GW - 028

Annual DP Report (Part 7 of 16)

2015

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID rb1	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: R2	6817	F	RunNo: 2	6817				
Prep Date:	Analysis D	ate: 6/	12/2015	S	SeqNo: 7	99790	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Carbon Tetrachloride	ND	1.0								
Chloroform	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
Methylene Chloride	ND	3.0								
1,1,2,2 Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		87.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.7	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID 100nglcs200T2ld	s SampT	ype: LC	s	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R2	6817	F	RunNo: 2	6817				
Prep Date:	Analysis D	ate: 6/	12/2015	8	SeqNo: 7	99792	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	75.6	144			
Trichloroethene (TCE)	19	1.0	20.00	0	95.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.8	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-19627	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8310: PAHs			
Client ID: PBW	Batch	n ID: 19	627	F	RunNo: 2	6846				
Prep Date: 6/9/2015	Analysis D	ate: 6/	16/2015	8	SeqNo: 8	01380	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	2.0								
2-Methylnaphthalene	ND	2.0								
Acenaphthylene	ND	2.5								
Acenaphthene	ND	2.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.30								
Pyrene	ND	0.30								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	13		20.00		65.6	37.2	136			

Sample ID LCS-19627	Samp	Type: LC	s	Test	tCode: El	PA Method	8310: PAHs	•	·	
Client ID: LCSW	Batc	h ID: 19	627	R	RunNo: 2	6846				
Prep Date: 6/9/2015	Analysis D	Date: 6/	16/2015	S	SeqNo: 8	01381	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	74	2.0	80.00	0	92.9	57.8	83.9			S
1-Methylnaphthalene	76	2.0	80.20	0	94.6	43.5	88.5			S
2-Methylnaphthalene	74	2.0	80.00	0	92.8	34.2	94.5			
Acenaphthylene	77	2.5	80.20	0	95.6	58.5	93.6			S
Acenaphthene	74	2.0	80.00	0	91.9	45.5	90.9			S
Fluorene	7.0	0.80	8.020	0	86.7	46.6	90.3			
Phenanthrene	3.6	0.60	4.020	0	89.1	47.2	102			
Anthracene	3.6	0.60	4.020	0	88.8	45.4	99.1			
Fluoranthene	7.3	0.30	8.020	0	90.8	45.3	101			
Pyrene	7.5	0.30	8.020	0	93.0	51.9	104			
Benz(a)anthracene	0.72	0.070	0.8020	0	89.8	46.9	104			
Chrysene	3.6	0.20	4.020	0	89.3	53.6	95.1			
Benzo(b)fluoranthene	0.87	0.10	1.002	0	86.8	54.3	97.9			
Benzo(k)fluoranthene	0.46	0.070	0.5000	0	92.0	47.4	109			

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH Not In Range

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID LCS-19627	SampT	Type: LC	s	Tes	tCode: El	PA Method	8310: PAHs			
Client ID: LCSW	Batcl	h ID: 19	627	F	RunNo: 2	6846				
Prep Date: 6/9/2015	Analysis D	Date: 6/	16/2015	S	SeqNo: 8	01381	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.46	0.070	0.5020	0	91.6	56.3	98.6			
Dibenz(a,h)anthracene	0.90	0.12	1.002	0	89.8	57.5	95.7			
Benzo(g,h,i)perylene	0.92	0.12	1.000	0	92.0	55.9	98.6			
Indeno(1,2,3-cd)pyrene	1.8	0.25	2.004	0	90.8	52.8	95.3			
Surr: Benzo(e)pyrene	13		20.00		66.2	37.2	136			

Sample ID LCSD-19627	SampT	ype: LC	SD	Tes	tCode: El	PA Method	8310: PAHs			
Client ID: LCSS02	Batch	1D: 19	627	F	RunNo: 2	6846				
Prep Date: 6/9/2015	Analysis D	ate: 6/	16/2015	S	SeqNo: 8	01382	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	70	2.0	80.00	0	88.1	57.8	83.9	5.29	20	S
1-Methylnaphthalene	73	2.0	80.20	0	90.7	43.5	88.5	4.20	20	S
2-Methylnaphthalene	71	2.0	80.00	0	88.8	34.2	94.5	4.35	20	
Acenaphthylene	75	2.5	80.20	0	93.1	58.5	93.6	2.66	20	
Acenaphthene	72	2.0	80.00	0	89.8	45.5	90.9	2.37	20	
Fluorene	6.8	0.80	8.020	0	85.4	46.6	90.3	1.45	20	
Phenanthrene	3.6	0.60	4.020	0	89.8	47.2	102	0.834	24	
Anthracene	3.6	0.60	4.020	0	89.8	45.4	99.1	1.11	20	
Fluoranthene	7.4	0.30	8.020	0	91.9	45.3	101	1.23	20.9	
Pyrene	7.6	0.30	8.020	0	94.4	51.9	104	1.46	20.8	
Benz(a)anthracene	0.71	0.070	0.8020	0	88.5	46.9	104	1.40	20	
Chrysene	3.6	0.20	4.020	0	89.3	53.6	95.1	0	20	
Benzo(b)fluoranthene	0.86	0.10	1.002	0	85.8	54.3	97.9	1.16	20.6	
Benzo(k)fluoranthene	0.45	0.070	0.5000	0	90.0	47.4	109	2.20	20.8	
Benzo(a)pyrene	0.45	0.070	0.5020	0	89.6	56.3	98.6	2.20	20	
Dibenz(a,h)anthracene	0.87	0.12	1.002	0	86.8	57.5	95.7	3.39	20	
Benzo(g,h,i)perylene	0.89	0.12	1.000	0	89.0	55.9	98.6	3.31	20	
Indeno(1,2,3-cd)pyrene	1.8	0.25	2.004	0	87.8	52.8	95.3	3.35	20	
Surr: Benzo(e)pyrene	14		20.00		69.4	37.2	136	0		

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-19794 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 19794 RunNo: 26937

Prep Date: 6/18/2015 Analysis Date: 6/18/2015 SeqNo: 804126 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-19794 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 19794 RunNo: 26937

Prep Date: 6/18/2015 Analysis Date: 6/18/2015 SeqNo: 804127 Units: μg/L

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

Phenolics, Total Recoverable 22 2.5 20.00 0 108 64.4 135

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
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- P Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company Project: Monthly Temporary RO Reject

Sample ID MB-R26972 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/18/2015 SeqNo: 805487 Units: mg/L

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

ND 0.0100 Cyanide

Sample ID LCS-R26972 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/18/2015 SeqNo: 805488 Units: mg/L

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual 0.501 0.5000 100

110

Sample ID MB-R26972 TestCode: EPA 335.4: Total Cyanide Subbed SampType: MBLK

Client ID: Batch ID: R26972 **PBW** RunNo: 26972

Prep Date: Analysis Date: 6/16/2015 SeqNo: 805490 Units: mg/L

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

ND 0.0100 Cyanide

Sample ID LCS-R26972 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/16/2015 SeqNo: 805491 Units: mg/L

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

0.503 0.5000 90 Cyanide 0 101 110

Qualifiers:

Cyanide

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-R26972	SampT	SampType: MBLK			Code: El	PA 903.1: F	a 226 and EP	A 904.0: F	Ra 228-Subbe	ed
Client ID: PBW	Batch	Batch ID: R26972			RunNo: 26972					
Prep Date:	Analysis D	ate: 6/	16/2015	S	eqNo: 8	05511	Units: pCi/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Radium-226	0.071	0.659								
Radium-226 ±	0.324	0.659								
Radium-228	0.112	0.774								
Radium-228 ±	0.344	0.774								

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506316

22-Jun-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-19636 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 19636 RunNo: 26730

Prep Date: 6/9/2015 Analysis Date: 6/10/2015 SeqNo: 796757 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-19636 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 19636 RunNo: 26730

Prep Date: 6/9/2015 Analysis Date: 6/10/2015 SeqNo: 796758 Units: mg/L

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

Total Dissolved Solids 1010 20.0 1000 0 101 80 120

Qualifiers:

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

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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

Client Name: NAVAJO REFINING CO Work Order Numb	er: 1506316		RcptNo: 1
Received by/date: And OU/DU/15	5		
Logged By: Ashley Gallegos 6/6/2015 12:15:00 P	M	A	
Completed By: Ashley Gallegos 6/8/2015 9:51:07,AN	1	- A>	
21/2/ 2016	8 Ic-	Stoff	
Reviewed By:			
Chain of Custody	(3)	🗆	
Custody seals intact on sample bottles?	Yes 🗹	No 🗔	Not Present
2. Is Chain of Custody complete?	Yes 🖢	No	Not Present
3. How was the sample delivered?	<u>FedEx</u>		
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗷	No [NA [_]
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🗹	No []	NA []
6. Sample(s) in proper container(s)?	Yes 🗹	No []	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	
9. Was preservative added to bottles?	Yes	No 🗹	NA \square
10.VOA vials have zero headspace?	Yes 🗷	No 🗆	No VOA Vials
11. Were any sample containers received broken?	Yes	No 🖈	•
			# of preserved bottles checked /) /
12. Does paperwork match bottle labels?	Yes 🗹	No 🗌	for pH:
(Note discrepancies on chain of custody) 13. Are matrices correctly identified on Chain of Custody?	Yes 🔄	No []	(<2.or >12 Junless noted) Adjusted?
14. Is it clear what analyses were requested?	Yes 🛃	No [
15. Were all holding times able to be met?	Yes 🗹	No [_]	Checked by:
(If no, notify customer for authorization.)			Jul
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No 🗆	NA 🖃
Person Notified: Date		Children Shall and South Shoop that manage a most	
By Whom: Via:	eMail F	hone Fax	In Person
Regarding:	te en anti-a este de terre do en anti-anti-anti-anti-anti-anti-anti-anti-	- Table At An Antonio Maring Control Substitute Services	n à thuir san phùadh a dh Bha an t-ain Bha
Client Instructions:		riinidiinin kalamuuduksi kalailijaksi kirjo ja ja opa araan maa sakse järeja ja	ONNO A MODE NO A SANDE LA EL TO ABONDO FAMILIO DE LA CA
17. Additional remarks:			
18. Cooler Information			
Cooler No Temp °C Condition Seal Intact Seal No 5.8 Good Yes	Seal Date	Signed By	
1 5.8 Good Yes			

Air Bubbles (Y or N) VOCs: 1.1,1-Trichloroethane; 1,12,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethylene; 1,1,2-SVOCs: benzo(a)pyrene, phenol, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene ANALYSIS LABORATORY HALL ENVIRONMENTAL Trichloroethane; 1,1,2-Trichloroethylene; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-Dibromoethane; 1,2-Dichloroethane; Benzene; Carbon Tetrachloride; Chloroform; Total Dissolved Solids × Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Po, Mn, Hg, Mo, Ni, Se, Ag, U, Zn 4901 Hawkins NE - Albuquerque, NM 87109 **Nitrate/Nitrite** × Dichloromethane; Ethylbenzene; Toluene; Total Xylenes; Vrnyl Chloride Fax 505-345-4107 Fluoride × www.hallenvironmental.com Analysis Request Chloride × Sulfate × Radioactivity (Ra-226+Ra-228) 2808 × **b**CB2 Tel. 505-345-3975 еко, рко, око 9108 × Mercury 0747 × :4.855 Total Cyanide × 6010B: WQCC Metals × Remarks × 8270C: WQCC list SVOCs 8260B:WQCC List VOCs × 5062110 Time 000 HEAL No. Salsbern Date Monthly Temporary RO Reject Preservative Rush Sampler: Elizo Deth Project #: P.O. # 167796 Sample Temperature: 2-40ml VOA unpres 2 - 1L Glass unpres unpres -unpres HN03 HN03 HN03 NaOH H2S04 Turn-Around Time: 3-40ml VOA HCL 3-40ml VOA HCL 2-40ml VOA HCL Project Manager: Robert Combs Project Name: 1 - 1L Glass Container X Standard Type and # 2 - 500ml P 1-500ml P 1-500ml P 1-125ml P Received by: Received by: 2-1LP On Ice: Relinquished by: Elizaboth Salsbern South Field RO Reject Level 4 (Full Validation) ELICISET Salopara Sample Request ID J180/00/00/12 Chain-of-Custody Record Trip Blank DISTICTION ailing Address: P.O. Box 159 Artesia, Relinquished by nail or Fax#. 575-746-5451 Matrix ient: Navajo Refinery none #: 575-748-3311 liguid 1:29 1:29 1:29 1:29 1:29 1:27 1.29 1:29 M 88211-0159 1:29 1:29 Spm Time A/QC Package EDD (Type) Ime Standard Other 5-15 5-15 -5-15 -5-15 5-15 5-15 5 5-15 5-15 5-15 5-15 5-15 Date Sate: late:

If necessary, samples submitted to Hall Environmental may be subcontracted to on the analytical report. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report



Navajo Refining Company, LLC 501 E.Main Artesia, NM 88210 (Tel) 575.748.3311 (Fax) 575.745.5451

Monthly RO Reject Sample Details

Attachment	nple Type	Grab 🗵	Composite	Cemposite	
Atta	San	機能などの機能	Time Weighted	Flow Weighted	

L	ONTIER	r Companies
7	HOLLYFRO	The HollyFrontier (

	Sample Type	Physical Property
Project Name Monthly RO Reject	Grab 🗵	Solid
Samplers Name Flizabeth Salsberry	me Weighted Composite	Liquid
Samplers Affiliation Navajo Refining Co. LLC	low Weighted Composite	Sludge
Start Date and Time 6:5/2015 @ 1.25 pm		Est F
End Date and Time 6(5/2015 @ 1:54 pm	Parts / Sample intervals One	Type of Sampler Directly to s

South Field R.O. Reject Discarge

North Field R.O. Reject Discarge

Outfall / Sample Location:

tipler Directly to sample jars

Fresewatives	#of Neat	Containers (None) HCL HNO3 H2SO4 NaCH Na2S2C3 NaHSO4 Other Analysis and/or Method Requested	\vdash	3 ×	1 X	1 X	2 X	3 ×	2 X	1 ×	2 x	2 x	2 x	6/5/2015 01:35 Tmp. 89.6, Humidity 38%, Wind Dir SE, Wind Speed 16.1 mph, Conditions Clear	
· · · · · · · · · · · · · · · · · · ·		(None)	×		1 X	1 ×	2			×				75/2015 01:35 Tmp. 89.6, Humidity 38	
The second secon		Material	Omi Plastic	ml VOA	Jml Plastic	5ml Plastic	Jml Plastic	L Plastic	ml VOA	Class 1	L Glass	ml VOA	ml VOA	reld Data (Weather, Observations, Etc):	
	THE PERSON NAMED IN	Container Size	1 500ml	40ml	3 500ml	4 125ml	5 500ml	6 11	7 40ml	8 11	9 11	10 40ml	11 40ml	Field Data (Wealth	The second second

Storage Method	los l	Other	Shipping Media	Ice 3
6/5/2015 01:35 Tmp. 89.6, Humidity 38%, Wind Dir SE, Wind Speed 16.1 mph, Conditions Clear				
Observations, Etc): 6/		Field pH 7.94		
ld Data (Weather, Obs	te and Time:	eld Temp. 25.9 C		



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

June 22, 2015

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

TEL: (575) 748-3311

FAX

RE: Monthly RO Reject OrderNo.: 1506320

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/6/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1506320

Date Reported: 6/22/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: South Field RO Reject Discharge

 Project:
 Monthly RO Reject
 Collection Date: 6/5/2015 1:54:00 PM

 Lab ID:
 1506320-001
 Matrix: AQUEOUS
 Received Date: 6/6/2015 12:15:00 PM

Analyses	Result	RL (Qual U	Jnits	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst	DBD
Arsenic	ND	0.0010	1	mg/L	1	6/16/2015 7:46:40 PM	R2687
Lead	ND	0.0010	1	mg/L	1	6/16/2015 7:46:40 PM	R2687
Selenium	0.0062	0.0010	1	mg/L	1	6/16/2015 7:46:40 PM	R2687
Uranium	0.0053	0.0010	1	mg/L	1	6/16/2015 7:46:40 PM	R2687
EPA 903.1: RA 226 AND EPA 904.0:	RA 228-SUBBE	D				Analyst	SUB
Radium-226	1.59	0.615	1	pCi/L	1	6/16/2015	R2697
Radium-226 ±	0.712	0.615	ı	pCi/L	1	6/16/2015	R2697
Radium-228	0.427	0.757	1	pCi/L	1	6/16/2015	R2697
Radium-228 ±	0.375	0.757	ı	pCi/L	1	6/16/2015	R2697
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	2.9	0.10	1	mg/L	1	6/8/2015 1:35:07 PM	R2669
Chloride	380	10	1	mg/L	20	6/8/2015 2:12:21 PM	R2669
Sulfate	1800	25	1	mg/L	50	6/10/2015 1:41:18 AM	R2672
Nitrate+Nitrite as N	4.5	1.0	1	mg/L	5	6/9/2015 4:28:42 AM	R2669
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	3640	20.0	* 1	mg/L	1	6/11/2015 4:07:00 PM	19650
EPA 335.4: TOTAL CYANIDE SUBBI	ED					Analyst	SUB
Cyanide	ND	0.0100	1	mg/L	1	6/16/2015	R2697
SM4500-H+B: PH						Analyst	JRR
pH	8.06	1.68	Н	pH units	1	6/9/2015 10:02:04 PM	R2674
EPA METHOD 200.7: DISSOLVED M	ETALS					Analyst	JLF
Aluminum	ND	0.020	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Barium	0.055	0.0020	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Boron	0.092	0.040	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Cadmium	ND	0.0020		mg/L	1	6/16/2015 5:09:17 PM	R2688
Chromium	0.0077	0.0060		mg/L	1	6/16/2015 5:09:17 PM	R2688
Cobalt	ND	0.0060	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Copper	ND	0.0060)	mg/L	1	6/16/2015 5:09:17 PM	R2688
Iron	ND	0.020	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Manganese	0.0021	0.0020	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Molybdenum	ND	0.0080	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Nickel	ND	0.010	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Silver	ND	0.0050	1	mg/L	1	6/16/2015 5:09:17 PM	R2688
Zinc	0.042	0.010	3	mg/L	1	6/16/2015 5:09:17 PM	R2688
EPA METHOD 245.1: MERCURY						Analyst	MED
Mercury	ND	0.00020	1	mg/L	1	6/9/2015 3:15:08 PM	19630

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

Qualifiers:

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

Page 1 of 22

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

Lab Order 1506320

Date Reported: 6/22/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: South Field RO Reject Discharge

 Project:
 Monthly RO Reject
 Collection Date: 6/5/2015 1:54:00 PM

 Lab ID:
 1506320-001
 Matrix: AQUEOUS
 Received Date: 6/6/2015 12:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst	: JME
1,2-Dibromoethane	ND	0.010	Ĕ.	μg/L	1	6/11/2015 5:29:43 PM	19674
EPA METHOD 8082: PCB'S						Analyst	SCC
Aroclor 1016	ND	1.0	ř.	μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1221	ND	1.0		μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1232	ND	1.0		μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1242	ND	1.0		μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1248	ND	1.0		μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1254	ND	1.0	ğ	μg/L	1	6/12/2015 3:35:55 PM	19626
Aroclor 1260	ND	1.0	ľ	μg/L	1	6/12/2015 3:35:55 PM	19626
Surr: Decachlorobiphenyl	81.2	44.5-110		%REC	1	6/12/2015 3:35:55 PM	19626
Surr: Tetrachloro-m-xylene	69.6	31.8-95.7		%REC	1	6/12/2015 3:35:55 PM	19626
EPA METHOD 8015D: DIESEL RANGE						Analyst	: KJH
Diesel Range Organics (DRO)	ND	1.0	1	mg/L	1	6/9/2015 10:29:45 PM	19616
Motor Oil Range Organics (MRO)	ND	5.0	l.	mg/L	1	6/9/2015 10:29:45 PM	19616
Surr: DNOP	100	76.5-150		%REC	1	6/9/2015 10:29:45 PM	19616
EPA METHOD 8015D: GASOLINE RAM	IGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	0.050	į.	mg/L	1	6/10/2015 8:13:18 PM	R26753
Surr: BFB	89.2	57.8-137	Q	%REC	1	6/10/2015 8:13:18 PM	R26753
EPA METHOD 8310: PAHS						Analyst	SCC
Naphthalene	ND	2.0	Ē.	μg/L	1	6/16/2015 12:38:08 PM	19627
1-Methylnaphthalene	ND	2.0	ř.	μg/L	1	6/16/2015 12:38:08 PM	19627
2-Methylnaphthalene	ND	2.0	1	μg/L	1	6/16/2015 12:38:08 PM	19627
Benzo(a)pyrene	ND	0.070	6	μg/L	1	6/16/2015 12:38:08 PM	19627
Surr: Benzo(e)pyrene	73.2	37.2-136		%REC	1	6/16/2015 12:38:08 PM	19627
EPA METHOD 8260B: VOLATILES						Analyst	cadg
Benzene	ND	1.0	1	μg/L	1	6/12/2015 5:41:45 AM	R26777
Toluene	ND	1.0	į.	μg/L	1	6/12/2015 5:41:45 AM	R26777
Ethylbenzene	ND	1.0	Ď.	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,2-Dichloroethane (EDC)	ND	1.0	ĵ.	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,2-Dibromoethane (EDB)	ND	1.0	Ì	μg/L	1	6/12/2015 5:41:45 AM	R26777
Carbon Tetrachloride	ND	1.0	1	μg/L	1	6/12/2015 5:41:45 AM	R26777
Chloroform	ND	1.0	1	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,1-Dichloroethane	ND	1.0	l.	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,1-Dichloroethene	ND	1.0	1	μg/L	1	6/12/2015 5:41:45 AM	R26777
Methylene Chloride	ND	3.0)	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,1,2,2-Tetrachloroethane	ND	2.0	li .	μg/L	1	6/12/2015 5:41:45 AM	R26777
Tetrachloroethene (PCE)	ND	1.0	ľ	μg/L	1	6/12/2015 5:41:45 AM	R26777

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

Qualifiers:

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

Page 2 of 22

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

Lab Order 1506320

Date Reported: 6/22/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: South Field RO Reject Discharge

 Project:
 Monthly RO Reject
 Collection Date: 6/5/2015 1:54:00 PM

 Lab ID:
 1506320-001
 Matrix: AQUEOUS
 Received Date: 6/6/2015 12:15:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	cadg
1,1,1-Trichloroethane	ND	1.0	μg/L	1	6/12/2015 5:41:45 AM	R26777
1,1,2-Trichloroethane	ND	1.0	μg/L	1	6/12/2015 5:41:45 AM	R26777
Trichloroethene (TCE)	ND	1.0	μg/L	1	6/12/2015 5:41:45 AM	R26777
Vinyl chloride	ND	1.0	μg/L	1	6/12/2015 5:41:45 AM	R26777
Xylenes, Total	ND	1.5	µg/L	1	6/12/2015 5:41:45 AM	R26777
Surr: 1,2-Dichloroethane-d4	95.7	70-130	%REC	1	6/12/2015 5:41:45 AM	R26777
Surr: 4-Bromofluorobenzene	107	70-130	%REC	1	6/12/2015 5:41:45 AM	R26777
Surr: Dibromofluoromethane	96.0	70-130	%REC	1	6/12/2015 5:41:45 AM	R26777
Surr: Toluene-d8	102	70-130	%REC	1	6/12/2015 5:41:45 AM	R26777
TOTAL PHENOLICS BY SW-846 9067					Analyst	scc
Phenolics, Total Recoverable	ND	2.5	μg/L	1	6/18/2015	19794

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 3 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1506320

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/22/2015

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly RO Reject Collection Date:

Lab ID: 1506320-002 **Matrix:** TRIP BLANK **Received Date:** 6/6/2015 12:15:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	cadg
Benzene	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Toluene	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Ethylbenzene	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	6/12/2015 7:07:57 AM	R26777
Carbon Tetrachloride	ND	1.0	µg/L	1	6/12/2015 7:07:57 AM	R26777
Chloroform	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,1-Dichloroethane	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,1-Dichloroethene	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Methylene Chloride	ND	3.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,1,1-Trichloroethane	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
1,1,2-Trichloroethane	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Trichloroethene (TCE)	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Vinyl chloride	ND	1.0	μg/L	1	6/12/2015 7:07:57 AM	R26777
Xylenes, Total	ND	1.5	μg/L	1	6/12/2015 7:07:57 AM	R26777
Surr: 1,2-Dichloroethane-d4	100	70-130	%REC	1	6/12/2015 7:07:57 AM	R26777
Surr: 4-Bromofluorobenzene	105	70-130	%REC	1	6/12/2015 7:07:57 AM	R26777
Surr: Dibromofluoromethane	102	70-130	%REC	1	6/12/2015 7:07:57 AM	R26777
Surr: Toluene-d8	103	70-130	%REC	1	6/12/2015 7:07:57 AM	R26777

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

Qualifiers:

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

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

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID MB SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals

Client ID: **PBW** Batch ID: R26882 RunNo: 26882

Analysis Date: 6/16/2015 SeqNo: 802272 Prep Date: 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 LCS	Samp	Type: LC	s	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: LCSW	Bato	ch ID: R2	6882	F	RunNo: 2	6882				
Prep Date:	Analysis I	Date: 6/	16/2015	S	SeqNo: 8	02273	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	85	115			
Barium	0.50	0.0020	0.5000	0	99.3	85	115			
Boron	0.53	0.040	0.5000	0	105	85	115			
Cadmium	0.54	0.0020	0.5000	0	107	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.52	0.0060	0.5000	0	103	85	115			
Copper	0.49	0.0060	0.5000	0	97.4	85	115			
Iron	0.50	0.020	0.5000	0	99.7	85	115			
Manganese	0.48	0.0020	0.5000	0	96.4	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.50	0.010	0.5000	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

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

Page 5 of 22

Client:

Hall Environmental Analysis Laboratory, Inc.

ND

ND

ND

ND

0.0010

0.0010

0.00050

0.00050

Navajo Refining Company

WO#: **1506320**

22-Jun-15

Project: Monthly RO Reject Sample ID LCS SampType: LCS TestCode: EPA 200.8: Dissolved Metals Client ID: LCSW Batch ID: R26876 RunNo: 26876 Prep Date: Analysis Date: 6/16/2015 SeqNo: 802096 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.0010 99.0 85 Arsenic 0.025 0.02500 0 115 101 Lead 0.013 0.00050 0.01250 0 85 115 0 99.4 85 Selenium 0.025 0.0010 0.02500 115 Uranium 0.013 0.00050 0.01250 0 102 85 115 Sample ID LCS TestCode: EPA 200.8: Dissolved Metals SampType: LCS Client ID: Batch ID: R26876 RunNo: 26876 Prep Date: Analysis Date: 6/16/2015 SeqNo: 802099 Units: mg/L %REC SPK Ref Val **HighLimit** %RPD **RPDLimit** Result PQL SPK value LowLimit Analyte Qual 0.025 0.0010 0.02500 0 98.9 85 Arsenic 115 0 96.3 85 Lead 0.012 0.00050 0.01250 115 Selenium 0.025 0.0010 0.02500 0 100 85 115 Uranium 0 85 0.012 0.00050 0.01250 96.9 115 Sample ID MB SampType: MBLK TestCode: EPA 200.8: Dissolved Metals Client ID: **PBW** Batch ID: R26876 RunNo: 26876 SeqNo: 802100 Prep Date: Analysis Date: 6/16/2015 Units: mg/L %RPD Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual

Sample ID M	MB Sam	SampType: MBLK			Code: El	PA 200.8:	Dissolved Meta	als		
Client ID: PI	PBW Ba	tch ID: R2	6876	R	RunNo: 26876					
Prep Date:	Analysis	Date: 6/	16/2015	S	eqNo: 8	02101	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Load	ND	0.00050								

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

Qualifiers:

Arsenic Lead

Selenium

Uranium

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

Page 6 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-19630 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: PBW Batch ID: 19630 RunNo: 26705

Prep Date: 6/9/2015 Analysis Date: 6/9/2015 SeqNo: 795807 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-19630 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 19630 RunNo: 26705

Prep Date: 6/9/2015 Analysis Date: 6/9/2015 SeqNo: 795808 Units: mg/L

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

Mercury 0.0050 0.00020 0.005000 0 100 80 120

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client:	A 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	Refining Co	mpany								
Project:	Monthly	RO Reject	3								
Sample ID	МВ	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anions	s		
Client ID:	PBW	Batch	ID: R2	6695	F	RunNo: 2	6695				
Prep Date:		Analysis D	ate: 6/	8/2015	S	eqNo: 7	95454	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								
Nitrate+Nitrite	as N	ND	0.20								
Sample ID	LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anion:	s		
Client ID:	LCSW	Batch	ID: R2	6695	F	RunNo: 2	6695				
Prep Date:		Analysis D	ate: 6/	8/2015	S	SeqNo: 7	95455	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		0.48	0.10	0.5000	0	95.8	90	110			
Chloride		4.8	0.50	5.000	0	96.7	90	110			
Nitrate+Nitrite	as N	3.5	0.20	3.500	0	100	90	110			
Sample ID 1506320-001EMS SampType: MS TestCode: EPA Method 300.0: Anions											
Client ID:	South Field RO R	teje Batch	ID: R2	6695	F	RunNo: 2	6695				
Prep Date:		Analysis D	ate: 6/	8/2015	S	SeqNo: 7	95461	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		3.3	0.10	0.5000	2.860	84.6	75.3	111			
Sample ID	1506320-001EMS	D SampT	ype: MS	SD	Tes	tCode: El	PA Method	300.0: Anion:	s		
Client ID:	South Field RO R	leje Batch	ID: R2	6695	F	RunNo: 2	6695				
Prep Date:		Analysis D	ate: 6/	8/2015	S	eqNo: 7	95462	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		3.2	0.10	0.5000	2.860	77.6	75.3	111	1.07	20	
Sample ID	MB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anion:	s		
Client ID:	PBW	Batch	ID: R2	6721	F	RunNo: 2	6721				
Prep Date:		Analysis D	ate: 6/	9/2015	S	SeqNo: 7	96475	Units: mg/L			
65 x 3x 3x 3x 3x 444 667		61-12-11-11-11-11-11-11-11-11-11-11-11-11		001/	SDK Pof Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte		Result	PQL	SPK value	ork Kei vai	70TTLO	LOWLINING	-			
Analyte Sulfate		Result ND	0.50	SPK value	SFR Rei Val	701 KEO	LOWLINK				
	LCS		0.50					300.0: Anions			
Sulfate		ND SampT	0.50	:s	Tes		PA Method				
Sulfate Sample ID	LCSW	ND SampT	0.50 ype: LC	es 16721	Tes	tCode: El	PA Method 6721		s		
Sulfate Sample ID Client ID:	LCSW	ND SampTy Batch	0.50 ype: LC	es 6721 9/2015	Tes	tCode: El	PA Method 6721	300.0: Anions	s	RPDLimit	Qual

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-19674 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: PBW Batch ID: 19674 RunNo: 26780

Prep Date: 6/11/2015 Analysis Date: 6/11/2015 SeqNo: 798570 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-19674 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 19674 RunNo: 26780

Prep Date: 6/11/2015 Analysis Date: 6/11/2015 SeqNo: 798571 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 0 109 70 130

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-19616 SampType: MBLK TestCode: EPA Method 8015D: Diesel Range

Client ID: PBW Batch ID: 19616 RunNo: 26673

Prep Date: 6/8/2015 Analysis Date: 6/9/2015 SeqNo: 796030 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 0.94 1.000 94.1 76.5 150

Sample ID LCS-19616 SampType: LCS TestCode: EPA Method 8015D: Diesel Range

0.5000

Client ID: LCSW Batch ID: 19616 RunNo: 26673

0.45

Prep Date: 6/8/2015 Analysis Date: 6/9/2015 SeqNo: 796031 Units: mg/L

Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 5.0 1.0 5.000 0 99.3 60.1 156

89.8

76.5

150

Qualifiers:

Surr: DNOP

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

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

Client ID: PBW Batch ID: R26753 RunNo: 26753

Prep Date: Analysis Date: 6/10/2015 SeqNo: 797263 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 88.9 57.8 137

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSW Batch ID: R26753 RunNo: 26753 Prep Date: Analysis Date: 6/10/2015 SeqNo: 797264 Units: mg/L SPK value SPK Ref Val HighLimit Analyte Result PQL %REC LowLimit %RPD **RPDLimit** Qual

 Gasoline Range Organics (GRO)
 0.49
 0.050
 0.5000
 0
 98.5
 80
 120

 Surr: BFB
 21
 20.00
 103
 57.8
 137

Qualifiers:

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

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Client:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

WO#: **1506320**

22-Jun-15

	y RO Reject								
Sample ID MB-19626	SampType: MI	BLK	Test	Code: El	PA Method	8082: PCB's			
Client ID: PBW	Batch ID: 19	626	R	unNo: 2	6808				
Prep Date: 6/9/2015	Analysis Date: 6	12/2015	s	eqNo: 7	99539	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	1.8	2.500		72.8	44.5	110			
Surr: Tetrachloro-m-xylene	1.6	2.500		63.2	31.8	95.7			
Sample ID MB-19672	SampType: MI	PA Method	8082: PCB's						
Client ID: PBW	Batch ID: 19	R	unNo: 2	6808					
Prep Date: 6/11/2015	Analysis Date: 6	12/2015	S	eqNo: 7	99540	Units: %REC			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	2.3	2.500		92.0	44.5	110			
Surr: Tetrachloro-m-xylene	1.9	2.500		75.2	31.8	95.7			
Sample ID LCS-19672	SampType: LC	s	Test	Code: El	PA Method	8082: PCB's			
Client ID: LCSW	Batch ID: 19	672	R	unNo: 2	6808				
Prep Date: 6/11/2015	Analysis Date: 6	12/2015	S	eqNo: 7	99541	Units: %REC			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Decachlorobiphenyl	2.0	2.500		82.0	44.5	110			
Surr: Tetrachloro-m-xylene	1.8	2.500		70.4	31.8	95.7			
Sample ID LCSD-19626	SampType: LC	SD	Test	Code: El	PA Method	8082: PCB's			
Client ID: LCSS02	Batch ID: 19	626	R	unNo: 2	6808				
Prep Date: 6/9/2015	Analysis Date: 6	12/2015	S	eqNo: 7	99543	Units: µg/L			
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	3.1 1.0	5.000	0	61.8	22.6	127	4.98	26.9	
Arodor 1260	4.7 1.0	5.000	0	94.3	20.4	122	8.96	29.1	
Surr: Decachlorobiphenyl	1.7	2.500		69.2	44.5	110	0	0	
Surr: Tetrachloro-m-xylene	1.5	2.500		58.4	31.8	95.7	0	0	

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID LCS-19626	SampT	ype: LC	s	Tes	tCode: E	PA Method	8082: PCB's			
Client ID: LCSW	Batch	ID: 19	626	F	RunNo: 2	6808				
Prep Date: 6/9/2015	Analysis D	ate: 6/	12/2015	8	SeqNo: 7	99548	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	58.8	22.6	127			
Aroclor 1260	5.2	1.0	5.000	0	103	20.4	122			
Surr: Decachlorobiphenyl	1.9		2.500		74.8	44.5	110			
Surr: Tetrachloro-m-xylene	1.7		2.500		66.4	31.8	95.7			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID rb1 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: **PBW** Batch ID: R26777 RunNo: 26777 Analysis Date: 6/11/2015 SeqNo: 798456 Prep Date: Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual ND Benzene 1.0 ND Toluene 1.0 ND Ethylbenzene 1.0 1,2-Dichloroethane (EDC) ND 1.0 1,2-Dibromoethane (EDB) ND 1.0 Carbon Tetrachloride ND 1.0 Chloroform ND 1.0 1,1-Dichloroethane ND 1.0 1.1-Dichloroethene ND 1.0 Methylene Chloride ND 3.0 1,1,2,2 Tetrachloroethane ND 2.0 ND 1.0 Tetrachloroethene (PCE) 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 ND 1.0 Trichloroethene (TCE) Vinyl chloride ND 1.0 Xylenes, Total ND 1.5 10.00 103 70 130 Surr: 1,2-Dichloroethane-d4 10 Surr: 4-Bromofluorobenzene 11 10.00 106 70 130 Surr: Dibromofluoromethane 10 10.00 103 70 130 10 100 Surr: Toluene-d8 10.00 70 130

Sample ID 100ng Ics	SampT	SampType: LCS TestCode: EPA N					8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R2	6777	F	RunNo: 2	6777				
Prep Date:	Analysis D	ate: 6/	11/2015	S	SeqNo: 7	98458	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	75.6	144			
Trichloroethene (TCE)	18	1.0	20.00	0	89.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID rb3 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: **PBW** Batch ID: R26777 RunNo: 26777 Analysis Date: 6/11/2015 SeqNo: 798468 Prep Date: Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual ND Benzene 1.0 ND Toluene 1.0 ND Ethylbenzene 1.0 1,2-Dichloroethane (EDC) ND 1.0 1,2-Dibromoethane (EDB) ND 1.0 Carbon Tetrachloride ND 1.0 Chloroform ND 1.0 1,1-Dichloroethane ND 1.0 1.1-Dichloroethene ND 1.0 Methylene Chloride ND 3.0 1,1,2,2 Tetrachloroethane ND 2.0 ND 1.0 Tetrachloroethene (PCE) 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 ND 1.0 Trichloroethene (TCE) Vinyl chloride ND 1.0 Xylenes, Total ND 1.5 10.00 109 70 130 Surr: 1,2-Dichloroethane-d4 11 Surr: 4-Bromofluorobenzene 10 10.00 102 70 130 Surr: Dibromofluoromethane 11 10.00 109 70 130 10 100

Sample ID 100ng Ics2	SampT	ype: LC	S	Tes	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch ID: R26777 RunNo: 26777									
Prep Date:	Analysis D	ate: 6/	11/2015	S	eqNo: 7	98470	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	75.6	144			
Trichloroethene (TCE)	19	1.0	20.00	0	92.9	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

10.00

Qualifiers:

Surr: Toluene-d8

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank B

70

130

- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

11

9.8

10

10

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Surr: Toluene-d8

Sample ID 1506320-001a ms SampType: MS TestCode: EPA Method 8260B: VOLATILES Client ID: South Field RO Reje Batch ID: R26777 RunNo: 26777 SeqNo: 798483 Prep Date: Analysis Date: 6/12/2015 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0 Benzene 20 1.0 20.00 102 70 130 103 Toluene 21 1.0 20.00 0 70 130 22 0 70 1,1-Dichloroethene 1.0 20.00 110 130 Trichloroethene (TCE) 18 1.0 20.00 0 89.9 70 130 Surr: 1,2-Dichloroethane-d4 9.9 10.00 98.7 70 130

106

98.4

102

103

70

70

70

70

130

130

130

130

0

0

10.00

10.00

10.00

10.00

Sample ID 1506320-001A MSD TestCode: EPA Method 8260B: VOLATILES SampType: MSD Client ID: South Field RO Reje Batch ID: R26777 RunNo: 26777 Prep Date: Analysis Date: 6/12/2015 SeqNo: 798484 Units: µg/L PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result **HighLimit** Qual Benzene 19 1.0 20.00 0 95.9 70 130 6.43 20 20.00 0 102 20 Toluene 20 1.0 70 130 0.642 1,1-Dichloroethene 19 1.0 20.00 0 96.6 70 130 13.4 20 Trichloroethene (TCE) 17 1.0 20.00 0 83.8 70 130 7.06 20 96.6 Surr: 1,2-Dichloroethane-d4 9.7 10.00 70 130 0 0 Surr: 4-Bromofluorobenzene 10 10.00 104 70 130 0 0 0 0 Surr: Dibromofluoromethane 9.3 10.00 92.9 70 130

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID MB-19627 SampType: MBLK TestCode: EPA Method 8310: PAHs Client ID: **PBW** Batch ID: 19627 RunNo: 26846 Prep Date: 6/9/2015 Analysis Date: 6/16/2015 SeqNo: 801380 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Naphthalene ND 2.0 ND 1-Methylnaphthalene 2.0 2-Methylnaphthalene ND 2.0 Acenaphthylene ND 2.5 Acenaphthene ND 2.0 Fluorene ND 0.80 Phenanthrene ND 0.60 0.60 Anthracene ND Fluoranthene ND 0.30 Pyrene ND 0.30 Benz(a)anthracene ND 0.070 ND 0.20 Chrysene Benzo(b)fluoranthene ND 0.10 Benzo(k)fluoranthene ND 0.070 ND 0.070 Benzo(a)pyrene Dibenz(a,h)anthracene ND 0.12 0.12 ND Benzo(g,h,i)perylene ND 0.25 Indeno(1,2,3-cd)pyrene Surr: Benzo(e)pyrene 13 20.00 65.6 37 2 136

Sample ID LCS-19627	SampT	ype: LC	s	Tes	tCode: El	PA Method				
Client ID: LCSW	Batcl	n ID: 19	627	F	RunNo: 2	6846				
Prep Date: 6/9/2015	Analysis D	ate: 6/	16/2015	S	SeqNo: 8	01381	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	74	2.0	80.00	0	92.9	57.8	83.9			S
1-Methylnaphthalene	76	2.0	80.20	0	94.6	43.5	88.5			S
2-Methylnaphthalene	74	2.0	80.00	0	92.8	34.2	94.5			
Acenaphthylene	77	2.5	80.20	0	95.6	58.5	93.6			S
Acenaphthene	74	2.0	80.00	0	91.9	45.5	90.9			S
Fluorene	7.0	0.80	8.020	0	86.7	46.6	90.3			
Phenanthrene	3.6	0.60	4.020	0	89.1	47.2	102			
Anthracene	3.6	0.60	4.020	0	88.8	45.4	99.1			
Fluoranthene	7.3	0.30	8.020	0	90.8	45.3	101			
Pyrene	7.5	0.30	8.020	0	93.0	51.9	104			
Benz(a)anthracene	0.72	0.070	0.8020	0	89.8	46.9	104			
Chrysene	3.6	0.20	4.020	0	89.3	53.6	95.1			
Benzo(b)fluoranthene	0.87	0.10	1.002	0	86.8	54.3	97.9			
Benzo(k)fluoranthene	0.46	0.070	0.5000	0	92.0	47.4	109			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID LCS-19627 SampType: LCS TestCode: EPA Method 8310: PAHs
Client ID: LCSW Batch ID: 19627 RunNo: 26846

Prep Date: 6/9/2015 Analysis Date: 6/16/2015 SeqNo: 801381 Units: µg/L

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

0.070 0.5020 0 91.6 56.3 Benzo(a)pyrene 0.46 98.6 0 89.8 57.5 Dibenz(a,h)anthracene 0.90 0.12 1.002 95.7 0.92 0 92.0 55.9 Benzo(g,h,i)perylene 0.12 1.000 98.6 1.8 0.25 2.004 0 90.8 52.8 95.3 Indeno(1,2,3-cd)pyrene Surr: Benzo(e)pyrene 13 20.00 66.2 37.2 136

Sample ID LCSD-19627 SampType: LCSD TestCode: EPA Method 8310: PAHs

Client ID: LCSS02 Batch ID: 19627 RunNo: 26846

Prep Date: 6/9/2015 Analysis Date: 6/16/2015 SeqNo: 801382 Units: μg/L

Prep Date: 6/9/2015	Analysis L	Date: 6/	16/2015	5	eqino: 8	01382	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Naphthalene	70	2.0	80.00	0	88.1	57.8	83.9	5.29	20	S	
1-Methylnaphthalene	73	2.0	80.20	0	90.7	43.5	88.5	4.20	20	S	
2-Methylnaphthalene	71	2.0	80.00	0	88.8	34.2	94.5	4.35	20		
Acenaphthylene	75	2.5	80.20	0	93.1	58.5	93.6	2.66	20		
Acenaphthene	72	2.0	80.00	0	89.8	45.5	90.9	2.37	20		
Fluorene	6.8	0.80	8.020	0	85.4	46.6	90.3	1.45	20		
Phenanthrene	3.6	0.60	4.020	0	89.8	47.2	102	0.834	24		
Anthracene	3.6	0.60	4.020	0	89.8	45.4	99.1	1.11	20		
Fluoranthene	7.4	0.30	8.020	0	91.9	45.3	101	1.23	20.9		
Pyrene	7.6	0.30	8.020	0	94.4	51.9	104	1.46	20.8		
Benz(a)anthracene	0.71	0.070	0.8020	0	88.5	46.9	104	1.40	20		
Chrysene	3.6	0.20	4.020	0	89.3	53.6	95.1	0	20		
Benzo(b)fluoranthene	0.86	0.10	1.002	0	85.8	54.3	97.9	1.16	20.6		
Benzo(k)fluoranthene	0.45	0.070	0.5000	0	90.0	47.4	109	2.20	20.8		
Benzo(a)pyrene	0.45	0.070	0.5020	0	89.6	56.3	98.6	2.20	20		
Dibenz(a,h)anthracene	0.87	0.12	1.002	0	86.8	57.5	95.7	3.39	20		
Benzo(g,h,i)perylene	0.89	0.12	1.000	0	89.0	55.9	98.6	3.31	20		
Indeno(1,2,3-cd)pyrene	1.8	0.25	2.004	0	87.8	52.8	95.3	3.35	20		
Surr: Benzo(e)pyrene	14		20.00		69.4	37.2	136	0			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-19794 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 19794 RunNo: 26937

Prep Date: 6/18/2015 Analysis Date: 6/18/2015 SeqNo: 804126 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-19794 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 19794 RunNo: 26937

Prep Date: 6/18/2015 Analysis Date: 6/18/2015 SeqNo: 804127 Units: μg/L

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

Phenolics, Total Recoverable 22 2.5 20.00 0 108 64.4 135

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID MB-R26972 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed Client ID: PBW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/18/2015 SeqNo: 805487 Units: mg/L

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

ND 0.0100 Cyanide

Sample ID LCS-R26972 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/18/2015 SeqNo: 805488 Units: mg/L

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

0.501 0.5000 100 Cyanide 110

Sample ID MB-R26972 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: Batch ID: R26972 **PBW** RunNo: 26972

Prep Date: Analysis Date: 6/16/2015 SeqNo: 805490 Units: mg/L

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

ND 0.0100 Cyanide

Sample ID LCS-R26972 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R26972 RunNo: 26972

Prep Date: Analysis Date: 6/16/2015 SeqNo: 805491 Units: mg/L

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

0.503 0.5000 90 Cyanide 0 101 110

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-R26972	SampType: MBLK			TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed								
Client ID: PBW	Batch ID: R26972			F	lunNo: 2	6972						
Prep Date:	Analysis Date: 6/16/2015			S	eqNo: 8	05511	Units: pCi/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Radium-226	0.071	0.659										
Radium-226 ±	0.324	0.659										
Radium-228	0.112	0.774										
Radium-228 ±	0.344	0.774										

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1506320

22-Jun-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-19650 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW** Batch ID: 19650 RunNo: 26772

Prep Date: SeqNo: 798169 6/10/2015 Analysis Date: 6/11/2015 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-19650 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 19650 RunNo: 26772

Prep Date: 6/10/2015 Analysis Date: 6/11/2015 SeqNo: 798170 Units: mg/L

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

Total Dissolved Solids 1000 20.0 1000 0 100 120

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank В
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit

Reporting Detection Limit

P Sample pH Not In Range

Page 22 of 22



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: NAVAJO REFINING CO Work Order Number: 1506320 RcptNo: 1 Received by/date: Logged By: Ashley Gallegos 6/6/2012 Completed By: Ashley Gallegos 6/8/2015 10:03:30 AM Reviewed By: Chain of Custody 1. Custody seals intact on sample bottles? No 🗌 Not Present 2. Is Chain of Custody complete? No [] Yes 🖪 Not Present 3. How was the sample delivered? FedEx Log In 4. Was an attempt made to cool the samples? No 🗌 NA [] Were all samples received at a temperature of >0° C to 6.0°C NA 🗔 6. Sample(s) in proper container(s)? No 🗀 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? 9. Was preservative added to bottles? NA 🔲 10. VOA vials have zero headspace? No VOA Vials Yes 11. Were any sample containers received broken? # of preserved bottles checked 12. Does paperwork match bottle labels? for pH: No 🗔 (Note discrepancies on chain of custody) lunless noted) Adjusted' 13. Are matrices correctly identified on Chain of Custody? No i 14, is it clear what analyses were requested? No 🛄 15. Were all holding times able to be met? No [] Checked by (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes 🗌 No 🗌 Person Notified: Date By Whom: Via: Phone Fax eMail Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No | Temp °C | Condition Seal Intact | Seal No Seal Date Signed By 5.8 Good Yes

VOCs: 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethylene; 1,1,2-SVOCs: benzo(a)pyrene, phenol, 1-methylnaphtharene, 2-methylnaphthalene, naphthalene **ANALYSIS LABORATORY** HALL ENVIRONMENTAL Trichloroethane; 1,1,2-Trichloroethylene; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report Dibromoethans; 1,2-Dichloroethane, Benzene, Carbon Tetrachloride, Chloroform Total Dissolved Solids × Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, N., Se, Ag, U, Zn 4901 Hawkins NE - Albuquerque, NM 87109 Nitrate/Nitrite × Dichloromethane; Ethylbenzene; Toluene; Total Xylanes; Vinyl Chloride Fax 505-345-4107 Fluoride × www.hallenvironmental.com **Analysis Request** Chloride × Sulfate × Radioactivity (Ra-226+Ra-228) × 8085: PCBs × Tel. 505-345-3975 еко, рко, око :9108 × Mercury × :0747 Total Cyanide :4.888 × 6010B: WQCC Metals × WQCC list SVOCs 8270C: × Remarks 8260B:WQCC List VOCs × -00B Time 10831 HEAL NO. Sampler: Elizabeth Salshpry Preservative □ Rush Project # P.O. # 167796 Type Sample Temperature: 1-unpres H2SO4 2 - 1L Glass unpres 1 - 1L Glass unpres 2 40m YOA unpres HN03 Naoh HN03 HN03 Monthly RO Reject Turn-Around Time: 3-40ml VOA HCL 3-40ml VOA HCL 2-40ml VOA | HCL Project Manager: Robert Combs Project Name: X Standard Type and # 2 - 500ml P Container 1-500ml P 1-500ml P 1-125ml P Relinquished by: Elizolacth Salsam Received by Received by 2-1L P On loe: ☐ Level 4 (Full Validation) South Field PORelect Sample Request ID Pinaboth Solobers Chain-of-Custody Record OSCIONA Trip Blank Mailing Address: P.O. Box 159 Artesia Relinquished by email or Fax#: 575-746-5451 Matrix Client: Navajo Refinery Phone #: 575-748-3311 2.02 liquid NM 88211-0159 2:02 2:02 2:02 2:02 2:02 2:02 2:02 2:02 2:02 Time 2:02 3pm QA/QC Package: EDD (Type) Time Time: X Standard □ Other 10/5/15 6-5-15 6-5-15 6-5-15 6-5-15 6-5-15 6-5-15 6-5-15 Date 6-5-15 6-5-15 6-5-15 6-5-15



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

Monthly RO Reject Sample Details Attachment

#	OIIVEDONITIED	OLLII NOINIIER	The HollyFrontier Companies
	H	211	

Sample Type Grab Carb Chied Composite Chied Composite Chied Composite Chied Composite Chied Chi

Samplers Affiliation Navajo Refining Co. LLC Start Date and Time 6/5/2015 @ 2:05 pm End Date and Time 6/5/2015 @ 1:54 pm

Samplers Name Elizab

Project Name Monthly RO Reject

operty			
Physical Pr	Solid	Liquid V	Sludge
100		が明然	

Type of Sampier Directly to sample jars

집 South Field R.C. Reject Discarge

North Field R.O. Reject Discarge

Outfal / Sample Location:

or Method Requested

Container Size Material Containers (None) HCL HNO3 HZSO4 NaOH NaZSZO3 NaHSO4 Other Analysis and National Analysis and Name 2 40ml VOA 3 X X X Analysis and Name 3 500ml Plastic 1 X X X Analysis and Name 5 500ml Plastic 2 X X X X X 6 1L Plastic 3 X X X X X 8 1L Glass 1 X X X X X 9 1L Glass 2 X X X X X X 10 40ml VOA 2 X X X X X X X X X X X X X X X X X X X X X </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Droconia</th> <th>400</th> <th>AND DESCRIPTION OF STREET</th> <th>0.000</th> <th></th>									Droconia	400	AND DESCRIPTION OF STREET	0.000	
Size Material Containers (None) HCL HNO3 H2SO4 Na2S203 NaHSO4 Other 40ml VOA 3 X X A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A		THE PERSON NAMED IN		# of	Nest			STATES OF STATES	DA IDODA	nves	A STATE OF THE STA	Service and servic	
500ml Plastic 2 X X X National Plastic Other 40ml VOA 3 X X National Plastic 1 X National Plastic X X National Plastic X X National Plastic X X X National Plastic X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X	Container	Size	Material	Containere	(None)	3	COMO	1000					
40ml VOA 3 X A 500ml Plastic 1 X X 125ml Plastic 2 X X 1L Plastic 3 X X 40ml VOA 2 X X 1L Glass 1 X X 40ml VOA 2 X X 40ml VOA 2 X X 40ml VOA 2 X X	100	500ml	Plastic	2	×	1	CONIC	40004	NaOH	Na2S2O3	NaHSO4	Other	Analysis ar
500ml Plastic 7 X 125ml Plastic 1 X 500ml Plastic 2 X 1L Plastic 3 X 40ml VOA 2 X 1L Glass 1 X 40ml VOA 2 X 40ml VOA 2 X 40ml VOA 2 X	2	40ml	VOA			>		<					
125ml Plastic 1	3	500ml	Plaetic	,		<							
125ml Plastic 1			00000	-			×						
500ml Plastic 2 A 1L Plastic 3 X 40ml VOA 2 X 1L Glass 1 X 40ml VOA 2 X 40ml VOA 2 X 40ml VOA 2 X	September 1	125ml	Plastic	-			*						
1L Plastic 3 X X 40ml VOA 2 X X 1. Glass 1 X X 40ml VOA 2 X X X X X X X X X X X X X X X X X X	5	500ml	Plastic	0			<						
40mi VOA 2 X X 1L Glass 1 X X 40mi VOA 2 X X 2 X X X 40mi VOA 2 X X X X X X X X X X X X X X X X X X	···	17	2000	7			20	The second	×				
40ml VOA 2 X 1L Glass 1 X 1L Glass 2 X 40ml VOA 2 X 40ml VOA 2 X	0	1	Plastic	e			×						
1L Glass 1 X 1L Glass 2 X 40ml VOA 2 X	7	40ml	VOA	2		>	1						
1L Glass 2 X 40ml VOA 2 X	8	11	Glass		>	<	1						
40ml VOA 2 X	6	11	Glass	2	< ×		T						
40ml VOA	10	40ml	VOA	2	× ×		1						
	の変数を続いっ	40ml	VOA		<	1							

Storage Method	loe 🖸	□ pai	Der 🗆
		Refngerat	ਰੋ

6/5/2015 01:55 Tmp. 89.6 F. Humidity 38%, Wind Dir. SE. Wind Speed 17 3 mph. Conditions Clear

Shipping Media Other

ield Temp. 25.7 C

Field Data (Weather, Observations, Etc):

Date and Time:

VOA

Field pH 7.69



August 14, 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 - July 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 August 2015 monthly report, for the period of July 1-31, under the Order.

Specifically, this report covers the July 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 July 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 July 1 through July 31.
- \$500 per day for each daily RO reject fluid discharge volume that exceeds 15,000 barrels from July 1 through July 31.

Navajo has calculated a penalty of \$2,700 for July 2015. The daily discharge volume exceeded the 10,000 barrels/day (bbl/day) limit, but was under 15,000 barrels total, on 27 days in July. 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 July 1, 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. Options under consideration include the installation of a third permanent RO unit to replace the temporary RO unit and the installation of a secondary RO unit to reduce the total volume of RO reject fluid produced. Navajo is also evaluating options for the underground injection of RO reject fluid. In addition, Navajo has conducted a study of background groundwater concentrations of key chemical constituents of the RO reject fluid discharged under its groundwater discharge permit to determine whether concentrations of these constituents exceed background levels. Navajo

anticipates completion and submittal of the associated background groundwater concentration report to OCD in late August or early September 2015.

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

As the permit modification application was deemed to be administratively complete, Navajo completed the public notice requirements set forth in 20.6.2.3108B New Mexico Administrative Code (NMAC) regarding public notice of the permit modification request. Mailings were sent to adjacent landowners within a 1/3 mile radius of the property, signs have been posted at the discharge location (Richey Avenue) and at the Refinery offices, and the notice has been published in the *Artesia Daily Press*. Navajo is currently preparing the proof of completion of the public notice requirements for submittal to the OCD.

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

		Permanen	t RO Units		Tempor	ary Unit	Daily Discharge Volume
	Metere	ed Data	J	RO Reject Calculated)	Disch (Calculated	O Reject narge d from Log ta)	
·	GPM	GPM	GPM	BBL/DAY	GPM	BBL/DAY	BBL
	SOUTH	NORTH					
7/1/2015	126	107	233	7989	62	2140	10129
7/2/2015	128	106	234	8023	62	2131	10154
7/3/2015	137	110	247	8469	63	2160	10629
7/4/2015	140	111	251	8606	66	2270	10876
7/5/2015	132	109	241	8263	67	2293	10556
7/6/2015	125	113	238	8160	68	2331	10491
7/7/2015	129	107	236	8091	71	2426	10517
7/8/2015	131	1.1.8	249	8537	74	2545	11082
7/9/2015	131	104	235	8057	64	2204	10261
7/10/2015	138	107	245	8400	65	2236	10636
7/11/2015	134	109	243	8331	68	2317	10648
7/12/2015	125	102	227	7783	70	2401	10184
7/13/2015	137	103	240	8229	72	2452	10681
7/14/2015	133	108	241	8263	73	2514	10777
7/15/2015	132	77	209	7166	74	2537	9703
7/16/2015	132	91	223	7646	75	2571	10217
7/17/2015	132	108	240	8229	76	2591	10820
7/18/2015	133	108	241	8263	78	2673	10936
7/19/2015	129	115	244	8366	77	2636	11002
7/20/2015	133	109	242	8297	78	2689	10986
7/21/2015	127	108	235	8057	78	2684	10741
7/22/2015	134	78	212	7269	77	2655	9924
7/23/2015	131	85	216	7406	75	2569	9975
7/24/2015	140	111	251	8606	63	2150	10756
7/25/2015	127	111	238	8160	64	2201	10361
7/26/2015	127	111	238	8160	65	2228	10388
7/27/2015	133	113	246	8434	65	2218	10652
7/28/2015	135	112	247	8469	65	2223	10692
7/29/2015	142	0	142	4869	67	2310	7179
7/30/2015	129	131	260	8914	69	2350	11264
7/31/2015	129	130	259	8880	69	2366	11246

Attachment 2 Stipulated Penalty Calculation

Calculation of Stipulated Penalties - July 2015

Order Section III., Paragraph Number	Penalty	Payment þer 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	27	\$2,700
2.b.i.2	- If the daily volume exceeds 15,000 barrels after Navajo submits discharge permit modification application	\$500		\$0
2.b.ii	Failure to conduct sampling as required in Exhibit A of Order	\$2,000		\$0
2.b.iii	Failure to timely submit any report or notifications as required in Exhibit A of Order	\$1,000		\$0
2.b.iv	Failure to record the daily discharge flow from the permanent and the temporary RO units	\$1,000		\$0
		Total A	mount:	\$2,700

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

July 22, 2015

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

FAX

RE: Monthly RO Reject OrderNo.: 1507157

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/3/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1507157

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/22/2015

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

Project: Monthly RO Reject Collection Date: 7/1/2015 2:50:00 PM

Lab ID: 1507157-001 Matrix: AQUEOUS Received Date: 7/3/2015 9:45:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst	: DBD
Arsenic	ND	0.0050		mg/L	5	7/14/2015 1:48:38 PM	R27505
Lead	ND	0.00050		mg/L	1	7/13/2015 4:43:45 PM	R27474
Selenium	0.011	0.0010		mg/L	1	7/14/2015 1:11:54 PM	R27505
Uranium	0.0066	0.00050		mg/L	1	7/13/2015 4:43:45 PM	R27474
EPA 903.1: RA 226 AND EPA 904.0: F	RA 228-SUBBE	D				Analyst	: SUB
Radium-226	1.79	0.574		pCi/L	1	7/16/2015	R27657
Radium-226 ±	0.792	0.574		pCi/L	1	7/16/2015	R27657
Radium-228	0.141	0.802		pCi/L	1	7/16/2015	R27657
Radium-228 ±	0.359	0.802		pCi/L	1	7/16/2015	R27657
EPA METHOD 300.0: ANIONS						Analyst	: LGT
Fluoride	3.7	2.0		mg/L	20	7/6/2015 10:17:45 PM	R27319
Chloride	210	10		mg/L	20	7/6/2015 10:17:45 PM	R27319
Sulfate	1800	50		mg/L	100	7/15/2015 4:09:28 PM	R27535
Nitrate+Nitrite as N	2.1	1.0		mg/L	5	7/6/2015 11:32:12 PM	R27319
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	3890	20.0	*	mg/L	1	7/9/2015 2:45:00 PM	20140
EPA 335.4: TOTAL CYANIDE SUBBE	D					Analyst	: SUB
Cyanide	ND	0.0100		mg/L	1	7/13/2015	R27657
SM4500-H+B: PH						Analyst	: JRR
рН	8.04	1.68	Н	pH units	1	7/9/2015 10:05:05 PM	R27410
EPA METHOD 200.7: DISSOLVED ME	TALS					Analyst	: ELS
Aluminum	ND	0.020		mg/L	1	7/7/2015 3:24:49 PM	R27323
Barium	0.074	0.0020		mg/L	1	7/7/2015 3:24:49 PM	R27323
Boron	0.088	0.040		mg/L	1	7/7/2015 3:24:49 PM	R27323
Cadmium	ND	0.0020		mg/L	1	7/7/2015 3:24:49 PM	R27323
Chromium	ND	0.0060		mg/L	1	7/7/2015 3:24:49 PM	R27323
Cobalt	ND	0.0060		mg/L	1	7/7/2015 3:24:49 PM	R27323
Copper	ND	0.0060		mg/L	1	7/7/2015 3:24:49 PM	R27323
Iron	ND	0.020		mg/L	1	7/7/2015 3:24:49 PM	R27323
Manganese	ND	0.0020		mg/L	1	7/7/2015 3:24:49 PM	R27323
Molybdenum	ND	0.0080		mg/L	1	7/7/2015 3:24:49 PM	R27323
Nickel	ND	0.010		mg/L	1	7/7/2015 3:24:49 PM	R27323
Silver	ND	0.0050		mg/L	1	7/7/2015 3:24:49 PM	R27323
Zinc	0.028	0.010		mg/L	1	7/7/2015 3:24:49 PM	R27323
EPA METHOD 245.1: MERCURY						Analyst	: JLF
Mercury	ND	0.00020		mg/L	1	7/8/2015 4:35:51 PM	20160

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

Qualifiers:

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- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 1 of 27
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507157

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/22/2015

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

 Project:
 Monthly RO Reject
 Collection Date: 7/1/2015 2:50:00 PM

 Lab ID:
 1507157-001
 Matrix: AQUEOUS
 Received Date: 7/3/2015 9:45:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	: КЈН
1,2-Dibromoethane	ND	0.010	μg/L	1	7/9/2015 5:02:41 PM	20171
EPA METHOD 8082: PCB'S					Analyst	SCC
Aroclor 1016	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1221	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1232	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1242	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1248	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1254	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Aroclor 1260	ND	1.0	μg/L	1	7/14/2015 8:23:58 AM	20149
Surr: Decachlorobiphenyl	63.2	44.5-110	%REC	1	7/14/2015 8:23:58 AM	20149
Surr: Tetrachloro-m-xylene	65.6	31.8-95.7	%REC	1	7/14/2015 8:23:58 AM	20149
EPA METHOD 8015M/D: DIESEL RAM	IGE				Analyst	: KJH
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	7/6/2015 8:38:10 PM	20109
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	7/6/2015 8:38:10 PM	20109
Surr: DNOP	99.5	76.5-150	%REC	1	7/6/2015 8:38:10 PM	20109
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	7/7/2015 4:57:38 PM	R27335
Surr: BFB	86.0	57.8-137	%REC	1	7/7/2015 4:57:38 PM	R27335
EPA METHOD 8310: PAHS					Analyst	: SCC
Naphthalene	ND	2.0	μg/L	1	7/8/2015 3:12:02 PM	20150
1-Methylnaphthalene	ND	2.0	μg/L	1	7/8/2015 3:12:02 PM	20150
2-Methylnaphthalene	ND	2.0	μg/L	1	7/8/2015 3:12:02 PM	20150
Benzo(a)pyrene	ND	0.070	μg/L	1	7/8/2015 3:12:02 PM	20150
Surr: Benzo(e)pyrene	58.5	37.2-136	%REC	1	7/8/2015 3:12:02 PM	20150
EPA METHOD 8260B: VOLATILES					Analyst	cadg
Benzene	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Toluene	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Ethylbenzene	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Carbon Tetrachloride	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Chloroform	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,1-Dichloroethane	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,1-Dichloroethene	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Methylene Chloride	ND	3.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395

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

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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

Lab Order 1507157

Date Reported: 7/22/2015

Hall Environmental Analysis Laboratory, Inc.

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

Project: Monthly RO Reject Collection Date: 7/1/2015 2:50:00 PM Lab ID: 1507157-001 Matrix: AQUEOUS Received Date: 7/3/2015 9:45:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	cadg
1,1,1-Trichloroethane	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
1,1,2-Trichloroethane	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Trichloroethene (TCE)	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Vinyl chloride	ND	1.0	μg/L	1	7/10/2015 4:49:29 AM	R27395
Xylenes, Total	ND	1.5	μg/L	1	7/10/2015 4:49:29 AM	R27395
Surr: 1,2-Dichloroethane-d4	97.5	70-130	%REC	1	7/10/2015 4:49:29 AM	R27395
Surr: 4-Bromofluorobenzene	104	70-130	%REC	1	7/10/2015 4:49:29 AM	R27395
Surr: Dibromofluoromethane	93.5	70-130	%REC	1	7/10/2015 4:49:29 AM	R27395
Surr: Toluene-d8	102	70-130	%REC	1	7/10/2015 4:49:29 AM	R27395
TOTAL PHENOLICS BY SW-846 9067					Analyst	: SCC
Phenolics, Total Recoverable	ND	2.5	μg/L	1	7/7/2015	20119

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

Qualifiers:

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- Analyte detected below quantitation limits
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- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range

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- RL Reporting Detection Limit

Lab Order 1507157

Date Reported: 7/22/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly RO Reject Collection Date:

Lab ID: 1507157-002 Matrix: TRIP BLANK Received Date: 7/3/2015 9:45:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	: КЈН
1,2-Dibromoethane	ND	0.010	μg/L	1	7/9/2015 5:16:26 PM	20171
EPA METHOD 8260B: VOLATILES					Analyst	cadq
Benzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Toluene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Ethylbenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	7/10/2015 5:18:14 AM	R27395
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Naphthalene	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1-Methylnaphthalene	ND	4.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
2-Methylnaphthalene	ND	4.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Acetone	ND	10	µg/L	1	7/10/2015 5:18:14 AM	R27395
Bromobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Bromodichloromethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Bromoform	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Bromomethane	ND	3.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
2-Butanone	ND	10	μg/L	1	7/10/2015 5:18:14 AM	R27395
Carbon disulfide	ND	10	μg/L	1	7/10/2015 5:18:14 AM	R27395
Carbon Tetrachloride	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Chlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Chloroethane	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Chloroform	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Chloromethane	ND	3.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
2-Chlorotoluene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
4-Chlorotoluene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
cis-1,2-DCE	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Dibromochloromethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Dibromomethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2-Dichlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,3-Dichlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,4-Dichlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Dichlorodifluoromethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1.1-Dichloroethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1-Dichloroethene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2-Dichloropropane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395

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

Qualifiers:

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 27

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

Lab Order 1507157

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 7/22/2015

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly RO Reject Collection Date:

Lab ID: 1507157-002 Matrix: TRIP BLANK Received Date: 7/3/2015 9:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	cadg
1,3-Dichloropropane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
2,2-Dichloropropane	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1-Dichloropropene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Hexachlorobutadiene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
2-Hexanone	ND	10	µg/L	1	7/10/2015 5:18:14 AM	R27395
Isopropylbenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
4-Isopropyltoluene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
4-Methyl-2-pentanone	ND	10	μg/L	1	7/10/2015 5:18:14 AM	R27395
Methylene Chloride	ND	3.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
n-Butylbenzene	ND	3.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
n-Propylbenzene	ND	1.0	µg/L	1	7/10/2015 5:18:14 AM	R27395
sec-Butylbenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Styrene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
tert-Butylbenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
trans-1,2-DCE	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1,1-Trichloroethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,1,2-Trichloroethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Trichloroethene (TCE)	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Trichlorofluoromethane	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
1,2,3-Trichloropropane	ND	2.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Vinyl chloride	ND	1.0	μg/L	1	7/10/2015 5:18:14 AM	R27395
Xylenes, Total	ND	1.5	μg/L	1	7/10/2015 5:18:14 AM	R27395
Surr: 1,2-Dichloroethane-d4	97.1	70-130	%REC	1	7/10/2015 5:18:14 AM	R27395
Surr: 4-Bromofluorobenzene	107	70-130	%REC	1	7/10/2015 5:18:14 AM	R27395
Surr: Dibromofluoromethane	95.8	70-130	%REC	1	7/10/2015 5:18:14 AM	R27395
Surr: Toluene-d8	102	70-130	%REC	1	7/10/2015 5:18:14 AM	R27395

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

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- J Analyte detected below quantitation limits
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- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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

Hall Environmental Analysis Laboratory, Inc.

WO#: **1507157**

22-Jul-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals

Client ID: PBW Batch ID: R27323 RunNo: 27323

CompTupo: I CC

Prep Date:	Analysis I	Date: 7/	7/2015	8	SeqNo: 8	18884	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID LCS	Samp	Type: LC	S	TestCode: EPA Method 200.7: Dissolved Metals									
Client ID: LCSW	Bato	ch ID: R2	7323	F									
Prep Date:	Analysis Date: 7/7/2015			SeqNo: 818885			Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Aluminum	0.53	0.020	0.5000	0	106	85	115						
Barium	0.47	0.0020	0.5000	0	94.9	85	115						
Boron	0.50	0.040	0.5000	0	100	85	115						
Cadmium	0.51	0.0020	0.5000	0	102	85	115						
Chromium	0.48	0.0060	0.5000	0	96.4	85	115						
Cobalt	0.49	0.0060	0.5000	0	97.9	85	115						
Copper	0.47	0.0060	0.5000	0	95.0	85	115						
Iron	0.47	0.020	0.5000	0	93.1	85	115						
Manganese	0.48	0.0020	0.5000	0	96.9	85	115						
Molybdenum	0.49	0.0080	0.5000	0	98.0	85	115						
Nickel	0.48	0.010	0.5000	0	95.7	85	115						
Silver	0.099	0.0050	0.1000	0	99.3	85	115						
Zinc	0.47	0.010	0.5000	0	94.4	85	115						

Sample ID LLLCS	SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Batch ID: R27323			R	tunNo: 2	7323				
Prep Date:	Analysis Date: 7/7/2015			SeqNo: 818886			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	147	50	150			
Barium	0.0022	0.0020	0.002000	0	112	50	150			

Qualifiers:

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- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

TootCodo: EDA Method 200 7: Discolved Metals

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company Project: Monthly RO Reject

Sample ID LLLCS	Samp	Type: LC	SLL	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	Bato	h ID: R2	7323	F	lunNo: 2	7323				
Prep Date:	Analysis I	Analysis Date: 7/7/2015			eqNo: 8	18886	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	ND	0.040	0.04000	0	89.4	50	150			
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Chromium	ND	0.0060	0.006000	0	89.8	50	150			
Cobalt	ND	0.0060	0.006000	0	97.2	50	150			
Copper	ND	0.0060	0.006000	0	99.2	50	150			
Iron	0.022	0.020	0.02000	0	112	50	150			
Manganese	ND	0.0020	0.002000	0	98.0	50	150			
Molybdenum	0.0092	0.0080	0.008000	0	115	50	150			
Nickel	ND	0.010	0.005000	0	92.4	50	150			
Silver	0.0055	0.0050	0.005000	0	109	50	150			
Zinc	ND	0.010	0.005000	0	90.4	50	150			
Sample ID MB	SampType: MBLK			Tes	TestCode: EPA Method 200.7: Dissolved Metals					

		. , ,								
Client ID: PBW	Bato	ch ID: R2	7323	F	RunNo: 2	7323				
Prep Date:	Analysis I	Date: 7/	7/2015	5	SeqNo: 8	18887	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID LCS	SampType	e: LCS	TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID): R27323	F	RunNo: 27323						
Prep Date:	Analysis Date	e: 7/7/2015	8	SeqNo: 8	18888	Units: mg/L				
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aluminum	0.54 0	.020 0.5000	0	108	85	115				
Barium	0.48 0.0	0.5000	0	95.6	85	115				
Boron	0.51 0	0.5000	0	101	85	115				
Cadmium	0.51 0.0	0.5000	0	103	85	115				

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID LCS	Samp	Type: LC	S	Tes	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch ID: R27323			F	RunNo: 27323						
Prep Date:	Analysis Date: 7/7/2015			S	eqNo: 8	18888	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chromium	0.48	0.0060	0.5000	0	96.3	85	115				
Cobalt	0.49	0.0060	0.5000	0	98.5	85	115				
Copper	0.48	0.0060	0.5000	0	96.1	85	115				
Iron	0.49	0.020	0.5000	0	97.1	85	115				
Manganese	0.49	0.0020	0.5000	0	97.6	85	115				
Molybdenum	0.49	0.0080	0.5000	0	98.1	85	115				
Nickel	0.48	0.010	0.5000	0	96.1	85	115				
Silver	0.10	0.0050	0.1000	0	99.9	85	115				
Zinc	0.48	0.010	0.5000	0	95.0	85	115				

Sample ID LLLCS	Samp	Type: LC	SLL	Tes	tCode: El	PA Method	200.7: Dissol	ved Meta	ls	
Client ID: BatchQC	Batch ID: R27323			F	RunNo: 27323					
Prep Date:	Analysis	Date: 7/	7/2015	8	SeqNo: 8	18889	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	133	50	150			
Barium	0.0024	0.0020	0.002000	0	118	50	150			
Boron	ND	0.040	0.04000	0	89.1	50	150			
Cadmium	ND	0.0020	0.002000	0	89.0	50	150			
Chromium	ND	0.0060	0.006000	0	75.2	50	150			
Cobalt	0.0065	0.0060	0.006000	0	108	50	150			
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Manganese	0.0020	0.0020	0.002000	0	103	50	150			
Molybdenum	0.011	0.0080	0.008000	0	140	50	150			
Nickel	ND	0.010	0.005000	0	104	50	150			
Silver	ND	0.0050	0.005000	0	72.0	50	150			
Zinc	ND	0.010	0.005000	0	88.8	50	150			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **1507157**

22-Jul-15

Client: Project:	Navajo R Monthly										
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	LCSW	Bat	ch ID: R2	27474	F	RunNo: 2	7474				
Prep Date:		Analysis	Date: 7	/13/2015	5	SeqNo: 8	24374	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		0.012	0.00050	0.01250	0	96.3	85	115			
Uranium		0.012	0.00050	0.01250	0	95.6	85	115			
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	LCSW	Bat	ch ID: R2	27474	F	RunNo: 2	7474				
Prep Date:		Analysis	Date: 7	/13/2015	5	SeqNo: 8	24375	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead			0.00050	0.01250	0	96.4	85	115			
Uranium		0.012	0.00050	0.01250	0	96.3	85	115			
Sample ID	LCSLL	Samp	Type: LC	SLL	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	BatchQC	Bat	ch ID: R2	27474	F	RunNo: 2	7474				
Prep Date:		Analysis	Date: 7	/13/2015	5	SeqNo: 8	24376	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		ND	0.00050	0.0005000	0	94.0	50	150			
Uranium		ND	0.00050	0.0005000	0	92.9	50	150			
Sample ID	LCSLL	Samp	Type: LC	SLL	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	BatchQC	Bat	ch ID: R2	27474	F	RunNo: 2	7474				
Prep Date:		Analysis	Date: 7	/13/2015	\$	SeqNo: 8	24377	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		0.00051	0.00050	0.0005000	0	102	50	150			
Uranium		0.00050	0.00050	0.0005000	0	101	50	150			
Sample ID	МВ	Samp	Type: M	BLK	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	PBW	Bat	ch ID: R2	27474	F	RunNo: 2	7474				
Prep Date:		Analysis	Date: 7	/13/2015	\$	SeqNo: 8	24379	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead			0.00050								
Uranium		ND	0.00050								
Sample ID	МВ	Samp	туре: М	BLK	Tes	tCode: E	PA 200.8: [Dissolved Me	tals		
Client ID:	PBW	Bat	ch ID: R2	7474	F	RunNo: 2	7474				
			D-4 7	42/0045		Cooklas 0	24200	Units: mg/L			
Prep Date:		Analysis	Date: 7	13/2015		SeqNo: 8	24300	Offics. mg/L			

Qualifiers:

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

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Client:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

WO#: 1507157

22-Jul-15

Project:		onthly RO Reject	any								
Sample ID	МВ	SampType	: MB	LK	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals		
Client ID:	PBW	Batch ID	: R2	7474	F	RunNo: 2	7474				
Prep Date:		Analysis Date	: 71	13/2015	8	SeqNo: 8	24380	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead		ND 0.00									
Uranium		ND 0.00	050								
Sample ID	LCS	SampType	: LC	s	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals		
Client ID:	LCSW	Batch ID	R2	7505	F	RunNo: 2	7505				
Prep Date:		Analysis Date	: 7/	14/2015	8	SeqNo: 8	25388	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic			010	0.02500	0	101	85	115			
Selenium		0.025 0.0	010	0.02500	0	100	85	115			
Sample ID	LCS	SampType	: LC	s	TestCode: EPA 200.8: Dissolved Metals						
Client ID:	LCSW	Batch ID	R2	7505	F	RunNo: 2	7505				
Prep Date:		Analysis Date	Analysis Date: 7/14/2015			SeqNo: 8	25389	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic			010	0.02500	0	100	85	115			
Selenium		0.026 0.0	010	0.02500	0	104	85	115			
Sample ID	LLLCS	SampType	: LC	SLL	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals		
Client ID:	BatchQC	Batch ID	: R2	7505	RunNo: 27505						
Prep Date:		Analysis Date	: 7/	14/2015	8	SeqNo: 8	25390	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic			010	0.001000	0	94.0	50	150			
Selenium		ND 0.0	010	0.001000	0	98.3	50	150			
Sample ID	LLLCS	SampType	: LC	SLL	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals		
Client ID:	BatchQC	Batch ID	R2	7505	F	RunNo: 2	7505				
Prep Date:		Analysis Date	: 7/	14/2015	8	SeqNo: 8	25391	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic			010	0.001000	0	102	50	150			
Selenium		0.0011 0.0	010	0.001000	0	108	50	150			
Sample ID	МВ	SampType	SampType: MBLK				PA 200.8: I	Dissolved Me	tals		
Client ID:	PBW	Batch ID	Batch ID: R27505			RunNo: 27505					
Prep Date:		Analysis Date	: 7/	14/2015	S	eqNo: 8	25392	Units: mg/L			
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB SampType: MBLK TestCode: EPA 200.8: Dissolved Metals

Client ID: PBW Batch ID: R27505 RunNo: 27505

Prep Date: Analysis Date: 7/14/2015 SeqNo: 825392 Units: mg/L

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

 Arsenic
 ND
 0.0010

 Selenium
 ND
 0.0010

Sample ID MB SampType: MBLK TestCode: EPA 200.8: Dissolved Metals

Client ID: **PBW** Batch ID: **R27505** RunNo: **27505**

Prep Date: Analysis Date: 7/14/2015 SeqNo: 825393 Units: mg/L

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

 Arsenic
 ND
 0.0010

 Selenium
 ND
 0.0010

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-20160 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: PBW Batch ID: 20160 RunNo: 27365

Prep Date: 7/8/2015 Analysis Date: 7/8/2015 SeqNo: 820623 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-20160 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 20160 RunNo: 27365

Prep Date: 7/8/2015 Analysis Date: 7/8/2015 SeqNo: 820626 Units: mg/L

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

Mercury 0.0049 0.00020 0.005000 0 98.8 80 120

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

10

0.50

10.00

WO#: **1507157**

22-Jul-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB SampType: MBLK TestCode: EPA Method 300.0: Anions Client ID: **PBW** Batch ID: R27319 RunNo: 27319 Prep Date: Analysis Date: 7/6/2015 SeqNo: 818775 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual 0.10 Fluoride ND Chloride ND 0.50 ND 0.20 Nitrate+Nitrite as N

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions Client ID: LCSW Batch ID: R27319 RunNo: 27319 Prep Date: Analysis Date: 7/6/2015 SeqNo: 818776 Units: mg/L Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.51 0.10 0 102 90 Fluoride 0.5000 110 0 93.6 90 Chloride 4.7 0.50 5.000 110 Nitrate+Nitrite as N 0.20 3.500 0 99.2 90 110 3.5

TestCode: EPA Method 300.0: Anions Sample ID MB SampType: MBLK Client ID: PBW Batch ID: R27535 RunNo: 27535 Prep Date: Analysis Date: 7/15/2015 SeqNo: 826667 Units: mg/L SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result PQL **HighLimit** Qual ND 0.50 Sulfate

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions Client ID: LCSW Batch ID: R27535 RunNo: 27535 Prep Date: Analysis Date: 7/15/2015 SeqNo: 826668 Units: mg/L SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual

0

100

90

110

Qualifiers:

Sulfate

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

P Sample pH Not In Range RL Reporting Detection Limit Page 13 of 27

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-20171 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: **PBW** Batch ID: **20171** RunNo: **27393**

Prep Date: 7/9/2015 Analysis Date: 7/9/2015 SeqNo: 821853 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-20171 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 20171 RunNo: 27393

Prep Date: 7/9/2015 Analysis Date: 7/9/2015 SeqNo: 821854 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 0 107 70 130

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-20109 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range
Client ID: PBW Batch ID: 20109 RunNo: 27291

Prep Date: 7/6/2015 Analysis Date: 7/6/2015 SeqNo: 818285 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 0.88 1.000 88.5 76.5 150

Sample ID LCS-20109 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range

Client ID: LCSW Batch ID: 20109 RunNo: 27291

0.49

Prep Date: 7/6/2015 Analysis Date: 7/6/2015 SeqNo: 818286 Units: mg/L

0.5000

Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 81.8 4.1 1.0 5.000 0 60.1 156

97.8

76.5

150

Qualifiers:

Surr: DNOP

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1507157

22-Jul-15

Client: Navajo Refining Company
Project: Monthly RO Reject

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

Client ID: PBW Batch ID: R27335 RunNo: 27335

Prep Date: Analysis Date: 7/7/2015 SeqNo: 819311 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 89.3 57.8 137

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

Client ID: LCSW Batch ID: R27335 RunNo: 27335

Prep Date: Analysis Date: 7/7/2015 SeqNo: 819312 Units: mg/L

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

 Gasoline Range Organics (GRO)
 0.48
 0.050
 0.5000
 0
 95.0
 80
 120

 Surr: BFB
 19
 20.00
 94.6
 57.8
 137

Sample ID 1507157-001JMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range

Client ID: R.O. Reject Batch ID: R27335 RunNo: 27335

Prep Date: Analysis Date: 7/7/2015 SeqNo: 819318 Units: mg/L

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

Gasoline Range Organics (GRO) 0.51 0.050 0.5000 0.04740 92.4 51 131 Surr: BFB 19 20.00 92.6 57.8 137

Sample ID 1507157-001JMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range

Client ID: R.O. Reject Batch ID: R27335 RunNo: 27335

Prep Date: Analysis Date: 7/7/2015 SeqNo: 819319 Units: mg/L

Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.48 0.050 0.5000 0.04740 85.8 51 131 6.70 20 Surr: BFB 18 20.00 91.6 57.8 137 0 0

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RL Reporting Detection Limit

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