GW - 028

Annual DP Report (Part 11 of 16)

2015

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510410

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: R2	9397	F	RunNo: 2	9397				
Prep Date:	Analysis D	ate: 10	0/8/2015	5	SeqNo: 8	94164	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								

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#: 1510410

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: R2	9397	RunNo: 29397						
Prep Date:	Analysis D	Analysis Date: 10/8/2015			SeqNo: 894164 Units: μ g /					
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	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	70	130			

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1510410

02-Nov-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB-21812 SampType: MBLK TestCode: EPA Method 8310: PAHs

Client ID: PBW Batch ID: 21812 RunNo: 29527

Prep Date: 10/13/2015 Analysis Date: 10/14/2015 SeqNo: 898372 Units: µg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Naphthalene ND 2.0

 1-Methylnaphthalene
 ND
 2.0

 2-Methylnaphthalene
 ND
 2.0

 Benzo(a)pyrene
 ND
 0.070

Surr: Benzo(e)pyrene 21 20.00 103 37.2 136

Sample ID LCS-21812	SampT	ype: LC	s	Tes	tCode: El	PA Method	8310: PAHs			
Client ID: LCSW	Batch	1D: 21	812	F	RunNo: 2	9527				
Prep Date: 10/13/2015	Analysis D	ate: 10)/14/2015	S	SeqNo: 8	98374	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	65	2.0	80.00	0	80.7	57.8	83.9			
1-Methylnaphthalene	67	2.0	80.20	0	83.1	43.5	88.5			
2-Methylnaphthalene	65	2.0	80.00	0	81.0	34.2	94.5			
Benzo(a)pyrene	0.41	0.070	0.5020	0	81.7	56.3	98.6			
Surr: Benzo(e)pyrene	21		20.00		107	37.2	136			

Qualifiers:

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- H Holding times for preparation or analysis exceeded
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- S % Recovery outside of range due to dilution or matrix
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Hall Environmental Analysis Laboratory, Inc.

WO#: 1510410

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-21920 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 21920 RunNo: 29663

Prep Date: 10/20/2015 Analysis Date: 10/20/2015 SeqNo: 903297 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-21920 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 21920 RunNo: 29663

Prep Date: 10/20/2015 Analysis Date: 10/20/2015 SeqNo: 903298 Units: μg/L

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

Phenolics, Total Recoverable 19 2.5 20.00 0 96.2 64.4 135

Qualifiers:

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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
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- B Analyte detected in the associated Method Blank
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

WO#: **1510410**

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-R29838 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW Batch ID: R29838 RunNo: 29838

Prep Date: Analysis Date: 10/20/2015 SeqNo: 908961 Units: mg/L

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

Cyanide ND 0.0100

Sample ID LCS-R29838 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R29838 RunNo: 29838

Prep Date: Analysis Date: 10/20/2015 SeqNo: 908962 Units: mg/L

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

Cyanide 0.451 0.5000 0 90.2 90 110

Qualifiers:

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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
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- 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#: 1510410

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-R29838	SampT	ype: ME	BLK	Test	Code: El	PA 903.1: F	a 226 and EP	A 904.0: F	Ra 228-Subbe	ed
Client ID: PBW	Batch	ID: R2	9838	R	lunNo: 2	9838				
Prep Date:	Analysis D	ate: 10	0/21/2015	S	eqNo: 9	08965	Units: pCi/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Radium-226	0.209	0.513								
Radium-226 ±	0.319	0.513								
Radium-228	0.221	0.666								
Radium-228 ±	0.31	0.666								

Sample ID MB-R29838	SampT	ype: ME	BLK	Test	Code: El	PA 903.1: F	a 226 and EP	A 904.0: F	Ra 228-Subbe	ed
Client ID: PBW	Batch	ID: R2	9838	R	unNo: 2	9838				
Prep Date:	Analysis D	ate: 10	0/21/2015	S	eqNo: 9	08967	Units: pCi/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Radium-226	0.411	0.965								
Radium-226 ±	0.571	0.965								
Radium-228	0.403	0.785								
Radium-228 ±	0.384	0.785								

Qualifiers:

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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
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- 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#: 1510410

02-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-21779 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 21779 RunNo: 29476

Prep Date: 10/11/2015 Analysis Date: 10/12/2015 SeqNo: 896502 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-21779 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 21779 RunNo: 29476

Prep Date: 10/11/2015 Analysis Date: 10/12/2015 SeqNo: 896503 Units: mg/L

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

Total Dissolved Solids 999 20.0 1000 0 99.9 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
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- 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 1901 Hawkins NE Albuquerque, NM 87109

Sample Log-In Check List

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Client Name: NAVAJO REFINING CO	Work Order Number	1510410		RcptNa:	1
Received by/date:	10/08/16				
Logged By: Lindsay Mangin	10/8/2015 9:07:00 AN	1	of Hope		
Completed By: Lindsay Mangin	10/8/2015 12:40:53 P	м	July How		
Reviewed By:	Inhalis		000		
Chain of Custody	10(08)12		1 -12/15		10
Custody seals intact on sample bottles:	?	Yes 🗹	作 No L	Not Present V	
2. Is Chain of Custody complete?		Yes 🗸	No 🗆	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the sam	ples?	Yes 🗸	No 🗆	NA 🗆	
5. Were all samples received at a temper	ature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA 🗆	
6. Sample(s) in proper container(s)?		Yes 🗸	No 🖂		
7. Sufficient sample volume for indicated	test(s)?	Yes 🗸	No 🗆		
8. Are samples (except VOA and ONG) p	roperly preserved?	Yes 🗸	No 🗆		
9. Was preservative added to bottles?		Yes	No 🗸	NA 🗆	
10.VOA vials have zero headspace?		Yes 🗸	No 🗆	No VOA Vials	
11. Were any sample containers received	broken?	Yes	No 🗸	# - #	
				# of preserved bottles checked	1
12. Does paperwork match bottle labels? (Note discrepancies on chain of custod	w)	Yes 🗸	No 🗌	for pH:	12 unless noted)
13. Are matrices correctly identified on Cha		Yes 🗸	No 🗆	Adjusted?	No
14. Is it clear what analyses were requeste	Section of the sectio	Yes 🗹	No 🗆		
15. Were all holding times able to be met? (If no, notify customer for authorization.		Yes 🗸	No 🗆	Checked by:	80
(II TIO, HOLINY COSTONICS FOR BULLIONE BUILDING	,				
Special Handling (if applicable)					
16. Was client notified of all discrepancies	with this order?	Yes 🗌	No 🗆	NA 🔽	
Person Notified:	Date				
By Whom:	Via:	eMail [Phone Fax	☐ In Person	
Regarding:					
Client Instructions:					
17. Additional remarks:					1
18. Cooler Information Cooler No Temp °C Condition	Seal Intact Seal No	Seal Date	Signed By	ı	
1 1.0 Good	Yes				
1 22-1					

VOCs. 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethylene, 1,1,2 ANALYSIS LABORATORY SVOCs. benzo(a)pyrene, phenol, 1-methylnaphthalene. 2-methylnaphthalene, naphthalene 804.1:EDB HALL ENVIRONMENTAL Trichloroethane; 1,1,2-Trichloroethylene; 1,1-Dictloroethane; 1,1-Dichloroethene; 1,2-Hd × Dibromoethane; 1.2-Dichloroethane; Benzene; Carbon Tetrachloride; Chloroform; Total Dissolved Solids × Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Zn 4901 Hawkins NE - Albuquerque, NM 87109 Nitrate/Nitrite × Dichloromethane, Ethylbenzene, Toluene, Total Xylenes, Vinyl Chloride Fax 505-345-4107 Fluoride × www.hallenvironmental.com **Analysis Request** Phenols × Sulfate Chloride × Radioactivity (Ra-226+Ra-228) × 8082: PCBs × Tel. 505-345-3975 еко, вко, око :9108 × × 7470: Mercury × Total Cyanide :4.855 × 6010B: WQCC Metals × 8270C: WQCC list SVOCs × Remarks 8560B:WQCC List VOCs × 0000 Time Time HEAL No. Date 51/80/01 Elizabeth Salsberry 8 | □ Rush Preservative Project #: P.O. # 167796 3-40ml VOA Na2S2O3 Type Sample Temperature: 1-1L Glass | H2SO4 1 - 1L Glass unpres 1-250mlGlas unpres X Yes -unpres HN03 HN03 2 - 1L Glass |unpres Monthly R.O. Reject HN03 NaOH H2S04 Tum-Around Time: 2-40ml VOA HCL 3-40ml VOA HCL 3-40ml VOA HCI Project Manager: Robert Combs Project Name X Standard Container Type and # 2 - 500ml P 1-500ml P Pelin 1-500ml P 1-125ml P Received by: Received by: Sampler: 2-1LP On Ice: □ Level 4 (Full Validation) Sample Request ID Relinquished by: Dizonocth Satsborry Chain-of-Custody Record R.O. Reject Trip Blank Expect Halstry Mailing Address: P.O. Box 159 Artesia, Relinquished by: email or Fax#: 575-746-5451 Navajo Refinery Matrix 9:35 liquid 9:35 liquid Phone #: 575-748-3311 9:35 liquid 3:8 Time NM 88211-0159 QA/QC Package: EDD (Type) me Time: X Standard 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 □ Other 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 31 LIO 10/7/15 Date Client Date



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

Monthly RO

Reject Sample Details Attachment	ample Type	Grab 🖸	d Composite	d Composite	Parts / Sample Intervals One	1
Reject S Deta Attachi	Samp		Time Weighted Composite	Flow Weighted	Parts / Samp	MIND I MIND I

HOLLYFRONTIER The HollyFrontier Companies

STATE OF STA	5			One
Sample Type	Grab	e Weighted Composite	v Weighted Composite	arts / Sample Intervals (

Samplers Name Elizabeth Salsberry Samplers Affiliation Navajo Refining Co. LLC

Project Name Biannual RO Reject

Start Date and Time 10/7/2015 @ 9:35 am End Date and Time 10/7/2015 @ 9:50 am

South Field R.O. Reject Discarge

North Field R.O. Reject Discarge

Outfall / Sample Location.

Type of Sampler | Directly to sample jars

Sudge

Physical Property

Solid Liquid

			-										
							Por SA CASE	Preservatives	res		Section of the sectio		
Container	Size	Material	# of Containers	Neat (None)	HCL	HNO3	H2SO4	NaOH	HCL HN03 H2SO4 NaOH Na2S2O3 NaHSO4	NaHSO4	Other	Analysis and/or Method Requested	E MADE
1	500ml	Plastic	2	×			×					pH, Cl, F, S04, NO2/NO3, TDS	
2	40ml	VOA	3		×							8015 GRO	
3	500ml	Plastic	-			×						6020 total metals, 7470 Hg	
4	125ml	Plastic	-			×						6020 Dissolved Metals	
5	500ml	Plastic	2				a angr	×				Cyanide	
9	7	Plastic	e			×						Radium 226/228	
7	40ml	VOA	2		×							8260 see attached list	
8	11	Glass		×								8270 see attached list	
6	11	Glass	2	×								8082 PCBs	7
10	40ml	VOA	2	×								8015 DRO	
11	40ml	VOA	2		×							Radium 226/228	

Storage Method	See	Refrigerated	Other 🗆	Shipping Media	100	Other
Cloudy			_		_	
ons Partly						
, Condition						
8.1 mph						
nd Speec						
North, Wi						
ily 88%, Wind Dir, North, Wind Speed 8.1 mph, Conditions Partly Cloud						
v 88% v						
Humidit						
D.62.6 °F						
/2015 Tm						
10/7						
s. Etc):			Field pH 7.92			
her Observations Etc):			Field			
Veather Ob			Field Temp, 24.9C			
Md Data (We	Date and Time:		Temp. 24			
Field	Date		Field			



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

October 30, 2015

Robert Combs
Navajo Refining Company
P.O. Box 159
Artesia, NM 88211-0159
TEL: (575) 748-2211

TEL: (575) 748-3311

FAX

RE: Monthly Temporary RO Reject OrderNo.: 1510416

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/8/2015 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: 10/30/2015

CLIENT: Navajo Refining Company

Project: Monthly Temporary RO Reject

Collection Date: 10/7/2015 8:55:00 AM

Lab ID: 1510416-001 **Matrix:** AQUEOUS **Received Date:** 10/8/2015 9:07:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst	DBD
Arsenic	ND	0.0050		mg/L	5	10/20/2015 6:39:18 PM	B29683
Lead	ND	0.00050		mg/L	1	10/20/2015 4:04:11 PM	B29683
Selenium	0.0094	0.0010		mg/L	1	10/20/2015 4:04:11 PM	B29683
Uranium	0.0059	0.00050		mg/L	1	10/20/2015 4:04:11 PM	B29683
EPA 903.1: RA 226 AND EPA 904.0: RA	228-SUBBE	D				Analyst	SUB
Radium-226	1.75	0.678		pCi/L	1	10/21/2015	R29838
Radium-226 ±	0.852	0.678		pCi/L	1	10/21/2015	R29838
Radium-228	1	0.662		pCi/L	1	10/21/2015	R29838
Radium-228 ±	0.416	0.662		pCi/L	1	10/21/2015	R29838
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	3.8	2.0		mg/L	20	10/8/2015 9:53:17 PM	R29414
Chloride	68	10		mg/L	20	10/8/2015 9:53:17 PM	R29414
Sulfate	1800	25		mg/L	50	10/20/2015 1:16:14 AM	R29666
Nitrate+Nitrite as N	1.5	1.0		mg/L	5	10/20/2015 1:41:03 AM	R29666
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analyst	KS
Total Dissolved Solids	3220	20.0	*	mg/L	1	10/12/2015 3:12:00 PM	21779
EPA 335.4: TOTAL CYANIDE SUBBED						Analyst	SUB
Cyanide	ND	0.0100		mg/L	1	10/20/2015	R29838
SM4500-H+B: PH						Analyst	MRA
рН	7.80	1.68	Н	pH units	1	10/9/2015 2:20:53 PM	R29457
EPA METHOD 200.7: DISSOLVED META	ALS					Analyst	ELS
Aluminum	ND	0.020		mg/L	1	10/15/2015 5:32:19 PM	C29574
Barium	0.069	0.0020		mg/L	1	10/14/2015 8:23:38 PM	C29542
Boron	0.11	0.040		mg/L	1	10/15/2015 5:32:19 PM	C29574
Cadmium	ND	0.0020		mg/L	1	10/15/2015 5:32:19 PM	C29574
Chromium	ND	0.0060		mg/L	1	10/14/2015 8:23:38 PM	C29542
Cobalt	ND	0.0060		mg/L	1	10/14/2015 8:23:38 PM	C29542
Copper	ND	0.0060		mg/L	1	10/14/2015 8:23:38 PM	C29542
Iron	0.039	0.020		mg/L	1	10/14/2015 8:23:38 PM	C29542
Manganese	0.012	0.0020		mg/L	1	10/14/2015 8:23:38 PM	
Molybdenum	ND	0.0080		mg/L	1	10/15/2015 5:32:19 PM	
Nickel	ND	0.010		mg/L	1	10/14/2015 8:23:38 PM	
Silver	ND	0.0050		mg/L	1	10/14/2015 8:23:38 PM	
Zinc	0.023	0.010		mg/L	1	10/16/2015 7:52:40 PM	B29618
EPA METHOD 245.1: MERCURY						Analyst	JLF
Mercury	ND	0.00020		mg/L	1	10/15/2015 12:45:19 PM	M 21848

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: 10/30/2015

CLIENT: Navajo Refining Company

Client Sample ID: Temporary R.O. Reject

Project: Monthly Temporary RO Reject

Collection Date: 10/7/2015 8:55:00 AM

Lab ID: 1510416-001 Matrix: AQUEOUS Received Date: 10/8/2015 9:07:00 AM

Analyses	Result	RL	Qual Uni	ts D	F Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	JME
1,2-Dibromoethane	ND	0.010	μg/	L 1	10/15/2015 3:45:45 PM	21803
EPA METHOD 8082: PCB'S					Analyst	SCC
Aroclor 1016	ND	1.0	μg/	L 1	10/15/2015 2:28:06 AM	21811
Aroclor 1221	ND	1.0			ne sourcementation and a second a second and	
Aroclor 1232	ND	1.0			10/15/2015 2:28:06 AM	21811
Aroclor 1242	ND	1.0			10/15/2015 2:28:06 AM	21811
Aroclor 1248	ND	1.0			10/15/2015 2:28:06 AM	21811
Aroclor 1254	ND	1.0			10/15/2015 2:28:06 AM	21811
Aroclor 1260	ND	1.0	μg/	L 1	10/15/2015 2:28:06 AM	21811
Surr: Decachlorobiphenyl	82.0	17.7-151	() () () () () () () () () ()	REC 1	10/15/2015 2:28:06 AM	21811
Surr: Tetrachloro-m-xylene	76.4	20.6-151	%F	REC 1	10/15/2015 2:28:06 AM	21811
EPA METHOD 8015M/D: DIESEL RANG	GE .				Analyst	TOM
Diesel Range Organics (DRO)	ND	1.0	mg	/L 1	10/12/2015 5:55:41 PM	21793
Motor Oil Range Organics (MRO)	ND	5.0			10/12/2015 5:55:41 PM	21793
Surr: DNOP	126	72-136	%R	REC 1	10/12/2015 5:55:41 PM	21793
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	0.050	mg	/L 1	10/9/2015 4:55:33 PM	R29422
Surr: BFB	90.2	57.8-137	%R	REC 1	10/9/2015 4:55:33 PM	R29422
EPA METHOD 8310: PAHS					Analyst	SCC
Naphthalene	ND	2.0	μg/	L 1	10/14/2015 5:02:42 PM	21812
1-Methylnaphthalene	ND	2.0	μg/	L 1	10/14/2015 5:02:42 PM	21812
2-Methylnaphthalene	ND	2.0	μg/	L 1	10/14/2015 5:02:42 PM	21812
Benzo(a)pyrene	ND	0.070	μg/	L 1	10/14/2015 5:02:42 PM	21812
Surr: Benzo(e)pyrene	75.2	37.2-136	%R	REC 1	10/14/2015 5:02:42 PM	21812
EPA METHOD 8260B: VOLATILES					Analyst	AG
Benzene	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
Toluene	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
Ethylbenzene	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
1,2-Dichloroethane (EDC)	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
1,2-Dibromoethane (EDB)	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
Carbon Tetrachloride	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
Chloroform	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
1,1-Dichloroethane	ND	1.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
1,1-Dichloroethene	ND	1.0	(A) (A) (A) (A)		10/8/2015 5:06:31 PM	R29397
Methylene Chloride	ND	3.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
1,1,2,2-Tetrachloroethane	ND	2.0	μg/	L 1	10/8/2015 5:06:31 PM	R29397
Tetrachloroethene (PCE)	ND	1.0	µg/	L 1	10/8/2015 5:06:31 PM	R29397

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

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- D Sample Diluted Due to Matrix
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- 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
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Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/30/2015

CLIENT: Navajo Refining Company

Client Sample ID: Temporary R.O. Reject

Project: Monthly Temporary RO Reject

Collection Date: 10/7/2015 8:55:00 AM

Lab ID: 1510416-001 Matrix: AQUEOUS Received Date: 10/8/2015 9:07:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	: AG
1,1,1-Trichloroethane	ND	1.0	μg/L	1	10/8/2015 5:06:31 PM	R29397
1,1,2-Trichloroethane	ND	1.0	μg/L	1	10/8/2015 5:06:31 PM	R29397
Trichloroethene (TCE)	ND	1.0	μg/L	1	10/8/2015 5:06:31 PM	R29397
Vinyl chloride	ND	1.0	μg/L	1	10/8/2015 5:06:31 PM	R29397
Xylenes, Total	ND	1.5	µg/L	1	10/8/2015 5:06:31 PM	R29397
Surr: 1,2-Dichloroethane-d4	92.1	70-130	%REC	1	10/8/2015 5:06:31 PM	R29397
Surr: 4-Bromofluorobenzene	105	70-130	%REC	1	10/8/2015 5:06:31 PM	R29397
Surr: Dibromofluoromethane	97.3	70-130	%REC	1	10/8/2015 5:06:31 PM	R29397
Surr: Toluene-d8	101	70-130	%REC	1	10/8/2015 5:06:31 PM	R29397
TOTAL PHENOLICS BY SW-846 9067					Analyst	scc
Phenolics, Total Recoverable	ND	2.5	μg/L	1	10/20/2015	21920

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- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/30/2015

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly Temporary RO Reject Collection Date:

Lab ID: 1510416-002 Matrix: TRIP BLANK Received Date: 10/8/2015 9:07:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst	JME
1,2-Dibromoethane	ND	0.010		μg/L	1	10/15/2015 4:27:08 PM	21803
EPA METHOD 8260B: VOLATILES						Analyst	AG
Benzene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Toluene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Ethylbenzene	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Naphthalene	ND	2.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
1-Methylnaphthalene	ND	4.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
2-Methylnaphthalene	ND	4.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
Acetone	ND	10		μg/L	1	10/8/2015 5:35:16 PM	R29397
Bromobenzene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Bromodichloromethane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Bromoform	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Bromomethane	ND	3.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
2-Butanone	ND	10		μg/L	1	10/8/2015 5:35:16 PM	R29397
Carbon disulfide	ND	10		μg/L	1	10/8/2015 5:35:16 PM	R29397
Carbon Tetrachloride	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
Chlorobenzene	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
Chloroethane	ND	2.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Chloroform	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Chloromethane	ND	3.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
2-Chlorotoluene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
4-Chlorotoluene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
cis-1,2-DCE	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	10/8/2015 5:35:16 PM	R29397
Dibromochloromethane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Dibromomethane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2-Dichlorobenzene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,3-Dichlorobenzene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,4-Dichlorobenzene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
Dichlorodifluoromethane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1.1-Dichloroethane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1-Dichloroethene	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2-Dichloropropane	ND	1.0		μg/L	1	10/8/2015 5:35:16 PM	R29397

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- 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: 10/30/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project: Monthly Temporary RO Reject Collection Date:

Lab ID: 1510416-002 Matrix: TRIP BLANK Received Date: 10/8/2015 9:07:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	: AG
1,3-Dichloropropane	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
2,2-Dichloropropane	ND	2.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1-Dichloropropene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Hexachlorobutadiene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
2-Hexanone	ND	10	μg/L	1	10/8/2015 5:35:16 PM	R29397
Isopropylbenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
4-Isopropyltoluene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
4-Methyl-2-pentanone	ND	10	μg/L	1	10/8/2015 5:35:16 PM	R29397
Methylene Chloride	ND	3.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
n-Butylbenzene	ND	3.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
n-Propylbenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
sec-Butylbenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Styrene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
tert-Butylbenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
trans-1,2-DCE	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1,1-Trichloroethane	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,1,2-Trichloroethane	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Trichloroethene (TCE)	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Trichlorofluoromethane	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
1,2,3-Trichloropropane	ND	2.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Vinyl chloride	ND	1.0	μg/L	1	10/8/2015 5:35:16 PM	R29397
Xylenes, Total	ND	1.5	μg/L	1	10/8/2015 5:35:16 PM	R29397
Surr: 1,2-Dichloroethane-d4	96.3	70-130	%REC	1	10/8/2015 5:35:16 PM	R29397
Surr: 4-Bromofluorobenzene	103	70-130	%REC	1	10/8/2015 5:35:16 PM	R29397
Surr: Dibromofluoromethane	98.2	70-130	%REC	1	10/8/2015 5:35:16 PM	R29397
Surr: Toluene-d8	97.9	70-130	%REC	1	10/8/2015 5:35:16 PM	R29397

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

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-C SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals Client ID: **PBW** Batch ID: C29542 RunNo: 29542 Prep Date: Analysis Date: 10/14/2015 SeqNo: 898765 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual ND 0.0020 Barium ND 0.0060 Chromium 0.0060 Cobalt ND ND 0.0060 Copper

 Iron
 ND
 0.020

 Manganese
 ND
 0.0020

 Nickel
 ND
 0.010

 Silver
 ND
 0.0050

Sample ID LCS-C	Samp	Type: LC	S	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Bato	h ID: C2	9542	F	RunNo: 2	9542						
Prep Date:	Analysis	Date: 10	0/14/2015	S	SeqNo: 8	98766	Units: mg/L	g/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Barium	0.51	0.0020	0.5000	0	103	85	115					
Chromium	0.50	0.0060	0.5000	0	100	85	115					
Cobalt	0.48	0.0060	0.5000	0	96.6	85	115					
Copper	0.47	0.0060	0.5000	0	94.0	85	115					
Iron	0.49	0.020	0.5000	0	98.8	85	115					
Manganese	0.47	0.0020	0.5000	0	93.6	85	115					
Nickel	0.48	0.010	0.5000	0	96.9	85	115					
Silver	0.091	0.0050	0.1000	0	90.6	85	115					

Sample ID LLLCS-C	Samp	Type: LC	SLL	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Bato	th ID: C2	9542	R	RunNo: 2	9542				
Prep Date:	Analysis	Date: 10	0/14/2015	S	SeqNo: 8	98767	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	96.0	50	150			
Chromium	ND	0.0060	0.006000	0	91.3	50	150			
Cobalt	ND	0.0060	0.006000	0	94.3	50	150			
Copper	0.0061	0.0060	0.006000	0	102	50	150			
Iron	ND	0.020	0.02000	0	97.4	50	150			
Manganese	ND	0.0020	0.002000	0	94.5	50	150			
Nickel	ND	0.010	0.005000	0	92.2	50	150			
Silver	ND	0.0050	0.005000	0	95.4	50	150			

Qualifiers:

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Page 6 of 23

Hall Environmental Analysis Laboratory, Inc.

WO#: **1510416**

30-Oct-15

Client: Project:		avajo Refining Co Ionthly Temporar		eject							
Sample ID	мв-с	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	PBW	Bato	h ID: C2	9574	F	RunNo: 2	9574				
Prep Date:		Analysis [Date: 10	0/15/2015	5	SeqNo: 9	00085	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		ND	0.020								
Boron		ND	0.040								
Cadmium		ND	0.0020								
Molybdenum		ND	0.0080								
Sample ID	LCS-C	Samp	Type: LC	s	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	LCSW	Batc	h ID: C2	9574	F	RunNo: 2	9574				
Prep Date:		Analysis [Date: 10	0/15/2015	\$	SeqNo: 9	00086	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		0.51	0.020	0.5000	0	103	85	115			
Boron		0.50	0.040	0.5000	0	100	85	115			
Cadmium		0.48	0.0020	0.5000	0	96.7	85	115			
Molybdenum		0.51	0.0080	0.5000	0	101	85	115			
Sample ID	LLLCS-C	Samp	Type: LC	SLL	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
- 50		453									
Client ID:	BatchQC	Bato	h ID: C2	9574	F	RunNo: 2	9574				
30	BatchQC	Bato Analysis I				RunNo: 2 SeqNo: 9		Units: mg/L			
Client ID:	BatchQC			0/15/2015				Units: mg/L HighLimit	%RPD	RPDLimit	Qual
Client ID: Prep Date:	BatchQC	Analysis [Date: 10	0/15/2015	5	SeqNo: 9	00087	1273	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte	BatchQC	Analysis [Result	Date: 10	0/15/2015 SPK value	SPK Ref Val	%REC 102 93.8	00087 LowLimit	HighLimit 150 150	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium	BatchQC	Analysis I Result ND	PQL 0.020 0.040 0.0020	0/15/2015 SPK value 0.01000 0.04000 0.002000	SPK Ref Val	%REC 102 93.8 102	00087 LowLimit 50	HighLimit 150 150 150	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Aluminum Boron	BatchQC	Analysis I Result ND ND	PQL 0.020 0.040	0/15/2015 SPK value 0.01000 0.04000	SPK Ref Val 0 0	%REC 102 93.8	00087 LowLimit 50 50	HighLimit 150 150	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium		Analysis I Result ND ND 0.0020 0.012	PQL 0.020 0.040 0.0020	0/15/2015 SPK value 0.01000 0.04000 0.002000 0.008000	SPK Ref Val 0 0 0 0	%REC 102 93.8 102 145	00087 LowLimit 50 50 50 50	HighLimit 150 150 150			Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum	MB-B	Result ND ND 0.0020 0.012	PQL 0.020 0.040 0.0020 0.0080	0/15/2015 SPK value 0.01000 0.04000 0.002000 0.008000 BLK	SPK Ref Val 0 0 0 0 Tes	%REC 102 93.8 102 145	LowLimit 50 50 50 50 PA Method	HighLimit 150 150 150 150			Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID	MB-B	Result ND ND 0.0020 0.012	PQL 0.020 0.040 0.0020 0.0080 Type: ME	SPK value 0.01000 0.04000 0.002000 0.008000 BLK 9618	SPK Ref Val 0 0 0 0 Tes	%REC 102 93.8 102 145	LowLimit 50 50 50 50 PA Method 9618	HighLimit 150 150 150 150			Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID: Prep Date:	MB-B	Analysis I Result ND ND 0.0020 0.012 Samp Bato Analysis I	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2	SPK value 0.01000 0.04000 0.002000 0.008000 0.008000 0.008000	SPK Ref Val 0 0 0 0 Tes	%REC 102 93.8 102 145 tCode: E RunNo: 2	LowLimit 50 50 50 50 PA Method 9618	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L	ved Meta	ls	
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID:	MB-B	Result ND ND 0.0020 0.012 Samp	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2	SPK value 0.01000 0.04000 0.002000 0.008000 0.008000 0.008000	SPK Ref Val 0 0 0 0 Tes	%REC 102 93.8 102 145 tCode: E RunNo: 2	LowLimit 50 50 50 50 PA Method 9618	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L			Qual
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID: Prep Date: Analyte	MB-B PBW	Analysis I Result ND ND 0.0020 0.012 Samp Bato Analysis I Result ND	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2 Date: 10	0/15/2015 SPK value 0.01000 0.04000 0.002000 0.008000 BLK 9618 0/16/2015 SPK value	SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	8eqNo: 9 %REC 102 93.8 102 145 tCode: E RunNo: 2 SeqNo: 9 %REC	LowLimit 50 50 50 50 PA Method 9618 01616 LowLimit	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L	ved Meta %RPD	I s RPDLimit	
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID: Prep Date: Analyte Zinc	MB-B PBW	Analysis I Result ND ND 0.0020 0.012 Samp Batc Analysis I Result ND	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2 Date: 10 PQL 0.010	0/15/2015 SPK value 0.01000 0.04000 0.002000 0.008000 BLK 9618 0/16/2015 SPK value	SPK Ref Val 0 0 0 0 Tes SPK Ref Val	8eqNo: 9 %REC 102 93.8 102 145 tCode: E RunNo: 2 SeqNo: 9 %REC	Doubt	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L HighLimit	ved Meta %RPD	I s RPDLimit	
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID: Prep Date: Analyte Zinc Sample ID	MB-B PBW	Analysis I Result ND ND 0.0020 0.012 Samp Batc Analysis I Result ND	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2 Date: 10 PQL 0.010 Type: LC	SPK value 0.01000 0.04000 0.002000 0.008000 3LK 9618 0/16/2015 SPK value	SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	%REC 102 93.8 102 145 tCode: E RunNo: 2 SeqNo: 9 %REC	LowLimit 50 50 50 50 PA Method 9618 LowLimit PA Method 9618	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L HighLimit	ved Meta %RPD	I s RPDLimit	
Client ID: Prep Date: Analyte Aluminum Boron Cadmium Molybdenum Sample ID Client ID: Prep Date: Analyte Zinc Sample ID Client ID:	MB-B PBW	Analysis I Result ND ND 0.0020 0.012 Samp Batc Analysis I Result ND Samp	PQL 0.020 0.040 0.0020 0.0080 Type: ME th ID: B2 Date: 10 PQL 0.010 Type: LC	SPK value 0.01000 0.04000 0.002000 0.008000 BLK 9618 0/16/2015 SPK value	SPK Ref Val 0 0 0 0 Tes F SPK Ref Val	8eqNo: 9 %REC 102 93.8 102 145 tCode: E RunNo: 2 8eqNo: 9 %REC tCode: E RunNo: 2 8eqNo: 9	Doubt	HighLimit 150 150 150 150 200.7: Dissol Units: mg/L HighLimit	ved Meta %RPD	I s RPDLimit	

Qualifiers:

Zinc

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

0.46

0.010

0.5000

- 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

85

115

E Value above quantitation range

91.1

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

0

RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID LLLCS-B SampType: LCSLL TestCode: EPA Method 200.7: Dissolved Metals

Client ID: BatchQC Batch ID: B29618 RunNo: 29618

Prep Date: Analysis Date: 10/16/2015 SeqNo: 901618 Units: mg/L

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

Zinc ND 0.010 0.005000 0 60.6 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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Client:

Hall Environmental Analysis Laboratory, Inc.

ND 0.00050

Navajo Refining Company

WO#: 1510416

30-Oct-15

Project:	Monthly	Tempora	ry RO R	eject							
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: El	PA 200.8: [Dissolved Me	tals		
Client ID:	LCSW	Bat	ch ID: B2	9683	F	RunNo: 2	9683				
Prep Date:		Analysis	Date: 10	0/20/2015	8	SeqNo: 9	03929	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	95.2	85	115			
ead		0.012	0.00050	0.01250	0	98.6	85	115			
Selenium		0.023	0.0010	0.02500	0	90.5	85	115			
Jranium		0.012	0.00050	0.01250	0	96.7	85	115			
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: El	PA 200.8: [Dissolved Me	tals		
Client ID:	BatchQC	Bat	ch ID: B2	9683	F	RunNo: 2	9683				
Prep Date:		Analysis	Date: 10	0/20/2015	8	SeqNo: 9	03932	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		ND	0.0010	0.001000	0	96.3	50	150			
_ead		0.00051	0.00050	0.0005000	0	102	50	150			
Selenium		ND	0.0010	0.001000	0	88.7	50	150			
Jranium		ND	0.00050	0.0005000	0	99.8	50	150			
Sample ID	МВ	Samp	Туре: МЕ	BLK	Tes	tCode: El	PA 200.8: [Dissolved Me	tals		
Client ID:	PBW	Bat	ch ID: B2	9683	F	RunNo: 2	9683				
Prep Date:		Analysis	Date: 10	0/20/2015	8	SeqNo: 9	03934	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		ND	0.0010								
ead		ND	0.00050								

Qualifiers:

Uranium

- * 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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21848 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: **PBW** Batch ID: **21848** RunNo: **29565**

Prep Date: 10/14/2015 Analysis Date: 10/15/2015 SeqNo: 899831 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-21848 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 21848 RunNo: 29565

Prep Date: 10/14/2015 Analysis Date: 10/15/2015 SeqNo: 899832 Units: mg/L

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

Mercury 0.0052 0.00020 0.005000 0 104 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.

3.5

0.20

3.500

WO#: **1510416**

30-Oct-15

Client:		Navajo R	tefining Co	mpany								
Project:		Monthly	Temporary	RO R	eject							
Sample ID	МВ		SampT	ype: ME	BLK	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	PBW		Batch	ID: R2	9414	F	RunNo: 2	9414				
Prep Date:			Analysis D	ate: 10	0/8/2015	5	SeqNo: 8	94692	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride Chloride			ND ND	0.10 0.50								
Sample ID	LCS		SampT	ype: LC	s	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	LCSW		Batch	ID: R2	9414	F	RunNo: 2	9414				
Prep Date:			Analysis D	ate: 10	0/8/2015	5	SeqNo: 8	94693	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride			0.53	0.10	0.5000	0	106	90	110			
Chloride			4.8	0.50	5.000	0	96.4	90	110			
Sample ID	МВ		SampT	ype: ME	BLK	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	PBW		Batch	ID: R2	9666	F	RunNo: 2	9666				
Prep Date:			Analysis D	ate: 10	0/19/2015	\$	SeqNo: 9	03381	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate			ND	0.50								
Nitrate+Nitrite	as N		ND	0.20								
Sample ID	LCS		SampT	ype: LC	s	Tes	tCode: E	PA Method	300.0: Anions	5		
Client ID:	LCSW		Batch	ID: R2	9666	F	RunNo: 2	9666				
Prep Date:			Analysis D	ate: 10	0/19/2015	5	SeqNo: 9	03382	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	1111		9.9	0.50	10.00	0	99.1	90	110	<u> </u>		

Qualifiers:

Nitrate+Nitrite as N

- * 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

100

90

110

- 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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21803 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: PBW Batch ID: 21803 RunNo: 29577

Prep Date: 10/12/2015 Analysis Date: 10/15/2015 SeqNo: 900397 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-21803 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 21803 RunNo: 29577

Prep Date: 10/12/2015 Analysis Date: 10/15/2015 SeqNo: 900399 Units: μg/L

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

1,2-Dibromoethane 0.11 0.010 0.1000 0 112 70 130

Sample ID 1510416-001DMS SampType: MS TestCode: EPA Method 8011/504.1: EDB

Client ID: Temporary R.O. Rej Batch ID: 21803 RunNo: 29577

Prep Date: 10/12/2015 Analysis Date: 10/15/2015 SeqNo: 900412 Units: μg/L

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

12-Dibromoethane 0.12 0.010 0.1000 0 121 45.7 164

Sample ID 1510416-001DMSD SampType: MSD TestCode: EPA Method 8011/504.1: EDB

Client ID: Temporary R.O. Rej Batch ID: 21803 RunNo: 29577

Prep Date: 10/12/2015 Analysis Date: 10/15/2015 SeqNo: 900413 Units: μg/L

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

1,2-Dibromoethane 0.13 0.010 0.1000 0 127 45.7 164 4.84 20

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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21793 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Client ID: **PBW** Batch ID: 21793 RunNo: 29489 Prep Date: SeqNo: 896837 10/12/2015 Analysis Date: 10/12/2015 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 1.0 ND Motor Oil Range Organics (MRO) 5.0 Surr: DNOP 1.000 128 72 1.3 136

TestCode: EPA Method 8015M/D: Diesel Range Sample ID LCS-21793 SampType: LCS Client ID: LCSW Batch ID: 21793 RunNo: 29489 Prep Date: 10/12/2015 Analysis Date: 10/12/2015 SeqNo: 896840 Units: mg/L Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 52.4 5.3 1.0 5.000 0 107 154 Surr: DNOP 0.55 0.5000 110 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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBW Batch ID: R29422 RunNo: 29422

Prep Date: Analysis Date: 10/9/2015 SeqNo: 895544 Units: mg/L

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

Gasoline Range Organics (GRO) ND 0.050

Surr: BFB 18 20.00 88.1 57.8 137

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSW Batch ID: R29422 RunNo: 29422

Prep Date: Analysis Date: 10/9/2015 SeqNo: 895545 Units: mg/L

HighLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.47 0.050 0.5000 0 93.6 80 120 Surr: BFB 19 20.00 93.0 57.8 137

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#:

1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21811	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: PBW	Batch	ID: 21	811	F	RunNo: 2	9529				
Prep Date: 10/13/2015	Analysis D	ate: 10	0/14/2015	S	SeqNo: 8	99307	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	1.0								
Aroclor 1221	ND	1.0								
Aroclor 1232	ND	1.0								
Aroclor 1242	ND	1.0								
Aroclor 1248	ND	1.0								
Aroclor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	2.1		2.500		85.2	17.7	151			
Surr: Tetrachloro-m-xylene	2.1		2.500		82.8	20.6	151			

Sample ID LCS-21811	SampT	ype: LC	s	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSW	Batch	ID: 21	811	F	RunNo: 2	9529				
Prep Date: 10/13/2015	Analysis D	ate: 10	0/14/2015	8	SeqNo: 8	99308	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.9	1.0	5.000	0	58.9	9.01	142			
Arodor 1260	4.2	1.0	5.000	0	83.5	25.6	164			
Surr: Decachlorobiphenyl	1.8		2.500		74.0	17.7	151			
Surr: Tetrachloro-m-xylene	1.8		2.500		74.0	20.6	151			

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#:

1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID 100ng Ics	SampT	ype: LC	S	TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW	Batch	ID: R2	9397	F	RunNo: 2	9397				
Prep Date:	Analysis D	ate: 10	0/8/2015	S	SeqNo: 8	94163	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

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

Client ID: PBW Batch ID: R29397 RunNo: 29397

Prep Date: Analysis Date: 10/8/2015 SeqNo: 894164 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#:

1510416 30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

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

Sample ID 10	Samp Type. WIBLK			resicode. EFA Metilod 8200B. VOLATILES						
Client ID: PBW	Batch ID: R29397				RunNo: 29					
Prep Date:	Analysis D	ate: 10)/8/2015	S	SeqNo: 89	94164	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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								
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								
'='- '' '' '' '' '' '' ''	110	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#: 1

1510416 30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch	Batch ID: R29397			RunNo: 29397					
Prep Date:	Analysis Date: 10/8/2015			5	SeqNo: 8	94164	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	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	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
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21812 SampType: MBLK TestCode: EPA Method 8310: PAHs Client ID: **PBW** Batch ID: 21812 RunNo: 29527 Prep Date: 10/13/2015 Analysis Date: 10/14/2015 SeqNo: 898372 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Naphthalene ND 2.0 1-Methylnaphthalene ND 2.0 2-Methylnaphthalene ND 2.0 Benzo(a)pyrene ND 0.070 Surr: Benzo(e)pyrene 21 20.00 103 37.2 136

Sample ID LCS-21812	Sampl	ype: LC	s	Tes	tCode: El	PA Method				
Client ID: LCSW	Batc	n ID: 21	812	F	RunNo: 2	9527				
Prep Date: 10/13/2015	Analysis E)ate: 10	0/14/2015	8	SeqNo: 8	98374	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	65	2.0	80.00	0	80.7	57.8	83.9			
1-Methylnaphthalene	67	2.0	80.20	0	83.1	43.5	88.5			
2-Methylnaphthalene	65	2.0	80.00	0	81.0	34.2	94.5			
Benzo(a)pyrene	0.41	0.070	0.5020	0	81.7	56.3	98.6			
Surr: Benzo(e)pyrene	21		20.00		107	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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21920 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 21920 RunNo: 29663

Prep Date: 10/20/2015 Analysis Date: 10/20/2015 SeqNo: 903297 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-21920 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 21920 RunNo: 29663

Prep Date: 10/20/2015 Analysis Date: 10/20/2015 SeqNo: 903298 Units: μg/L

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

Phenolics, Total Recoverable 19 2.5 20.00 0 96.2 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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-R29838 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW Batch ID: R29838 RunNo: 29838

Prep Date: Analysis Date: 10/20/2015 SeqNo: 908961 Units: mg/L

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

Cyanide ND 0.0100

Sample ID LCS-R29838 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R29838 RunNo: 29838

Prep Date: Analysis Date: 10/20/2015 SeqNo: 908962 Units: mg/L

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

Cyanide 0.451 0.5000 0 90.2 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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-R29838 SampType: MBLK TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed Client ID: **PBW** Batch ID: R29838 RunNo: 29838 Prep Date: Analysis Date: 10/21/2015 SeqNo: 908965 Units: pCi/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Radium-226 0.209 0.513 Radium-226 ± 0.319 0.513 Radium-228 0.221 0.666 Radium-228 ± 0.31 0.666

Sample ID MB-R29838	SampT	ype: ME	BLK	TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed						
Client ID: PBW	Batch ID: R29838			F	RunNo: 2	9838				
Prep Date:	Analysis D	ate: 10	0/21/2015	S	SeqNo: 9	08967	Units: pCi/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Radium-226	0.411	0.965								
Radium-226 ±	0.571	0.965								
Radium-228	0.403	0.785								
Radium-228 ±	0.384	0.785								

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#: 1510416

30-Oct-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-21779 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 21779 RunNo: 29476

Prep Date: 10/11/2015 Analysis Date: 10/12/2015 SeqNo: 896502 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-21779 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 21779 RunNo: 29476

Prep Date: 10/11/2015 Analysis Date: 10/12/2015 SeqNo: 896503 Units: mg/L

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

Total Dissolved Solids 999 20.0 1000 0 99.9 80 120

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- 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 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Work Order Number: 1510416 RcptNo: 1 NAVAJO REFINING CO Client Name: Received by/date: 10/8/2015 9:07:00 AM Logged By: **Lindsay Mangin** Completed By: 10/8/2015 12:52:31 PM Lindsay Mangin Reviewed By: 0 08 15 Chain of Custody Not Present V 1 Custody seals intact on sample bottles? No . Not Present Yes V 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No . NA Yes 🗸 4. Was an attempt made to cool the samples? NA 🗌 Were all samples received at a temperature of >0° C to 6.0°C No Yes V Yes V No 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No Yes V 8. Are samples (except VOA and ONG) properly preserved? No V NA 🗆 Yes 9. Was preservative added to bottles? No VOA Vials No 🗌 Yes V 10. VOA vials have zero headspace? No V Yes 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 for pH: No 🗌 12. Does paperwork match bottle labels? 2/or ¥12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗌 V Yes 14. Is it clear what analyses were requested? Checked by Yes V No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) NA V Yes No 🗌 16. Was client notified of all discrepancies with this order? Date Person Notified: eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp ℃ Condition Seal Intact Seal No Seal Date Signed By 1.0 Good Yes

VOCs: 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethylene; 1,1,2 SVOCs: benzo(a)pyrene, pherol, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene ANALYSIS LABORATORY 804.1:EDB × HALL ENVIRONMENTAL Inchloroethane; 1,1,2-Trichloroethylene; 1,1-Dichloroethane; 1,1-Dichloroethene, 1,2-Hd × Dibromoethane; 1,2-Dichloroethane; Benzene; Carbon Tetrachloride; Chloroform; Total Dissolved Solids × Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Zn 4901 Hawkins NE - Albuquerque, NM 87109 Nitrate/Nitrite Dichlorometriane, Ethylbenzene, Toluene, Total Xylenes, Vinyl Chloride Fax 505-345-4107 Fluoride × www.hallenvironmental.com **Analysis Request** × Phenols Sulfate Chloride × × Radioactivity (Ra-226+Ra-228) × 8082: PCBs Tel. 505-345-3975 еко, рко, око :9108 × × Mercury :0747 × × 335.4: Total Cyanide × 6010B: WQCC Metals Remarks × 8270C: WQCC list SVOCs 8560B:WQCC List VOCs × 0907 Time Time HEAL No. 3 51/80/01 Date ºN □ Elizabeth Salsberry Monthly Temporary R.O. Reject Preservative □ Rush Project #: P.O. # 167796 3-40ml VOA Na2S203 Sample Temperature: 1-1L Glass | H2SO4 2 - 1L Glass unpres 1 - 1L Glass unpres 1-250miGlas unpres saudun-HN03 X Yes HN03 HN03 NaOH H2S04 2-40ml VOA HCL Turn-Around Time: 3-40ml VOA HCL 3-40ml VOA HCI Project Manager: Robert Combs Project Name: Meline 2 - 500ml P X Standard Type and # Container 1-500ml P 1-125ml P 1-500ml P Received by: Received by: Sampler: 2-1LP On Ice: Relinquished by: Elizabeth Salsbary □ Level 4 (Full Validation) Temporary R.O. Reject Sample Request ID Temporary R.O. Reject Chain-of-Custody Record Trip Blank Perdocal doubler Mailing Address: P.O. Box 159 Artesia Relinquished by: email or Fax#; 575-746-5451 Matrix Client: Navajo Refinery Phone #: 575-748-3311 liquid 8:55 liquid 55 Time NM 88211-0159 Ja:017/15 QA/QC Package: EDD (Type) Time: Ime: 60 X Standard 10/7/15 10/7/15 □ Other 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 10/7/15 Date Date:



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

Monthly Tempo Reject De

#	LLYFRONTIE
	HOLL

		H	
6	orary RO	t Sample	etails

Grab Grab Grab Oweighted Composite		1
e Weighted Comp v Weighted Comp	Grab 🗷	7
=	Weighted Comp	
	=	

Samplers Name Elizabeth Salsberry
Samplers Affiliation Navajo Refining Co. LLC

Project Name Biannual RO Reject

Start Date and Time 10/7/2015 @ 8:55am End Date and Time 10/7/2015 @ 9:11am

Outfall / Sample Location:

South Field R.C. Reject Discarge

North Field R O. Reject Discarge

Type of Sampler | Directly to sample jars

Sludge

	ER		erty		
	FRONTI	lyFrontier Companies	Physical Prop	Solid	Liquid
•	HOLLY	The Hol			

				The state of the state of				Preservatives	ves			
otainer	Sive	Material	# of Containers	Neat (None)	HCH	HNO3	H2SO4	N3OH	Na2S203	Neat None) HCL HNO3 H2SO4 NaOH Na2S2O3 NaHSO4	Other	Analysis and/or Method Requested
	500ml	Plastic	2	×			×					pH, Cl, F, S04, NO2/NO3, TDS
	40ml	VOA	8		×							8015 GRO
3	500ml	Plastic				×						6020 total metals, 7470 Hg
1	125ml	Plastic	,			×						6020 Dissolved Metals
2	500ml	Plastic	2					×				Cyanide
8	7	Plastic	6			×						Radium 226/228
1	40ml	VOA	2		×							8260 see attached list
8	4	Glass	1	×								8270 see attached list
6	11	Glass	2	×								8082 PCBs
0	40ml	VOA	2	×								8015 DRO
+	40ml	VOA	7		×							Radium 226/228

	8015 DRO	Radium 226/228	Storage Method	ice 🖸	Refrigerated	Other	Shipping Media	[] eol	Other
			artly Cloudy						
		1 1 1 1	Conditions						
			eed 8.1 mph.						
			rth. Wind Sp						
			Wind Dir. No						
		×	Tmp 60.8 °F. Humidily 94%. Wind Dir. North. Wind Speed 8.1 mph. Conditions Partly Cloudy						
-	×		nn 60.8 °F. H						
	2	N	10/7/2015 Tu						
	VOA	VOA	Field Data (Weather Observations Fire):			Field pH 22.7C			
	40ml	40ml	Vesther Ob	ne.		8.13			
	10	- 11	Field Data W	Date and Time:		Field Temp.			



December 15, 2015

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

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

RE: WQA-OCD-CO-2015-002

Monthly Report - November 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 December 2015 monthly report, for the period of November 1 - 30, under the Order.

Specifically, this report covers the November 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 November 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 November 1 through November 30.
- \$500 per day for each daily RO reject fluid discharge volume that exceeds 15,000 barrels from November 1 through November 30.

Navajo has calculated a penalty of \$2,900 for November 2015. The daily discharge volume exceeded the 10,000 barrels/day (bbl/day) limit, but was under 15,000 barrels total, on 29 days in November. 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 November 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 notification to submit to OCD for Discharge Permit GW-028 authorization regarding installation of a third permanent primary RO unit to replace the temporary RO unit and the installation of a secondary RO unit to reduce the total volume of RO reject fluid produced. Navajo is also evaluating options for the underground injection, or other options for discharge of RO reject fluid.

On November 12, 2015, Navajo notified OCD that Holly Energy Partners was conducting field work in the south discharge field, and that the temporary RO discharge location would need to be moved to the north field. OCD approved this request in an email on November 12, 2015. Per OCD's request, Navajo has documented the discharge locations and volumes.

On November, 2015, Navajo and OCD met to discuss conditions of the May 2015 permit modification request to increase the discharge volume, and the Background Groundwater Report.

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 Report

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

. [Permaner	nt RO Units		Tempor	ary Unit	Daily Discharge Volume
,	Metere	d Data		RO Reject Calculated)	(Calculate	ect Discharge ed from Log ta)	
	GPM	GPM	GPM	BBL/DAY	GPM	BBL/DAY	BBL
	SOUTH	NORTH					
11/1/2015	141	144	285	9,771	61	2075	11,846
11/2/2015	155	148	303	10,389	63	2150	12,539
11/3/2015	146	149	295	10,114	63	2168	12,282
11/4/2015	147	144	291	9,977	65	2219	12,196
11/5/2015	144	143	287	9,840	67	2285	12,125
11/6/2015	151	141	292	10,011	68	2330	12,341
11/7/2015	146	145	291	9,977	69	2365	12,342
11/8/2015	149	140	289	9,909	70	2400	12,309
11/9/2015	147	148	295	10,114	70	2400	12,514
11/10/2015	0	145	145	4,971	51	1759	6,730
11/11/2015	149	147	296	10,149	55	1903	12,052
11/12/2015	147	143	290	9,943	70	2391	12,334
11/13/2015	149	144	293	10,046	71	2422	12,468
11/14/2015	149	140	289	9,909	71	2434	12,343
11/15/2015	149	144	293	10,046	72	2458	12,504
11/16/2015	152	140	292	10,011	56	1922	11,933
11/17/2015	148	152	300	10,286	57	1956	12,242
11/18/2015	152	143	295	10,114	58	1993	12,107
11/19/2015	149	141	290	9,943	59	2023	11,966
11/20/2015	146	144	290	9,943	60	2069	12,012
11/21/2015	146	146	292	10,011	60	2058	12,069
11/22/2015	149	142	291	9,977	64	2183	12,160
11/23/2015	154	153	307	10,526	66	2250	12,776
11/24/2015	127	150	277	9,497	91	3107	12,604
11/25/2015	139	148	287	9,840	66	2254	12,094
11/26/2015	137	148	285	9,771	67	2295	12,066
11/27/2015	143	151	294	10,080	66	2263	12,343
11/28/2015	141	148	289	9,909	66	2263	12,172
11/29/2015	138	150	288	9,874	57	1938	11,812
11/30/2015	142	153	295	10,114	67	2303	12,417

Attachment 2
Stipulated Penalty Calculation

Calculation of Stipulated Penalties - November 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:			
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	29	\$2,900
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	Amount:	\$2,900

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

November 25, 2015

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

TEL: (575) 748-3311

FAX

RE: Monthly RO Reject OrderNo.: 1511135

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/4/2015 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: 11/25/2015

CLIENT: Navajo Refining Company Client Sample ID: R.O. Reject

 Project:
 Monthly RO Reject
 Collection Date: 11/3/2015 9:00:00 AM

 Lab ID:
 1511135-001
 Matrix: AQUEOUS
 Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL (Qual U	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst	JLF
Arsenic	ND	0.0050		mg/L	5	11/18/2015 12:45:48 PM	и В30317
Lead	ND	0.00050		mg/L	1	11/18/2015 12:14:52 PM	и В30317
Selenium	0.0061	0.0010		mg/L	1	11/18/2015 12:14:52 PM	и В30317
Uranium	0.0032	0.00050		mg/L	1	11/18/2015 12:14:52 PM	и В30317
EPA 903.1: RA 226 AND EPA 904.0: F	RA 228-SUBBE	D				Analyst	SUB
Radium-226	0.79	0.815		pCi/L	1	11/16/2015	R30469
Radium-226 ±	0.627	0.815		pCi/L	1	11/16/2015	R30469
Radium-228	0.401	0.750		pCi/L	1	11/16/2015	R30469
Radium-228 ±	0.369	0.750		pCi/L	1	11/16/2015	R30469
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	2.4	0.10		mg/L	1	11/4/2015 6:51:42 PM	R30015
Chloride	29	10		mg/L	20	11/4/2015 7:28:55 PM	R30015
Nitrogen, Nitrate (As N)	1.3	0.10		mg/L	1	11/4/2015 6:51:42 PM	R30015
Sulfate	1100	25		mg/L	50	11/19/2015 2:37:48 AM	R30336
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	2050	20.0	*	mg/L	1	11/7/2015 10:19:00 AM	22194
EPA 335.4: TOTAL CYANIDE SUBBE	D					Analyst	SUB
Cyanide	ND	0.0100		mg/L	1	11/16/2015	R30469
SM4500-H+B: PH						Analyst	JRR
рН	7.87	1.68	Н	pH units	1	11/5/2015 4:48:02 PM	R30047
EPA METHOD 200.7: DISSOLVED ME	TALS					Analyst	MED
Aluminum	ND	0.020		mg/L	1	11/13/2015 4:20:04 PM	B30225
Barium	0.042	0.0020		mg/L	1	11/13/2015 4:20:04 PM	B30225
Boron	0.077	0.040		mg/L	1	11/13/2015 4:20:04 PM	B30225
Cadmium	ND	0.0020		mg/L	1	11/13/2015 4:20:04 PM	B30225
Chromium	ND	0.0060		mg/L	1	11/13/2015 4:20:04 PM	B30225
Cobalt	ND	0.0060		mg/L	1	11/13/2015 4:20:04 PM	B30225
Copper	ND	0.0060		mg/L	1	11/13/2015 4:20:04 PM	B30225
Iron	ND	0.020		mg/L	1	11/13/2015 4:20:04 PM	B30225
Manganese	ND	0.0020		mg/L	1	11/13/2015 4:20:04 PM	B30225
Molybdenum	ND	0.0080		mg/L	1	11/13/2015 4:20:04 PM	B30225
Nickel	ND	0.010		mg/L	1	11/13/2015 4:20:04 PM	B30225
Silver	ND	0.0050		mg/L	1	11/13/2015 4:20:04 PM	B30225
Zinc	0.35	0.010		mg/L	1	11/13/2015 4:20:04 PM	B30225
EPA METHOD 245.1: MERCURY						Analyst	DBD
Mercury	ND	0.00020		mg/L	1	11/13/2015 6:15:32 PM	22341

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

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- 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

Analytical Report

Lab Order 1511135

Date Reported: 11/25/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Client Sample ID: R.O. Reject

 Project:
 Monthly RO Reject
 Collection Date: 11/3/2015 9:00:00 AM

 Lab ID:
 1511135-001
 Matrix: AQUEOUS
 Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	: JME
1,2-Dibromoethane	ND	0.010	μg/L	1	11/6/2015 2:48:23 PM	22172
EPA METHOD 8082: PCB'S					Analyst	: JDC
Aroclor 1016	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1221	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1232	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1242	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1248	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1254	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Aroclor 1260	ND	1.0	μg/L	1	11/6/2015 6:25:50 PM	22197
Surr: Decachlorobiphenyl	73.2	17.7-151	%REC	1	11/6/2015 6:25:50 PM	22197
Surr: Tetrachloro-m-xylene	63.6	20.6-151	%REC	1	11/6/2015 6:25:50 PM	22197
EPA METHOD 8015M/D: DIESEL RAM	IGE				Analyst	: KJH
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	11/6/2015 3:31:45 PM	22175
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	11/6/2015 3:31:45 PM	22175
Surr: DNOP	134	72-136	%REC	1	11/6/2015 3:31:45 PM	22175
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	11/5/2015 10:08:12 AM	R30036
Surr: BFB	79.0	57.8-137	%REC	1	11/5/2015 10:08:12 AM	R30036
EPA METHOD 8310: PAHS					Analyst	: JDC
Naphthalene	ND	2.0	μg/L	1	11/6/2015 5:45:58 PM	22195
1-Methylnaphthalene	ND	2.0	μg/L	1	11/6/2015 5:45:58 PM	22195
2-Methylnaphthalene	ND	2.0	μg/L	1	11/6/2015 5:45:58 PM	22195
Benzo(a)pyrene	ND	0.070	μg/L	1	11/6/2015 5:45:58 PM	22195
Surr: Benzo(e)pyrene	63.7	37.2-136	%REC	1	11/6/2015 5:45:58 PM	22195
EPA METHOD 8260B: VOLATILES					Analyst	: AG
Benzene	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Toluene	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Ethylbenzene	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Carbon Tetrachloride	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Chloroform	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,1-Dichloroethane	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,1-Dichloroethene	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Methylene Chloride	ND	3.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086

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

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- 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

Analytical Report Lab Order 1511135

Hall Environmental Analysis Laboratory, Inc. Date Reported: 11/25/2015

CLIENT: Navajo Refining Company Client Sample ID: R.O. Reject

 Project:
 Monthly RO Reject
 Collection Date: 11/3/2015 9:00:00 AM

 Lab ID:
 1511135-001
 Matrix: AQUEOUS
 Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	AG
1,1,1-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
1,1,2-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Trichloroethene (TCE)	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Vinyl chloride	ND	1.0	μg/L	1	11/6/2015 2:08:57 PM	R30086
Xylenes, Total	ND	1.5	μg/L	1	11/6/2015 2:08:57 PM	R30086
Surr: 1,2-Dichloroethane-d4	96.3	70-130	%REC	1	11/6/2015 2:08:57 PM	R30086
Surr: 4-Bromofluorobenzene	98.0	70-130	%REC	1	11/6/2015 2:08:57 PM	R30086
Surr: Dibromofluoromethane	99.6	70-130	%REC	1	11/6/2015 2:08:57 PM	R30086
Surr: Toluene-d8	105	70-130	%REC	1	11/6/2015 2:08:57 PM	R30086
TOTAL PHENOLICS BY SW-846 9067					Analyst	scc
Phenolics, Total Recoverable	ND	2.5	μg/L	1	11/10/2015	22262

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- 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

Analytical Report

Lab Order 1511135

Date Reported: 11/25/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project: Monthly RO Reject Collection Date:

Lab ID: 1511135-002 Matrix: TRIP BLANK Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst	: JME
1,2-Dibromoethane	ND	0.010		μg/L	1	11/6/2015 3:01:56 PM	22172
EPA METHOD 8260B: VOLATILES						Analyst	: AG
Benzene	ND	1.0		µg/L	1	11/6/2015 3:35:06 PM	R30086
Toluene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Ethylbenzene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/6/2015 3:35:06 PM	R30086
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/6/2015 3:35:06 PM	R30086
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Naphthalene	ND	2.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1-Methylnaphthalene	ND	4.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
2-Methylnaphthalene	ND	4.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Acetone	ND	10		μg/L	1	11/6/2015 3:35:06 PM	R30086
Bromobenzene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Bromodichloromethane	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Bromoform	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Bromomethane	ND	3.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
2-Butanone	ND	10		μg/L	1	11/6/2015 3:35:06 PM	R30086
Carbon disulfide	ND	10		μg/L	1	11/6/2015 3:35:06 PM	R30086
Carbon Tetrachloride	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Chlorobenzene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Chloroethane	ND	2.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Chloroform	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Chloromethane	ND	3.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
2-Chlorotoluene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
4-Chlorotoluene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
cis-1,2-DCE	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
cis-1,3-Dichloropropene	ND	1.0			1	11/6/2015 3:35:06 PM	R30086
1,2-Dibromo-3-chloropropane	ND	2.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Dibromochloromethane	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
Dibromomethane	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2-Dichlorobenzene	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1,3-Dichlorobenzene	ND	1.0		μg/L μg/L	1	11/6/2015 3:35:06 PM	R30086
	ND	1.0			1	11/6/2015 3:35:06 PM	R30086
1,4-Dichlorobenzene Dichlorodifluoromethane	ND	1.0		μg/L	1	11/6/2015 3:35:06 PM	R30086
1.1-Dichloroethane	ND ND	1.0		μg/L	1	11/6/2015 3:35:06 PM 11/6/2015 3:35:06 PM	R30086
				μg/L	1		
1,1-Dichloroethene 1,2-Dichloropropane	ND ND	1.0 1.0		μg/L μg/L	1	11/6/2015 3:35:06 PM 11/6/2015 3:35:06 PM	R30086

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

Analytical Report

Lab Order 1511135

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT: Navajo Refining Company

Client Sample ID: Trip Blank

Project: Monthly RO Reject Collection Date:

Lab ID: 1511135-002 Matrix: TRIP BLANK Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	AG
1,3-Dichloropropane	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
2,2-Dichloropropane	ND	2.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,1-Dichloropropene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Hexachlorobutadiene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
2-Hexanone	ND	10	μg/L	1	11/6/2015 3:35:06 PM	R30086
Isopropylbenzene	ND	1.0	µg/L	1	11/6/2015 3:35:06 PM	R30086
4-Isopropyltoluene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
4-Methyl-2-pentanone	ND	10	μg/L	1	11/6/2015 3:35:06 PM	R30086
Methylene Chloride	ND	3.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
n-Butylbenzene	ND	3.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
n-Propylbenzene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
sec-Butylbenzene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Styrene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
tert-Butylbenzene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
trans-1,2-DCE	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,1,1-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,1,2-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Trichloroethene (TCE)	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Trichlorofluoromethane	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
1,2,3-Trichloropropane	ND	2.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Vinyl chloride	ND	1.0	μg/L	1	11/6/2015 3:35:06 PM	R30086
Xylenes, Total	ND	1.5	μg/L	1	11/6/2015 3:35:06 PM	R30086
Surr: 1,2-Dichloroethane-d4	94.8	70-130	%REC	1	11/6/2015 3:35:06 PM	R30086
Surr: 4-Bromofluorobenzene	97.6	70-130	%REC	1	11/6/2015 3:35:06 PM	R30086
Surr: Dibromofluoromethane	95.4	70-130	%REC	1	11/6/2015 3:35:06 PM	R30086
Surr: Toluene-d8	95.9	70-130	%REC	1	11/6/2015 3:35:06 PM	R30086

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#: 1511135

25-Nov-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID MB-B SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals Client ID: **PBW** Batch ID: B30225 RunNo: 30225 Prep Date: Analysis Date: 11/13/2015 SeqNo: 921063 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual ND 0.020 Aluminum ND 0.0020 Barium Boron ND 0.040 Cadmium ND 0.0020 Chromium ND 0.0060 Cobalt ND 0.0060 Copper ND 0.0060 ND 0.020 Iron Manganese ND 0.0020 Molybdenum 0.0080 ND Nickel ND 0.010 Silver ND 0.0050 0.010 Zinc ND

Sample ID LLLCS-B	Samp	Type: LC	SLL	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls		
Client ID: BatchQC	Bato	ch ID: B3	0225	F							
Prep Date:	Analysis	Date: 11	1/13/2015	S	SeqNo: 9	21064	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aluminum	ND	0.020	0.01000	0	90.0	50	150				
Barium	0.0021	0.0020	0.002000	0	105	50	150				
Boron	0.041	0.040	0.04000	0	102	50	150				
Cadmium	ND	0.0020	0.002000	0	94.0	50	150				
Chromium	0.0061	0.0060	0.006000	0	101	50	150				
Cobalt	0.0063	0.0060	0.006000	0	105	50	150				
Copper	ND	0.0060	0.006000	0	93.2	50	150				
Iron	0.025	0.020	0.02000	0	127	50	150				
Manganese	0.0022	0.0020	0.002000	0	108	50	150				
Molybdenum	0.0089	0.0080	0.008000	0	112	50	150				
Nickel	ND	0.010	0.005000	0	108	50	150				
Silver	0.0053	0.0050	0.005000	0	106	50	150				
Zinc	ND	0.010	0.005000	0	102	50	150				

Sample ID LCS-B	SampTyp	pe: LC	s	Test	TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch I	Batch ID: B30225 RunNo: 30225										
Prep Date:	Analysis Da	te: 11	/13/2015	S	eqNo: 9	21065	Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Aluminum	0.50	0.020	0.5000	0	101	85	115					
Barium	0.48 0	0.0020	0.5000	0	96.6	85	115					

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 B

- Ē 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#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID LCS-B	Samp	Type: LC	s	Tes	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Bato	h ID: B3	0225	F	RunNo: 3	0225					
Prep Date:	Analysis Date: 11/13/2015			S	eqNo: 9	21065	Units: mg/L	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Boron	0.50	0.040	0.5000	0	100	85	115				
Cadmium	0.48	0.0020	0.5000	0	97.0	85	115				
Chromium	0.48	0.0060	0.5000	0	96.3	85	115				
Cobalt	0.47	0.0060	0.5000	0	93.2	85	115				
Copper	0.47	0.0060	0.5000	0	94.8	85	115				
Iron	0.49	0.020	0.5000	0	97.5	85	115				
Manganese	0.47	0.0020	0.5000	0	93.8	85	115				
Molybdenum	0.50	0.0080	0.5000	0	101	85	115				
Nickel	0.46	0.010	0.5000	0	92.0	85	115				
Silver	0.099	0.0050	0.1000	0	99.2	85	115				
Zinc	0.48	0.010	0.5000	0	96.1	85	115				

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#: 1511135

25-Nov-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID LCS	SampT	ype: LC	s	Tes	tCode: El	tals				
Client ID: LCSW	Batch	n ID: B3	0317	F	RunNo: 3					
Prep Date:	Analysis D	Date: 11	/18/2015	8	SeqNo: 9	25053	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.026	0.0010	0.02500	0	102	85	115			
Uranium	0.012	0.00050	0.01250	0	96.9	85	115			
Sample ID LLLCS	SampType: LCSLL			Tes	tCode: El	PA 200.8: I	Dissolved Me	tals		

Sample ID LLLCS	SampType: LCSLL TestCode: EPA 200.8: Di					Dissolved Met	als		
Client ID: BatchQC	Batch ID: B30317 RunNo: 30317								
Prep Date:	Analysis Date: 1	1/18/2015	S	SeqNo: 9	25054	Units: mg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010 0.0010	0.001000	0	105	50	150			
Lead	ND 0.00050	0.0005000	0	99.5	50	150			
Selenium	0.0010 0.0010	0.001000	0	101	50	150			
Uranium	ND 0.00050	0.0005000	0	97.4	50	150			

Sample ID MB	SampType: MBLK	TestCode: EPA 200.8:	Dissolved Metals	
Client ID: PBW	Batch ID: B30317	RunNo: 30317		
Prep Date:	Analysis Date: 11/18/2015	SeqNo: 925055	Units: mg/L	
Analyte	Result PQL SPK value S	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual

Arsenic	ND	0.0010
Lead	ND	0.00050
Selenium	ND	0.0010
Uranium	ND	0.00050

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#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22341 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: PBW Batch ID: 22341 RunNo: 30233

Prep Date: 11/13/2015 Analysis Date: 11/13/2015 SeqNo: 921328 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-22341 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 22341 RunNo: 30233

Prep Date: 11/13/2015 Analysis Date: 11/13/2015 SeqNo: 921336 Units: mg/L

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

Mercury 0.0061 0.00020 0.005000 0 121 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#: 1511135

25-Nov-15

Client:	Navajo R	efining Co	mpany								
Project:	Monthly l	RO Reject	0 3								
Sample ID	МВ	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	PBW	Batch	ID: R3	0015	F	RunNo: 30	0015				
Prep Date:		Analysis D	ate: 11	1/4/2015	S	SeqNo: 9	14384	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, Nitrat	e (As N)	ND	0.10								
Sample ID	LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	LCSW	Batch	ID: R3	0015	F	RunNo: 30	0015				
Prep Date:		Analysis D	ate: 11	1/4/2015	S	SeqNo: 9	14385	Units: mg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		0.48	0.10	0.5000	0	96.1	90	110			
Chloride		4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrat	e (As N)	2.6	0.10	2.500	0	103	90	110			
8.78 17					<u> </u>	111111					
	1511135-001EMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	300.0: Anion	s		
Sample ID		Wast 1876	ype: MS		1.79 T.C.	tCode: El		300.0: Anion	s		
Sample ID	1511135-001EMS	Wast 1876	ID: R3	0015	F		0015	300.0: Anion Units: mg/L			
Sample ID Client ID:	1511135-001EMS	Batch	ID: R3	0015 1/4/2015	F	RunNo: 30	0015			RPDLimit	Qual
Sample ID Client ID: Prep Date:	1511135-001EMS	Batch Analysis D	ID: R3 ate: 1 1	0015 1/4/2015	F	RunNo: 30 SeqNo: 9	0015 14409	Units: mg/L		RPDLimit	Qual S
Sample ID Client ID: Prep Date: Analyte	1511135-001EMS R.O. Reject	Batch Analysis D Result	ID: R3 ate: 1 1	0015 1/4/2015 SPK value	SPK Ref Val	RunNo: 36 SeqNo: 9 %REC	0015 14409 LowLimit	Units: mg/L HighLimit		RPDLimit	
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat	1511135-001EMS R.O. Reject	Batch Analysis D Result 3.0 3.9	ID: R3 ate: 1 1 PQL 0.10	0015 I/4/2015 SPK value 0.5000 2.500	SPK Ref Val 2.378 1.288	RunNo: 36 SeqNo: 9 %REC 120 103	0015 14409 LowLimit 75.3 87.3	Units: mg/L HighLimit	%RPD	RPDLimit	
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat	1511135-001EMS R.O. Reject e (As N)	Batch Analysis D Result 3.0 3.9 SampT	ID: R3 ate: 1 1 PQL 0.10 0.10	0015 I/4/2015 SPK value 0.5000 2.500	SPK Ref Val 2.378 1.288	RunNo: 36 SeqNo: 9 %REC 120 103	0015 14409 LowLimit 75.3 87.3	Units: mg/L HighLimit 111 111	%RPD	RPDLimit	
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat	1511135-001EMS R.O. Reject e (As N)	Batch Analysis D Result 3.0 3.9 SampT	PQL 0.10 0.10 0.10 Uppe: MS	0015 I/4/2015 SPK value 0.5000 2.500 6D 0015	SPK Ref Val 2.378 1.288	RunNo: 36 SeqNo: 9 %REC 120 103	0015 14409 LowLimit 75.3 87.3 PA Method	Units: mg/L HighLimit 111 111	%RPD	RPDLimit	
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID Client ID:	1511135-001EMS R.O. Reject e (As N)	Batch Analysis D Result 3.0 3.9 SampT Batch	PQL 0.10 0.10 0.10 Uppe: MS	0015 I/4/2015 SPK value 0.5000 2.500 6D 0015 I/4/2015	SPK Ref Val 2.378 1.288	RunNo: 36 SeqNo: 99 %REC 120 103 tCode: El	0015 14409 LowLimit 75.3 87.3 PA Method	Units: mg/L HighLimit 111 111 300.0: Anion	%RPD	RPDLimit RPDLimit	
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID Client ID: Prep Date:	1511135-001EMS R.O. Reject e (As N)	Batch Analysis D Result 3.0 3.9 SampT Batch Analysis D	PQL 0.10 0.10 0.10 ID: R3 ID: R3 ate: 11	0015 I/4/2015 SPK value 0.5000 2.500 6D 0015 I/4/2015	SPK Ref Val 2.378 1.288 Tes	RunNo: 36 ReqNo: 9 %REC 120 103 tCode: El RunNo: 36 ReqNo: 9	0015 14409 LowLimit 75.3 87.3 PA Method 0015 14410	Units: mg/L HighLimit 111 111 300.0: Anion Units: mg/L	%RPD		S
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID Client ID: Prep Date: Analyte	1511135-001EMS R.O. Reject e (As N) 1511135-001EMSE R.O. Reject	Batch Analysis D Result 3.0 3.9 SampT Batch Analysis D Result	PQL 0.10 0.10 0.10 ID: R3 ID: R3 PQL PQL PQL PQL	0015 I/4/2015 SPK value 0.5000 2.500 0015 I/4/2015 SPK value	SPK Ref Val 2.378 1.288 Tes F S SPK Ref Val	RunNo: 36 ReqNo: 9: %REC 120 103 tCode: Eli RunNo: 36 ReqNo: 9: %REC	0015 14409 LowLimit 75.3 87.3 PA Method 0015 14410 LowLimit	Units: mg/L HighLimit 111 111 300.0: Anion Units: mg/L HighLimit	%RPD	RPDLimit	S Qual
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID Client ID: Prep Date: Analyte Fluoride	1511135-001EMS R.O. Reject e (As N) 1511135-001EMSE R.O. Reject	Batch Analysis D Result 3.0 3.9 SampT Batch Analysis D Result 3.2 3.9	PQL 0.10 ype: MS ate: 11 PQL 0.10 PQL 0.10 PQL 0.10	0015 I/4/2015 SPK value 0.5000 2.500 0015 I/4/2015 SPK value 0.5000 2.500	SPK Ref Val 2.378 1.288 Tes F SPK Ref Val 2.378 1.288	RunNo: 36 GeqNo: 9: **REC 120 103 **Code: El RunNo: 36 GeqNo: 9: **REC 165 103	0015 14409 LowLimit 75.3 87.3 PA Method 0015 14410 LowLimit 75.3 87.3	Units: mg/L HighLimit 111 300.0: Anion Units: mg/L HighLimit 111	%RPD 7.21 0.531	RPDLimit 20	S Qual
Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID Client ID: Prep Date: Analyte Fluoride Nitrogen, Nitrat Sample ID	1511135-001EMS R.O. Reject e (As N) 1511135-001EMSE R.O. Reject	Batch Analysis D Result 3.0 3.9 SampT Batch Analysis D Result 3.2 3.9 SampT	PQL 0.10 Uppe: MS ID: R3 PQL 0.10 0.10 Uppe: MS ID: R3 PQL 0.10 0.10	0015 SPK value 0.5000 2.500 0015 SPK value 0.5000 2.500 0015 SPK value 0.5000 2.500	SPK Ref Val 2.378 1.288 Tes SPK Ref Val 2.378 1.288	RunNo: 36 GeqNo: 9: **REC 120 103 **Code: El RunNo: 36 GeqNo: 9: **REC 165 103	D015 14409 LowLimit 75.3 87.3 PA Method 0015 14410 LowLimit 75.3 87.3 PA Method	Units: mg/L HighLimit 111 300.0: Anion Units: mg/L HighLimit 111 111	%RPD 7.21 0.531	RPDLimit 20	S Qual

Qualifiers:

Analyte

Sulfate

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

Result

ND

PQL

0.50

- 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

HighLimit

%RPD

RPDLimit

Qual

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

SPK value SPK Ref Val %REC LowLimit

RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R30336 RunNo: 30336

Prep Date: Analysis Date: 11/18/2015 SeqNo: 925733 Units: mg/L

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

Sulfate 9.7 0.50 10.00 0 97.3 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#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22172 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: **PBW** Batch ID: **22172** RunNo: **30082**

Prep Date: 11/5/2015 Analysis Date: 11/6/2015 SeqNo: 916394 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-22172 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 22172 RunNo: 30082

Prep Date: 11/5/2015 Analysis Date: 11/6/2015 SeqNo: 916395 Units: µg/L

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

1,2-Dibromoethane 0.044 0.010 0.05000 0 88.0 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#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22175	SampType: MBLK			Tes	TestCode: EPA Method 8015M/D: Diesel Range						
Client ID: PBW	Batch	D: 22	175	F	RunNo: 3	0057					
Prep Date: 11/4/2015	Analysis D	ate: 11	/6/2015	S	SeqNo: 9	15909	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									
Surr: DNOP	1.1		1.000		113	72	136				

Sample ID LCS-22175	SampT	ype: LC	s	Test	TestCode: EPA Method 8015M/D: Diesel Range						
Client ID: LCSW	Batcl	n ID: 22	175	R	RunNo: 30057						
Prep Date: 11/4/2015	Analysis D)ate: 1	1/6/2015	S	SeqNo: 9	15910	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	5.3	1.0	5.000	0	106	52.4	154				
Surr: DNOP	0.55		0.5000		111	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#: 1511135

25-Nov-15

Navajo Refining Company Client: Project: Monthly RO Reject

Sample ID 5ML RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBW Batch ID: R30036 RunNo: 30036

Prep Date: Analysis Date: 11/5/2015 SeqNo: 915111 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 Surr: BFB 16 79.4 57.8 137

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSW Batch ID: R30036 RunNo: 30036

Prep Date: Analysis Date: 11/5/2015 SeqNo: 915112 Units: mg/L

LowLimit Analyte Result PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual 0

Gasoline Range Organics (GRO) 0.44 0.050 0.5000 88.0 80 120 57.8 Surr: BFB 20 98.3 20.00 137

Sample ID 1511135-001JMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: R.O. Reject Batch ID: R30036 RunNo: 30036

Prep Date: Analysis Date: 11/5/2015 SeqNo: 915114 Units: mg/L

SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result PQL %REC LowLimit **HighLimit** Qual Gasoline Range Organics (GRO) 0.44 0.050 0.5000 0 87.9 70 130

97.9

57.8

137

20.00 Sample ID 1511135-001JMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: R.O. Reject Batch ID: R30036 RunNo: 30036

20

Prep Date: Analysis Date: 11/5/2015 SeqNo: 915115 Units: mg/L

Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.42 0.050 0.5000 83.8 70 130 4.80 20 Surr: BFB 19 20.00 96.0 57.8 137 0 0

Qualifiers:

Surr: BFB

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

Reporting Detection Limit

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

Qual

25-Nov-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID MB-22197 SampType: MBLK TestCode: EPA Method 8082: PCB's Client ID: **PBW** Batch ID: 22197 RunNo: 30067

Analysis Date: 11/6/2015 Prep Date: 11/5/2015 SeqNo: 916012 Units: µg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Aroclor 1016 ND 1.0 ND Aroclor 1221 1.0 ND Aroclor 1232 1.0 Aroclor 1242 ND 1.0 Aroclor 1248 ND 1.0 Aroclor 1254 ND 1.0 Aroclor 1260 ND 1.0 2.500 96.4 17.7 151 Surr: Decachlorobiphenyl 2.4 Surr: Tetrachloro-m-xylene 2.0 2.500 82.0 20.6 151

Sample ID LCS-22197 SampType: LCS TestCode: EPA Method 8082: PCB's

RunNo: 30067 Client ID: LCSW Batch ID: 22197

Prep Date: 11/5/2015	Analysis D	Analysis Date: 11/6/2015			SeqNo: 916013			Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.3	1.0	5.000	0	45.2	9.01	142			
Arodor 1260	4.3	1.0	5.000	0	86.6	25.6	164			
Surr: Decachlorobiphenyl	2.4		2.500		97.6	17.7	151			
Surr: Tetrachloro-m-xylene	2.0		2.500		80.8	20.6	151			

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

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