GW - 028

2015 Annual Discharge Permit Report

PART 9 OF 16

March 2016

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				Project Nan			ᅱ			4	N.F	IA!	LY:	51	S [A	BC	R	1	OF	SA
Mailin	g Addre	ss: P.O. Bo	ox 159 Artesia,				187.50 e				WW	w.ha	allen	viror	ımeı	ntal.c	mos				
NM 88	211-01			Project #: P	nporary R.O. I	Reject								buqı	nerq	ue, N	IM B	7109	,		
Phone	#: 575-	748-3311						T	el. 5	05-3	45-3						i-41()7			
The section of the se		575-746-5	451	To		the same of the sa	_						Anal	ysis	Rec	ques	t				
	Package		,,-	Project Man	ager:									€							
X Star	•	2 1	The Lorent of Minds & Allert and the second					8						(Ra-226+Ra-228)							
			☐ Level 4 (Full Validation)	Robert Com	bs		VOCs.	SVOCs				0		Ra		l					
☐ Oth		***************************************		Sampler:	Elizabeth Sa	isberry	8	ે	tals	qe		ORO S		8					sp		
	Z (Type)		A STATE OF THE STA	On Ice:	X Yes	□ No] Ħ	isi	Ş	(an		DRO,		9.2					Sol		
**********	т	·		Sample Terr	perature: 4	<u>7,9°C</u>		႘	8	୍ର	Š	۵		(R	ride				ed		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 15080(03	8260B-WQCC	8270C: WQCC list	6010B WQCC Metals	335.4: Total Cyanide	7470: Mercury	8015: GRO,	8082: PCBs	Radicactivity	Sulfate Chloride	Phenois	Fluoride	Nitrate/Nitrite	Total Dissolved Solids		504.1.EDB
3315	0980	liquid	Temporary R.O. Reject	2 - 500ml P	1-unpres 1- H2SO4	-001	8	8	မ	3		80	_@	8	ν X	<u>a</u>	正 X	-			3
33-15	0430	liquid	Temporary R.O. Reject	3-40ml VOA			x							_	$\hat{}$		$\stackrel{\sim}{+}$	<u> </u>	<u> </u>	X	\dashv
3.315	0990	liquid	Temporary R.O. Reject	1-500ml P	HNO3		, sto				$\frac{1}{x}$			\neg			_	_	-	_	\dashv
88-15	0930	liquid	Temporary R.O. Reject	1-125mi P	HNO3				$\frac{1}{x}$	-	$\stackrel{\sim}{+}$		\dashv							-	_
8315	0930	liquid	Temporary R.O. Reject		NaOH		\Box	\dashv		x	_			_	\dashv	-	-	_	-	\dashv	-
3-3-15	020	liquid	Temporary R.O. Reject	2-1L P	ниоз		\vdash	\dashv	_		\dashv			X	_		-	_	+	\dashv	-
3-15	ලන	liquid	Temporary R.O. Reject	3-40ml VOA		1000000		+	\dashv	1	\dashv	\dashv	\dashv	$\stackrel{\sim}{+}$		\dashv	\dashv	\dashv	-	-	-
3-3-15	080	liguid	Temporary R.O. Reject	2 - 1L Glass		The second secon	I	\dashv	7		+	\dashv	X	-	\dashv	\dashv	\dashv	-	\dashv		<u> </u>
-3-15	ී	liquid	Tomporous D. O. Carrell	1 - 1L Glass			\Box	x	_		\dashv	\dashv	\dashv	+			\dashv		+	+	+
836	D930_	liquid	T	3-40ml VOA		Control of the Contro		T	\dashv	\neg	+	X	\dashv	\dashv		+	_	_		1	+
<u>8</u> ⋅3, 5	0930	liquid	Tomoreo, D.O. D.	1-250mlGlas:				\top				X					1	_	- -	_	+
839	0930	liquid	Temporary R.O. Reject	1 - 1L Glass	H2SO4			_		77		\top	-		_	X	+		\dashv	-	+
8-315 Date:	093 U Time:	liquid	Trip Blank	2-40ml VOA	HCL	<i>-00a</i>		_	-			-	-	\dashv		 +			- -	\perp	_
			by: Elizopeth Soulsbury	Received by:		Date Time	Remai														ㅗ
	10:3D	eeizal	sech dolopes	allen S	- G	3/04/15 0913	Metals:	As, Ai	Bo, I	B, Cc.	Cr, Co	Cu l	Fe. Pb	, Mm, I	Hg, Ne), NI, S	ie. Ag.	U. Zn			
	lime:	Relinquished		Received by:		Date Time	VOCs: Trichlor Dibromi Dichloro SVOCs	oethan pethan metha	ie, i i e: 1,2 ire; E	-Dichk -Dichk thylber	izene: moroe	Roylen ane, B Tolke	e 1,1- enzen: ne to	Cichic e: Carl tai Xui	proetha bon Ta lense	ane: 1. Strachi Moul (1 Dich oride:	iloroeth Chiorof	iene; 1 form;	1,2-	



Navajn Ref ining Congrany, ELC 503 E. Main Artesia, NM 88210 (Tel) 575,748 3311 (Fax) 575,746,5451

Monthly RO Reject Sample Details Attachment

#	
HOLLYFRONTIE	R

The HollyFrontier Companies

	Sample Type
Project Name Biannual RO Reject	CAN
Samplers Name Elizabeth Satsterny	Time Weighted Composite
Samplers Affiliation Navajo Refining Co. LLC	Flow Weighted Composite
Start Date and Time 8/3/2015 to 09/25	TOWN THE REAL PROPERTY CO.
End Date and Time @3/2015 @ 9:41	Parts / Sample Intervals One

Phys	ical Froperty
Solid	C.
Liquid	2
Sludge	Ţ.,

Type of Sampler Directly to sample jars

ample Location: U North Field R.O. Reject Discarge South Field R.O. Reject Discarge	

								Preservat	ives			
Container	Size	Material	# of Containers	Neat (None)	HCI	HNO3	H2SO4	NeOH	Na2S2O3	NaHS04	Other	
1	500m	Plastic	2	X		-	Y		***************************************	TABLE OF THE	UIRI I	Analysis and/or Method Requested
2	40ml	VOA	3		¥			 				pH, CI F, S04, NOZ/NO3, TDS
3	500mi	Plastic	1 1	PRINCE		+	The second second		ļ	**************************************		8015 GRO
4	125ml	Plastic	 			+÷-				or - Action of the Control of the Co		6020 total metals, 7470 Hg
5	500ml	Plastic		Mindred Co. Land		^_						6020 Dissolved Metals
6	1_	Plastic	2 2		ļ		-	X	·			Cyanide
7	40ml	VOA		Particular		X						Radium 226/228
8	1L	Glass				-					- Control of the Cont	8260 see attached list
9	1L	Glass	 		<u> </u>		TO PERSONAL PROPERTY.		~~~			8270 see attached list
10	40ml	VOA	 	<u> </u>		_	Co	ļ				8062 PCBs
11	40ml	VOA	+		***************************************							8015 DRC
1	701111	VUA	1 2		X							Radium 226/228

Field Data (Weather, Observations, Etc): 8/3/2015 Tmp, 80.6 °F, Humidity 58%, Wind Dir, NVI, Wind Speed 4.6 arph, Socialions Clear Date and Time:	Storage Method
	ice 🗹
Field Temp. 26.1°C Field pH 277	Refrigerated
The state of the s	Other
	Shipping Media
	Ice 🖸
	Other [



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

August 26, 2015

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

FAX

RE: Monthly R.O. Reject

OrderNo.: 1508065

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/4/2015 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1508065

Date Reported: 8/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

1508065-001

Project:

Lab ID:

Monthly R.O. Reject

Client Sample ID: R.O. Reject

Collection Date: 8/3/2015 10:10:00 AM Received Date: 8/4/2015 9:13:00 AM

Th. 14						
Result	RL (Qual	Units	DF	Date Analyzed	Batch
					Analyst	: DBD
ND	0.0050		mg/L	5	8/12/2015 8:24:51 PM	D2815
ND	0.00050		mg/L	1	8/11/2015 9:43:20 PM	R2811
0.0067	0.0010		mg/L	1	8/11/2015 9:43:20 PM	R2811
0.0047	0.00050		mg/L	1	8/11/2015 9:43:20 PM	R2811
A 228-SUBBE	D				Analyst	SUB
0.144	0.867		pCi/L	1	8/18/2015	R2845
0.448	0.867		pCi/L	1	8/18/2015	R28452
0.151	0.690		pCi/L	1	8/18/2015	R28452
0.313	0.690		pCi/L	1	8/18/2015	R28452
					Analyst	LGT
2.4	0.10		mg/L	1	8/4/2015 7:37:13 PM	R27968
230	10		mg/L	20	8/4/2015 7:49:37 PM	R27968
1.6	0.10		mg/L	1	8/4/2015 7:37:13 PM	R27968
1400	25		mg/L	50	8/14/2015 3:09:51 AM	R28192
OLIDS					Analyst	: KS
2860	20.0	*	mg/L	1	8/6/2015 8:33:00 PM	20626
)					Analyst	SUB
ND	0.0100		mg/L	1	8/12/2015	R28452
					Analyst	JRR
8.09	1.68	Н	pH units	1	8/6/2015 8:11:30 PM	R28029
TALS					Analyst	ELS
ND	0.020		ma/L	1	8/5/2015 9:52:54 PM	R27986
0.056	0.0020		mg/L	1	8/5/2015 9:52:54 PM	R27986
0.083	0.040		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.0020		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.0060		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.0060		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.0060		mg/L	1	8/6/2015 3:44:28 PM	C28013
ND	0.020		mg/L	1	8/7/2015 2:07:43 PM	R28044
ND	0.0020		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.0080		mg/L	1	8/5/2015 9:52:54 PM	R27986
ND	0.010		mg/L	-	8/5/2015 9:52:54 PM	R27986
ND	0.0050		mg/L	. 1	8/5/2015 9:52:54 PM	R27986
0.051	0.010		mg/L	1	8/6/2015 3:44:28 PM	C2801
					Analyst	JLF
ND	0.00020		mg/L	1	8/7/2015 2:04:07 PM	20665
	ND 0.0067 0.0047 A 228-SUBBE 0.144 0.448 0.151 0.313 2.4 230 1.6 1400 SOLIDS 2860 ND 8.09 TALS ND 0.056 0.083 ND	ND 0.00050 0.0067 0.0010 0.0047 0.00050 A 228-SUBBED 0.144 0.867 0.448 0.867 0.151 0.690 0.313 0.690 2.4 0.10 230 10 1.6 0.10 1400 25 SOLIDS 2860 20.0 ND 0.0100 8.09 1.68 TALS ND 0.020 0.083 0.040 ND 0.0020 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0020 ND 0.0050 ND 0.0050 0.051 0.010	ND 0.00050 0.0067 0.0010 0.0047 0.00050 A 228-SUBBED 0.144 0.867 0.448 0.867 0.151 0.690 0.313 0.690 2.4 0.10 230 10 1.6 0.10 1400 25 SOLIDS 2860 20.0 * ND 0.0100 8.09 1.68 H TALS ND 0.020 0.056 0.0020 0.083 0.040 ND 0.0020 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0060 ND 0.0020 ND 0.0050 0.051 0.010	ND 0.00050 mg/L 0.0067 0.0010 mg/L 0.0047 0.00050 mg/L A 228-SUBBED 0.144 0.867 pCi/L 0.448 0.867 pCi/L 0.151 0.690 pCi/L 0.313 0.690 pCi/L 2.4 0.10 mg/L 230 10 mg/L 1400 25 mg/L SOLIDS 2860 20.0 * mg/L ND 0.0100 mg/L 8.09 1.68 H pH units TALS ND 0.020 mg/L 0.083 0.040 mg/L ND 0.0020 mg/L ND 0.0060 mg/L	ND 0.00050 mg/L 1 0.0067 0.0010 mg/L 1 0.0047 0.00050 mg/L 1 A 228-SUBBED 0.144 0.867 pCi/L 1 0.448 0.867 pCi/L 1 0.151 0.690 pCi/L 1 0.313 0.690 pCi/L 1 2.4 0.10 mg/L 1 230 10 mg/L 20 1.6 0.10 mg/L 1 1400 25 mg/L 50 SOLIDS 2860 20.0 * mg/L 1 8.09 1.68 H pH units 1 TALS ND 0.020 mg/L 1 0.083 0.040 mg/L 1 ND 0.0060 mg/L 1	ND 0.00050 mg/L 1 8/11/2015 9:43:20 PM 0.0067 0.0010 mg/L 1 8/11/2015 9:43:20 PM 0.0047 0.00050 mg/L 1 8/11/2015 9:43:20 PM A 228-SUBBED 0.144 0.867 pCi/L 1 8/18/2015 0.151 0.690 pCi/L 1 8/18/2015 0.313 0.690 pCi/L 1 8/18/2015 7:37:13 PM 0.16 0.10 mg/L 20 8/4/2015 7:37:13 PM 0.16 0.10 mg/L 1 8/4/2015 7:37:13 PM 0.16 0.10 mg/L 1 8/4/2015 3:09:51 AM 0.10 0.10 0.25 mg/L 50 8/14/2015 3:09:51 AM 0.10 0.000 0.000 mg/L 1 8/6/2015 8:33:00 PM 0.10 0.0000 mg/L 1 8/6/2015 8:11:30 PM 0.10 0.0000 mg/L 1 8/5/2015 9:52:54 PM 0.056 0.0020 mg/L 1 8/5/2015 9:52:54 PM 0.056 0.0020 mg/L 1 8/5/2015 9:52:54 PM 0.056 0.0020 mg/L 1 8/5/2015 9:52:54 PM 0.0060 mg/L 1

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

Matrix: AQUEOUS

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1508065

Date Reported: 8/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Monthly R.O. Reject

Lab ID: 1508065-001

Client Sample ID: R.O. Reject

Collection Date: 8/3/2015 10:10:00 AM

Matrix: AQUEOUS Received Date: 8/4/2015 9:13:00 AM

Pack	Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch
Surr: BFB 103 70-130 9KREC 1 8/5/2015 8:34:25 PM R27991	EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: DJF
Page	Gasoline Range Organics (GRO)	0.072	0.050	mg/L	1	8/5/2015 8:34:25 PM	R27991
Page	Surr: BFB	103	70-130	%REC	1	8/5/2015 8:34:25 PM	R27991
PAMETHOD 8082: PCB'S	EPA METHOD 8011/504.1: EDB					Analys	t: JME
Aroclor 1016 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1221 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1232 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1242 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1248 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1250 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 EPA METHOD 8015M/D: DIESEL RANGE 1 8/10/2015 12:08:32 PM 20661 Diesel Range Organics (DRO) ND 5.0	1,2-Dibromoethane	ND	0.010	µg/L	1	8/7/2015 12:22:21 PM	20627
Aroclor 1221	EPA METHOD 8082: PCB'S					Analys	t: SCC
Aroclor 1232 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1242 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1248 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1260 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 \$ %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 \$ %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 MD 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 Pμg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(byrene ND 1.0 μg/L 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.2-Dichroroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.2-Dichroroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1.1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Aroclor 1016	ND	1.0	μg/L	1	8/10/2015 12:08:32 PM	A 20661
Aroclor 1242 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1248 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1260 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Aroclor 1221	ND	1.0		1	8/10/2015 12:08:32 PM	A 20661
Aroclor 1248 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1260 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 EPA METHOD 8015M/D: DIESEL RANGE Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/10/2015 10:49:51 AM 20677	Aroclor 1232	ND	1.0	μg/L	1	8/10/2015 12:08:32 PM	A 20661
Arcolor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1260 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 \$ %REC 1 8/10/2015 12:08:32 PM 20661 EPA METHOD 8015M/D: DIESEL RANGE Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 EPA METHOD 8310: PAHS ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Aroclor 1242	ND	1.0	μg/L	1	8/10/2015 12:08:32 PM	A 20661
Aroclor 1254 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Aroclor 1260 ND 1.0 μg/L 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 11:08:32 PM 20661 EPA METHOD 8015M/D: DIESEL RANGE *** Fanalyst: KJH Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 EPA METHOD 8310: PAHS *** Fanalyst: SCC Naphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677	Aroclor 1248	ND	1.0	μg/L	1	8/10/2015 12:08:32 PM	A 20661
Surr: Decachlorobiphenyl 90.0 44.5-110 %REC 1 8/10/2015 12:08:32 PM 20661 Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661 EPA METHOD 8015M/D: DIESEL RANGE In 8/5/2015 11:43:27 PM 20617 Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 EPA METHOD 8310: PAHS ** Tale METHOD 8310: PAHS ** Analyst: DECAMETHOD 8310: PAHS ** ND 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 ** Aphthalene ND 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 ** Legan METHOD 8310: PAHS *** ND 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 **	Aroclor 1254	ND	1.0		1	8/10/2015 12:08:32 PM	A 20661
Surr: Tetrachloro-m-xylene 108 31.8-95.7 S %REC 1 8/10/2015 12:08:32 PM 20661	Aroclor 1260	ND	1.0	μg/L	1	8/10/2015 12:08:32 PM	A 20661
Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/10/2015 10:49:51 AM 20617 Surri DNOP 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 µg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 0.070 µg/L 1 8/10/2015 10:49:51 AM 20677 3-Methylnaphthalene ND 0.070 µg/L 1 8/10/2015 10:49:51 AM 20677 3-Methylnaphthalene ND 0.070 µg/L 1 8/10/2015 10:49:51 AM 20677 3-Methylnaphthalene ND 0.070 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 3.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 3.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 3.0 µg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 3.0 µ	Surr: Decachlorobiphenyl	90.0	44.5-110	%REC	1	8/10/2015 12:08:32 PM	A 20661
Diesel Range Organics (DRO) ND 1.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 Surr: DNOP 200 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 3-Methylnaphthalene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 3-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM 20677 3-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnaphthalene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1-Methylnapht	Surr: Tetrachloro-m-xylene	108	31.8-95.7	S %REC	1	8/10/2015 12:08:32 PM	A 20661
Motor Oil Range Organics (MRO) ND 5.0 mg/L 1 8/5/2015 11:43:27 PM 20617 20:617 20:617 Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617 20:617 EPA METHOD 8310: PAHS ** Canalyst: SCC Naphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES ***********************************	EPA METHOD 8015M/D: DIESEL RA	NGE				Analys	t: KJH
Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617	Diesel Range Organics (DRO)	ND	1.0	mg/L	1	8/5/2015 11:43:27 PM	20617
Surr: DNOP 102 72-136 %REC 1 8/5/2015 11:43:27 PM 20617	Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	8/5/2015 11:43:27 PM	20617
Naphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Analyst: DJF Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM 827991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM 827991 Ethylbenzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM 827991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM 827991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM	Surr: DNOP	102	72-136		1	8/5/2015 11:43:27 PM	20617
1-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-2,2-Tetrachloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991	EPA METHOD 8310: PAHS					Analys	t: SCC
2-Methylnaphthalene ND 2.0 μg/L 1 8/10/2015 10:49:51 AM 20677 Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Naphthalene	ND	2.0	μg/L	1	8/10/2015 10:49:51 AM	A 20677
Benzo(a)pyrene ND 0.070 μg/L 1 8/10/2015 10:49:51 AM 20677 Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Analyst: DJF Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Ethylbenzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1	1-Methylnaphthalene	ND	2.0	μg/L	1	8/10/2015 10:49:51 AN	A 20677
Surr: Benzo(e)pyrene 75.6 37.2-136 %REC 1 8/10/2015 10:49:51 AM 20677 EPA METHOD 8260B: VOLATILES Benzene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 Ethylbenzene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 3.0 µg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 µg/L 1 8/5/2015 8:34:25 PM R27991	2-Methylnaphthalene	ND	2.0	μg/L	1	8/10/2015 10:49:51 AM	A 20677
EPA METHOD 8260B: VOLATILES Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Ethylbenzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Benzo(a)pyrene	ND	0.070	μg/L	1	8/10/2015 10:49:51 AM	A 20677
Benzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Ethylbenzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Surr: Benzo(e)pyrene	75.6	37.2-136	%REC	1	8/10/2015 10:49:51 AM	A 20677
Toluene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane	EPA METHOD 8260B: VOLATILES					Analys	t: DJF
Ethylbenzene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Benzene	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
1,2-Dichloroethane (EDC) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Toluene	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
1,2-Dibromoethane (EDB) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethene ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Ethylbenzene	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Carbon Tetrachloride ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Chloroform ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1-Dichloroethane ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Carbon Tetrachloride	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
1,1-Dichloroethene ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991 Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	Chloroform	ND	1.0		.1	8/5/2015 8:34:25 PM	R27991
Methylene Chloride ND 3.0 μg/L 1 8/5/2015 8:34:25 PM R27991 1,1,2,2-Tetrachloroethane ND 2.0 μg/L 1 8/5/2015 8:34:25 PM R27991	1,1-Dichloroethane	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
1,1,2,2-Tetrachloroethane ND 2.0 µg/L 1 8/5/2015 8:34:25 PM R27991	1,1-Dichloroethene	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
	Methylene Chloride	ND	3.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Tetrachloroethene (PCE) ND 1.0 μg/L 1 8/5/2015 8:34:25 PM R27991	1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
	Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1508065

Date Reported: 8/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Monthly R.O. Reject

1508065-001

Lab ID:

Client Sample ID: R.O. Reject

Collection Date: 8/3/2015 10:10:00 AM **Received Date:** 8/4/2015 9:13:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: DJF
1,1,1-Trichtoroethane	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Vinyl chloride	ND	1.0	μg/L	1	8/5/2015 8:34:25 PM	R27991
Xylenes, Total	ND	1.5	μg/L	1	8/5/2015 8:34:25 PM	R27991
Surr: 1,2-Dichloroethane-d4	96.6	70-130	%REC	1	8/5/2015 8:34:25 PM	R27991
Surr: 4-Bromofluorobenzerie	112	70-130	%REC	1	8/5/2015 8:34:25 PM	R27991
Surr: Dibromofluoromethane	107	70-130	%REC	1	8/5/2015 8:34:25 PM	R27991
Surr: Toluene-d8	104	70-130	%REC	1	8/5/2015 8:34:25 PM	R27991
TOTAL PHENOLICS BY SW-846 9067					Analys	t: SCC
Phenolics, Total Recoverable	ND	2.5	μg/L	1	8/6/2015	20629

Matrix: AQUEOUS

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1508065

Date Reported: 8/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project:

Monthly R.O. Reject

Collection Date:

Lab ID:

1508065-002

Matrix: TRIP BLANK

Received Date: 8/4/2015 9:13:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: DJF
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	8/5/2015 9:02:06 PM	R2799
Surr: BFB	97.5	70-130	%REC	1	8/5/2015 9:02:06 PM	R2799
EPA METHOD 8011/504.1: EDB					Analys	t: JME
1,2-Dibromoethane	ND	0.010	μg/L	1	8/7/2015 1:04:28 PM	20627
EPA METHOD 8260B: VOLATILES					Analys	t: DJF
Benzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Toluene	ND	1.0	μg/L	. 1	8/5/2015 9:02:06 PM	R2799
Ethylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Naphthalene	ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1-Methylnaphthalene	ND	4.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
2-Methylnaphthalene	ND	4.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Acetone	ND	10	μg/L	1	8/5/2015 9:02:06 PM	R2799
Bromobenzene	ND	1.0	μg/L	- 1	8/5/2015 9:02:06 PM	R2799
Bromodichloromethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Bromoform	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Bromomethane	ND	3.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
2-Butanone	ND	10	μg/L	1	8/5/2015 9:02:06 PM	R2799
Carbon disulfide	ND	10	μg/L	1	8/5/2015 9:02:06 PM	R2799
Carbon Tetrachloride	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Chlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Chloroethane	ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Chloroform	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Chloromethane	ND	3.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
2-Chlorotoluene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
4-Chlorotoluene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
cis-1,2-DCE	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Dibromochloromethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
Dibromomethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,2-Dichlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,3-Dichlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799
1,4-Dichlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R2799

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1508065

Date Reported: 8/26/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project: Monthly R.O. Reject

Collection Date:

Lab ID: 1508065-002

Matrix: TRIP BLANK

Received Date: 8/4/2015 9:13:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: DJF
Dichlorodifluoromethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1-Dichloroethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1-Dichloroethene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,2-Dichloropropane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,3-Dichloropropane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
2,2-Dichloropropane	ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1-Dichloropropene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Hexachlorobutadiene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
2-Hexanone	ND	10	μg/L	1	8/5/2015 9:02:06 PM	R27991
Isopropylbenzene	N D	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
4-Isopropyltoluene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
4-Methyl-2-pentanone	ND	10	μg/L	1	8/5/2015 9:02:06 PM	R27991
Methylene Chloride	ND	3.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
n-Butylbenzene	ND	3.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
n-Propylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
sec-Butylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Styrene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
tert-Butylbenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1,1,2-Tetrachloroethane	ND	1.0	μ g/L	1	8/5/2015 9:02:06 PM	R27991
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
trans-1,2-DCE	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1,1-Trichloroethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,1,2-Trichloroethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Trichloroethene (TCE)	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Trichlorofluoromethane	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
1,2,3-Trichloropropane	. ND	2.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Vinyl chloride	ND	1.0	μg/L	1	8/5/2015 9:02:06 PM	R27991
Xylenes, Total	ND	1.5	μg/L	1	8/5/2015 9:02:06 PM	R27991
Surr: 1,2-Dichloroethane-d4	104	70-130	%REC	1	8/5/2015 9:02:06 PM	R27991
Surr: 4-Bromofluorobenzene	106	70-130	%REC	1	8/5/2015 9:02:06 PM	R27991
Surr: Dibromofluoromethane	109	70-130	%REC	1	8/5/2015 9:02:06 PM	R27991
Surr: Toluene-d8	102	70-130	%REC	1	8/5/2015 9:02:06 PM	R27991

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 26
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB	Samp	Type: ME	BLK	Tes	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Batc	h ID: R2	7986	F	RunNo: 2	7986					
Prep Date:	Analysis [Date: 8/	5/2015	8	SeqNo: 8	42241	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									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Cobalt	ND	0.0060									
Manganese	ND	0.0020									
Molybdenum	ND	0.0080									
Nickel	ND	0.010									
Silver	ND	0.0050									

Sample ID LCS	Samp	Type: LC	S	Tes	ls					
Client ID: LCSW	Bato	h ID: R2	7986	F	RunNo: 2	7986				
Prep Date:	Analysis I	Date: 8/	5/2015	S	SeqNo: 8	42242	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	104	85	115			
Barium	0.49	0.0020	0.5000	0	98.4	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.2	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.6	85	115			
Manganese	0.48	0.0020	0.5000	0	95.6	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.47	0.010	0.5000	. 0	94.3	85	115			
Silver	0.10	0.0050	0.1000	0	99.7	85	115			

Sample ID LLLCS	Samp	Type: LC	SLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Bato	h ID: R2	7986	F	RunNo: 2	7986						
Prep Date:	Analysis	Date: 8/	5/2015	S	SeqNo: 8	42243	Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Aluminum	ND	0.020	0.01000	0	115	50	150		-			
Barium	ND	0.0020	0.002000	0	85.0	50	150					
Boron	ND	0.040	0.04000	0	97.3	50	150					
Cadmium	ND	0.0020	0.002000	0	95.5	50	150					
Chromium	0.0062	0.0060	0.006000	0	104	50	150					
Cobalt	ND	0.0060	0.006000	0	99.3	50	150					
Manganese	0.0026	0.0020	0.002000	0	131	50	150					
Molybdenum	0.0087	0.0080	0.008000	0	109	50	150					

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 6 of 26

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID LLLCS	Samp	Гуре: LC	SLL	Test	İs					
Client ID: BatchQC	Bato	h ID: R2	7986	R	RunNo: 2	7986				
Prep Date:	Analysis I	Date: 8/	5/2015	SeqNo: 842243			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Quai
Nickel	ND	0.010	0.005000	0	93.4	50	150			
Silver	ND	0.0050	0.005000	0	93.8	50	150			

Sample ID MB	Samp	Type: ME	BLK	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Bato	h ID: R2	7986	F	RunNo: 2	7986				
Prep Date:	Analysis I	Date: 8/	5/2015	8	SeqNo: 8	42244	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								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								

Sample ID LCS	Samp	Type: LC	s	Tes	TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW	Bato	h ID: R2	7986	F	RunNo: 2	7986				
Prep Date:	Analysis I	Date: 8/	5/2015	S	SeqNo: 8	42245	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	103	85	115			
Barium	0.50	0.0020	0.5000	0	99.0	85	115			
Boron	0.51	0.040	0.5000	0	103	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.2	85	115			
Chromium	0.49	0.0060	0.5000	0	98.2	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.6	85	115			
Manganese	0.48	0.0020	0.5000	0	96.3	85	115			
Molybdenum	0.51	0.0080	0.5000	0	103	85	115			
Nickel	0.47	0.010	0.5000	0	94.8	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			

Sample ID LLLCS	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals	
Client ID: BatchQC	Batch ID: R27986	RunNo: 27986	
Prep Date:	Analysis Date: 8/5/2015	SeqNo: 842246 Units: mg/L	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua	ai

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Alialyte detected below quantitation

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P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508065**

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

i rojeci.	William	y K.O. Keje									
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	BatchQC	Bato	ch ID: R2	7986	F	RunNo: 2	27986				
Prep Date:		Analysis	Date: 8/	5/2015	S	SeqNo: 8	342246	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		ND	0.020	0.01000	0	112	50	150			
Barium		ND	0.0020	0.002000	0	98.5	50	150			
Boron		ND	0.040	0.04000	. 0	99.7	50	150			
Cadmium		ND	0.0020	0.002000	. 0	77.5	50	150			
Chromium		0.0062	0.0060	0.006000	0	103	50	150			
Cobalt		ND	0.0060	0.006000	0	99.8	50	150			
Manganese		0.0021	0.0020	0.002000	0	104	50	150			
Molybdenum		0.0093	0.0080	0.008000	0	116	50	150			
Nickel		ND	0.010	0.005000	0	97.4	50	150			
Silver		ND	0.0050	0.005000	0	95.4	50	150			
Sample ID	MB	Samp	Туре: М	BLK	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	PBW	Bate	ch ID: C2	8013	RunNo: 28013						
Prep Date:		Analysis	Date: 8/	6/2015	s	SeqNo: 8	343253	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper		ND	0.0060								
Zinc		ND	0.010								
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	LCSW	Bato	ch ID: C2	8013	F	RunNo: 2	28013				
Prep Date:		Analysis	Date: 8/	6/2015	s	SeqNo: 8	343254	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Соррег		0.50	0.0060	0.5000	0	99.7	85	115			
Zinc		0.50	0.010	0.5000	0	101	85	115			
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	İs	
Client ID:	BatchQC	Bate	ch ID: C2	8013	F	RunNo: 2	28013				
Prep Date:		Analysis	Date: 8/	6/2015	. 8	SeqNo: 8	343255	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Соррег		0.0063	0.0060	0.006000	0	105	50	150			
Zinc		ND	0.010	0.005000	0	128	50	150			
Sample ID	МВ	Samp	Туре: МІ	BLK	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	PBW	Bate	ch ID: R2	8044	F	RunNo: 2	28044				
Prep Date:		Analysis	Date: 8	7/2015	\$	SeqNo: 8	344435	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 8 of 26

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample	ID	MB
--------	----	----

SampType: MBLK

TestCode: EPA Method 200.7: Dissolved Metals

Client ID:

PBW

Batch ID: R28044

RunNo: 28044

Prep Date:

Analysis Date: 8/7/2015

SeqNo: 844435 Units: mg/L

Qual

Analyte

SPK value SPK Ref Val %REC LowLimit

HighLimit

RPDLimit

Iron

0.020

Sample ID LCS

SampType: LCS

TestCode: EPA Method 200.7: Dissolved Metals

RunNo: 28044

102

Client ID: Prep Date:

Batch ID: R28044 Analysis Date: 8/7/2015

SeqNo: 844436

Units: mg/L

%RPD

%RPD

Analyte

Result 0.51 **PQL**

0.5000

0.02000

%REC SPK value SPK Ref Val

LowLimit HighLimit **RPDLimit** Qual

Sample ID LLLCS

SampType: LCSLL

TestCode: EPA Method 200.7: Dissolved Metals

50

150

115

Client ID: Prep Date:

BatchQC

Batch ID: R28044 Analysis Date: 8/7/2015

0.020

RunNo: 28044 SeqNo: 844437

Units: mg/L

Analyte Iron

Result 0.026 POL

SPK value SPK Ref Val %REC

LowLimit

%RPD HighLimit

RPDLimit

Qual

Sample ID MB

Prep Date:

SampType: MBLK

TestCode: EPA Method 200.7: Dissolved Metals

131

Client ID: PBW Batch ID: R28044

0.020

RunNo: 28044 SeqNo: 844438

Units: mg/L

HighLimit

RPDLimit

Qual

Analyte Iron

Result

ND 0.020

Analysis Date: 8/7/2015

TestCode: EPA Method 200.7: Dissolved Metals

Sample ID LCS Client ID: LCSW

SampType: LCS Batch ID: R28044

Result

0.49

SPK value SPK Ref Val

SPK value SPK Ref Val

0.5000

RunNo: 28044

%REC LowLimit

Prep Date:

Analysis Date: 8/7/2015 **PQL**

0.020

Batch ID: R28044

SeqNo: 844439

Units: mg/L

%REC

99.0

RunNo: 28044

%RPD

%RPD

RPDLimit Qual

Analyte Iron

HighLimit 85 115

Sample ID LLLCS

Client ID: BatchQC

SampType: LCSLL

TestCode: EPA Method 200.7: Dissolved Metals

150

Prep Date:

Analysis Date: 8/7/2015

٥

SeqNo: 844440

Units: mg/L

HighLimit

RPDLimit Qual

Page 9 of 26

Analyte Iron

Result POL 0.020 0.020

0.02000

SPK value SPK Ref Val %REC LowLimit 101

%RPD

- Qualifiers: Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit R RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank В
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID	1508065-001GMS	Samı	Type: MS	•	Test	Code: El	PA 200.8: [Dissolved Me	tals		
Client ID:	R.O. Reject	Bat	ch ID: R2	8115	· R	unNo: 2	8115				
Prep Date:		Analysis	Date: 8/	11/2015	S	eqNo: 8	47552	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		0.013	0.00050	0.01250	0	107	70	130			
Selenium		0.031	0.0010	0.02500	0.006711	99.1	70	130			
Uranium		0.019	0.00050	0.01250	0.004729	117	70	130			
Sample ID	1508065-001GMSE) Samp	Type: MS	SD.	Test	Code: El	PA 200.8: [Dissolved Me	tals		
Client ID:	R.O. Reject	Bat	ch ID: R2	8115	R	unNo: 2	8115				
Prep Date:		Analysis	Date: 8/	11/2015	S	eqNo: 8	47553	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		0.013	0.00050	0.01250	0	105	70	130	2.13	20	
Selenium		0.032	0.0010	0.02500	0.006711	100	70	130	0.805	20	
Uranium		0.019	0.00050	0.01250	0.004729	115	70	130	1.42	20	
Sample ID	LCS	Samı	Type: LC	S	Test	Code: El	PA 200.8: [Dissolved Me	tals		
Client ID:	LCSW	Bat	ch ID: R2	8115	R	unNo: 2	8115				
			Date: 8/	44/2045		anlla. O	47560	Units: mg/L			
Prep Date:		Analysis	Date. U	11/2013	•	eqivo. o	4,000				
Prep Date: Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Lead		Result		SPK value 0.01250		%REC 99.5	LowLimit 85	HighLimit		RPDLimit	Qual
Analyte Lead		Result	PQL	SPK value 0.01250 0.02500	SPK Ref Val	%REC 99.5 101	LowLimit	HighLimit 115 115		RPDLimit	Qual
Analyte Lead Selenium		Result 0.012 0.025	PQL 0.00050	SPK value 0.01250	SPK Ref Val	%REC 99.5	LowLimit 85	HighLimit		RPDLimit	Qual
Analyte	LCS	Result 0.012 0.025 0.012	PQL 0.00050 0.0010	SPK value 0.01250 0.02500 0.01250	SPK Ref Val 0 0 0	%REC 99.5 101 99.9	LowLimit 85 85 85	HighLimit 115 115	%RPD	RPDLimit	Qual
Analyte Lead Selenium Uranium		Result 0.012 0.025 0.012 Samp	PQL 0.00050 0.0010 0.00050	SPK value 0.01250 0.02500 0.01250	SPK Ref Val 0 0 0	%REC 99.5 101 99.9	LowLimit 85 85 85 85 PA 200.8: [HighLimit 115 115 115	%RPD	RPDLimit	Qual
Analyte Lead Selenium Uranium Sample ID		Result 0.012 0.025 0.012 Samp	PQL 0.00050 0.0010 0.00050 DType: LC	SPK value 0.01250 0.02500 0.01250 S 8115	SPK Ref Val 0 0 0 Test	%REC 99.5 101 99.9	LowLimit 85 85 85 85 PA 200.8: [HighLimit 115 115 115	%RPD	RPDLimit	Qual
Analyte Lead Selenium Uranium Sample ID Client ID:		Result 0.012 0.025 0.012 Samp	PQL 0.00050 0.0010 0.00050 DType: LC	SPK value 0.01250 0.02500 0.01250 S 8115 11/2015	SPK Ref Val 0 0 0 Test	%REC 99.5 101 99.9 Code: El	LowLimit 85 85 85 85 PA 200.8: [HighLimit 115 115 115 115	%RPD	RPDLimit RPDLimit	Qual
Analyte Lead Selenium Uranium Sample ID Client ID: Prep Date: Analyte		Result 0.012 0.025 0.012 Samp Bat Analysis Result	PQL 0.00050 0.0010 0.00050 DType: LC ch ID: R2 Date: 8/	SPK value 0.01250 0.02500 0.01250 S 8115 11/2015	SPK Ref Val 0 0 0 Test	%REC 99.5 101 99.9 Code: El tunNo: 2	LowLimit 85 85 85 87 87 88 81 81 81 81 81 81	HighLimit 115 115 115 115 Uissolved Me	%RPD		
Analyte Lead Selenium Uranium Sample ID Client ID: Prep Date:		Result 0.012 0.025 0.012 Samp Bat Analysis Result	PQL 0.00050 0.0010 0.00050 Type: LC ch ID: R2 Date: 8/	SPK value 0.01250 0.02500 0.01250 S 8115 11/2015 SPK value	SPK Ref Val 0 0 0 Test R S	%REC 99.5 101 99.9 Code: El unNo: 2 eqNo: 8	85 85 85 85 PA 200.8: [8115 47561 LowLimit	HighLimit 115 115 115 115 Dissolved Me Units: mg/L HighLimit	%RPD		
Analyte Lead Selenium Uranium Sample ID Client ID: Prep Date: Analyte Lead		Result 0.012 0.025 0.012 Samp Bat Analysis Result 0.012 0.025	PQL 0.00050 0.0010 0.00050 Type: LC ch ID: R2 Date: 8/ PQL 0.00050	SPK value 0.01250 0.02500 0.01250 S 8115 11/2015 SPK value 0.01250	SPK Ref Val 0 0 0 Test R S SPK Ref Val 0	%REC 99.5 101 99.9 Code: ElunNo: 2 teqNo: 8 %REC 98.8	85 85 85 85 PA 200.8: [8115 47561 LowLimit	HighLimit 115 115 115 115 Dissolved Me Units: mg/L HighLimit 115	%RPD		

Qualifiers:

Client ID:

Prep Date:

Analyte

Selenium

Uranium

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

BatchQC

H Holding times for preparation or analysis exceeded

Batch ID: R28115

PQL

0.00050

0.0010

0.00051 0.00050 0.0005000

SPK value SPK Ref Val

0.0005000

0.001000

Analysis Date: 8/11/2015

0.00051

0.0010

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

LowLimit

50

50

E Value above quantitation range

RunNo: 28115

SeqNo: 847562

103

103

103

%REC

0

0

0

Units: mg/L

HighLimit

150

150

150

%RPD

J Analyte detected below quantitation limits

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RPDLimit

Qual

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:	Monthly	R.O. Rej	ect							•	
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: E	PA 200.8: [Dissolved Met	als		
Client ID:	BatchQC	Bat	ch ID: R2	8115	F	RunNo: 2	8115				
Prep Date:		Analysis	Date: 8/	11/2015	\$	SeqNo: 8	47563	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		0.00053	0.00050	0.0005000	0	105	50	150	-		
Selenium		0.0011	0.0010	0.001000	0	113	50	150			
Uranium		0.00052	0.00050	0.0005000	0	104	50	150			
Sample ID	МВ	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA 200.8: [Dissolved Met	als		
Client ID:	PBW	Bat	ch ID: R2	8115	F	RunNo: 2	8115				
Prep Date:		Analysis	Date: 8/	11/2015	5	SeqNo: 8	47564	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		ND	0.00050								
Selenium		ND	0.0010								
Uranium	,,,,	ND	0.00050			_					
Sample ID	МВ	Samp	туре: МЕ	BLK	Tes	tCode: E	PA 200.8: [Dissolved Met	als		
Client ID:	PBW	Bat	ch ID: R2	8115	F	RunNo: 2	8115				
Prep Date:		Analysis	Date: 8/	11/2015	8	SeqNo: 8	47565	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		ND	0.00050								
Selenium		ND	0.0010								
Uranium		ND	0.00050								
Sample ID	1508065-001GMS	Samp	оТуре: М \$	3	Tes	tCode: E	PA 200.8: [Dissolved Met	als		
Client ID:	R.O. Reject	Bat	ch ID: D2	8151	, F	RunNo: 2	8151				
Prep Date:		Analysis	Date: 8/	12/2015	5	SeqNo: 8	48111	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.12	0.0050	0.1250	0.001284	97.9	70	130	·		
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: E	PA 200.8: [Dissolved Met	als		
Client ID:	LCSW	Bat	ch ID: D2	8151	F	RunNo: 2	8151				
Prep Date:		Analysis	Date: 8/	12/2015	5	SeqNo: 8	48117	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- \mathbf{R} RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID LLLCS

SampType: LCSLL

TestCode: EPA 200.8: Dissolved Metals

50

LowLimit

Client ID: BatchQC

Batch ID: D28151

RunNo: 28151

Prep Date:

Sample ID MB

Client ID: PBW

Analysis Date: 8/12/2015

SeqNo: 848119

%REC

Units: mg/L

Analyte

PQL

SPK value SPK Ref Val

Qual

Result

104

HighLimit 150

RPDLimit

Arsenic

0.0010

Result

0.0010 0.001000

TestCode: EPA 200.8: Dissolved Metals

RunNo: 28151

SeqNo: 848122

Units: mg/L

Prep Date: Analyte

Analysis Date: 8/12/2015

SPK value SPK Ref Val %REC LowLimit

HighLimit %RPD

%RPD

RPDLimit

Qual

Arsenic

ND 0.0010

SampType: MBLK

Batch ID: D28151

PQL

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 12 of 26

P Sample pH Not In Range

Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

RPDLimit

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20665

SampType: MBLK

TestCode: EPA Method 245.1: Mercury

Client ID: PBW

Batch ID: 20665

RunNo: 28038

Prep Date: 8/7/2015

Analysis Date: 8/7/2015

SeqNo: 844199

Units: mg/L

HighLimit

Analyte Mercury

PQL ND 0.00020

Sample ID LCS-20665

SampType: LCS

TestCode: EPA Method 245.1: Mercury

Client ID: LCSW

Batch ID: 20665

RunNo: 28038

Prep Date: 8/7/2015

Analysis Date: 8/7/2015

SeqNo: 844200

Units: mg/L

Analyte

PQL SPK value SPK Ref Val

%REC

SPK value SPK Ref Val %REC LowLimit

HighLimit LowLimit

%RPD **RPDLimit** Qual

Qual

Mercury

0.0050 0.00020 0.005000

99.8

120

%RPD

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 13 of 26

Sample pH Not In Range

Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB	Samp1	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	300.0: Anion	5		
Client ID: PBW	Batc	h ID: R2	7968	F	RunNo: 2	7968				
Prep Date:	Analysis D	Date: 8/	5/2015	\$	SeqNo: 8	41566	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	Samp	Type: LC	s	Tes	tCode: E	PA Method	300.0: Anion	s		
Client ID: LCSW	Batc	h ID: R2	7968	· F	RunNo: 2	7968				
Prep Date:	Analysis D	Date: 8/	5/2015	S	SeqNo: 8	41567	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.8	0.50	5.000	0	96.4	90	110			,
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sample ID MB	Samp	Гуре: МЕ	3LK	TestCode: EPA Method 300.0: Anions						

Sample ID	MB	SampT	ype: ME	3LK	Tes	tCode: El	PA Method	300.0: Anion:	s			
Client ID:	PBW	Batch	ID: R2	8192	F	RunNo: 2	8192					
Prep Date:		Analysis D	ate: 8/	13/2015		SeqNo: 8	49498	Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Sulfate	***	ND	0.50									

Sample ID LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	300.0: Anion	S			
Client ID: LCSW	Batch	ID: R2	8192	F	RunNo: 2	8192					
Prep Date:	Analysis D	ate: 8/	13/2015	S	SeqNo: 8	49499	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Sulfate	9.9	0.50	10.00	0	99.0	90	110				

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 14 of 26

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20627

SampType: MBLK

TestCode: EPA Method 8011/504.1: EDB

Client ID:

PBW

Batch ID: 20627

RunNo: 28045

Prep Date: 8/6/2015 Analysis Date: 8/7/2015

SeqNo: 844775

Units: µg/L

Qual

Analyte

Client ID:

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

RPDLimit

1,2-Dibromoethane

0.010

Sample ID LCS-20627

SampType: LCS

TestCode: EPA Method 8011/504.1: EDB

Batch ID: 20627

RunNo: 28045

Prep Date:

8/6/2015

Analysis Date: 8/7/2015

SeqNo: 844776

Units: µg/L

%RPD

Analyte 1,2-Dibromoethane Result 0.11

PQL 0.010

SPK value SPK Ref Val %REC 0.1000 110

LowLimit HighLimit **RPDLimit** Qual

Sample ID 1508065-001BMS

SampType: MS

TestCode: EPA Method 8011/504.1: EDB

Client ID: R.O. Reject

Batch ID: 20627

RunNo: 28045

%RPD

Analyte

Prep Date: 8/6/2015

Analysis Date: 8/7/2015

SeqNo: 844786

Units: µg/L

Result

Result

0.14

PQL

%REC

HighLimit

RPDLimit

Qual

1,2-Dibromoethane

0.13

SPK value SPK Ref Val 0.010 0.1000

Ö 127 LowLimit 45.7 164

Sample ID 1508065-001BMSD

Prep Date: 8/6/2015

SampType: MSD

TestCode: EPA Method 8011/504.1: EDB

Client ID:

R.O. Reject

Batch ID: 20627 Analysis Date: 8/7/2015 RunNo: 28045 SeqNo: 844787

Units: µg/L

Analyte

PQL

SPK value SPK Ref Val

O

%REC

LowLimit 45.7 HighLimit

%RPD

RPDLimit Qual

1,2-Dibromoethane

0.010

0.1000

135

164

6.11

20

Qualifiers:

Sample Diluted Due to Matrix D

% Recovery outside of range due to dilution or matrix

R RPD outside accepted recovery limits

Value exceeds Maximum Contaminant Level.

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank В

E Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Detection Limit

Value above quantitation range Page 15 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID LCS-20617	SampT	ype: LC	s	Tes	Code: E	PA Method	8015M/D: Di	esel Rang	e	
Client ID: LCSW	Batch	1D: 20	617	F	RunNo: 2	7957				
Prep Date: 8/5/2015	Analysis D	5/2015	s	eqNo: 8	42448	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	60.1	156			
Surr: DNOP	0.52		0.5000		104	72	136			

Sample ID MB-20617	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e	
Client ID: PBW	Batch	n ID: 20	617	F	RunNo: 2	7957				
Prep Date: 8/5/2015	Analysis D	ate: 8/	5/2015	S	SeqNo: 8	42468	Units: mg/L	ı		
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	0.95		1.000		95.5	72	136			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20661	Samp	Гуре: МІ	BLK	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: PBW	Batc	h ID: 20	661	F	RunNo: 2	8049				
Prep Date: 8/7/2015	Analysis [Date: 8/	10/2015	\$	SeqNo: 8	45110	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								
Arodor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	1.8		2.500		73.6	44.5	110			
Surr: Tetrachloro-m-xylene	2.3		2.500		90.4	31.8	95.7			
Sample ID LCS-20661	Samp	ype: LC	s	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSW	Batc	h ID: 20	661	·F	RunNo: 2	8049				
Prep Date: 8/7/2015	Analysis [Date: 8/	10/2015	5	SeqNo: 8	45133	Units: µg/L			
Analida	DK	DOI	ODK	0040 044	N DEO		10 111 11	0/ DDD	DDD1: 11	<u> </u>

Sample ID LCS-20661	SampT	ype: LC	s	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSW	Batch	n ID: 20	661	·F	RunNo: 2	8049				
Prep Date: 8/7/2015	Analysis D)ate: 8/	10/2015	S	SeqNo: 8	45133	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	5.9	1.0	5.000	0	117	9.01	142			
Aroclor 1260	6.0	1.0	5.000	0	119	25.6	164			
Surr: Decachlorobiphenyl	2.2		2.500		89.2	44.5	110			
Surr: Tetrachloro-m-xvlene	27		2 500		107	31.8	95.7			S

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: R2	7991	F	RunNo: 2	7991				
Prep Date:	Analysis D	ate: 8/	5/2015	\$	SeqNo: 8	42681	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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
·										
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
 - Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batcl	n ID: R2	7991	F	RunNo: 2	7991				
Prep Date:	Analysis E	Date: 8/	5/2015	S	SeqNo: 8	42681	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	12		10.00		116	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID 100ng Ics	SampT	ype: LC	s	Tes	tCode: El	ATILES				
Client ID: LCSW	Batch	n ID: R2	7991	F	RunNo: 2	7991				
Prep Date:	Date: Analysis Date: 8/5/2015				SeqNo: 8	42682	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	98.4	7 0	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID 100ng ics	SampT	ype: LC	s	TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch	1D: R2	7991	F	RunNo: 2	7991				
Prep Date:	Analysis D	Analysis Date: 8/5/2015			SeqNo: 8	42682	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			•
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.9	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	10		10.00		105	7 0	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

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- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20677	Sampl	ype: ME	BLK	Tes	tCode: E	PA Method	8310: PAHs			
Client ID: PBW	Batcl	h ID: 20	677	F	RunNo: 2	8051				
Prep Date: 8/10/2015	Analysis D	Date: 8/	10/2015	S	SeqNo: 8	44835	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	2.0								
i-Methylnaphthalene	ND	2.0								
2-Methylnaphthalene	ND	2.0								
Benzo(a)pyrene	ND	0.070								
Surr: Benzo(e)pyrene	14		20.00		68.8	37.2	136			

Sample ID LCS-20677	Samp	ype: LC	s	Tes	tCode: E	PA Method	8310: PAHs			
Client ID: LCSW	Batc	n ID: 20	677	F	RunNo: 2	8051				
Prep Date: 8/10/2015	Analysis [Date: 8/	10/2015	8	SeqNo: 8	45107	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	71	2.0	80.00	0	89.4	57.8	83.9			S
1-Methylnaphthalene	74	2.0	80.20	0	91.8	43.5	88.5			S
2-Methylnaphthalene	7 2	2.0	80.00	0	89.4	34.2	94.5			
Benzo(a)pyrene	0.44	0.070	0.5020	0	87.6	56.3	98.6			
Surr: Benzo(e)pyrene	14		20.00		70.8	37.2	136			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 21 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20629

SampType: MBLK

TestCode: Total Phenolics by SW-846 9067

Client ID: PBW

Batch ID: 20629

PQL

2.5

RunNo: 27992

Prep Date: 8/6/2015

Result

ND

Analysis Date: 8/6/2015

SeqNo: 842690

Units: µg/L

RPDLimit

Qual

Analyte

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

Phenolics, Total Recoverable Sample ID LCS-20629

Client ID: LCSW

Batch ID: 20629

TestCode: Total Phenolics by SW-846 9067 RunNo: 27992

135

Prep Date: 8/6/2015

Analysis Date: 8/6/2015

SampType: LCS

SeqNo: 842691

Units: µg/L

Phenolics, Total Recoverable

Resuit 21

20.00

SPK value SPK Ref Val %REC

LowLimit 64.4 HighLimit

RPDLimit

Qual

Sample ID LCSD-20629

SampType: LCSD

TestCode: Total Phenolics by SW-846 9067

Client ID: LCSS02 Prep Date: 8/6/2015

Batch ID: 20629

PQL

2.5

2.5

RunNo: 27992

SeqNo: 842692

Units: µg/L

%RPD

Analyte

Analyte

Analysis Date: 8/6/2015 Result **PQL**

18

SPK value SPK Ref Val

%REC 91.6

LowLimit

HighLimit %RPD 135

RPDLimit

Qual

Phenolics, Total Recoverable

20.00

12.7

21.4

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

R RPD outside accepted recovery limits Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 22 of 26

P Sample pH Not In Range

Reporting Detection Limit

Qualifiers:

Not Detected at the Reporting Limit ND

% Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-R28452

SampType: MBLK

TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW

Batch ID: R28452

RunNo: 28452

Prep Date:

Analysis Date: 8/12/2015

SeqNo: 859841

Units: mg/L

HighLimit

%RPD

%RPD

RPDLimit

Qual

Analyte Cyanide

Result **PQL** ND 0.0100

Sample ID LCS-R28452

SampType: LCS

SPK value SPK Ref Val %REC LowLimit

TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW

Batch ID: R28452

RunNo: 28452

Prep Date:

Analysis Date: 8/12/2015

SeqNo: 859842

Units: mg/L

Result

SPK value SPK Ref Val

%REC LowLimit HighLimit

RPDLimit Qual

90

Analyte

0.5000

104

Cyanide 0.521

PQL

110

Qualifiers:

D

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix Н Holding times for preparation or analysis exceeded ND
- Not Detected at the Reporting Limit R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range Е
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

0.50

10

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Gasoline Range Organics (GRO)

Surr: BFB

Project: Monthl	y R.O. Reject										
Sample ID RB	SampType: M E	BLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: R2	F	RunNo: 2	7991							
Prep Date:	Analysis Date: 8/	5/2015	SeqNo: 842759			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	11	10.00		110	70	130					
Sample ID 2.5ug gro lcs	SampType: LCS TestCode: EPA Method 8015D: Gasoline Range										
Client ID: LCSW	Batch ID: R2	7991	RunNo: 27991								
Prep Date:	Analysis Date: 8/	5/2015	SeqNo: 842760			Units: mg/L					
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

100

103

80.6

70

122

130

0.5000

10.00

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range
- Analyte detected below quantitation limits

Page 24 of 26

- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

0.882

0.882

0.314

0.412

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Radium-228

Radium-228 ±

Monthly R.O. Reject

										
Sample ID MB-R28452	SampType: MBLK	TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed								
Client ID: PBW	Batch ID: R28452	RunNo: 28452								
Prep Date:	Analysis Date: 8/18/2015	SeqNo: 859845	Units: pCi/L							
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual							
Radium-226	ND 0.551									
Radium-226 ±	0.342 0.551									
Radium-228	0.014 0.860									
Radium-228 ±	0.371 0.860		NO. 180							
Sample ID MB-R28452	0.371	TestCode: EPA 903.1: R	226 and EPA 904.0: Ra 228-Subbed							
		TestCode: EPA 903.1: R RunNo: 28452	2a 226 and EPA 904.0: Ra 228-Subbed							
Sample ID MB-R28452	SampType: MBLK		Ra 226 and EPA 904.0: Ra 228-Subbed Units: pCi/L							
Sample ID MB-R28452 Client ID: PBW	SampType: MBLK Batch ID: R28452 Analysis Date: 8/18/2015	RunNo: 28452								
Sample ID MB-R28452 Client ID: PBW Prep Date:	SampType: MBLK Batch ID: R28452 Analysis Date: 8/18/2015	RunNo: 28452 SeqNo: 859847	Units: pCi/L							

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

Page 25 of 26

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508065

26-Aug-15

Client:

Navajo Refining Company

Project:

Monthly R.O. Reject

Sample ID MB-20626

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID:

PBW

Batch ID: 20626

RunNo: 28016

Prep Date: 8/5/2015

Analysis Date: 8/6/2015

PQL

20.0

SeqNo: 843340

Units: mg/L

Analyte

Result

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

%RPD

RPDLimit

Qual

Total Dissolved Solids

Sample ID LCS-20626

SampType: LCS Batch ID: 20626

PQL

TestCode: SM2540C MOD: Total Dissolved Solids RunNo: 28016

Client ID: LCSW Prep Date: 8/5/2015

Analysis Date: 8/6/2015

SeqNo: 843341

Units: mg/L

RPDLimit Qual

Analyte

Result

ND

SPK value SPK Ref Val

%REC

80

LowLimit

HighLimit 120

Total Dissolved Solids

1010

20.0

1000

101

Oualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit

Page 26 of 26



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

Sample Log-in Check List

Client Name NAVAJO REFINING CO Work Order Number:			1508065 RcptNo: 1								
Received by/date	: <u>C</u> S		08/04/	15							
Logged By:	Ashley Gal	iegos	8/4/2015 9:10	3:00 AM			A J				
Completed By:	Ashley Gal	legos	8/4/2015 10:0	09:41 AM			A	,			
Reviewed By	北	ess.	196 66	15			,				
Chain of Cust	tody	(W. E.S.								
1, Custody sea	ls intact on sa	mple bottles?			Yes		No		Not Present	Y	
2. Is Chain of C	custody compl	ete?			Yes	Y	No		Not Present		
3. How was the sample delivered?					Courie	r.					
Log in											
4. Was an atte	mpt made to	cool the sample	15?		Yes	Z	No		NA	Lord Control	
5. Were all san	nples received	l at a temperate	ure of >0°C to 6	0°C	Yes (Y	No 3		NA (
6. Sample(s) in proper container(s)?				Yes	V	No					
7. Sufficient sample volume for indicated test(s)?				Yes	y	No					
8. Are samples (except VOA and ONG) properly preserved?				Yes	V	No					
9. Was preservative added to bottles?				Yes		, No	Y	. NA			
10. VOA vals ha	tua zam haad	enaca?			Yes-	<i>0</i>	8/05/1 No	5	No VOA Viais		
11. Were any sa		·	oken?		Yes		No				area a la companya de la companya de la companya de la companya de la companya de la companya de la companya d
1 (, 110/0 an) 00	mpic coman	ora received or	oveni		1.65			-	# of preserved bottles checked	1 .	,
12. Does papera (Note discret		ttle labels? ain of custody)			Yes	y	No		for pH:	50	12 juniess noted)
13. Are matrices correctly identified on Chain of Custody?			Yes	Y	No		Adjusted	7	**************************************		
14, is it clear what analyses were requestec?			Yes	Y	No				0		
15. Were all holding times able to be met? (If no, notify customer for authorization.)			Yes	Y	No	L.I	Checked t	oy:	19		
•		•								Sayer	
Special Hand	ling (if app	licable)									
16. Was client no	otified of all di	screpancies wi	th this order?		Yes		No		NA	V	
Person	Notified	 	<u> </u>	Date	odnostja otnostva svetosku	eneralaji/ini	<u> Andreas de la completación com</u>	<u>Geldilite</u>			
By Wh	om-	printe and more a security of the security of		Via:	eMai		Phone	Fax	In Person		
Regarding:											
Client Instructions:						9 (12.)), (12.21212		AND THE PARTY OF T		जर ा	
17. Additional remarks:											
18. Cooler Information											
Cooler No	o Temp ℃ 5.2	Good I	Seal Intact Se Not Present	al No S	Seal Da	e	Signed B	У			
1			I I WWITE					ı			

ANALYSIS LABORATORY 803:::409 HALL ENVIRONMENTAL Нд × Total Dissolved Solids 4901 Hawkins NE - Albuquerque, NM 87109 **AirtiM\atentiN** Fax 505-345-4107 Fluoride www.halienvironmental.com Analysis Request Sulfate Chloride Radioactivity (Ra-226+Ra-228) × × 8082 PCBs Tel, 505-345-3975 × GRO, DRO, ORO 3108 × Mercury 0171 × 335.4. Total Cyanide × 60108: WQCC Metals × 8270C: WQCC list SVOCs × 8560B:WQCC List VOCs × 508005 HEAL NO. S ő 2 Elizabeth Salsberry □ Rush Preservative Project # P.O. # 167796 3-40ml VOA Na2S203 Type Sample Temperature: 1-unpres H2SO4 2 - 1L Glass unpres 1 - 1L Glass unpres 1-250mlGlas unpres HNO3 Monthly R.O. Reject X Yes NaOH HN03 HN03 Turn-Around Time 3-40ml VOA HCL 3-40ml VOA HCI Project Manager Robert Combs Project Name Container Type and # X Standard 2 - 500ml P 1-500ml P 1-500ml P 1-125ml P Sampler 2-11 P On Ice: ☐ Level 4 (Full Validation) Sample Request ID Chain-of-Custody Record R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject R.O. Reject Marting Address P.O. Box 159 Artesia email or Fax#: 575-746-5451 Matrix Clent: Navajo Refinery Phone #: 575-748-3311 liquid liquid iquid iguid prior 8-3-15 10:10 liquid pinbil or: or 8-3-15 10:10 liquid 83-15 10:10 liquid 8-345 10:10 liquid 10'.10 liquid NM 88211-0159 QAVQC Package: 8-3-15/10:10 Time 8-3-15 10:10 10:12 8-3-15 ho.10 8-3-15/10:10 ☐ EDD (Type) X Standard □ Other 8-अऽ 8-3-15 のかわ Date

VDCs: 1,1,1-Tachtoroethene;1,1,2,2-Totrachtoroethene;1,1,2,3-Totrachtoroethylene;1,1,2

Metalis As, Al, Br. B, Cd, Cr. Co, Cu, Fe, Pb, Mr. Hg, Mo Ni, Se. Ag, U, Zh

Remarks

Time

Oate

760

1 - 1L Glass H2SO4 2-40ml VOA HCL

Relinquished by: Elizabeth Salsbun/Received by:

Trip Blank

R.O. Reject

liquid liquid

8-345 TO:10 8-345 Io:10

Priopien doubles

8315/1230

Lime

Relinquished by:

Time

Date

0713

5/14/00

<u>T</u>

Received by:

Irichloroethane; 1,1,2-Trichloroethylana; 1,1-Dichloroethane; 1,1-Dichloroethons; 1,2

Dibromoethane; 1,2-Dichtoroethane; Benzene; Carbon Tetrachloride; Chloroform

Dichloromethane; Ethylberzene, Toluene, Total Xylenes, Vinyl Chloride

SVOCs: benzo(a)pyrene, phenol, 1-methylnaphihalene, 2-methylnaphihalene, naphthalene



October 12, 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: WOA-OCD-CO-2015-002

Monthly Report – September 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 October 2015 monthly report, for the period of September 1-30, under the Order.

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

- Daily discharge flow measurements for each reverse osmosis (RO) unit and for all RO units together.
- Calculation of stipulated penalties, if any, required under Section III, Paragraph 2 of the Order.
- Results of the monthly discharge sample results.
- 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 through 3.

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.

Stipulated Penalties

In accordance with Exhibit A, Paragraph 1 of the Order, Navajo submitted the GW-028 discharge permit modification request on May 22, 2015, prior to 30 days from April 27, 2015, the date of the Order. Therefore, for the entire September reporting period, Paragraph III.2.b.i.2 of the Order is applicable. Stipulated penalties were calculated for each day following Navajo's submittal of the permit modification request, and prior to OCD action on that request, as follows:

- \$100 per day for each daily RO reject fluid discharge volume between 10,000 and 15,000 barrels from September 1 through September 30.
- \$500 per day for each daily RO reject fluid discharge volume that exceeds 15,000 barrels from September 1 through September 30.

Navajo has calculated a penalty of \$3,000 for September 2015. The daily discharge volume exceeded the 10,000 barrels/day (bbl/day) limit, but was under 15,000 barrels total, on 30 days in September. Calculations conducted in accordance with Paragraph III.2.b.i.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.

Monthly Discharge Sample Results

Navajo collected a sample of the RO reject fluid discharge from both the permanent RO units (combined discharge) and the temporary RO unit on September 3, 2015. The analytical lab report for these samples is provided in Attachment 3.

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. Navajo is currently preparing a permit modification request to Discharge Permit GW-028 for installation of a third permanent primary RO unit to replace the temporary RO unit and the installation of a secondary RO unit to improve recovery of water as part of Navajo's water conservation effort.

Navajo is also evaluating options for the underground injection of RO reject fluid.

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 submitted an *Evaluation of Groundwater Quality – RO Reject Fields* memo on August 27, 2015, and the *Background Groundwater Investigation Report* on September 2, 2015, in support of this modification request.

OCD notified Navajo that the application for the requested permit modification is administratively complete by letter dated July 1, 2015. Navajo submitted proof of completion of the public notice, including an affidavit of mailing and the list of property owners, proof of publication, and an affidavit of posting, to the OCD on September 3, 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

Attachment 3: Analytical Lab Reports

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

		Permanen	t RO Units		Tempo	rary Unit	Daily Discharge Volume
	Metere	ed Data	Control of the Contro	I RO Reject (Calculated)	Disc (Calcula	O Reject harge Ited from Data)	
	GPM	GPM	GPM	BBL/DAY	GPM	BBL/DAY	BBL
	SOUTH	NORTH					
9/1/2015	128	119	247	8,469	45	1,546	10,015
9/2/2015	200	168	368	12,617	57	1,944	14,561
9/3/2015	109	175	284	9,737	57	1,954	11,691
9/4/2015	110	182	292	10,011	57	1,954	11,965
9/5/2015	112	179	291	9,977	60	2,054	12,031
9/6/2015	112	178	290	9,943	59	2,027	11,970
9/7/2015	115	177	292	10,011	58	1,998	12,009
9/8/2015	114	181	295	10,114	60	2,046	12,160
9/9/2015	106	171	277	9,497	61	2,104	11,601
9/10/2015	115	178	293	10,046	63	2,159	12,205
9/11/2015	113	177	290	9,943	66	2,261	12,204
9/12/2015	114	178	292	10,011	65	2,231	12,242
9/13/2015	115	180	295	10,114	68	2,328	12,442
9/14/2015	116	179	295	10,114	69	2,358	12,472
9/15/2015	115	179	294	10,080	68	2,332	12,412
9/16/2015	120	180	300	10,286	71	2,432	12,718
9/17/2015	117	175	292	10,011	65	2,243	12,254
9/18/2015	115	177	292	10,011	69	2,383	12,394
9/19/2015	111	178	289	9,909	72	2,467	12,376
9/20/2015	115	179	294	10,080	63	2,173	12,253
9/21/2015	116	174	290	9,943	49	1,680	11,623
9/22/2015	115	176	291	9,977	51	1,763	11,740
9/23/2015	120	178	298	10,217	67	2,297	12,514
9/24/2015	116	176	292	10,011	72	2,465	12,476
9/25/2015	116	177	293	10,046	91	3,124	13,170
9/26/2015	121	164	285	9,771	73	2,490	12,261
9/27/2015	125	162	287	9,840	74	2,527	12,367
9/28/2015	126	163	289	9,909	73	2,507	12,416
9/29/2015	125	102	227	7,783	94	3,223	11,006
9/30/2015	123	100	223	7,646	73	2,510	10,156

Attachment 2 Stipulated Penalty Calculation

Calculation of Stipulated Penalties - October 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:	1		
2.b.i.1	- Prior to Navajo submitting a discharge permit modification application	\$1,000		\$0
2.b.i.2	- If the daily volume is between 10,000 and 15,000 barrels after Navajo submits discharge permit modification application	\$100	30	\$3,000
2.b.i.2	- 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 A	mount:	\$3,000

Attachment 3 Analytical Lab Report



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

October 06, 2015

Robert Combs
Navajo Refining Company
P.O. Box 159
Artesia, NM 88211-0159

TEL: (575) 748-3311

FAX

RE: Monthly Temporary R.O. Reject OrderNo.: 1509214

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/4/2015 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/6/2015

CLIENT:Navajo Refining CompanyClient Sample ID: Temporary R.O. RejectProject:Monthly Temporary R.O. RejectCollection Date: 9/3/2015 8:50:00 AM

Lab ID: 1509214-001 **Matrix:** AQUEOUS **Received Date:** 9/4/2015 10:20:00 AM

Lead	Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
Lead	EPA 200.8: DISSOLVED METALS						Analyst	DBD
Selenium	Arsenic	ND	0.0050		mg/L	5	9/18/2015 2:59:55 PM	B28981
Uranium 0.0056 0.0025 mg/L 5 9/18/2015 2:59:55 PM 828 EPA 903.1: RA 226 AND EPA 904.0: RA 228-SUBBED TAnalyst SUI Radium-226 ± 0.701 0.563 pC/L 1 9/28/2015 R29 Radium-228 ± 0.203 0.574 pCi/L 1 9/28/2015 R29 Radium-226 ± 0.203 0.20 mg/L 20 9/4/2015 11:00:00 PM R28 EPA 3000-000 0.000 mg/L 1 9/4/2015 10:47:35 PM R28 Nitrogen, Nitrate (As N) 2.0 0.10 mg/L 1 9/10/2015 2:52:57 PM R28 SM2540C	Lead	ND	0.0025		mg/L	5	9/18/2015 2:59:55 PM	B28981
Radium-226	Selenium	0.0086	0.0050		mg/L	5	9/18/2015 2:59:55 PM	B28981
Radium-226 1.7 0.563 pCi/L 1 9/28/2015 R.29 Radium-226 ± 0.701 0.563 pCi/L 1 9/28/2015 R.25 Radium-228 ± 0.308 0.574 pCi/L 1 9/28/2015 R.25 Radium-228 ± 0.283 0.574 pCi/L 1 9/28/2015 R.25 Radium-228 ± 0.283 0.574 pCi/L 1 9/28/2015 R.25 Redum-228 ± 0.283 0.574 pCi/L 1 9/28/2015 R.28 Radium-228 ± 0.20 0.574 pCi/L 1 9/28/2015 R.28 EPA METHOD 300.0: ANIONS Total Order 3.0 10 mg/L 20 9/4/2015 11:00:00 PM R.28 Sulfate 1800 50 mg/L 1 9/4/2015 12:07:32 AM R28 SM2540C MOD: TOTAL DISSOLVED SOLIDS Total Dissolved Solids 3720 20.0 mg/L 1 9/10/2015 2:52:57 PM 28 Cyanide ND 0.0100 </td <td>Uranium</td> <td>0.0056</td> <td>0.0025</td> <td></td> <td>mg/L</td> <td>5</td> <td>9/18/2015 2:59:55 PM</td> <td>B28981</td>	Uranium	0.0056	0.0025		mg/L	5	9/18/2015 2:59:55 PM	B28981
Radium-226 ± 0.701 0.563 pCi/L 1 9/28/2015 R29 Radium-228 0.308 0.574 pCi/L 1 9/28/2015 R29 Radium-228 ± 0.283 0.574 pCi/L 1 9/28/2015 R28 PCMODITOR 2 0.010 mg/L 20 9/4/2015 11:00:00 PM R28 Chloride 300 10 mg/L 1 9/4/2015 10:47:35 PM R28 Sulfate 1800 50 mg/L 1 9/10/2015 12:07:52 AM R28 SM2540C MOD: TOTAL DISSOLVED SOLIDS Total Dissolved Solids 3720 20.0 mg/L 1 9/10/2015 2:52:57 PM R28 R28 SM4500-H+B: PH 7.89 1.68	EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBE	D				Analyst	SUB
Radium-228	Radium-226	1.7	0.563		pCi/L	1	9/28/2015	R29270
Radium-228 ± 0.283 0.574 pCi/L 1 9/28/2015 R29 EPA METHOD 300.0; ANIONS	Radium-226 ±	0.701	0.563		pCi/L	1	9/28/2015	R29270
Pack Pack	Radium-228	0.308	0.574		pCi/L	1	9/28/2015	R29270
Fluoride	Radium-228 ±	0.283	0.574		pCi/L	1	9/28/2015	R29270
Chloride 300 10 mg/L 20 9/4/2015 11:00:00 PM R28 Nitrogen, Nitrate (As N) 2.0 0.10 mg/L 1 9/4/2015 10:47:35 PM R28 Sulfate 1800 50 mg/L 100 9/15/2015 12:07:52 AM R28 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS Total Dissolved Solids 3720 20.0 * mg/L 1 9/10/2015 5:38:00 PM 212 EPA 335.4: TOTAL CYANIDE SUBBED Analyst: SUI Cyanide ND 0.0100 mg/L 1 9/15/2015 R29 SM4500-H+B: PH Analyst: JRF PH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM 828 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM	EPA METHOD 300.0: ANIONS						Analyst	LGT
Nitrogen, Nitrate (As N) 2.0 0.10 mg/L 1 9/4/2015 10:47:35 PM R28 Sulfate 1800 50 mg/L 100 9/15/2015 12:07:52 AM R28 SM2540C MOD: TOTAL DISSOLVED SOLIDS Total Dissolved Solids 3720 20.0 mg/L 1 9/10/2015 5:38:00 PM 212 EPA 335.4: TOTAL CYANIDE SUBBED Cyanide ND 0.0100 mg/L 1 9/15/2015 R29 SM4500-H+B: PH pH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmlum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmlum ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmlum 0.0067 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganes ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganes ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganes ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg	Fluoride	3.2	2.0		mg/L	20	9/4/2015 11:00:00 PM	R28686
Sulfate 1800 50 mg/L 100 9/15/2015 12:07:52 AM R28 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS Total Dissolved Solids 3720 20.0 * mg/L 1 9/10/2015 5:38:00 PM 212 EPA 335.4: TOTAL CYANIDE SUBBED Total Dissolved BED Total Dissolved METALS * T	Chloride	300	10		mg/L	20	9/4/2015 11:00:00 PM	R28686
SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS Total Dissolved Solids 3720 20.0 * mg/L 1 9/10/2015 5:38:00 PM 212 EPA 335.4: TOTAL CYANIDE SUBBED Analyst: SUID Cyanide ND 0.0100 mg/L 1 9/15/2015 Analyst: SUID SM4500-H+B: PH Total CYANIDE SUBBED Analyst: JRF PH 7.89 1.68 H pH units 1 9/15/2015 6:24:49 PM R28 SM4500-H+B: PH Total SM500-H+B:	Nitrogen, Nitrate (As N)	2.0	0.10		mg/L	1	9/4/2015 10:47:35 PM	R28686
Total Dissolved Solids 3720 20.0 * mg/L 1 9/10/2015 5:38:00 PM 212 EPA 335.4: TOTAL CYANIDE SUBBED Cyanide ND 0.0100 mg/L 1 9/15/2015 R29 SM4500-H+B: PH pH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM 828 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM 828 Cadmlum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Cadmlum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/11/2015 2:52:57 PM 828 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM 828 Manganese ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM 828 Manganese ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM 828 Molybdenum ND 0.0080 mg/L 1 9/10/2015 2:52:57 PM 828 Molybdenum ND 0.0080 mg/L 1 9/10/2015 2:52:57 PM 828 Molybdenum ND 0.0080 mg/L 1 9/10/2015 2:52:57 PM 828 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY	Sulfate	1800	50		mg/L	100	9/15/2015 12:07:52 AM	R28852
EPA 335.4: TOTAL CYANIDE SUBBED Analyst: SUBBED Cyanide ND 0.0100 mg/L 1 9/15/2015 R29 SM4500-H+B: PH FM 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS FM Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:	SM2540C MOD: TOTAL DISSOLVED SC	LIDS					Analyst	KS
Cyanide ND 0.0100 mg/L 1 9/15/2015 R29 SM4500-H+B: PH Analyst: JRF PH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND	Total Dissolved Solids	3720	20.0	*	mg/L	1	9/10/2015 5:38:00 PM	21204
SM4500-H+B: PH Analyst: JRF pH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Fanalyst: ELS Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Barium 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L	EPA 335.4: TOTAL CYANIDE SUBBED						Analyst	SUB
pH 7.89 1.68 H pH units 1 9/8/2015 6:24:49 PM R28 EPA METHOD 200.7: DISSOLVED METALS Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmlum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28	Cyanide	ND	0.0100		mg/L	1	9/15/2015	R29270
Analyst: ELS Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM 828 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM 828 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Chromium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/11/2015 2:52:57 PM 828 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM 828 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Molybdenum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Molybdenum ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM 828 Silver ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY	SM4500-H+B: PH						Analyst	JRR
Aluminum ND 0.020 mg/L 1 9/10/2015 2:52:57 PM B 28 Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM	рН	7.89	1.68	H	pH units	1	9/8/2015 6:24:49 PM	R28726
Barium 0.059 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM <td>EPA METHOD 200.7: DISSOLVED META</td> <td>ALS</td> <td></td> <td></td> <td></td> <td></td> <td>Analyst</td> <td>ELS</td>	EPA METHOD 200.7: DISSOLVED META	ALS					Analyst	ELS
Boron 0.098 0.040 mg/L 1 9/10/2015 2:52:57 PM B28 Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM	Aluminum	ND	0.020		mg/L	1	9/10/2015 2:52:57 PM	B28759
Cadmium ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF	Barium	0.059	0.0020		mg/L	1	9/10/2015 2:52:57 PM	B28759
Chromium 0.0067 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/10/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF	Boron	0.098	0.040		mg/L	1	9/10/2015 2:52:57 PM	B28759
Cobalt 0.0061 0.0060 mg/L 1 9/11/2015 1:33:20 PM A28 Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF	Cadmium	ND	0.0020		mg/L	1	9/10/2015 2:52:57 PM	B28759
Copper ND 0.0060 mg/L 1 9/10/2015 2:52:57 PM B28 Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF	Chromium	0.0067	0.0060		mg/L	1	9/11/2015 1:33:20 PM	A28781
Iron 0.048 0.020 mg/L 1 9/10/2015 2:52:57 PM B28 Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF	Cobalt	0.0061	0.0060		mg/L	1	9/11/2015 1:33:20 PM	A28781
Manganese ND 0.0020 mg/L 1 9/10/2015 2:52:57 PM B28 Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY	Copper	ND	0.0060		mg/L	1	9/10/2015 2:52:57 PM	B28759
Molybdenum ND 0.0080 mg/L 1 9/11/2015 1:33:20 PM A28 Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY	Iron		0.020		mg/L		9/10/2015 2:52:57 PM	B28759
Nickel ND 0.010 mg/L 1 9/10/2015 2:52:57 PM B28 Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF					mg/L			B28759
Silver ND 0.0050 mg/L 1 9/11/2015 1:33:20 PM A28 Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF					•	127		A28781
Zinc 0.019 0.010 mg/L 1 9/11/2015 1:33:20 PM A28 EPA METHOD 245.1: MERCURY Analyst: JLF						in the second		B28759
EPA METHOD 245.1: MERCURY Analyst: JLF								A28781
	Zinc	0.019	0.010		mg/L	1	9/11/2015 1:33:20 PM	A28781
Mercury ND 0.00020 mg/L 1 9/15/2015 3:50:01 PM 212	EPA METHOD 245.1: MERCURY					Analyst	JLF	
	Mercury	ND	0.00020		mg/L	1	9/15/2015 3:50:01 PM	21298

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 23
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/6/2015

CLIENT:Navajo Refining CompanyClient Sample ID: Temporary R.O. RejectProject:Monthly Temporary R.O. RejectCollection Date: 9/3/2015 8:50:00 AMLab ID:1509214-001Matrix: AQUEOUSReceived Date: 9/4/2015 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analys	st: JME
1,2-Dibromoethane	ND	0.010		μg/L	1	9/9/2015 2:48:42 PM	21198
EPA METHOD 8082: PCB'S						Analys	st: SCC
Aroclor 1016	ND	1.0		μg/L	1	9/11/2015 10:58:41 AI	
Aroclor 1221	ND	1.0		μg/L	1	9/11/2015 10:58:41 Al	
Aroclor 1232	ND	1.0		μg/L	1	9/11/2015 10:58:41 Al	
Aroclor 1242	ND	1.0		μg/L	1	9/11/2015 10:58:41 AI	
Aroclor 1248	ND	1.0		μg/L	1	9/11/2015 10:58:41 AI	
Aroclor 1254	ND	1.0		μg/L	1	9/11/2015 10:58:41 AI	
Aroclor 1260	ND	1.0		μg/L	1	9/11/2015 10:58:41 Al	M 21192
Surr: Decachlorobiphenyl	74.0	17.7-151		%REC	1	9/11/2015 10:58:41 AI	
Surr: Tetrachloro-m-xylene	67.6	20.6-151		%REC	1	9/11/2015 10:58:41 Al	M 21192
EPA METHOD 8015M/D: DIESEL RAN	GE					Analys	st: KJH
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/9/2015 4:47:41 PM	21183
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/9/2015 4:47:41 PM	21183
Surr: DNOP	108	72-136		%REC	1	9/9/2015 4:47:41 PM	21183
EPA METHOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	0.050	Ē	mg/L	1	9/10/2015 1:16:54 PM	R28761
Surr: BFB	94.5	57.8-137		%REC	1	9/10/2015 1:16:54 PM	
EPA METHOD 8310: PAHS						Analys	st: SCC
Naphthalene	ND	2.0	Ü	μg/L	1	9/11/2015 8:09:56 AM	21193
1-Methylnaphthalene	ND	2.0		μg/L	1	9/11/2015 8:09:56 AM	
2-Methylnaphthalene	ND	2.0		μg/L	1	9/11/2015 8:09:56 AM	
Benzo(a)pyrene	ND	0.070	e. E	μg/L	1	9/11/2015 8:09:56 AM	21193
Surr: Benzo(e)pyrene	41.3	37.2-136		%REC	1	9/11/2015 8:09:56 AM	21193
EPA METHOD 8260B: VOLATILES						Analys	st: AG
Benzene	ND	1.0		µg/L	1	9/8/2015 2:48:27 PM	R28707
Toluene	ND	1.0		µg/L	1	9/8/2015 2:48:27 PM	R28707
Ethylbenzene	ND	1.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
Carbon Tetrachloride	ND	1.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
Chloroform	ND	1.0		µg/L	1	9/8/2015 2:48:27 PM	R28707
1,1-Dichloroethane	ND	1.0	E.	μg/L	1	9/8/2015 2:48:27 PM	R28707
1,1-Dichloroethene	ND	1.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
Methylene Chloride	ND	3.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	9/8/2015 2:48:27 PM	R28707
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/8/2015 2:48:27 PM	R28707

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 23
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/6/2015

CLIENT: Navajo Refining Company

Client Sample ID: Temporary R.O. Reject

Project: Monthly Temporary R.O. Reject Collection Date: 9/3/2015 8:50:00 AM

Lab ID: 1509214-001 Matrix: AQUEOUS Received Date: 9/4/2015 10:20:00 AM

Analyses	Result RL Qual U		al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: AG
1,1,1-Trichloroethane	ND	1.0	μg/L	1	9/8/2015 2:48:27 PM	R28707
1,1,2-Trichloroethane	ND	1.0	μg/L	1	9/8/2015 2:48:27 PM	R28707
Trichloroethene (TCE)	ND	1.0	μg/L	1	9/8/2015 2:48:27 PM	R28707
Vinyl chloride	ND	1.0	μg/L	1	9/8/2015 2:48:27 PM	R28707
Xylenes, Total	ND	1.5	μg/L	1	9/8/2015 2:48:27 PM	R28707
Surr: 1,2-Dichloroethane-d4	99.6	70-130	%REC	1	9/8/2015 2:48:27 PM	R28707
Surr: 4-Bromofluorobenzene	99.5	70-130	%REC	1	9/8/2015 2:48:27 PM	R28707
Surr: Dibromofluoromethane	97.9	70-130	%REC	1	9/8/2015 2:48:27 PM	R28707
Surr: Toluene-d8	99.1	70-130	%REC	1	9/8/2015 2:48:27 PM	R28707
TOTAL PHENOLICS BY SW-846 9067					Analys	t: SCC
Phenolics, Total Recoverable	ND	2.5	μg/L	1	9/30/2015	21585

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 23
- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 10/6/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project: Monthly Temporary R.O. Reject Collection Date:

Lab ID: 1509214-002 **Matrix:** TRIP BLANK **Received Date:** 9/4/2015 10:20:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	9/10/2015 1:42:19 PM	R28761
Surr: BFB	93.2	57.8-137	%REC	1	9/10/2015 1:42:19 PM	R28761
EPA METHOD 8260B: VOLATILES					Analyst	: AG
Benzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Toluene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Ethylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Naphthalene	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1-Methylnaphthalene	ND	4.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
2-Methylnaphthalene	ND	4.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Acetone	ND	10	μg/L	1	9/8/2015 3:17:15 PM	R28707
Bromobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Bromodichloromethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Bromoform	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Bromomethane	ND	3.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
2-Butanone	ND	10	μg/L	1	9/8/2015 3:17:15 PM	R28707
Carbon disulfide	ND	10	μg/L	1	9/8/2015 3:17:15 PM	R28707
Carbon Tetrachloride	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Chlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Chloroethane	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Chloroform	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Chloromethane	ND	3.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
2-Chlorotoluene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
4-Chlorotoluene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
cis-1,2-DCE	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Dibromochloromethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Dibromomethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2-Dichlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,3-Dichlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,4-Dichlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Dichlorodifluoromethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1-Dichloroethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1-Dichloroethene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 23
- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 10/6/2015

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Trip Blank

CLIENT: Navajo Refining Company

Project: Monthly Temporary R.O. Reject

Collection Date:

Lab ID: 1509214-002 **Matrix:** TRIP BLANK **Received Date:** 9/4/2015 10:20:00 AM

Analyses	Result	RL Q	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: AG
1,2-Dichloropropane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,3-Dichloropropane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
2,2-Dichloropropane	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1-Dichloropropene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Hexachlorobutadiene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
2-Hexanone	ND	10	μg/L	1	9/8/2015 3:17:15 PM	R28707
Isopropylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
4-Isopropyltoluene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
4-Methyl-2-pentanone	ND	10	μg/L	1	9/8/2015 3:17:15 PM	R28707
Methylene Chloride	ND	3.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
n-Butylbenzene	ND	3.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
n-Propylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
sec-Butylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Styrene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
tert-Butylbenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
trans-1,2-DCE	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1,1-Trichloroethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,1,2-Trichloroethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Trichloroethene (TCE)	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Trichlorofluoromethane	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
1,2,3-Trichloropropane	ND	2.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Vinyl chloride	ND	1.0	μg/L	1	9/8/2015 3:17:15 PM	R28707
Xylenes, Total	ND	1.5	μg/L	1	9/8/2015 3:17:15 PM	R28707
Surr: 1,2-Dichloroethane-d4	93.0	70-130	%REC	1	9/8/2015 3:17:15 PM	R28707
Surr: 4-Bromofluorobenzene	98.0	70-130	%REC	1	9/8/2015 3:17:15 PM	R28707
Surr: Dibromofluoromethane	97.2	70-130	%REC	1	9/8/2015 3:17:15 PM	R28707
Surr: Toluene-d8	100	70-130	%REC	1	9/8/2015 3:17:15 PM	R28707

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 23
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company **Project:** Monthly Temporary R.O. Reject

Sample ID LCS	Samp	S	Tes	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Bato	h ID: B2	8759	F	RunNo: 28759					
Prep Date:	Analysis Date: 9/10/2015			S	SeqNo: 8	71972				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	99.8	85	115			
Barium	0.49	0.0020	0.5000	0	98.9	85	115			
Boron	0.53	0.040	0.5000	0	105	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Copper	0.47	0.0060	0.5000	0	94.2	85	115			
Iron	0.53	0.020	0.5000	0	107	85	115			
Manganese	0.49	0.0020	0.5000	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			

Sample ID LLLCS	Tes	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Bato	h ID: B2	8759	F	RunNo: 2	8759				
Prep Date:	Analysis	Date: 9/	10/2015	S	SeqNo: 8	71973	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	104	50	150			
Barium	ND	0.0020	0.002000	0	90.0	50	150			
Boron	ND	0.040	0.04000	0	95.7	50	150			
Cadmium	ND	0.0020	0.002000	0	93.5	50	150			
Copper	ND	0.0060	0.006000	0	98.2	50	150			
Iron	0.021	0.020	0.02000	0	105	50	150			
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Nickel	ND	0.010	0.005000	0	119	50	150			

Sample ID MB	Samp	Туре: МЕ	BLK	Tes	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Bato	h ID: B2	8759	F	RunNo: 2	8759					
Prep Date:	Analysis I	Date: 9/	10/2015	8	SeqNo: 8	71977	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									
Cadmium	ND	0.0020									
Copper	ND	0.0060									
Iron	ND	0.020									
Manganese	ND	0.0020									
Nickel	ND	0.010									

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В

- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit

Page 6 of 23

Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID	1509214-001IMS	SampTy	pe: MS		Tes	TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	Temporary R.O. Rej	Batch	ID: B2 8	B759	F	RunNo: 2	3759				
Prep Date:	An	alysis Da	ate: 9/1	10/2015	S	SeqNo: 8	72105	Units: mg/L			
Analyte	R	tesult	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		0.53	0.020	0.5000	0.004060	106	70	130			
Barium		0.50	0.0020	0.5000	0.05899	88.1	70	130			
Boron		0.64	0.040	0.5000	0.09823	108	70	130			
Cadmium		0.47	0.0020	0.5000	0	93.9	70	130			
Copper		0.47	0.0060	0.5000	0	94.4	70	130			
Iron		0.50	0.020	0.5000	0.04757	90.7	70	130			
Manganese		0.46	0.0020	0.5000	0.001650	91.3	70	130			
Nickel		0.41	0.010	0.5000	0	82.0	70	130			

Sample ID	1509214-001IMSD	Type: MS	SD .	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls		
Client ID:	Temporary R.O. Rej	Batch	h ID: B2	8759	F	RunNo: 2	8759				
Prep Date:	A	nalysis D	Date: 9/	10/2015	S	SeqNo: 8	72106	Units: mg/L			
Analyte	7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	_	0.53	0.020	0.5000	0.004060	106	70	130	0.150	20	
Barium		0.50	0.0020	0.5000	0.05899	88.6	70	130	0.493	20	
Boron		0.65	0.040	0.5000	0.09823	110	70	130	1.05	20	
Cadmium		0.47	0.0020	0.5000	0	94.6	70	130	0.694	20	
Copper		0.47	0.0060	0.5000	0	94.4	70	130	0.0890	20	
Iron		0.51	0.020	0.5000	0.04757	92.7	70	130	1.99	20	
Manganese		0.46	0.0020	0.5000	0.001650	91.8	70	130	0.605	20	
Nickel		0.41	0.010	0.5000	0	82.1	70	130	0.178	20	

Sample ID LCS	Samp	Type: LC	S	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Bato	h ID: A2	8781	F	RunNo: 2	8781				
Prep Date:	Analysis I	Date: 9/	11/2015	S	SeqNo: 8	72822	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.7	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.3	85	115			
Silver	0.089	0.0050	0.1000	0	89.1	85	115			
Zinc	0.49	0.010	0.5000	0	97.9	85	115			

Sample ID LLLCS	SampType: LCS	LL	Test	tCode: El	PA Method	200.7: Disso	lved Meta	ls	
Client ID: BatchQC	Batch ID: A28	781	R	RunNo: 2	8781				
Prep Date:	Analysis Date: 9/1	1/2015	S	SeqNo: 8	72823	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND 0.0060	0.006000	0	82.5	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID LLLCS	Samp	Type: LC	SLL	TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Bato	h ID: A2	8781	F	RunNo: 2	8781					
Prep Date:	Analysis I	Date: 9/	11/2015	S	eqNo: 8	72823	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Cobalt	ND	0.0060	0.006000	0	86.0	50	150				
Molybdenum	ND	0.0080	0.008000	0	53.8	50	150				
Silver	ND	0.0050	0.005000	0	86.8	50	150				
Zinc	ND	0.010	0.005000	0	103	50	150				

TestCode: EPA Method 200.7: Dissolved Metals Sample ID MB SampType: MBLK Client ID: **PBW** Batch ID: A28781 RunNo: 28781 Prep Date: Analysis Date: 9/11/2015 SeqNo: 872843 Units: mg/L **RPDLimit** PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD Analyte Result Qual ND 0.0060 Chromium Cobalt 0.0060 ND Molybdenum ND 0.0080 Silver ND 0.0050 Zinc ND 0.010

Sample ID	1509214-001IMS	Samp	Type: MS	3	Test	Code: El	PA Method	200.7: Dissolv	ved Metal	s	
Client ID:	Temporary R.O. Re	Bato	h ID: A2	8781	R	unNo: 2	8781				
Prep Date:		Analysis I	Date: 9/	11/2015	S	eqNo: 8	73630	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium		0.49	0.0060	0.5000	0.006680	96.5	70	130			
Cobalt		0.46	0.0060	0.5000	0.006090	91.2	70	130			
Molybdenum		0.47	0.0080	0.5000	0	93.9	70	130			
Silver		0.072	0.0050	0.1000	0	71.5	70	130			
Zinc		0.50	0.010	0.5000	0.01942	97.0	70	130			

Sample ID 1509214-001IMSD TestCode: EPA Method 200.7: Dissolved Metals SampType: MSD Client ID: Batch ID: A28781 Temporary R.O. Rej RunNo: 28781 Prep Date: Analysis Date: 9/11/2015 SeqNo: 873631 Units: mg/L PQL SPK value SPK Ref Val %REC **HighLimit** %RPD **RPDLimit** Qual Analyte Result LowLimit Chromium 0.50 0.0060 0.5000 0.006680 98.3 70 130 1.84 20 Cobalt 0.47 0.0060 0.5000 0.006090 93.3 70 130 2.27 20 Molybdenum 0.47 0.0080 0.5000 0 93.6 70 130 0.403 20 Silver 0.074 0.0050 0.1000 0 74.4 70 130 3.93 20 0.50 0.5000 0.01942 97.0 70 130 0.0436 20 Zinc 0.010

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Client:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

WO#: 1509214

06-Oct-15

Project:	Monthly		ry R.O. F	Reject							
Sample ID	1509214-001IMS	Samp	туре: М	3	Tes	tCode: El	PA 200.8: I	Dissolved Met	als		
Client ID:	Temporary R.O. F	Rej Bat	ch ID: B2	8981	F	RunNo: 2	8981				
Prep Date:		Analysis	Date: 9/	18/2015	8	SeqNo: 8	79521	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.13	0.0050	0.1250	0.001661	99.8	70	130			
Lead		0.061	0.0025	0.06250	0	97.7	70	130			
Selenium		0.12	0.0050	0.1250	0.008634	92.3	70	130			
Uranium		0.072	0.0025	0.06250	0.005627	106	70	130			
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: El	PA 200.8: I	Dissolved Met	als		
Client ID:	LCSW	Bat	ch ID: B2	8981	F	RunNo: 2	8981				
Prep Date:		Analysis	Date: 9/	18/2015	8	SeqNo: 8	79546	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	95.3	85	115			
Lead		0.012	0.00050	0.01250	0	99.4	85	115			
Selenium		0.023	0.0010	0.02500	0	91.2	85	115			
Uranium		0.013	0.00050	0.01250	0	100	85	115			
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: El	PA 200.8: I	Dissolved Met	als		
Client ID:	BatchQC	Bat	ch ID: B2	8981	F	RunNo: 2	8981				
Prep Date:		Analysis	Date: 9/	18/2015	8	SeqNo: 8	79550	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		ND	0.0010	0.001000	0	93.3	50	150			
Lead		0.00054	0.00050	0.0005000	0	109	50	150			
Selenium		ND	0.0010	0.001000	0	89.0	50	150			
Uranium		0.00052	0.00050	0.0005000	0	104	50	150			
Sample ID	МВ	Samp	Туре: МЕ	BLK	Tes	tCode: El	PA 200.8: I	Dissolved Met	als		
Client ID:	PBW	Bat	ch ID: B2	8981	F	RunNo: 2	8981				
Prep Date:		Analysis	Date: 9/	18/2015	8	SeqNo: 8	79554	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		ND	0.0010								

Qualifiers:

Uranium

Lead Selenium

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND 0.00050

ND 0.00050

0.0010

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ē Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-21298 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: **PBW** Batch ID: **21298** RunNo: **28872**

Prep Date: 9/15/2015 Analysis Date: 9/15/2015 SeqNo: 875782 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-21298 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 21298 RunNo: 28872

Prep Date: 9/15/2015 Analysis Date: 9/15/2015 SeqNo: 875785 Units: mg/L

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

Mercury 0.0048 0.00020 0.005000 0 95.4 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **1509214**

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB SampType: MBLK TestCode: EPA Method 300.0: Anions Client ID: **PBW** Batch ID: R28686 RunNo: 28686 Prep Date: Analysis Date: 9/4/2015 SeqNo: 869229 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual 0.10 Fluoride ND ND Chloride 0.50 ND Nitrogen, Nitrate (As N) 0.10

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions Client ID: LCSW Batch ID: R28686 RunNo: 28686 Prep Date: Analysis Date: 9/4/2015 SeqNo: 869230 Units: mg/L Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.49 0.10 0 97.5 90 Fluoride 0.5000 110 0 98.5 90 Chloride 4.9 0.50 5.000 110 2.6 0.10 2.500 0 104 90 110 Nitrogen, Nitrate (As N)

Sample ID MB TestCode: EPA Method 300.0: Anions SampType: MBLK Client ID: PBW Batch ID: R28852 RunNo: 28852 Prep Date: Analysis Date: 9/14/2015 SeqNo: 875093 Units: mg/L SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result PQL HighLimit Qual ND 0.50 Sulfate

Sample ID LCS TestCode: EPA Method 300.0: Anions SampType: LCS Client ID: LCSW Batch ID: R28852 RunNo: 28852 Prep Date: Analysis Date: 9/14/2015 SeqNo: 875094 Units: mg/L SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit **HighLimit** Qual

Sulfate 9.8 0.50 10.00 0 98.4 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-21198 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: PBW Batch ID: 21198 RunNo: 28723

Prep Date: 9/9/2015 Analysis Date: 9/9/2015 SeqNo: 870483 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-21198 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 21198 RunNo: 28723

Prep Date: 9/9/2015 Analysis Date: 9/9/2015 SeqNo: 870484 Units: µg/L

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

1,2-Dibromoethane 0.078 0.010 0.1000 0 78.0 70 130

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Project:		Refining Con Temporary		Reject											
Sample ID N	MB-21183	SampTy	pe: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Die	sel Range	e					
Client ID: F	PBW	Batch	ID: 21	183	F	RunNo: 2	8717								
Prep Date:	9/8/2015	Analysis Da	ate: 9/	9/2015	5	SeqNo: 8	70900	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Diesel Range Or	ganics (DRO)	ND	1.0												
Motor Oil Range	Organics (MRO)	ND	5.0												
Surr: DNOP		1.0	100	1.000		102	72	136							
Sample ID L	LCS-21183	SampTy	/pe: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	sel Rang	e					
Client ID: L	LCSW	Batch	ID: 21	183	F	RunNo: 2	8717			je					
Prep Date:	e: 9/8/2015 Analysis Date: 9/9/2015 SeqNo: 870912 Units: mg/L														
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Diesel Range Or	ganics (DRO)	5.1	1.0	5.000	0	102	52.4	154							
Surr: DNOP		0.52		0.5000		104	72	136							
Sample ID 1	1509214-001BMS	SampTy	/pe: M \$	3	Tes	tCode: E	PA Method	8015M/D: Die	sel Rang	е					
Client ID: 1	Temporary R.O.	Rej Batch	ID: 21	183	F	RunNo: 2	8717								
Prep Date:	9/8/2015	Analysis Da	ate: 9/	9/2015	9	SeqNo: 8	70914	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Diesel Range Or	ganics (DRO)	6.1	1.0	5.000	0	123	41.3	177							
Surr: DNOP		0.61		0.5000		122	72	136							
Sample ID 1	ID 1509214-001BMSD SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range														
Client ID: 1	Temporary R.O. I	Rej Batch	ID: 21	183	F	RunNo: 2	8717								
Prep Date:	9/8/2015	Analysis Da	ate: 9/	9/2015	8	SeqNo: 8	70915	Units: mg/L							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Diesel Range Or	ganics (DRO)	5.1	1.0	5.000	0	102	-94.6	317	18.0	22.1					

Qualifiers:

Surr: DNOP

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

0.54

0.5000

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range

108

72

136

0

0

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit

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Client:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

WO#: 1509214

06-Oct-15

Project: Monthly Temporary R.O. Reject Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: **PBW** Batch ID: R28761 RunNo: 28761 Prep Date: Analysis Date: 9/10/2015 SeqNo: 872128 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) ND 0.050 20.00 90.2 Surr: BFB 18 57.8 137 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSW Batch ID: R28761 RunNo: 28761 Prep Date: Analysis Date: 9/10/2015 SeqNo: 872129 Units: mg/L LowLimit Analyte Result PQL SPK value SPK Ref Val %REC **HighLimit** %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.49 0.050 0.5000 0 98.9 80 120 Surr: BFB 19 20.00 57.8 94.5 137 Sample ID 1509214-001AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: Temporary R.O. Rej Batch ID: R28761 RunNo: 28761 Prep Date: Analysis Date: 9/10/2015 SeqNo: 872139 Units: mg/L **RPDLimit** SPK value SPK Ref Val %REC %RPD Analyte Result PQL LowLimit **HighLimit** Qual Gasoline Range Organics (GRO) 0.43 0.050 0.5000 0 85.6 70 130 Surr: BFB 20 20.00 99.4 137 57.8

Sample ID 1509214-001AMS	Samp I	ype: MS	SD	Tes	Code: El	PA Method	8015D: Gaso	line Range	9	
Client ID: Temporary R.O.	Rej Batch	n ID: R2	28761	F	tunNo: 2	8761				
Prep Date:	Analysis D	ate: 9/	10/2015	S	eqNo: 8	72140	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.0	70	130	9.31	20	
Surr: BFB	21		20.00		104	57.8	137	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Client:

Project:

Surr: Decachlorobiphenyl

Surr: Tetrachloro-m-xylene

Hall Environmental Analysis Laboratory, Inc.

Monthly Temporary R.O. Reject

1.6

1.3

Navajo Refining Company

WO#: 1509214

06-Oct-15

F	W 1/D 1/2		1399							
Sample ID MB-21192	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8082: PCB's			
Client ID: PBW	Batch	ID: 21	192	F	RunNo: 2	8758				
Prep Date: 9/9/2015	Analysis D	ate: 9/	11/2015	8	SeqNo: 8	72597	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								

Sample ID LCS-21192	SampT	ype: LC	S	Tes	tCode: El	PA Method				
Client ID: LCSW	Batch	ID: 21	192	F	RunNo: 2	8758				
Prep Date: 9/9/2015	Analysis D	ate: 9/	11/2015	S	SeqNo: 8	73603	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.2	1.0	5.000	0	44.8	9.01	142			
Aroclor 1260	3.3	1.0	5.000	0	65.3	25.6	164			
Surr: Decachlorobiphenyl	1.4		2.500		58.0	17.7	151			
Surr: Tetrachloro-m-xylene	1.3		2.500		52.0	20.6	151			

2.500

2.500

17.7

20.6

151

151

62.8

50.4

Sample ID LCSD-21192	SampT	Гуре: LC	SD	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSS02	Batcl	h ID: 21	192	F	RunNo: 2	8758				
Prep Date: 9/9/2015	Analysis D	Date: 9/	11/2015	8	SeqNo: 8	73604	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.0	1.0	5.000	0	39.0	9.01	142	13.7	26.9	
Aroclor 1260	3.0	1.0	5.000	0	59.2	25.6	164	9.84	29.1	
Surr: Decachlorobiphenyl	1.3		2.500		53.2	17.7	151	0	0	
Surr: Tetrachloro-m-xylene	1.1		2.500		42.8	20.6	151	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID 100ng Ics	SampT	ype: LC	S	Test	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R2	8707	R	RunNo: 2	8707				
Prep Date:	Analysis D	ate: 9/	8/2015	S	SeqNo: 8	70059	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	117	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID rb SampType: MBLK TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW Batch ID: R28707 RunNo: 28707

Prep Date: Analysis Date: 9/8/2015 SeqNo: 870063 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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID rb SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: **PBW** Batch ID: R28707 RunNo: 28707 Analysis Date: 9/8/2015 SeqNo: 870063 Prep Date: Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual ND 4-Chlorotoluene 1.0 ND cis-1,2-DCE 1.0 ND cis-1,3-Dichloropropene 1.0 1,2-Dibromo-3-chloropropane ND 2.0 Dibromochloromethane ND 1.0 Dibromomethane ND 1.0 1,2-Dichlorobenzene ND 1.0 1,3-Dichlorobenzene ND 1.0 1.4-Dichlorobenzene ND 1.0 ND 1.0 Dichlorodifluoromethane 1,1 Dichloroethane ND 1.0 ND 1.0 1,1-Dichloroethene 1,2-Dichloropropane ND 1.0 1,3-Dichloropropane ND 1.0 ND 2.0 2,2-Dichloropropane 1,1-Dichloropropene ND 1.0 Hexachlorobutadiene ND 1.0 2-Hexanone ND 10 Isopropylbenzene ND 1.0 4-Isopropyltoluene ND 1.0 4-Methyl-2-pentanone ND 10 Methylene Chloride ND 3.0 n-Butylbenzene ND 3.0 n-Propylbenzene ND 1.0 sec-Butylbenzene ND 1.0 ND 1.0 Styrene tert-Butylbenzene ND 1.0 1,1,1,2-Tetrachloroethane ND 1.0 1,1,2,2-Tetrachloroethane ND 2.0 Tetrachloroethene (PCE) ND 1.0 trans-1,2-DCE ND 1.0 trans-1,3-Dichloropropene ND 1.0 ND 1.0 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene ND 1.0 ND 1.0 1,1,1-Trichloroethane 1,1,2-Trichloroethane ND 1.0 ND Trichloroethene (TCE) 1.0 Trichlorofluoromethane ND 1.0 1,2,3-Trichloropropane ND 2.0

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R28707			RunNo: 28707						
Prep Date:	Analysis Date: 9/8/2015			SeqNo: 870063			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.3	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.0		10.00		90.4	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-21193 SampType: MBLK TestCode: EPA Method 8310: PAHs Client ID: **PBW** Batch ID: 21193 RunNo: 28760 Prep Date: 9/9/2015 Analysis Date: 9/11/2015 SeqNo: 872124 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Naphthalene ND 2.0 ND 2.0 1-Methylnaphthalene 2-Methylnaphthalene ND 2.0 Benzo(a)pyrene ND 0.070 Surr: Benzo(e)pyrene 7.7 20.00 38.7 37.2 136

Sample ID LCS-21193	SampT	ype: LC	S	Test	Code: El	PA Method	8310: PAHs			
Client ID: LCSW	Batch ID: 21193			R	tunNo: 2	8760				
Prep Date: 9/9/2015	Analysis D	ate: 9/	11/2015	S	eqNo: 8	72224	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	60	2.0	80.00	0	74.8	57.8	83.9			
1-Methylnaphthalene	60	2.0	80.20	0	75.2	43.5	88.5			
2-Methylnaphthalene	60	2.0	80.00	0	74.6	34.2	94.5			
Benzo(a)pyrene	0.38	0.070	0.5020	0	75.7	56.3	98.6			
Surr: Benzo(e)pyrene	9.9		20.00		49.3	37.2	136			

Sample ID LCSD-21193	SampType: LCSD			Tes	tCode: El	PA Method				
Client ID: LCSS02	Batch ID: 21193			F	RunNo: 2	8760				
Prep Date: 9/9/2015	Analysis D	oate: 9/	11/2015	S	SeqNo: 8	72225	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	59	2.0	80.00	0	73.6	57.8	83.9	1.55	20	
1-Methylnaphthalene	59	2.0	80.20	0	73.8	43.5	88.5	1.94	20	
2-Methylnaphthalene	58	2.0	80.00	0	72.8	34.2	94.5	2.46	20	
Benzo(a)pyrene	0.37	0.070	0.5020	0	73.7	56.3	98.6	2.67	20	
Surr: Benzo(e)pyrene	9.3		20.00		46.4	37.2	136	0		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-21585 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 21585 RunNo: 29183

Prep Date: 9/30/2015 Analysis Date: 9/30/2015 SeqNo: 886370 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-21585 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 21585 RunNo: 29183

Prep Date: 9/30/2015 Analysis Date: 9/30/2015 SeqNo: 886371 Units: μg/L

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

Phenolics, Total Recoverable 17 2.5 20.00 0 83.6 64.4 135

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: **1509214**

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-R29270 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Prep Date: Analysis Date: 9/15/2015 SeqNo: 889324 Units: mg/L

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

RunNo: 29270

Cyanide ND 0.0100

Client ID:

PBW

Sample ID LCS-R29270 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R29270 RunNo: 29270

Batch ID: R29270

Prep Date: Analysis Date: 9/15/2015 SeqNo: 889325 Units: mg/L

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

Cyanide 0.478 0.5000 0 95.6 90 110

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-R29270	SampType: MBLK			TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed							
Client ID: PBW	Batch ID: R29270			F	lunNo: 2	9270					
Prep Date:	Analysis D	ate: 9/	28/2015	S	eqNo: 8	89327	Units: pCi/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Radium-226	0.461	0.612									
Radium-226 ±	0.431	0.612									
Radium-228	0.202	0.549									
Radium-228 ±	0.259	0.549									

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1509214

06-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary R.O. Reject

Sample ID MB-21204 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 21204 RunNo: 28757

Prep Date: 9/9/2015 Analysis Date: 9/10/2015 SeqNo: 871932 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-21204 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 21204 RunNo: 28757

Prep Date: 9/9/2015 Analysis Date: 9/10/2015 SeqNo: 871933 Units: mg/L

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

Total Dissolved Solids 1020 20.0 1000 0 102 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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