqNo: **770620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R25994**	RunNo: **25994**
Prep Date:	Analysis Date: **5/5/2015**	SeqNo: **770621** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.7	0.50	10.00	0	97.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18974**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**18974**	RunNo:	**25898**					
Prep Date:	**4/30/2015**	Analysis Date:	**4/30/2015**	SeqNo:	**767691**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-18974**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**18974**	RunNo:	**25898**					
Prep Date:	**4/30/2015**	Analysis Date:	**4/30/2015**	SeqNo:	**767692**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	114	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18947**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**18947**		RunNo:	**25835**				
Prep Date:	**4/29/2015**	Analysis Date:	**4/29/2015**		SeqNo:	**766304**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		109	76.5	150			

Sample ID	**LCS-18947**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**18947**		RunNo:	**25835**				
Prep Date:	**4/29/2015**	Analysis Date:	**4/29/2015**		SeqNo:	**766305**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	104	60.1	156			
Surr: DNOP	0.57		0.5000		115	76.5	150			

Sample ID	**1504C23-001LMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**Temporary R.O.**	Batch ID:	**18947**		RunNo:	**25835**				
Prep Date:	**4/29/2015**	Analysis Date:	**4/29/2015**		SeqNo:	**766307**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	75.9	164			
Surr: DNOP	0.61		0.5000		121	76.5	150			

Sample ID	**1504C23-001LMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Diesel Range**				
Client ID:	**Temporary R.O.**	Batch ID:	**18947**		RunNo:	**25835**				
Prep Date:	**4/29/2015**	Analysis Date:	**4/29/2015**		SeqNo:	**766308**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	111	75.9	164	2.80	22.1	
Surr: DNOP	0.61		0.5000		122	76.5	150	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**R25939**	RunNo:	**25939**					
Prep Date:		Analysis Date:	**5/4/2015**	SeqNo:	**768862**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		88.4	80	120			

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**R25939**	RunNo:	**25939**					
Prep Date:		Analysis Date:	**5/4/2015**	SeqNo:	**768863**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	92.2	80	120			
Surr: BFB	18		20.00		91.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18997**	SampType:	**MBLK**	TestCode:	**EPA Method 8082: PCB's**					
Client ID:	**PBW**	Batch ID:	**18997**	RunNo:	**25944**					
Prep Date:	**5/1/2015**	Analysis Date:	**5/5/2015**	SeqNo:	**769049**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	1.0								
Aroclor 1221	ND	1.0								
Aroclor 1232	ND	1.0								
Aroclor 1242	ND	1.0								
Aroclor 1248	ND	1.0								
Aroclor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	2.2		2.500		87.2	44.5	110			
Surr: Tetrachloro-m-xylene	2.4		2.500		97.6	31.8	95.7			S

Sample ID	**LCS-18997**	SampType:	**LCS**	TestCode:	**EPA Method 8082: PCB's**					
Client ID:	**LCSW**	Batch ID:	**18997**	RunNo:	**25944**					
Prep Date:	**5/1/2015**	Analysis Date:	**5/5/2015**	SeqNo:	**769942**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	4.9	1.0	5.000	0	98.7	22.6	127			
Aroclor 1260	5.1	1.0	5.000	0	102	20.4	122			
Surr: Decachlorobiphenyl	2.9		2.500		114	44.5	110			S
Surr: Tetrachloro-m-xylene	4.2		2.500		169	31.8	95.7			S

Sample ID	**LCSD-18997**	SampType:	**LCSD**	TestCode:	**EPA Method 8082: PCB's**					
Client ID:	**LCSS02**	Batch ID:	**18997**	RunNo:	**25944**					
Prep Date:	**5/1/2015**	Analysis Date:	**5/5/2015**	SeqNo:	**769944**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	4.6	1.0	5.000	0	93.0	22.6	127	6.03	26.9	
Aroclor 1260	5.3	1.0	5.000	0	107	20.4	122	4.45	29.1	
Surr: Decachlorobiphenyl	3.0		2.500		118	44.5	110	0	0	S
Surr: Tetrachloro-m-xylene	3.8		2.500		150	31.8	95.7	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R25860**	RunNo: **25860**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766354** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.6	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	75.6	144			
Trichloroethene (TCE)	20	1.0	20.00	0	98.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **5mL rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R25860**	RunNo: **25860**
Prep Date:	Analysis Date: **4/29/2015**	SeqNo: **766361** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Carbon Tetrachloride	ND	1.0								
Chloroform	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
Methylene Chloride	ND	3.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **MB-18998**	SampType: **MBLK**	TestCode: **EPA Method 8310: PAHs**
Client ID: **PBW**	Batch ID: **18998**	RunNo: **25938**
Prep Date: **5/1/2015**	Analysis Date: **5/5/2015**	SeqNo: **769391** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	2.0								
2-Methylnaphthalene	ND	2.0								
Acenaphthylene	ND	2.5								
Acenaphthene	ND	2.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.30								
Pyrene	ND	0.30								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	14		20.00		71.8	30.8	125			

Sample ID **LCS-18998**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **18998**	RunNo: **25938**
Prep Date: **5/1/2015**	Analysis Date: **5/5/2015**	SeqNo: **769392** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	55	2.0	80.00	0	69.3	41	76.8			
1-Methylnaphthalene	57	2.0	80.20	0	71.0	24.7	81			
2-Methylnaphthalene	56	2.0	80.00	0	70.4	17.4	81.9			
Acenaphthylene	60	2.5	80.20	0	75.4	50.3	77.5			
Acenaphthene	57	2.0	80.00	0	71.8	27.7	81.1			
Fluorene	5.8	0.80	8.020	0	72.8	34.2	75.1			
Phenanthrene	2.9	0.60	4.020	0	72.4	44.6	88.3			
Anthracene	2.9	0.60	4.020	0	72.1	41.9	85.3			
Fluoranthene	6.1	0.30	8.020	0	76.2	40.6	88			
Pyrene	6.6	0.30	8.020	0	82.8	41	86.6			
Benz(a)anthracene	0.62	0.070	0.8020	0	77.3	43.8	86.7			
Chrysene	3.1	0.20	4.020	0	76.9	44.5	80.7			
Benzo(b)fluoranthene	0.81	0.10	1.002	0	80.8	44.3	87.1			
Benzo(k)fluoranthene	0.39	0.070	0.5000	0	78.0	39.9	94.3			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID **LCS-18998**	SampType: **LCS**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSW**	Batch ID: **18998**	RunNo: **25938**
Prep Date: **5/1/2015**	Analysis Date: **5/5/2015**	SeqNo: **769392** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.39	0.070	0.5020	0	77.7	44	86.5			
Dibenz(a,h)anthracene	0.78	0.12	1.002	0	77.8	48.8	83.6			
Benzo(g,h,i)perylene	0.83	0.12	1.000	0	83.0	43.6	84.5			
Indeno(1,2,3-cd)pyrene	1.6	0.25	2.004	0	77.3	49.2	91.1			
Surr: Benzo(e)pyrene	21		20.00		106	30.8	125			

Sample ID **LCSD-18998**	SampType: **LCSD**	TestCode: **EPA Method 8310: PAHs**
Client ID: **LCSS02**	Batch ID: **18998**	RunNo: **25938**
Prep Date: **5/1/2015**	Analysis Date: **5/5/2015**	SeqNo: **769393** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	58	2.0	80.00	0	72.7	41	76.8	4.75	20	
1-Methylnaphthalene	60	2.0	80.20	0	74.4	24.7	81	4.68	20	
2-Methylnaphthalene	59	2.0	80.00	0	73.8	17.4	81.9	4.70	20	
Acenaphthylene	63	2.5	80.20	0	78.7	50.3	77.5	4.29	20	S
Acenaphthene	60	2.0	80.00	0	74.9	27.7	81.1	4.26	20	
Fluorene	6.1	0.80	8.020	0	75.7	34.2	75.1	3.86	20	S
Phenanthrene	3.1	0.60	4.020	0	76.1	44.6	88.3	5.03	24	
Anthracene	3.0	0.60	4.020	0	75.9	41.9	85.3	5.04	20	
Fluoranthene	6.4	0.30	8.020	0	79.9	40.6	88	4.79	20.9	
Pyrene	7.0	0.30	8.020	0	86.8	41	86.6	4.71	20.8	S
Benz(a)anthracene	0.65	0.070	0.8020	0	81.0	43.8	86.7	4.72	20	
Chrysene	3.3	0.20	4.020	0	80.8	44.5	80.7	5.05	20	S
Benzo(b)fluoranthene	0.84	0.10	1.002	0	83.8	44.3	87.1	3.64	20.6	
Benzo(k)fluoranthene	0.41	0.070	0.5000	0	82.0	39.9	94.3	5.00	20.8	
Benzo(a)pyrene	0.41	0.070	0.5020	0	81.7	44	86.5	5.00	20	
Dibenz(a,h)anthracene	0.83	0.12	1.002	0	82.8	48.8	83.6	6.21	20	
Benzo(g,h,i)perylene	0.87	0.12	1.000	0	87.0	43.6	84.5	4.71	20	S
Indeno(1,2,3-cd)pyrene	1.6	0.25	2.004	0	81.3	49.2	91.1	5.03	20	
Surr: Benzo(e)pyrene	22		20.00		112	30.8	125	0		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18972**	SampType:	**MBLK**	TestCode:	**Total Phenolics by SW-846 9067**					
Client ID:	**PBW**	Batch ID:	**18972**	RunNo:	**25901**					
Prep Date:	**4/30/2015**	Analysis Date:	**4/30/2015**	SeqNo:	**767792**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	ND	2.5								

Sample ID	**LCS-18972**	SampType:	**LCS**	TestCode:	**Total Phenolics by SW-846 9067**					
Client ID:	**LCSW**	Batch ID:	**18972**	RunNo:	**25901**					
Prep Date:	**4/30/2015**	Analysis Date:	**4/30/2015**	SeqNo:	**767793**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	22	2.5	20.00	0	109	75.7	126			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-R26153**	SampType:	**MBLK**	TestCode:	**EPA 335.4: Total Cyanide Subbed**					
Client ID:	**PBW**	Batch ID:	**R26153**	RunNo:	**26153**					
Prep Date:		Analysis Date:	**5/5/2015**	SeqNo:	**775896**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cyanide	ND	0.0100								

Sample ID	**LCS-R26153**	SampType:	**LCS**	TestCode:	**EPA 335.4: Total Cyanide Subbed**					
Client ID:	**LCSW**	Batch ID:	**R26153**	RunNo:	**26153**					
Prep Date:		Analysis Date:	**5/5/2015**	SeqNo:	**775897**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cyanide	0.500		0.5000	0	100	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1504C23**

13-May-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID	**MB-18979**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**18979**	RunNo:	**25912**					
Prep Date:	**4/30/2015**	Analysis Date:	**5/1/2015**	SeqNo:	**768004**	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-18979**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**18979**	RunNo:	**25912**					
Prep Date:	**4/30/2015**	Analysis Date:	**5/1/2015**	SeqNo:	**768005**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	999	20.0	1000	0	99.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: NAVAJO REFINING CO Work Order Number: 1504C23 RcptNo: 1

Received by/date: CS 04/29/15

Logged By: Lindsay Mangin 4/29/2015 9:15:00 AM

Completed By: Lindsay Mangin 4/29/2015 9:48:07 AM

Reviewed By: JR 04/29/15

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? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° 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 ☐ CS 04/29/15 Samples -002A + -002I have bubbles.
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: 5 (1)
(<2 or >12 unless noted)
Adjusted? no
Checked by: CS

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	1.0	Good	Yes			

Chain-of-Custody Record

Client: Navajo Refining Co.

Mailing Address: P.O. Box 159 Artesia, NM 88211-0159

Phone #: 575-748-3311

email or Fax#: 575-746-5451

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

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
Monthly RO Reject

Project #: P.O. # 167796

Project Manager:
Scott Denton / Robert Combs

Sampler: Elizabeth Salsberry

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1504023	Analysis Request
4/28/15	8:30AM	Aq	Temporary R.O.	2 - 500ml P	1-unpres 1-H2SO4	-001	See Attachment
4/28/15	8:30AM			3-40ml VOA	HCL	-001	
4/28/15	8:30AM			1-500ml P	HNO3	-001	
4/28/15	8:30AM			1-125ml P	HNO3	-001	
4/28/15	8:30AM			1-500ml P	NaOH	-001	
4/28/15	8:30AM			2- 1L P	HNO3	-001	
4/28/15	8:30AM			3-40ml VOA	HCL	-001	
4/28/15	8:30AM			2 - 1L Glass	unpres	-001	
4/28/15	8:30AM			1 - 1L Glass	unpres	-001	
4/28/15	8:30AM			2-40ml VOA	unpres	-001	
4/28/15	8:30AM		Trip Blank	2-40ml VOA	HCL	-002	
		CS 04/29/15					

Date	Time	Relinquished by	Received by	Date	Time
4/28/15	10:45am	Elizabeth Salsberry	Celina Sanchez	04/29/15	0915
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Send results to Scott Denton, Mike Holder, Micki Schultz, Robert Combs and Andrew Contreras.

Analyte	CGWSL	CGWSL Source	Well: [illegible] Date: [illegible] Result	Qual	RL	[illegible] Result	Qual	RL	RO Discharge [illegible] Result	Qual	RL	[illegible] Result	Qual	RL	[illegible] Result	Qual	RL	[illegible] Result	Qual	RL	RO Discharge (cont) [illegible] Result	Qual	RL	Result
TPH (mg/L)																								
Gasoline Range Organics										U	0.05					U	0.05		U	[illegible]		U	[illegible]	
Diesel Range Organics	2.00E-01	NMED TPH								U	[illegible]					U	0.252		U	[illegible]		U	[illegible]	
Oil Range Organics	2.00E-01	NMED TPH							[illegible]		[illegible]					U	[illegible]		U	[illegible]		U	[illegible]	
VOCs (mg/L)																								
1,1,1-Trichloroethane	6.00E-01	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
1,1,2,2-Tetrachloroethane	1.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.001		U	0.005		U	0.002		U	0.005		U	0.001		U	0.001		U	0.001	
1,1,2-Trichloroethane	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
1,1-Dichloroethane	2.50E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
1,1-Dichloroethene	7.00E-03	USEPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
1,2-Dichloroethane	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
1,2-Dibromoethane	5.00E-02	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Benzene	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.002		U	0.005		U	0.001		U	0.001		U	0.001	
Carbon Tetrachloride	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Chloroform	3.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Dichloromethane	5.00E-03	EPA MCL		U	0.01		U	0.01		U	0.002		U	0.01		U	0.002		U	0.002		U	0.002	
Ethylbenzene	7.00E-01	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Tetrachloroethene	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Toluene	7.50E-01	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.002		U	0.005		U	0.001		U	0.001		U	0.001	
Total Xylenes	6.20E-01	NMED GW Human Health (20.6.2.3103.A)		U	0.015		U	0.015		U	0.003		U	0.015		U	0.001		U	0.003		U	0.003	
Trichloroethene	5.00E-03	EPA MCL		U	0.005		U	0.005		U	0.001		U	0.005		U	0.001		U	0.001		U	0.001	
Vinyl Chloride	1.00E-03	NMED GW Human Health (20.6.2.3103.A)		U	0.002		U	0.002		U	0.001		U	0.002		U	0.001		U	0.001		U	0.001	
SVOCs (mg/L)																								
1-Methylnaphthalene	3.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.000103		UH	0.000101		U	0.0002		U	0.000102		U	0.0002		U	0.0002		U	0.0002	
2-Methylnaphthalene	3.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.000103		UH	0.000101		U	0.0002		U	0.000102		U	0.0002		U	0.0002		U	0.0002	
Naphthalene	3.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.000103		UH	0.000101		U	0.0002		U	0.000102		U	0.0002		U	0.0002		U	0.0002	
Benzo(a)Pyrene	2.00E-04	EPA MCL		U	0.000103		UH	0.000101		U	0.0002		U	0.000103		U	0.0002		U	0.0003		U	0.0002	
Dissolved Metals (mg/L)																								
Aluminum	5.00E+00	NMED GW Irrigation (20.6.2.3103.C)		U	0.01		U	0.01	0.00998	J	0.01	0.0141		0.01	0.00529	J	0.01	0.00809	J	0.01	0.0567		0.01	
Arsenic	1.00E-02	EPA MCL		U	0.005		U	0.005	0.00494	J	0.005		U	0.005	0.0025	J	0.01	0.00244	J	0.005	0.00148	J	0.005	0.0012
Barium	1.00E+00	NMED GW Human Health (20.6.2.3103.A)	0.0625		0.005	0.0607		0.005	0.0628		0.005	0.0573		0.005	0.0464		0.005	0.0563		0.005	0.0533		0.005	0.045
Boron	7.50E-01	NMED GW Irrigation (20.6.2.3103.C)	0.124		0.05	0.134		0.05	0.142		0.1	0.102		0.05	0.104		0.1	0.0934		0.05	0.109		0.25	
Cadmium	5.00E-03	EPA MCL		U	0.002		U	0.002		U	0.002		U	0.002		U	0.002		U	0.002		U	0.002	
Calcium	--								625		25				397		5	410		5	458		5	460
Chromium	5.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.005		U	0.005		U	0.01	0.00114	J	0.005		U	0.005	0.0016
Cobalt	5.00E-02	NMED GW Irrigation (20.6.2.3103.C)		U	0.005		U	0.005		U	0.005		U	0.005		U	0.01		U	0.005		U	0.005	
Copper	1.00E+00	NMED GW Irrigation (20.6.2.3103.C)		U	0.005		U	0.005	0.00177	J	0.005		U	0.005		U	0.01		U	0.005	0.00218	J	0.005	
Iron	1.00E+00	NMED GW Irrigation (20.6.2.3103.C)		U	0.2		U	0.2		U	0.2		U	0.2		U	0.4		U	0.2	0.113	J	0.2	
Lead	1.50E-02	EPA MCL		U	0.005		U	0.005		U	0.005		U	0.005		U	0.01		U	0.005		U	0.005	
Manganese	2.00E-01	NMED GW Domestic (20.6.2.3103.B)		U	0.005		U	0.005		U	0.005		U	0.005		U	0.01		U	0.005	0.0111		0.005	0.0013
Mercury	2.00E-03	NMED GW Human Health (20.6.2.3103.A)		U	0.0002		U	0.0002		U	0.0002		U	0.0002		U	0.0002		U	0.0002				
Molybdenum	1.00E+00	NMED GW Irrigation (20.6.2.3103.C)	0.00733		0.005	0.00881		0.005	0.0125		0.005	0.00907		0.005	0.00622		0.005	0.00604		0.005	0.00815		0.005	0.0084
Nickel	2.00E-01	NMED GW Irrigation (20.6.2.3103.C)		U	0.005		U	0.005	0.00264	J	0.005		U	0.005		U	0.01	0.00329	J	0.005	0.00127	J	0.005	0.0017
Potassium	--								4.41		0.2				2.91		0.2	2.72		0.2	3.04		0.2	1.4
Selenium	5.00E-02	NMED GW Human Health (20.6.2.3103.A)	0.00953		0.005	0.00622		0.005	0.013		0.005	0.00926		0.005	0.0075	J	0.01	0.00689		0.005	0.00482	J	0.005	0.0026
Silver	5.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.005		U	0.005		U	0.005		U	0.005		U	0.005		U	0.005		U	0.005	
Sodium	--								67.4		2.2				40.4		0.2	42.7		0.2	83.9		0.2	39
Uranium	3.00E-02	NMED GW Human Health (20.6.2.3103.A)		U	0.005	0.00532		0.005	0.00601		0.005	0.00536		0.005		U	0.01		U	0.005		U	0.005	0.0024
Zinc	1.00E+01	NMED GW Domestic (20.6.2.3103.B)	0.0117		0.005	0.011		0.005	0.0137		0.005	0.0085		0.005	0.00516	J	0.01	0.00672		0.005	0.00909		0.005	[illegible]
Radium (pCi/L)																								
Radium-226	--		0.58	LT	0.16	0.32	LT	0.21	NS			1.15		0.15	0.49	LT	0.24	0.46	LT	0.23	0.79	LT	0.1	0.599
Radium-228	--			U	0.55		U	0.62	NS				U	0.91		U	0.52		U	0.57	1.08		0.66	0.357
Radium-226 & Radium-228	5.00E+00	USEPA MCL	0.58			0.32			NS			1.15			0.49		0.76	0.46		[illegible]	1.86		0.76	0.951
Anions (mg/L)																								
Chloride	2.50E+02	NMED GW Domestic (20.6.2.3103.B)	47.7		0.5	282		25	67.5		0.5	232		25	20.2		0.5	61.1		0.5	134		25	[illegible]
Fluoride (F-, Anion)	1.60E+00	NMED GW Human Health (20.6.2.3103.A)	3.41		0.1	3.3		0.1	3.32		0.1	3.22		0.1	2.35		0.1	2.26		0.1	2.67		0.1	2.3
Nitrate/Nitrite	1.00E+00	NMED GW Human Health (20.6.2.3103.A)		U	0.1		U	0.1	3.22	H	0.1	2.12		0.1	2.21		2	1.56	H	0.03	1.08		1	1.2
Sulfate	6.00E+02	NMED GW Domestic (20.6.2.3103.B)	1620		50	1930		50	1690		25	1570		25	1080		50	1030		25	1240		25	1200
Cyanide	2.00E-01	EPA MCL		U	0.02		U	0.02		U	0.02		U	0.02	0.00487	J	0.02		U	0.02		U	0.02	
Total Dissolved Solids (mg/L)																								
Total Dissolved Solids	1.00E+03	NMED GW Domestic (20.6.2.3103.B)	3160		10	3850		10	3150		10	3300		10	2410		10	2290		10	2770		10	3460

Notes:

CGWSL is the lowest of the following sources:

New Mexico Water Quality Standards found in NMAC 20.6.2 [illegible]

If no value in NMAC 20.6.2.3103 was available, then the EPA [illegible]

TPH CGWSL is the "unknown oil" groundwater value from [illegible]

Bold, italic font with yellow highlighting indicates a result reported above [illegible]

RLs shown in italics font with gray highlighting exceed the CGWSL [illegible]

Blank cells indicate that the analyte was not detected at the RL shown. [illegible]

Metals concentration reported for 10/4/2012, 11/15/2012 and [illegible]

Screening level for radium is for combined Radium-226 and Radium-228 [illegible]

Total PAHs are defined in NMAC 20.6.2.3103 as naphthalene plus [illegible] Total PAHs concentration.

-- = No CGWSL is available

CGWSL = Critical Groundwater Screening Level

H = analyzed outside of holding time

J = estimated value. The result is less than the reporting limit but [illegible] method detection limit (MDL)

LCS = laboratory control sample

LT = the sample has a detection above the [illegible] below the [illegible]

MCL = maximum contaminant level

mg/L = milligrams per liter

NA = not applicable

NMAC = New Mexico Administrative Code

NMED GWQ = [illegible] New Mexico Environment Department [illegible]