GW - 028

2015 Annual Discharge Permit Report

PART 12 OF 16

March 2016

Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID 100ng Ics3	Samp1	ype: LC	S	Tes	tCode: E	ATILES				
Client ID: LCSW	Batcl	n ID: R3	0086	F	RunNo: 3	0086				
Prep Date:	Analysis D)ate: 11	1/6/2015	S	SeqNo: 9	16525	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	109	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID rb3 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW Batch ID: R30086 RunNo: 30086

Prep Date: Analysis Date: 11/6/2015 SeqNo: 916527 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID rb3	SampTy	/pe: ME	BLK	TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch	ID: R3	0086	F	RunNo: 30	0086				
Prep Date:	Analysis Da	ate: 11	/6/2015	5	SeqNo: 9	16527	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
· i=1- · · · · · · · · · · · · · · · · · · ·	.,,,									

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID rb3 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW Batch ID: R30086 RunNo: 30086

Prep Date:	Analysis D)ate: 11	1/6/2015	S	eqNo: 9	16527	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0		_						
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID 1511135-001ams	SampT	ype: MS	3	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: R.O. Reject	Batcl	n ID: R3	0086	F	RunNo: 3	0086				
Prep Date:	Analysis D)ate: 1	1/6/2015	S	SeqNo: 9	16530	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	115	70	130			
Toluene	20	1.0	20.00	0	99.3	70	130			
Chlorobenzene	23	1.0	20.00	0	114	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.5	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	8.9		10.00		89.4	70	130			

Sample ID 1511135-001amsd	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: R.O. Reject	Batch	ID: R3	0086	F	RunNo: 3	0086				
Prep Date:	Analysis D	ate: 11	1/6/2015	S	SeqNo: 9	16531	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130	7.96	20	
Toluene	21	1.0	20.00	0	105	70	130	5.76	20	
Chlorobenzene	21	1.0	20.00	0	106	70	130	6.75	20	
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130	11.1	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.6	70	130	8.76	20	
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	11		10.00		105	70	130	0	0	

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB-22195 SampType: MBLK TestCode: EPA Method 8310: PAHs
Client ID: PBW Batch ID: 22195 RunNo: 30048

Prep Date: 11/5/2015 Analysis Date: 11/6/2015 SeqNo: 916008 Units: µg/L

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

 Naphthalene
 ND
 2.0

 1-Methylnaphthalene
 ND
 2.0

 2-Methylnaphthalene
 ND
 2.0

 Benzo(a)pyrene
 ND
 0.070

Surr: Benzo(e)pyrene 15 20.00 74.1 37.2 136

Sample ID LCS-22195	SampT	ype: LC	s	Tes	tCode: El	PA Method	8310: PAHs			
Client ID: LCSW	Batch	1D: 22	195	F	RunNo: 3	0048				
Prep Date: 11/5/2015	Analysis D	ate: 11	1/6/2015	8	SeqNo: 9	16020	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	61	2.0	80.00	0	76.4	57.8	83.9			
1-Methylnaphthalene	64	2.0	80.20	0	80.0	43.5	88.5			
2-Methylnaphthalene	62	2.0	80.00	0	76.9	34.2	94.5			
Benzo(a)pyrene	0.44	0.070	0.5020	0	87.6	56.3	98.6			
Surr: Benzo(e)pyrene	14				67.6	37.2	136			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22262 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: **PBW** Batch ID: **22262** RunNo: **30113**

Prep Date: 11/10/2015 Analysis Date: 11/10/2015 SeqNo: 917445 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-22262 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 22262 RunNo: 30113

Prep Date: 11/10/2015 Analysis Date: 11/10/2015 SeqNo: 917446 Units: μg/L

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

Phenolics, Total Recoverable 18 2.5 20.00 0 91.2 64.4 135

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-R30469 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW Batch ID: R30469 RunNo: 30469

Prep Date: Analysis Date: 11/16/2015 SeqNo: 930041 Units: mg/L

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

Cyanide ND 0.0100

Sample ID LCS-R30469 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R30469 RunNo: 30469

Prep Date: Analysis Date: 11/16/2015 SeqNo: 930042 Units: mg/L

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

Cyanide 0.508 0.5000 0 102 90 110

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

ND

0.693

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Radium-228 ±

Sample ID MB-	R30469	SampT	ype: ME	BLK	Tes	tCode: El	PA 903.1: F	Ra 226 and EP	A 904.0: F	Ra 228-Subbe	ed
Client ID: PBV	/	Batch	ID: R3	0469	F	RunNo: 3	0469				
Prep Date:		Analysis Date: 11/16/2015			8	SeqNo: 9	30044	Units: pCi/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Radium-226		ND	0.977								
Radium-226 ±		ND	0.977								
Radium-228		ND	0.693								

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511135

25-Nov-15

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22194 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 22194 RunNo: 30073

Prep Date: 11/5/2015 Analysis Date: 11/7/2015 SeqNo: 916141 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-22194 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 22194 RunNo: 30073

Prep Date: 11/5/2015 Analysis Date: 11/7/2015 SeqNo: 916142 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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

Sample Log-In Check List

Website: www.hallenvironmental.com Client Name: **NAVAJO REFINING COM** Work Order Number: 1511135 RcptNo: 1 Received by/date: Logged By: Lindsay Mangin Completed By: 11/4/2015 10:47:07 AM Lindsay Mangin Reviewed By: Chain of Custody 1. Custody seals intact on sample bottles? Not Present 2. Is Chain of Custody complete? No 🗌 Yes 🖈 Not Present 3. How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? No 🗌 NA 🗍 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 NA 🗌 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes 8. Are samples (except VOA and ONG) properly preserved? No Yes 9. Was preservative added to bottles? No 🖈 NA 🗀 Yes 10.VOA vials have zero headspace? No 🗌 No VOA Vials Yes Yes □ 11, Were any sample containers received broken? No 🖈 # of preserved bottles checked 12. Does paperwork match bottle labels? No 🗌 for pH: (Note discrepancies on chain of custody) unless noted) 13. Are matrices correctly identified on Chain of Custody? Adjusted? No 🗀 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 🗌 NA 🖈 Person Notified: Date: By Whom: Via: eMail ☐ Phone ☐ Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information

Cooler No

Temp ℃

1.1

Condition

Yes

Good

Seal Intact | Seal No

Seal Date

Signed By

	ANALYSTS LABORATORY	www.hallenvironmental.com	Albuquerane NM 87109	Fax 505-345-4107	Analysis Request		228				e E	Radioactivity Sulfate Chlo Phenols -luoride Vitrate/Nitrite Total Dissolv	× × × × × × ×					×	×					×		Remarks: Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Zn VOCs: 1.1.1-Trichloroethane: 1.1.2.2-Tetrachloroethane: 1.1.2.1etrachloroethane: 1.1.2.	Trichloroethane; 1,1,2-Trichloroethylene; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-Dichloroethane; 1,2-Dichloroethane; Benzene; Carbon Tetrachloride; Chloroform; Dichloromethane; Ethylbenzene; Toluene; Total Xylenes; Viny Chloride SVOCs: benzo(a)twene phenni 1-metrylnanhthalene 2-metrylnanhthalene nanhthalene	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted to Hall Environmental may be subcontracted to other accredited laboratories.
	ANAL YS	ynelled wyww	,		Anal			05			DE nux	8082: PCBs 8015: GRO			×					×		×	×			d, Cr, Co, Cu, Fe, Pl ethane: 1.1.2.2-Tetra	Trichloroethylene; 1,1 chloroethane; Benzei ibenzene; Toluene; T	ntracted data will be
			4901 Hawkins NE	Tel. 505-345-3975			•	OC	SV	teil 9M))	8250C: WQ6 8270C: WQ6 8010B: WQ6 835.4: Tota		×		×	×				×					Remarks: Metals: As, Al, Ba, B, C VOCs: 1.1.1-Trichlores	Trichloroethane; 1,1,2-Dibromoethane; 1,2-Div Dibromoethane; 1,2-Div Dichloromethane; Ethyl SVOCs: benzo(a)byrer	DOSSIDILITY. Any Sub-CO
									sberry	ON D		HEAL NO	(90)	1000-	-601	100-	1007	100	i	100-	100	100	100-	130	20,20	Date Time	Date Time	This serves as notice of this is
Ime:	□ Rush	ai	Reject	O. # 167796		iger:		S	Elizabeth Salsberry	X Yes	perature: ///	Preservative Type	1-unpres 1- H2SO4	HCL	HN03	HNO3	NaOH	HNO3	Na2S2O3	nubres	unpres	HCI	nubres	H2SO4	HCL	Meet		credifed laboratorie
urn-Around	X Standard	Project Name:	Monthly R.O.	Project #: P.O. # 167796		Project Mana		Robert Combs	Sampter:	On Ice:	Sample Tem	Container Type and #	2 - 500ml P	3-40ml VOA	1-500ml P	1-125ml P	1-500ml P	2-1L P	3-40ml VOA	2 - 1L Glass	1 - 1L Glass	3-40ml VOA	1-250mlGlass	1 - 1L Glass	2-40ml VOA	Received by:	Received by:	ontracted to other ac
Chain-of-Custody Record			Mailing Address: P.O. Box 159 Artesia,			11		□ Level 4 (Full Validation)				Sample Request ID	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject	R.O. Reject		i 1	Eirabeth Salsher	d by:	itted to Hall Environmental may be subco
-of-Cus	Navajo Refinery		: P.O. Box '		48-3311	email or Fax#: 575-746-5451						Matrix	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	9:00 liquid	Relinquished by:	Relinquished by	/, samples submi
E E	Navajo		Address	NM 88211-0159	Phone #: 575-748-3311	. Fax#: 5	QA/QC Package:	lard		EDD (Type)_		Time				_										Time:)t:O _O	Time:	If necessary
O	Client:		Mailing	NM 882	Phone #	email or	QA/QC F	X Standard	□ Other		:	Date	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	11/3/15	Date: 11/5/15	Date:	



Navajo Refining Company, LLC 501 E. Main

Artesia, NM 88210
(Tel) 575.748.3311
(Fax) 575.746.5451

Reject Sample Monthly RO Attachment Details

Sludge □	Liquid 🖸	Solid □	Physical Property	The HollyFrontier Companies	_	HOLLVEBONITIE	
			орегту		7		

Type of Sampler Directly to sample jars

Time Weighted Composite
Flow Weighted Composite

Sample Type

Grab ☑

Parts / Sample Intervals One

End Date and Time 11/3/2015 @ 9:10am Start Date and Time 11/3/2015 @ 8:56am Samplers Name Elizabeth Salsberry
Samplers Affiliation Navajo Refining Co. LLC Project Name Biannual RO Reject

			_	왕[건] 공기			Preservatives	ives			
ontainer	Size	Material	# of Containers	Neat (None)		HNO3 H2SO4		NegCool NegCool	N-DOOL)#b)	
1	500ml	Plastic	2	×	D	×			Nai Joot	Cuid	pH CI F S04 NO2/NO3 TOS
2	40ml	VOA	ω,		×						8015 GRO
3	500ml	Plastic	1			×					6020 total metals 7470 Ho
4	125ml	Plastic	1			×					6020 Dissolved Metals
5	500mf	Plastic	2			-	×				Cyanide
6	1	Plastic	3			×					Radium 226/228
7	40ml	VOA	2		×						8260 see attached list
α	1	Glass	_	×							8270 see attached list
٧	7	Glass	2	×							8082 PCBs
10	40ml	VOA	2	×							8015 DRO
11	40ml	VOA	2		×						Radium 226/228

Field Temp. 22.1C

Field pH 7.85

Date-and Time:

Field Data (Weather, Observations, Etc):

11/3/2015 Tmp. 57.2, Humidity 67%, Wind Dir. SSE, Wind Speed 5.8 mph, Conditions Clear

Refrigerated □
Other □

Ce C

Storage Method

Other

Se

Shipping Media ζ.



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

November 25, 2015

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

TEL: (575) 748-3311

FAX

RE: Monthly Temporary RO Reject OrderNo.: 1511141

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/4/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT: Navajo Refining Company

Project: Monthly Temporary RO Reject

Lab ID: 1511141-001

Matrix: AQUEOUS

Client Sample ID: Temporary R.O. Reject

Collection Date: 11/3/2015 9:20:00 AM

Received Date: 11/4/2015 9:05:00 AM

Analyses Result RL Qual Units **DF** Date Analyzed Batch **EPA 200.8: DISSOLVED METALS** Analyst: JLF Arsenic ND 0.0050 mg/L 5 11/18/2015 12:50:57 PM B30317 Lead ND 0.00050 mg/L 11/18/2015 12:30:23 PM B30317 Selenium 0.0098 0.0010 11/18/2015 12:30:23 PM B30317 mg/L 1 Uranium 0.0051 0.00050 mg/L 11/18/2015 12:30:23 PM B30317 EPA 903.1: RA 226 AND EPA 904.0: RA 228-SUBBED Analyst: SUB R30473 Radium-226 12 0.952 pCi/L 1 11/16/2015 Radium-226 ± 0.761 0.952 pCi/L 11/16/2015 R30473 0.0442 pCi/L R30473 Radium-228 0.929 11/16/2015 1 Radium-228 ± 0.403 0.929 pCi/L 11/16/2015 R30473 **EPA METHOD 300.0: ANIONS** Analyst: LGT Fluoride 3.2 0.10 mg/L 1 11/4/2015 7:41:19 PM R30015 Chloride 42 10 mg/L 11/4/2015 7:53:44 PM R30015 0.10 11/4/2015 7:41:19 PM R30015 Nitrogen, Nitrate (As N) 1.8 mg/L 1 1500 11/18/2015 8:38:32 PM R30349 25 mg/L SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS **Total Dissolved Solids** 3050 20.0 mg/L 11/7/2015 10:19:00 AM 22194 Analyst: SUB **EPA 335.4: TOTAL CYANIDE SUBBED** 0.0100 Cyanide ND mg/L 1 11/18/2015 R30473 SM4500-H+B: PH Analyst: JRR 11/5/2015 4:52:07 PM pH 7.87 1.68 pH units R30047 **EPA METHOD 200.7: DISSOLVED METALS** Analyst: MED ND 0.020 11/13/2015 4:23:54 PM B30225 Aluminum mg/L 1 0.060 Barium 0.0020 mg/L 1 11/13/2015 4:23:54 PM B30225 0.086 11/13/2015 4:23:54 PM B30225 Boron 0.040 mg/L Cadmium ND 0.0020 mg/L 11/13/2015 4:23:54 PM B30225 1 Chromium ND 0.0060 mg/L 1 11/13/2015 4:23:54 PM B30225 Cobalt ND 0.0060 1 11/13/2015 4:23:54 PM B30225 mg/L Copper ND 0.0060 mg/L 11/13/2015 4:23:54 PM B30225 ND 0.020 11/13/2015 4:23:54 PM B30225 Iron mg/L 1 Manganese ND 0.0020 mg/L 1 11/13/2015 4:23:54 PM B30225 Molybdenum ND 0.0080 11/13/2015 4:23:54 PM B30225 mg/L 1 Nickel ND 0.010 mg/L 11/13/2015 4:23:54 PM B30225 Silver ND 0.0050 mg/L 1 11/13/2015 4:23:54 PM B30225 Zinc 0.17 0.010 mg/L 11/13/2015 4:23:54 PM B30225 **EPA METHOD 245.1: MERCURY** Analyst: DBD Mercury ND 0.00020 mg/L 11/13/2015 6:17:36 PM 22341

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT:Navajo Refining CompanyClient Sample ID: Temporary R.O. RejectProject:Monthly Temporary RO RejectCollection Date: 11/3/2015 9:20:00 AM

Lab ID: 1511141-001 Matrix: AQUEOUS Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	: JME
1,2-Dibromoethane	ND	0.010	μg/L	1	11/6/2015 3:15:26 PM	22172
EPA METHOD 8082: PCB'S					Analyst	: JDC
Aroclor 1016	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1221	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1232	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1242	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1248	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1254	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Aroclor 1260	ND	1.0	μg/L	1	11/6/2015 7:11:33 PM	22197
Surr: Decachlorobiphenyl	108	17.7-151	%REC	1	11/6/2015 7:11:33 PM	22197
Surr: Tetrachloro-m-xylene	85.6	20.6-151	%REC	1	11/6/2015 7:11:33 PM	22197
EPA METHOD 8015M/D: DIESEL RAN	GE				Analyst	: KJH
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	11/6/2015 3:59:05 PM	22175
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	11/6/2015 3:59:05 PM	22175
Surr: DNOP	127	72-136	%REC	1	11/6/2015 3:59:05 PM	22175
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	0.050	mg/L	1	11/5/2015 11:21:46 AM	R30036
Surr: BFB	79.3	57.8-137	%REC	1	11/5/2015 11:21:46 AM	R30036
EPA METHOD 8310: PAHS					Analyst	: JDC
Naphthalene	ND	2.0	μg/L	1	11/6/2015 6:15:12 PM	22195
1-Methylnaphthalene	ND	2.0	μg/L	1	11/6/2015 6:15:12 PM	22195
2-Methylnaphthalene	ND	2.0	μg/L	1	11/6/2015 6:15:12 PM	22195
Benzo(a)pyrene	ND	0.070	μg/L	1	11/6/2015 6:15:12 PM	22195
Surr: Benzo(e)pyrene	77.6	37.2-136	%REC	1	11/6/2015 6:15:12 PM	22195
EPA METHOD 8260B: VOLATILES					Analyst	: AG
Benzene	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Toluene	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Ethylbenzene	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Carbon Tetrachloride	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Chloroform	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,1-Dichloroethane	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,1-Dichloroethene	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Methylene Chloride	ND	3.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
		100				

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

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT: Navajo Refining Company

Client Sample ID: Temporary R.O. Reject

Project: Monthly Temporary RO Reject

Collection Date: 11/3/2015 9:20:00 AM

Lab ID: 1511141-001 Matrix: AQUEOUS Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	: AG
1,1,1-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
1,1,2-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Trichloroethene (TCE)	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Vinyl chloride	ND	1.0	μg/L	1	11/6/2015 4:32:31 PM	R30086
Xylenes, Total	ND	1.5	µg/L	1	11/6/2015 4:32:31 PM	R30086
Surr: 1,2-Dichloroethane-d4	92.3	70-130	%REC	1	11/6/2015 4:32:31 PM	R30086
Surr: 4-Bromofluorobenzene	95.4	70-130	%REC	1	11/6/2015 4:32:31 PM	R30086
Surr: Dibromofluoromethane	103	70-130	%REC	1	11/6/2015 4:32:31 PM	R30086
Surr: Toluene-d8	96.1	70-130	%REC	1	11/6/2015 4:32:31 PM	R30086
TOTAL PHENOLICS BY SW-846 9067					Analyst	scc
Phenolics, Total Recoverable	ND	2.5	μg/L	1	11/10/2015	22262

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

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- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly Temporary RO Reject **Collection Date:**

Lab ID: 1511141-002 Matrix: TRIP BLANK Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB					Analyst	: JME
1,2-Dibromoethane	ND	0.010	μg/L	1	11/6/2015 3:29:07 PM	22172
EPA METHOD 8260B: VOLATILES					Analyst	: AG
Benzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Toluene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Ethylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Methyl tert-butyl ether (MTBE)	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	11/6/2015 5:01:09 PM	R30086
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2-Dichloroethane (EDC)	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2-Dibromoethane (EDB)	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Naphthalene	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1-Methylnaphthalene	ND	4.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
2-Methylnaphthalene	ND	4.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Acetone	ND	10	μg/L	1	11/6/2015 5:01:09 PM	R30086
Bromobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Bromodichloromethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Bromoform	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Bromomethane	ND	3.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
2-Butanone	ND	10	μg/L	1	11/6/2015 5:01:09 PM	R30086
Carbon disulfide	ND	10	μg/L	1	11/6/2015 5:01:09 PM	R30086
Carbon Tetrachloride	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Chlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Chloroethane	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Chloroform	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Chloromethane	ND	3.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
2-Chlorotoluene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
4-Chlorotoluene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
cis-1,2-DCE	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Dibromochloromethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Dibromomethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2-Dichlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,3-Dichlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,4-Dichlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Dichlorodifluoromethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1.1-Dichloroethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1-Dichloroethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2-Dichloropropane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

CLIENT: Navajo Refining Company Client Sample ID: Trip Blank

Project: Monthly Temporary RO Reject Collection Date:

Lab ID: 1511141-002 Matrix: TRIP BLANK Received Date: 11/4/2015 9:05:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	: AG
1,3-Dichloropropane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
2,2-Dichloropropane	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1-Dichloropropene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Hexachlorobutadiene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
2-Hexanone	ND	10	μg/L	1	11/6/2015 5:01:09 PM	R30086
Isopropylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
4-Isopropyltoluene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
4-Methyl-2-pentanone	ND	10	μg/L	1	11/6/2015 5:01:09 PM	R30086
Methylene Chloride	ND	3.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
n-Butylbenzene	ND	3.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
n-Propylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
sec-Butylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Styrene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
tert-Butylbenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
trans-1,2-DCE	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1,1-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,1,2-Trichloroethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Trichloroethene (TCE)	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Trichlorofluoromethane	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
1,2,3-Trichloropropane	ND	2.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Vinyl chloride	ND	1.0	μg/L	1	11/6/2015 5:01:09 PM	R30086
Xylenes, Total	ND	1.5	μg/L	1	11/6/2015 5:01:09 PM	R30086
Surr: 1,2-Dichloroethane-d4	101	70-130	%REC	1	11/6/2015 5:01:09 PM	R30086
Surr: 4-Bromofluorobenzene	99.2	70-130	%REC	1	11/6/2015 5:01:09 PM	R30086
Surr: Dibromofluoromethane	98.8	70-130	%REC	1	11/6/2015 5:01:09 PM	R30086
Surr: Toluene-d8	100	70-130	%REC	1	11/6/2015 5:01:09 PM	R30086

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

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

Sample ID LLLCS-B	Samp	Type: LC	SLL	Test	Code: El	PA Method	200.7: Dissol	ved Metal	ls	
Client ID: BatchQC	Bato	ch ID: B3	0225	R	tunNo: 3	0225				
Prep Date:	Analysis	Date: 11	1/13/2015	S	eqNo: 9	21064	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	90.0	50	150			
Barium	0.0021	0.0020	0.002000	0	105	50	150			
Boron	0.041	0.040	0.04000	0	102	50	150			
Cadmium	ND	0.0020	0.002000	0	94.0	50	150			
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Cobalt	0.0063	0.0060	0.006000	0	105	50	150			
Copper	ND	0.0060	0.006000	0	93.2	50	150			
Iron	0.025	0.020	0.02000	0	127	50	150			
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Molybdenum	0.0089	0.0080	0.008000	0	112	50	150			
Nickel	ND	0.010	0.005000	0	108	50	150			
Silver	0.0053	0.0050	0.005000	0	106	50	150			
Zinc	ND	0.010	0.005000	0	102	50	150			

Sample ID LCS-B	Samp	SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW	Batc	Batch ID: B30225 RunNo: 30225									
Prep Date:	Analysis [Date: 11	1/13/2015	S	eqNo: 9	21065	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aluminum	0.50	0.020	0.5000	0	101	85	115	·			
Barium	0.48	0.0020	0.5000	0	96.6	85	115				

Qualifiers:

- Value exceeds Maximum Contaminant Level.
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- B Analyte detected in the associated Method Blank
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 6 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511141**

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID LCS-B Client ID: LCSW	SampType: LCS Batch ID: B30225				TestCode: EPA Method 200.7: Dissolved Metals RunNo: 30225					
Prep Date:	Analysis Date: 11/13/2015				SeqNo: 9		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.48	0.0020	0.5000	0	97.0	85	115			
Chromium	0.48	0.0060	0.5000	0	96.3	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.2	85	115			
Copper	0.47	0.0060	0.5000	0	94.8	85	115			
Iron	0.49	0.020	0.5000	0	97.5	85	115			
Manganese	0.47	0.0020	0.5000	0	93.8	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.46	0.010	0.5000	0	92.0	85	115			
Silver	0.099	0.0050	0.1000	0	99.2	85	115			
Zinc	0.48	0.010	0.5000	0	96.1	85	115			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **1511141**

25-Nov-15

Client:	Navajo Refining Company	
Project:	Monthly Temporary RO Reject	

Sample ID LCS	•	ype: LC					Dissolved Met	tals		
Client ID: LCSW	Batch	1D: B3	0317	R	unNo: 30	0317				
Prep Date:	Analysis D	ate: 11	/18/2015	S	eqNo: 92	25053	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.026	0.0010	0.02500	0	102	85	115			
Uranium	0.012 0	0.00050	0.01250	0	96.9	85	115			
Sample ID LLLCS	SampT	ype: LC	SLL	Test	Code: EF	PA 200.8: [Dissolved Met	tals		
Client ID: BatchQC	Batch	1D: B3	0317	RunNo: 30317						

Client ID: BatchQC	Batch ID: B3	30317	F	tunNo: 3	0317						
Prep Date:	Analysis Date: 11/18/2015			SeqNo: 925054			Units: mg/L				
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Arsenic	0.0010 0.0010	0.001000	0	105	50	150					
Lead	ND 0.00050	0.0005000	0	99.5	50	150					
Selenium	0.0010 0.0010	0.001000	0	101	50	150					
Uranium	ND 0.00050	0.0005000	0	97.4	50	150					

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

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

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

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

Client ID: PBW Batch ID: 22341 RunNo: 30233

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

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

Mercury ND 0.00020

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

Client ID: LCSW Batch ID: 22341 RunNo: 30233

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

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

Mercury 0.0061 0.00020 0.005000 0 121 80 120

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

9.6

0.50

10.00

WO#: 1511141

25-Nov-15

Client:		Navajo R	efining Co	mpany								
Project:		Monthly '	Temporary	RO Re	eject							
Sample ID	MD	**	CompT	ype: ME	DI K	Tos	Codo: El	DA Method	300.0: Anions			
5									300.0. Amons	•		
Client ID:	PBW		Batch	ID: R3	0015	F	tunNo: 3	0015				
Prep Date:			Analysis D	ate: 11	1/4/2015	S	eqNo: 9	14384	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride			ND	0.10								
Chloride			ND	0.50								
Nitrogen, Nitra	te (As N)		ND	0.10								
Sample ID	LCS		SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID:	LCSW		Batch	ID: R3	0015	F	unNo: 3	0015				
Prep Date:			Analysis D	ate: 1	1/4/2015	SeqNo: 914385 Ur			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	96.1	90	110			
Chloride			4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrat	te (As N)		2.6	0.10	2.500	0	103	90	110			
Sample ID	МВ		SampT	ype: ME	BLK	Tes	Code: El	PA Method	300.0: Anions	5		
Client ID:	PBW		Batch	ID: R3	0349	F	unNo: 3	0349				
Prep Date:			Analysis D	ate: 11	1/18/2015	S	eqNo: 9	26243	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate			ND	0.50								
Sample ID	LCS		SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID:	LCSW		Batch	ID: R3	0349	R	lunNo: 3	0349				
Prep Date:			Analysis D	ate: 11	1/18/2015	S	eqNo: 9	26244	Units: mg/L			
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

Sulfate

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

95.7

90

110

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

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

Client ID: PBW Batch ID: 22172 RunNo: 30082

Prep Date: 11/5/2015 Analysis Date: 11/6/2015 SeqNo: 916394 Units: μg/L

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

1,2-Dibromoethane ND 0.010

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

Client ID: LCSW Batch ID: 22172 RunNo: 30082

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

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

1,2-Dibromoethane 0.044 0.010 0.05000 0 88.0 70 130

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-22175 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Client ID: **PBW** Batch ID: 22175 RunNo: 30057 Prep Date: 11/4/2015 Analysis Date: 11/6/2015 SeqNo: 915909 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 1.0 Motor Oil Range Organics (MRO) ND 5.0 Surr: DNOP 1.1 1.000 113 72 136

Sample ID LCS-22175 SampType: LCS Client ID: LCSW Batch ID: 22175				TestCode: EPA Method 8015M/D: Diesel Range								
				175	F							
Prep Date: 11/4	4/2015	Analysis Date: 11/6/2015			SeqNo: 915910			Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organic	cs (DRO)	5.3	1.0	5.000	0	106	52.4	154				
Surr: DNOP		0.55		0.5000		111	72	136				

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

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

Client ID: PBW Batch ID: R30036 RunNo: 30036

Prep Date: Analysis Date: 11/5/2015 SeqNo: 915111 Units: mg/L

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

Gasoline Range Organics (GRO) ND 0.050

Surr: BFB 16 20.00 79.4 57.8 137

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

Client ID: LCSW Batch ID: R30036 RunNo: 30036

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

HighLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 0.44 0.050 0.5000 0 88.0 80 120 Surr: BFB 20 20.00 98.3 57.8 137

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-22197	SampT	ype: ME	BLK	Test	Code: El	PA Method				
Client ID: PBW	N Batch ID: 22197			R	tunNo: 30	0067				
Prep Date: 11/5/2015	Analysis D	ate: 1 1	1/6/2015	S	eqNo: 9	16012	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	1.0					_			
Aroclor 1221	ND	1.0								
Aroclor 1232	ND	1.0								
Aroclor 1242	ND	1.0								
Aroclor 1248	ND	1.0								
Aroclor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	2.4		2.500		96.4	17.7	151			
Surr: Tetrachloro-m-xylene	2.0		2.500		82.0	20.6	151			

Sample ID LCS-22197	SampT	ype: LC	s	Tes	tCode: El	PA Method				
Client ID: LCSW	Batch	ID: 22	197	F	RunNo: 3	0067				
Prep Date: 11/5/2015	Analysis D	ate: 11	1/6/2015	8	SeqNo: 9	16013	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.3	1.0	5.000	0	45.2	9.01	142			
Arodor 1260	4.3	1.0	5.000	0	86.6	25.6	164			
Surr: Decachlorobiphenyl	2.4		2.500		97.6	17.7	151			
Surr: Tetrachloro-m-xylene	2.0		2.500		80.8	20.6	151			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID 100ng Ics3	SampT	ype: LC	S	Tes	tCode: El					
Client ID: LCSW	Batch	n ID: R3	0086	F	RunNo: 3	0086				
Prep Date:	Analysis Date: 11/6/2015		SeqNo: 916525			Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	109	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID rb3 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES

Client ID: PBW Batch ID: R30086 RunNo: 30086

Prep Date: Analysis Date: 11/6/2015 SeqNo: 916527 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID rb3 SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: **PBW** Batch ID: R30086 RunNo: 30086 Prep Date: Analysis Date: 11/6/2015 SeqNo: 916527 Units: µg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual ND 4-Chlorotoluene 1.0 ND cis-1,2-DCE 1.0 ND cis-1,3-Dichloropropene 1.0 1,2-Dibromo-3-chloropropane ND 2.0 Dibromochloromethane ND 1.0 Dibromomethane ND 1.0 1,2-Dichlorobenzene ND 1.0 1,3-Dichlorobenzene ND 1.0 1.4-Dichlorobenzene ND 1.0 ND 1.0 Dichlorodifluoromethane 1,1 Dichloroethane ND 1.0 ND 1.0 1,1-Dichloroethene 1,2-Dichloropropane ND 1.0 1,3-Dichloropropane ND 1.0 ND 2.0 2,2-Dichloropropane 1,1-Dichloropropene ND 1.0 Hexachlorobutadiene ND 1.0 2-Hexanone ND 10 Isopropylbenzene ND 1.0 4-Isopropyltoluene ND 1.0 4-Methyl-2-pentanone ND 10 Methylene Chloride ND 3.0 n-Butylbenzene ND 3.0 n-Propylbenzene ND 1.0 sec-Butylbenzene ND 1.0 ND 1.0 Styrene tert-Butylbenzene ND 1.0 1,1,1,2-Tetrachloroethane ND 1.0 1,1,2,2-Tetrachloroethane ND 2.0 Tetrachloroethene (PCE) ND 1.0 trans-1,2-DCE ND 1.0 trans-1,3-Dichloropropene ND 1.0 ND 1.0 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene ND 1.0 ND 1.0 1,1,1-Trichloroethane 1,1,2-Trichloroethane ND 1.0 ND Trichloroethene (TCE) 1.0 Trichlorofluoromethane ND 1.0 1,2,3-Trichloropropane ND 2.0

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID rb3	SampT	уре: МЕ	BLK	TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch	ID: R3	0086	F	RunNo: 30086						
Prep Date:	Analysis D	ate: 11	1/6/2015	5	SeqNo: 9	16527	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Vinyl chloride	ND	1.0									
Xylenes, Total	ND	1.5									
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130				
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130				
Surr: Dibromofluoromethane	11		10.00		107	70	130				
Surr: Toluene-d8	10		10.00		104	70	130				

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-22195	SampType: MBLK			Tes	Code: El					
Client ID: PBW	Batch ID: 22195			F	lunNo: 3	0048				
Prep Date: 11/5/2015	Analysis D	Date: 11	1/6/2015	S	eqNo: 9	16008	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	2.0								
2-Methylnaphthalene	ND	2.0								
Benzo(a)pyrene	ND	0.070								
Surr: Benzo(e)pyrene	15		20.00		74.1	37.2	136			

Sample ID LCS-22195	ample ID LCS-22195 SampType: LCS				TestCode: EPA Method 8310: PAHs							
Client ID: LCSW	Batc	195	F	RunNo: 3	0048							
Prep Date: 11/5/2015	8	SeqNo: 916020 Units: µg/L										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Naphthalene	61	2.0	80.00	0	76.4	57.8	83.9					
1-Methylnaphthalene	64	2.0	80.20	0	80.0	43.5	88.5					
2-Methylnaphthalene	62	2.0	80.00	0	76.9	34.2	94.5					
Benzo(a)pyrene	0.44	0.070	0.5020	0	87.6	56.3	98.6					
Surr: Benzo(e)pyrene	14		20.00		67.6	37.2	136					

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-22262 SampType: MBLK TestCode: Total Phenolics by SW-846 9067

Client ID: PBW Batch ID: 22262 RunNo: 30113

Prep Date: 11/10/2015 Analysis Date: 11/10/2015 SeqNo: 917445 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-22262 SampType: LCS TestCode: Total Phenolics by SW-846 9067

Client ID: LCSW Batch ID: 22262 RunNo: 30113

Prep Date: 11/10/2015 Analysis Date: 11/10/2015 SeqNo: 917446 Units: μg/L

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

Phenolics, Total Recoverable 18 2.5 20.00 0 91.2 64.4 135

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-R30473 SampType: MBLK TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: PBW Batch ID: R30473 RunNo: 30473

Prep Date: Analysis Date: 11/18/2015 SeqNo: 930194 Units: mg/L

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

Cyanide ND 0.0100

Sample ID LCS-R30473 SampType: LCS TestCode: EPA 335.4: Total Cyanide Subbed

Client ID: LCSW Batch ID: R30473 RunNo: 30473

Prep Date: Analysis Date: 11/18/2015 SeqNo: 930195 Units: mg/L

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

Cyanide 0.508 0.5000 0 102 90 110

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-R30473 SampType: MBLK TestCode: EPA 903.1: Ra 226 and EPA 904.0: Ra 228-Subbed Client ID: **PBW** Batch ID: R30473 RunNo: 30473 Prep Date: Analysis Date: 11/16/2015 SeqNo: 930255 Units: pCi/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Radium-226 0.343 0.968 Radium-226 ± 0.575 0.968 Radium-228 -0.119 0.821 Radium-228 ± 0.339 0.821

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511141

25-Nov-15

Client: Navajo Refining Company
Project: Monthly Temporary RO Reject

Sample ID MB-22194 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 22194 RunNo: 30073

Prep Date: 11/5/2015 Analysis Date: 11/7/2015 SeqNo: 916141 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-22194 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 22194 RunNo: 30073

Prep Date: 11/5/2015 Analysis Date: 11/7/2015 SeqNo: 916142 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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

Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	NAVAJO REFINING COM	Work Order Numbe	r: 1511 1	41		RcptNo:	1
l	1	11					1
Received by/dat	te: 27	11/04/15					
Logged By:	Lindsay Mangin	11/4/2015 9:05:00 AN	A		Samply Horas		1
Completed By:	Lindsay Mangin	11/4(2015 12:07:55 P	M		Jamely Horgo		
Reviewed By:		11 105/15					
Chain of Cus	stody						1
	als intact on sample bottles?		Yes		No 🗆	Not Present	
2. Is Chain of C	Custody complete?		Yes		No 🗌	Not Present	
3. How was the	e sample delivered?		Cour	<u>ier</u>			
<u>Log In</u>							
4. Was an atte	empt made to cool the sample	es?	Yes		No 🗆	na 🗆	
5. Were all sar	mples received at a temperati	ure of >0° C to 6.0°C	Yes		No 🗆	na 🗆	
					No 🗌		
b. Sample(s) i	in proper container(s)?		Yes		NO L		
7. Sufficient sa	ample volume for indicated tes	st(s)?	Yes		No 🗆		
8. Are samples	s (except VOA and ONG) prop	perly preserved?	Yes		No 🗀	_	
9. Was preser	vative added to bottles?		Yes		No 🗹	NA 🗆	
10.VOA vials h	nave zero headspace?		Yes		No 🗆	No VOA Vials	
11. Were any s	sample containers received br	oken?	Yes		No 🗹		
						# of preserved bottles checked	1 /
	work match bottle labels?		Yes		No 🗆	for pH:	or 12 unless noted)
·	epancies on chain of custody)		Vaa		No 🗆	Adjusted?	///
	s correctly identified on Chain		Yes Yes		No 🗆		100
	hat analyses were requested? Iding times able to be met?		Yes		No 🗆	Checked by:	an.
	customer for authorization.)		165		140		J. 9.
Special Hand	dling (if applicable)						
	notified of all discrepancies wi	ith this order?	Yes		No 🗆	NA 🗹	
:	on Notified:						
	**************************************	Date:	pa.	oil 🗆	Phone Fax	☐ In Person	
By Wi		VIA.	eM	ali _	J Pilotie [_] Fax	LI III FEISON	
-	t Instructions:						
17. Additional i	įs.						i .
18. <u>Cooler Infe</u> Cooler N		Seal Intact Seal No	Seal D	ate	Signed By	I	
1		Yes					

INTERNACED AND THE PROPERTY OF	ANALYSIS LABORAT	ANALYSIS LABORATORY www.hallenvironmental.com		Tel. 505-345-3975 Fax 505-345-4107 Analysis Request		({	0	Sqe SA(C	list Mei yanii RO,	CC (F	8250C: WQ 6010B: WQ 6010B: WQ 6010B: WQ 6010B: WQ 6015: GRO 8082: PCB: GRO 8082: PCB: Sulfate Chic Phenols Phe	× × × × ×	×	×	×	×	×		×	×	×	×	×		Remarks: Metals: As, Al, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, U, Zn	/ vocs: 1,1,1-1 rankoreanane, 1,1,2,2-1 etrachioroetrane; 1,1,2,2-1 etrachioroetrylene; 1,1,2- — Trichloroethane: 1,1,2-Trichloroethylene: 1,1-Dichloroethane: 1,1-Dichloroethene: 1,2-	Dibromoethane; 1,2-Dichloroethane; Benzene; Carbon Tetrachloride; Chloroform;
	sh		Reject					Salsberry	. No		/e HEAL NO	100-	-00(1000-	100	-Q0;	-00,	1000	100-	-00	-00)	-001	-acj	200-	Date Time		Date Time
<u>.</u>	d □ Rush	ne:	Monthly Temporary R.O. Reject	.0. # 167796		nager:	squ	Flizabeth		mperature: /	Preservative # Type	1-unpres H2SO4	A HCL	HNO3	HNO3	NaOH	HNO3	A Na2S203	s unpres	s unpres	A HCI	astunpres	ss H2SO4	A HCL	Melant	de	
	X Standard	Project Name:	Monthly Te	Project #: F		Project Mana	Robert Com	Sampler	On Ice:	Sample Tem	Container Type and #	2 - 500ml P	3-40ml VOA	1-500ml P	1-125ml P	1-500ml P	2- 1L P	3-40ml VOA	2 - 1L Glass	1 - 1L Glass	3-40ml VOA	1-250mlGlas	1 - 1L Glass	2-40ml VOA	Received by:	11.16	Received by:
Chain-of-Custody Record			(159 Artesia,			151	☐ Level 4 (Full Validation)				Sample Request ID	Temporary R.O. Reject	liquid Trip Blank	ed by: Elizabeth Calberry	Chapter Load	ed by:											
n-ot-Cu	Navajo Refinery		ss: P.O. Box	59	-748-3311	email or Fax#: 575-746-5451	je:		(6		le Matrix	9:20 liquid	20 liquid	20		_	Relinquished by:										
Chain- Client: Navajo			Aailing Address: P.O. Box 159 Artesia,	MM 88211-0159	hone #: 575-748-3311	ail or Fax#	AA/QC Package: Standard	Other	EDD (Type)		Date Time	1/3/15 9:	1/3/15 9:	1/3/15 9:	11/3/15 9:	11/3/15 9:	1/3/15 9:	1/3/15 9:	1/3/15 9:	1/3/15 9:	1/3/15 9:	1/3/15 9:		/15	ii.	Ω	Date: Time:



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

Monthly Temporary RO

LYFRONTIER

The HollyFrontier Companies

Solid | Physical Property

Flow Weighted Composite	Time Weighted Composite □	Grab ☑	Sample Type	Details	Reject Sample	I dilipolary ivo
					HOI	

-	_	,	-		_
Outfall / Sample Location: Unorth Field R.O. Reject Discarge	End Date and Time 11/3/2015 @ 9:30am	Start Date and Time 11/3/2015 @ 9:15am	Samplers Affiliation Navajo Refining Co. LLC	Samplers Name Elizabeth Salsberry	Project Name Biannual RO Reject
Discarge South Field R.O. Reject Discarge	Parts / Sample Intervals One		Flow Weighted Composite L	Time Weighted Composite	Grab L
	type of Sampler Directly to sample jars		Sludge	Liquid	Solid

Container 1 ဖ တ Ċī 4 500ml 500ml 500ml 125ml 40ml 40ml 40ml 40ml Material Plastic VOA Plastic VOA Plastic Plastic Plastic Glass Glass VOA Containers #of (None) Neat × 두 HNO3 H2SO4 × Preservatives NaOH Na2S2O3 NaHSO4 Other Analysis and/or Method Requested pH, CI, F, S04, NO2/NO3, TDS 6020 total metals, 7470 Hg 6020 Dissolved Metals 8270 see attached list 8260 see attached list Radium 226/228 Radium 226/228 8082 PCBs 8015 DRO 8015 GRO Cyanide

	ield Temp. 22.1C Field pH 7.84	ield Data (Weather, Observations, Etc): 11/3/2015 Tmp.59.0°F, Humidity 63%, Wind Dir. SSE, Wind Speed 6.9mph, Conditions Clear
Shipping Media	Other	Storage Method



January 15, 2016

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 - December 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 HollyFrontier Navajo Refining LLC (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 January 2016 monthly report, for the period of December 1-31, 2015, under the Order.

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

Navajo has calculated a penalty of \$3,100 for December 2015. The daily discharge volume exceeded the 10,000 barrels/day (bbl/day) limit, but was under 15,000 barrels total, on 31 days in December. 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 December 3, 2015. The analytical lab report for these samples is provided in Attachment 3.

Updates Regarding Treatment and Disposal of RO Reject Fluid

As described in the Order, Navajo is working to enhance its water management system and reduce the total volume of RO reject fluid that is discharged pursuant to its groundwater discharge permit. Navajo is currently preparing a notification to submit to OCD for Discharge Permit GW-028 authorization regarding installation of a third permanent primary RO unit to replace the temporary RO unit and the installation of a secondary RO unit to reduce the total volume of RO reject fluid produced. Navajo is also evaluating options for the underground injection, or other options for discharge, of RO reject fluid.

In December, Navajo and OCD continued discussion of the conditions of the May 2015 permit modification request to increase the discharge volume. Navajo provided informal comments to draft permit conditions in anticipation of OCD's publication of formal public notice of the proposed permit modification and conditions and opportunity to comment, which was issued in mid-December.

On December 17, Navajo met with OCD to discuss the possible construction of water management ponds for evaporation, to include RO reject fluids and other waters. Permitting approaches were also discussed, and Navajo is in the process of preparing a permit renewal application for GW-028, of which, evaporation pond construction details will be included per OCD guidance.

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

Sincerely,

Scott M. Denton

Environmental Manager

Enclosures:

Attachment 1: Daily Discharge Flow Rates

Attachment 2: Stipulated Penalty Calculation

Attachment 3: Analytical Lab Report

cc. HFC: D. McWatters, R. O'Brien, M. Holder

OCD: A. Marks, B. Brancard

Attachment 1
Daily Discharge Flow Rates

Daily RO Reject Discharge Flow Rate Measurements and Calculated Daily Discharge

		Permaner	nt RO Units		Tempor	ary Unit	Daily Discharge Volume
	Metere	d Data	20,000,000,000,000,000,000,000,000	RO Reject Calculated)	(Calculate	ect Discharge ed from Log ita)	*
L	GPM	GPM	GPM	BBL/DAY	GPM	BBL/DAY	BBL
	SOUTH	NORTH					
12/1/2015	137	146	283	9,703	61	2106	11,809
12/2/2015	140	151	291	9,977	62	2119	12,096
12/3/2015	135	150	285	9,771	68	2316	12,087
12/4/2015	138	150	288	9,874	70	2384	12,258
12/5/2015	137	147	284	9,737	70	2386	12,123
12/6/2015	139	155	294	10,080	70	2400	12,480
12/7/2015	136	148	284	9,737	70	2400	12,137
12/8/2015	140	152	292	10,011	70	2390	12,401
12/9/2015	134	107	241	8,263	71	2422	10,685
12/10/2015	138	112	250	8,571	90	3086	11,657
12/11/2015	127	120	247	8,469	66	2264	10,733
12/12/2015	126	122	248	8,503	66	2256	10,759
12/13/2015	126	121	247	8,469	66	2274	10,743
12/14/2015	129	131	260	8,914	69	2372	11,286
12/15/2015	129	129	258	8,846	79	2724	11,570
12/16/2015	133	133	266	9,120	72	2453	11,573
12/17/2015	131	129	260	8,914	54	1848	10,762
12/18/2015	130	130	260	8,914	57	1939	10,853
12/19/2015	129	127	256	8,777	59	2021	10,798
12/20/2015	127	127	254	8,709	61	2090	10,799
12/21/2015	134	130	264	9,051	62	2126	11,177
12/22/2015	126	126	252	8,640	95	3244	11,884
12/23/2015	135	129	264	9,051	66	2251	11,302
12/24/2015	128	104	232	7,954		2217	10,171
12/25/2015	130	102	232	7,954		2253	10,207
12/26/2015	126	105	231	7,920		2590	10,510
12/27/2015	126	105	231	7,920		4033	11,953
12/28/2015	130	108	238	8,160		4020	12,180
12/29/2015	129	108	237	8,126		3440	11,566
12/30/2015	134	98	232	7,954		3617	11,571
12/31/2015	136	105	241	8,263		3536	11,799

Attachment 2
Stipulated Penalty Calculation

Calculation of Stipulated Penalties - December 2015

Order Section III., Paragraph Number	Penalty	Payment per day	No. of Days (per violation)	Amount
2.b.i	Exceedance of the 10,000 barrel per day RO reject fluid discharge volume limit specified in Discharge Permit GW-028:			
2.b.i.1	- Prior to Navajo submitting a discharge permit modification application	\$1,000		\$0
2.b.i.2	- If the daily volume is between 10,000 and 15,000 barrels after Navajo submits discharge permit modification application	\$100	31	\$3,100
2.b.i.2	- If the daily volume exceeds 15,000 barrels after Navajo submits discharge permit modification application	\$500		\$0
2.b.ii	Failure to conduct sampling as required in Exhibit A of Order	\$2,000		\$0
2.b.iii	Failure to timely submit any report or notifications as required in Exhibit A of Order	\$1,000		\$0
2.b.iv	Failure to record the daily discharge flow from the permanent and the temporary RO units	\$1,000		\$0
		Total A	mount:	\$3,100

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

January 06, 2016

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

FAX

RE: Monthly RO Reject OrderNo.: 1512236

Dear Robert Combs:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/4/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order **1512236**Date Reported: **1/6/2016**

Hall Environmental Analysis Laboratory, Inc.

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

 Project:
 Monthly RO Reject
 Collection Date: 12/3/2015 9:00:00 AM

 Lab ID:
 1512236-001
 Matrix: AQUEOUS
 Received Date: 12/4/2015 9:20:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst	JLF
Arsenic	ND	0.0050		mg/L	5	12/11/2015 2:30:12 PM	A30798
Lead	ND	0.00050		mg/L	1	12/9/2015 9:48:48 PM	B30746
Selenium	0.0054	0.0010		mg/L	1	12/9/2015 9:48:48 PM	B30746
Uranium	0.0032	0.00050		mg/L	1	12/9/2015 9:48:48 PM	B30746
EPA 903.1: RA 226 AND EPA 904.0:	RA 228-SUBBE	D				Analyst	SUB
Radium-226	0.207	0.980		pCi/L	1	12/17/2016	R31278
Radium-226 ±	0.543	0.980		pCi/L	1	12/17/2016	R3127
Radium-228	0.194	0.680		pCi/L	1	12/17/2016	R3127
Radium-228 ±	0.311	0.680		pCi/L	1	12/17/2016	R3127
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	2.2	2.0		mg/L	20	12/5/2015 3:40:40 AM	A3065
Chloride	110	25		mg/L	50	12/23/2015 3:12:14 AM	A31049
Sulfate	980	25		mg/L	50	12/23/2015 3:12:14 AM	A3104
Nitrate+Nitrite as N	1.2	1.0		mg/L	5	12/23/2015 3:37:03 AM	R3104
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	SRM
Total Dissolved Solids	1970	20.0	*	mg/L	1	12/13/2015 1:47:00 PM	22696
EPA 335.4: TOTAL CYANIDE SUBB	ED					Analyst	SUB
Cyanide	ND	0.0100		mg/L	1	12/9/2015	R3100
SM4500-H+B: PH						Analyst	MRA
рН	7.86	1.68	H	pH units	1	12/7/2015 1:38:04 PM	R3065
EPA METHOD 200.7: DISSOLVED M	ETALS					Analyst	ELS
Aluminum	ND	0.020		mg/L	1	12/8/2015 8:30:22 PM	B3069
Barium	0.035	0.0020		mg/L	1	12/8/2015 8:30:22 PM	B30690
Boron	0.094	0.040		mg/L	1	12/8/2015 8:30:22 PM	B30690
Cadmium	ND	0.0020		mg/L	1	12/8/2015 8:30:22 PM	B3069
Chromium	ND	0.0060		mg/L	1	12/14/2015 2:34:53 PM	B3082
Cobalt	ND	0.0060		mg/L	1	12/8/2015 8:30:22 PM	B30690
Copper	ND	0.0060		mg/L	1	12/8/2015 8:30:22 PM	B3069
Iron	ND	0.020		mg/L	1	12/8/2015 8:30:22 PM	B3069
Manganese	ND	0.0020		mg/L	1	12/8/2015 8:30:22 PM	B3069
Molybdenum	ND	0.0080		mg/L	1	12/17/2015 2:18:43 PM	B3092
Nickel	ND	0.010		mg/L	1	12/8/2015 8:30:22 PM	B3069
Silver	ND	0.0050		mg/L	1	12/8/2015 8:30:22 PM	B3069
Zinc	0.020	0.010		mg/L	1	12/17/2015 2:18:43 PM	B3092
EPA METHOD 245.1: MERCURY						Analyst	DBD
Mercury	ND	0.00020		mg/L	1	12/11/2015 11:02:05 AM	M 22710

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order **1512236**

Date Reported: 1/6/2016

Hall Environmental Analysis Laboratory, Inc.

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

 Project:
 Monthly RO Reject
 Collection Date: 12/3/2015 9:00:00 AM

 Lab ID:
 1512236-001
 Matrix: AQUEOUS
 Received Date: 12/4/2015 9:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analy	st: JME
1,2-Dibromoethane	ND	0.010		μg/L	1	12/9/2015	22664
EPA METHOD 8082: PCB'S						Analy	st: SCC
Aroclor 1016	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	
Aroclor 1221	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	CONTRACTOR STATEMENT OF THE STATEMENT OF
Aroclor 1232	ND	1.0		µg/L	1	12/11/2015 1:29:36 P	
Aroclor 1242	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	0.000 0.00000.000.000
Aroclor 1248	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	M 22699
Aroclor 1254	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	M 22699
Aroclor 1260	ND	1.0		μg/L	1	12/11/2015 1:29:36 P	M 22699
Surr: Decachlorobiphenyl	75.6	17.7-151		%REC	1	12/11/2015 1:29:36 P	M 22699
Surr: Tetrachloro-m-xylene	55.6	20.6-151		%REC	1	12/11/2015 1:29:36 P	M 22699
EPA METHOD 8015M/D: DIESEL RAI	NGE					Analy	st: TOM
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/7/2015 1:23:00 PM	1 22645
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/7/2015 1:23:00 PM	A 22645
Surr: DNOP	96.8	72-136		%REC	1	12/7/2015 1:23:00 PM	A 22645
EPA METHOD 8015D: GASOLINE RA	ANGE					Analy	st: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2015 12:52:34	AM A30727
Surr: BFB	86.5	49.5-130		%REC	1	12/10/2015 12:52:34	AM A30727
EPA METHOD 8310: PAHS						Analy	st: SCC
Naphthalene	ND	2.0		μg/L	1	12/11/2015 7:13:46 A	M 22700
1-Methylnaphthalene	ND	2.0		μg/L	1	12/11/2015 7:13:46 A	M 22700
2-Methylnaphthalene	ND	2.0		μg/L	1	12/11/2015 7:13:46 A	M 22700
Benzo(a)pyrene	ND	0.070		µg/L	1	12/11/2015 7:13:46 A	M 22700
Surr: Benzo(e)pyrene	67.8	33.4-129		%REC	1	12/11/2015 7:13:46 A	M 22700
EPA METHOD 8260B: VOLATILES						Analy	st: DJF
Benzene	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
Toluene	ND	1.0		µg/L	1	12/8/2015 11:07:53 P	M A30709
Ethylbenzene	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
Carbon Tetrachloride	ND	1.0		µg/L	1	12/8/2015 11:07:53 P	M A30709
Chloroform	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
1,1-Dichloroethane	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
1,1-Dichloroethene	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
Methylene Chloride	ND	3.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	12/8/2015 11:07:53 P	M A30709
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	12/8/2015 11:07:53 P	M A30709

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order **1512236**Date Reported: **1/6/2016**

Hall Environmental Analysis Laboratory, Inc.

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

 Project:
 Monthly RO Reject
 Collection Date: 12/3/2015 9:00:00 AM

 Lab ID:
 1512236-001
 Matrix: AQUEOUS
 Received Date: 12/4/2015 9:20:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analys	t: DJF
1,1,1-Trichloroethane	ND	1.0	μg/L	1	12/8/2015 11:07:53 PM	1 A30709
1,1,2-Trichloroethane	ND	1.0	µg/L	1	12/8/2015 11:07:53 PM	1 A30709
Trichloroethene (TCE)	ND	1.0	μg/L	1	12/8/2015 11:07:53 PM	1 A30709
Vinyl chloride	ND	1.0	μg/L	1	12/8/2015 11:07:53 PM	1 A30709
Xylenes, Total	ND	1.5	µg/L	1	12/8/2015 11:07:53 PM	1 A30709
Surr: 1,2-Dichloroethane-d4	107	70-130	%REC	1	12/8/2015 11:07:53 PM	1 A30709
Surr: 4-Bromofluorobenzene	104	70-130	%REC	1	12/8/2015 11:07:53 PM	1 A30709
Surr: Dibromofluoromethane	107	70-130	%REC	1	12/8/2015 11:07:53 PM	1 A30709
Surr: Toluene-d8	99.7	70-130	%REC	1	12/8/2015 11:07:53 PM	1 A30709
TOTAL PHENOLICS BY SW-846 9067					Analys	t: SCC
Phenolics, Total Recoverable	ND	2.5	μg/L	1	12/14/2015	22770

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

Qualifiers:

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- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

ND

ND

0.010

0.0050

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB-B SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals Client ID: **PBW** Batch ID: B30690 RunNo: 30690 Prep Date: Analysis Date: 12/8/2015 SeqNo: 937145 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 Cobalt ND 0.0060 ND 0.0060 Copper Iron ND 0.020 0.0020 ND Manganese

Sample ID LCS-B SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Client ID: LCSW Batch ID: B306			0690 RunNo: 30690							
Prep Date:	Analysis [Date: 12	2/8/2015	S	SeqNo: 9	37146	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aluminum	0.50	0.020	0.5000	0	101	85	115				
Barium	0.48	0.0020	0.5000	0	96.8	85	115				
Boron	0.49	0.040	0.5000	0	98.4	85	115				
Cadmium	0.49	0.0020	0.5000	0	98.1	85	115				
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115				
Copper	0.48	0.0060	0.5000	0	95.8	85	115				
Iron	0.51	0.020	0.5000	0	102	85	115				
Manganese	0.49	0.0020	0.5000	0	97.4	85	115				
Nickel	0.48	0.010	0.5000	0	96.2	85	115				
Silver	0.098	0.0050	0.1000	0	97.8	85	115				

Sample ID LLLCS-B	imple ID LLLCS-B SampType: LCSLL					TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC	ient ID: BatchQC Batch ID: B30690				RunNo: 30690							
Prep Date:	Analysis	Date: 12	2/8/2015	S	eqNo: 9	37147	Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Aluminum	ND	0.020	0.01000	0	91.5	50	150					
Barium	0.0022	0.0020	0.002000	0	109	50	150					
Boron	ND	0.040	0.04000	0	99.4	50	150					
Cadmium	0.0022	0.0020	0.002000	0	109	50	150					
Cobalt	0.0072	0.0060	0.006000	0	120	50	150					
Copper	ND	0.0060	0.006000	0	95.5	50	150					
Iron	0.021	0.020	0.02000	0	104	50	150					
Manganese	0.0021	0.0020	0.002000	0	106	50	150					

Qualifiers:

Nickel

Silver

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

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Client:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

WO#: 1512236

06-Jan-16

Project: Monthly RO Reject Sample ID LLLCS-B SampType: LCSLL TestCode: EPA Method 200.7: Dissolved Metals Client ID: **BatchQC** Batch ID: B30690 RunNo: 30690 Prep Date: Analysis Date: 12/8/2015 SeqNo: 937147 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Nickel ND 0.010 0.005000 0 149 50 150 Silver ND 0.0050 0.005000 0 94.2 50 150 Sample ID MB-B SampType: MBLK TestCode: EPA Method 200.7: Dissolved Metals Client ID: PBW Batch ID: B30821 RunNo: 30821 Prep Date: Analysis Date: 12/14/2015 SeqNo: 941747 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Chromium ND 0.0060 Sample ID LCS-B SampType: LCS TestCode: EPA Method 200.7: Dissolved Metals Client ID: LCSW Batch ID: B30821 RunNo: 30821 Prep Date: Analysis Date: 12/14/2015 SeqNo: 941748 Units: mg/L **HighLimit** PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte LowLimit Qual 0.51 0.0060 0.5000 101 85 Chromium 115 Sample ID LLLCS-B TestCode: EPA Method 200.7: Dissolved Metals SampType: LCSLL Client ID: **BatchQC** Batch ID: B30821 RunNo: 30821 Prep Date: Analysis Date: 12/14/2015 SeqNo: 941749 Units: mg/L

Sample ID MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW	Batch ID: B30929	RunNo: 30929						
Prep Date:	Analysis Date: 12/17/2015	SeqNo: 945585	Units: mg/L					
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual					
Molybdenum	ND 0.0080							

0

%REC

112

LowLimit

50

HighLimit

150

SPK value SPK Ref Val

0.006000

ND 0.010

Result

0.0067

PQL

0.0060

Sample ID LCS-B	SampTyp	SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW	Batch I	Batch ID: B30929			RunNo: 3							
Prep Date:	Analysis Dat	te: 12/17/	2015	S	SeqNo: 9	45586	Units: mg/L					
Analyte	Result	PQL SP	K value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Molybdenum	0.49 0	.0080	0.5000	0	98.3	85	115					
Zinc	0.46	0.010	0.5000	0	92.3	85	115					

Qualifiers:

Analyte

Chromium

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

Ē Value above quantitation range

J Analyte detected below quantitation limits

P

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%RPD

RPDLimit

Qual

Sample pH Not In Range

Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID LLLCS-B SampType: LCSLL TestCode: EPA Method 200.7: Dissolved Metals Client ID: **BatchQC** Batch ID: B30929 RunNo: 30929 SeqNo: 945587 Prep Date: Analysis Date: 12/17/2015 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Molybdenum 0.0097 0.0080 0 50 0.008000 122 150 0 Zinc ND 0.010 0.005000 101 50 150

Sample ID 1512236-001GMS SampType: MS TestCode: EPA Method 200.7: Dissolved Metals

Client ID: R.O. Reject Batch ID: B30929 RunNo: 30929

Prep Date: Analysis Date: 12/17/2015 SeqNo: 945614 Units: mg/L

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

Molybdenum 0.49 0.0080 0.5000 0.006130 96.0 70 130 0.47 89.6 70 130 Zinc 0.010 0.5000 0.01974

Sample ID 1512236-001GMSD SampType: MSD TestCode: EPA Method 200.7: Dissolved Metals Client ID: R.O. Reject Batch ID: B30929 RunNo: 30929 Prep Date: Analysis Date: 12/17/2015 SeqNo: 945615 Units: mg/L %REC %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val LowLimit **HighLimit** Qual

Molybdenum 0.50 0.0080 0.5000 0.006130 99.6 70 130 3.67 20 0.48 0.5000 91.4 70 130 20 Zinc 0.010 0.01974 1.94

Qualifiers:

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

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Client:

Project:

Hall Environmental Analysis Laboratory, Inc.

Navajo Refining Company

Monthly RO Reject

WO#: 1512236

06-Jan-16

Sample ID	1512236-001GM	3	TestCode: EPA 200.8: Dissolved Metals									
Client ID:	R.O. Reject	Bat	ch ID: B3	0746	F	RunNo: 30746						
Prep Date:		Analysis	Date: 12	2/9/2015	8	SeqNo: 9	39236	Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead		0.013	0.00050	0.01250	0	104	70	130		\$1500 Bis 48 250 495020	400.000	
Selenium		0.030	0.0010	0.02500	0.005378	98.7	70	130				
Uranium		0.018	0.00050	0.01250	0.003210	115	70	130				
Sample ID	LCS	Samp	Type: LC	s	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals			
Client ID:	LCSW	Batch ID: B30746			F	RunNo: 3	0746					
Prep Date:		Analysis	Date: 12	2/9/2015	5	SeqNo: 9	39237	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	97.3	85	115				
Selenium		0.024	0.0010	0.02500	0	96.0	85	115				
Uranium		0.012	0.00050	0.01250	0	98.1	85	115				
Sample ID	LLLCS	Samp	Type: LC	SLL	Tes	tCode: El	PA 200.8: I	Dissolved Me	tals			
Client ID:	BatchQC	Bat	ch ID: B3	0746	F	RunNo: 3	0746					
Prep Date:		Analysis	Date: 12	2/9/2015	S	SeqNo: 9	39238	Units: mg/L	ı/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead		ND	0.00050	0.0005000	0	99.9	50	150				
Selenium		ND	0.0010	0.001000	0	97.8	50	150				

Sample ID MB	SampType: MBLK	TestCode: EPA 200.8:	Dissolved Metals		
Client ID: PBW	Batch ID: B30746	RunNo: 30746			
Prep Date:	Analysis Date: 12/9/2015	SeqNo: 939239	Units: mg/L		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Q	lual
Lead	ND 0.00050				
Selenium	ND 0.0010				
Uranium	ND 0.00050				

0

97.3

50

150

ND 0.00050 0.0005000

Sample ID	1512236-001GMSLL	SampTy	e: M	S	Tes	tCode: E	PA 200.8:	Dissolved Met	als		
Client ID:	R.O. Reject	Batch I	D: A3	30798	F	RunNo: 3	0798				
Prep Date:	Α	nalysis Da	e: 1	2/11/2015	S	SeqNo: 9	41037	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.13 0	.0050	0.1250	0.001076	101	70	130			

Qualifiers:

Uranium

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID LCS SampType: LCS TestCode: EPA 200.8: Dissolved Metals

Client ID: LCSW Batch ID: A30798 RunNo: 30798

Prep Date: Analysis Date: 12/11/2015 SeqNo: 941051 Units: mg/L

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

Arsenic 0.025 0.0010 0.02500 0 98.6 85 115

Sample ID LLLCS SampType: LCSLL TestCode: EPA 200.8: Dissolved Metals

Client ID: BatchQC Batch ID: A30798 RunNo: 30798

Prep Date: Analysis Date: 12/11/2015 SeqNo: 941054 Units: mg/L

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

Arsenic ND 0.0010 0.001000 0 94.6 50 150

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

Client ID: PBW Batch ID: A30798 RunNo: 30798

Prep Date: Analysis Date: 12/11/2015 SeqNo: 941056 Units: mg/L

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

Arsenic ND 0.0010

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22710 SampType: MBLK TestCode: EPA Method 245.1: Mercury

Client ID: PBW Batch ID: 22710 RunNo: 30788

Prep Date: 12/9/2015 Analysis Date: 12/11/2015 SeqNo: 940469 Units: mg/L

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

Mercury ND 0.00020

Sample ID LCS-22710 SampType: LCS TestCode: EPA Method 245.1: Mercury

Client ID: LCSW Batch ID: 22710 RunNo: 30788

Prep Date: 12/9/2015 Analysis Date: 12/11/2015 SeqNo: 940470 Units: mg/L

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

Mercury 0.0051 0.00020 0.005000 0 102 80 120

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client:	Navajo Ref		pany								
Project:	Monthly RO) Reject									
Sample ID MB	3	SampTyp	e: MB	LK	Tes	tCode: EF	PA Method	300.0: Anions	3		
Client ID: PB	w	Batch II	D: A3 0	0652	F	RunNo: 30	0652				
Prep Date:	Α	nalysis Date	e: 12	/5/2015	8	SeqNo: 93	36397	Units: mg/L			
Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		ND	0.10								
Sample ID LC:	s	SampTyp	e: LC	s	Tes	tCode: EF	PA Method	300.0: Anions	5		
Client ID: LC	sw	Batch ID	D: A3 0	0652	F	RunNo: 30	0652				
Prep Date:	A	nalysis Date	e: 12	/5/2015	9	SeqNo: 9:	36398	Units: mg/L			
Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		0.51	0.10	0.5000	0	102	90	110			
Sample ID MB	3	SampTyp	e: MB	LK	Tes	tCode: EF	PA Method	300.0: Anions	5		
Client ID: PB	sw	Batch II	D: R3 1	1049	F	RunNo: 3	1049				
Prep Date:	Α	nalysis Date	e: 12	/22/2015	8	SeqNo: 94	49718	Units: mg/L			
Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N		ND	0.20		***						
Sample ID LC	s	SampTyp	e: LC	S	Tes	tCode: EF	PA Method	300.0: Anions	5		
Sample ID LC:		SampTyp Batch II				tCode: EF		300.0: Anions	5		
1600 NO 20 TO 1600 NO 20 CO 16	sw		D: R3 1	1049	F		1049	300.0: Anions Units: mg/L	6		
Client ID: LC	sw A	Batch II	D: R3 1	1049 /22/2015	F	RunNo: 3	1049		%RPD	RPDLimit	Qual
Client ID: LC: Prep Date:	sw	Batch II nalysis Date Result I	D: R3 1 e: 12	1049 /22/2015	F	RunNo: 3°	1049 49719	Units: mg/L		RPDLimit	Qual
Client ID: LC: Prep Date: Analyte	S W	Batch II nalysis Date Result I	D: R3 1 e: 12 PQL 0.20	1049 2/22/2015 SPK value 3.500	SPK Ref Val	RunNo: 3 : SeqNo: 9 : %REC 95.9	1049 49719 LowLimit 90	Units: mg/L HighLimit	%RPD	RPDLimit	Qual
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N	SW A	Batch ID nalysis Date Result I 3.4	D: R3 ⁴ e: 12 PQL 0.20 e: MB	1049 2/22/2015 SPK value 3.500	SPK Ref Val 0	RunNo: 3 : SeqNo: 9 : %REC 95.9	1049 49719 LowLimit 90 PA Method	Units: mg/L HighLimit 110	%RPD	RPDLimit	Qual
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB	A A	Batch III nalysis Date Result II 3.4 SampTyp	D: R3 ⁴ e: 12 PQL 0.20 De: MB	1049 2/22/2015 SPK value 3.500 3.500	SPK Ref Val 0	RunNo: 3: SeqNo: 94 **REC 95.9 tCode: EF	1049 49719 LowLimit 90 PA Method 1049	Units: mg/L HighLimit 110	%RPD	RPDLimit	Qual
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB	SW A	Batch III nalysis Date Result I 3.4 SampTyp Batch III nalysis Date	D: R3 ⁴ e: 12 PQL 0.20 De: MB	3.500 SLK 1049 1/23/2015	SPK Ref Val 0	RunNo: 3° SeqNo: 94 %REC 95.9 tCode: Eff RunNo: 3° SeqNo: 94	1049 49719 LowLimit 90 PA Method 1049 49774	Units: mg/L HighLimit 110 300.0: Anions	%RPD	RPDLimit RPDLimit	Qual
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB: Prep Date: Analyte Chloride	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date Result II	D: R37 e: 12 PQL 0.20 e: MB D: A31 e: 12 PQL 0.50	3.500 SLK 1049 1/23/2015	SPK Ref Val 0 Tes F	RunNo: 3° SeqNo: 94 %REC 95.9 tCode: Eff RunNo: 3° SeqNo: 94	1049 49719 LowLimit 90 PA Method 1049 49774	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L	%RPD		110000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB: Prep Date: Analyte	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date Result II	D: R3/ e: 12 PQL 0.20 D: A3/ e: 12	3.500 SLK 1049 1/23/2015	SPK Ref Val 0 Tes F	RunNo: 3° SeqNo: 94 %REC 95.9 tCode: Eff RunNo: 3° SeqNo: 94	1049 49719 LowLimit 90 PA Method 1049 49774	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L	%RPD		110000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB: Prep Date: Analyte Chloride	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date Result II	D: R31 e: 12 PQL 0.20 D: A31 e: 12 PQL 0.50 0.50	1049 //22/2015 SPK value 3.500 3.500 3LK 1049 //23/2015 SPK value	SPK Ref Val 0 Tes F SPK Ref Val	RunNo: 3° ReqNo: 94 %REC 95.9 tCode: EF RunNo: 3° SeqNo: 94 %REC	1049 49719 LowLimit 90 PA Method 1049 49774 LowLimit	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L	%RPD		110000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB: Prep Date: Analyte Chloride Sulfate	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date Result II ND ND	D: R31 e: 12 PQL 0.20 De: MB D: A31 e: 12 PQL 0.50 0.50 De: LC:	1049 2/22/2015 SPK value 3.500 3.500 3LK 1049 2/23/2015 SPK value	SPK Ref Val 0 Tes SPK Ref Val	RunNo: 3° ReqNo: 94 %REC 95.9 tCode: EF RunNo: 3° SeqNo: 94 %REC	LowLimit 90 PA Method 1049 LowLimit 2049 A9774 LowLimit	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L HighLimit	%RPD		110000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB Prep Date: Analyte Chloride Sulfate Sample ID LC:	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date Result II ND ND SampTyp	D: R31 e: 12 PQL 0.20 e: MB D: A31 e: 12 PQL 0.50 0.50 e: LC3	1049 //22/2015 SPK value 3.500 3.500 3.500 3.500 SLK 1049 //23/2015 SPK value	SPK Ref Val 0 Tes SPK Ref Val Tes	RunNo: 3' SeqNo: 94 **REC 95.9 **Code: EF RunNo: 3' SeqNo: 94 **REC	1049 49719 LowLimit 90 PA Method 1049 49774 LowLimit	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L HighLimit	%RPD		110000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB Prep Date: Analyte Chloride Sulfate Sample ID LC: Client ID: LC:	SW A	Batch III nalysis Date Result II 3.4 SampTyp Batch III nalysis Date ND ND SampTyp Batch III nalysis Date	D: R31 e: 12 PQL 0.20 e: MB D: A31 e: 12 PQL 0.50 0.50 e: LC3	3.500 SPK value 3.500 3.500 SLK 1049 V23/2015 SPK value	SPK Ref Val 0 Tes SPK Ref Val Tes	RunNo: 3° ReqNo: 94 %REC 95.9 tCode: EF RunNo: 3° %REC	1049 49719 LowLimit 90 PA Method 1049 49774 LowLimit	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L HighLimit	%RPD		19000 90
Client ID: LC: Prep Date: Analyte Nitrate+Nitrite as N Sample ID MB Client ID: PB: Prep Date: Analyte Chloride Sulfate Sample ID LC: Client ID: LC: Prep Date:	SW A	Batch ID nalysis Date 3.4 SampTyp Batch ID nalysis Date ND ND SampTyp Batch ID nalysis Date Result ID ND ND Result ID ND Result ID Res	D: R31 e: 12 PQL 0.20 De: MB D: A31 e: 12 PQL 0.50 0.50 D: A31 e: LC3	3.500 SPK value 3.500 3.500 SLK 1049 V23/2015 SPK value	SPK Ref Val 0 Tes SPK Ref Val Tes SPK Ref Val	RunNo: 3' ReqNo: 94 %REC 95.9 tCode: EF RunNo: 3' %REC tCode: EF RunNo: 3' %REC	1049 49719 LowLimit 90 PA Method 1049 49774 LowLimit	Units: mg/L HighLimit 110 300.0: Anions Units: mg/L HighLimit 300.0: Anions Units: mg/L	%RPD	RPDLimit	Qual

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22664 SampType: MBLK TestCode: EPA Method 8011/504.1: EDB

Client ID: PBW Batch ID: 22664 RunNo: 30705

Prep Date: 12/8/2015 Analysis Date: 12/9/2015 SeqNo: 937923 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-22664 SampType: LCS TestCode: EPA Method 8011/504.1: EDB

Client ID: LCSW Batch ID: 22664 RunNo: 30705

Prep Date: 12/8/2015 Analysis Date: 12/9/2015 SeqNo: 937924 Units: μg/L

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

1,2-Dibromoethane 0.10 0.010 0.1000 0 101 70 130

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID MB-22645 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Client ID: **PBW** Batch ID: 22645 RunNo: 30655 Prep Date: Analysis Date: 12/7/2015 12/7/2015 SeqNo: 936459 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 1.0 ND Motor Oil Range Organics (MRO) 5.0 Surr: DNOP 0.98 1.000 98.3 72 136

TestCode: EPA Method 8015M/D: Diesel Range Sample ID LCS-22645 SampType: LCS Client ID: LCSW Batch ID: 22645 RunNo: 30655 Prep Date: 12/7/2015 Analysis Date: 12/7/2015 SeqNo: 936460 Units: mg/L Analyte PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 4.9 1.0 5.000 0 97.6 52.4 154 Surr: DNOP 0.44 0.5000 87.9 72 136

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

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: A30727 RunNo: 30727

Prep Date: Analysis Date: 12/9/2015 SeqNo: 938906 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 92.4 49.5 130

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

Client ID: LCSW Batch ID: A30727 RunNo: 30727

Prep Date: Analysis Date: 12/9/2015 SeqNo: 938907 Units: mg/L

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

HighLimit Analyte Result PQL SPK value SPK Ref Val %REC LowLimit Gasoline Range Organics (GRO) 0.48 0.050 0.5000 0 95.4 80 120 Surr: BFB 23 20.00 49.5 130 113

Qualifiers:

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- P Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company
Project: Monthly RO Reject

Sample ID MB-22699	SampT	SampType: MBLK			Code: El	PA Method				
Client ID: PBW	Batcl	n ID: 22	699	F	RunNo: 30771					
Prep Date: 12/9/2015	Analysis D)ate: 12	2/11/2015	S	SeqNo: 939925					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	1.0								
Aroclor 1221	ND	1.0								
Aroclor 1232	ND	1.0								
Aroclor 1242	ND	1.0								
Aroclor 1248	ND	1.0								
Aroclor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	2.0		2.500		78.4	17.7	151			
Surr: Tetrachloro-m-xylene	1.1		2.500		44.0	20.6	151			
Sample ID LCS-22699	SampT	ype: LC	s	Tes	Code: El	PA Method	8082: PCB's			
Client ID: LCSW	Batcl	n ID: 22	699	F	tunNo: 3	0771				
Prep Date: 12/9/2015	Analysis D	Date: 12	2/11/2015	8	eqNo: 9	40026	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.0	1.0	5.000	0	39.4	9.01	142			
Arodor 1260	3.0	1.0	5.000	0	59.3	25.6	164			
	1.8		2.500		73.2	17.7	151			
Surr: Decachlorobiphenyl										

Sample ID	1512236-001DMS	SampTy	ype: MS	8	TestCode: EPA Method 8082: PCB's						
Client ID:	R.O. Reject	Batch ID: 22699			F	RunNo: 3	0771				
Prep Date:	12/9/2015	Analysis Da	ate: 12	2/11/2015	S	SeqNo: 9	40884	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016		2.2	1.0	5.000	0	44.7	14.5	105			
Aroclor 1260		3.8	1.0	5.000	0	76.3	21.4	125			
Surr: Decachl	lorobiphenyl	2.1		2.500		84.0	17.7	151			
Surr: Tetrachl	loro-m-xylene	1.5		2.500		61.2	20.6	151			

Sample ID 1512236-001DMS	TestCode: EPA Method 8082: PCB's									
Client ID: R.O. Reject Batch ID: 22699				F	RunNo: 3					
Prep Date: 12/9/2015	Analysis D	ate: 12	2/11/2015	S	SeqNo: 9	40885	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.1	1.0	5.000	0	41.4	14.5	105	7.72	20	
Aroclor 1260	3.4	1.0	5.000	0	68.9	21.4	125	10.2	27.6	
Surr: Decachlorobiphenyl	1.9		2.500		77.6	17.7	151	0	0	
Surr: Tetrachloro-m-xylene	1.4		2.500		55.6	20.6	151	0	0	

Qualifiers:

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1512236

06-Jan-16

Client: Navajo Refining Company

Project: Monthly RO Reject

Sample ID rb SampType: MBLK TestCode: EPA Method 8260B: VOLATILES Client ID: **PBW** Batch ID: A30709 RunNo: 30709 Analysis Date: 12/8/2015 Prep Date: SeqNo: 937841 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 Methyl tert-butyl ether (MTBE) ND 1.0 1,2,4-Trimethylbenzene ND 1.0 1,3,5-Trimethylbenzene ND 1.0 1,2-Dichloroethane (EDC) ND 1.0 1,2-Dibromoethane (EDB) ND 1.0 Naphthalene ND 2.0 1-Methylnaphthalene ND 4.0 2 Methylnaphthalene ND 4.0 ND 10 Acetone ND 1.0 Bromobenzene Bromodichloromethane ND 1.0 ND Bromoform 1.0 Bromomethane ND 3.0 2-Butanone ND 10 10 Carbon disulfide ND Carbon Tetrachloride ND 1.0 ND 1.0 Chlorobenzene Chloroethane ND 2.0 Chloroform ND 1.0 Chloromethane ND 3.0 2-Chlorotoluene ND 1.0 4-Chlorotoluene ND 1.0 cis-1,2-DCE ND 1.0 cis-1,3-Dichloropropene ND 1.0 1,2-Dibromo-3-chloropropane ND 2.0 Dibromochloromethane ND 1.0 ND 1.0 Dibromomethane 1,2-Dichlorobenzene ND 1.0 1,3-Dichlorobenzene ND 1.0 ND 1.0 1,4-Dichlorobenzene Dichlorodifluoromethane ND 1.0 ND 1.0 1,1-Dichloroethane 1,1-Dichloroethene ND 1.0 ND 1,2-Dichloropropane 1.0 1,3-Dichloropropane ND 1.0 2,2-Dichloropropane ND 2.0

Qualifiers:

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