GW – 028

Annual DP Report (Part 3 of 16)

2015

Navajo Refining Company, L.L.C.

2015 FOURTH QUARTER MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

							Average	Maximum	Minimum					TOTAL
	Average	Maximum	Minimum	Average	Maximum	Minimum	Annular	Annular	Annular	Average	Maximum	Minimum		CUMULATIVE
	Pressure	Pressure	Pressure	Flow	Flow	Flow	Pressure	Pressure	Pressure	Volume	Volume	Volume	Volume	Volume
	(psig)	(psig)	(psig)	(mdg)	(mdg)	(udb)	Av (psig)	Mx (psig)	Mn (psig)	(pdq)	(pdq)	(pdq)	(barrels)	(barrels)
WDW-1										-		Previ	Previous Quarter	37,147,100
Oct-15	1,379	1,400	1,234	124	129	95	480	837	305	4,251	4,423	3,257	131,794	37,278,894
Nov-15	1,376	1,400	1,252	121	128	94	335	447	91	4,149	4,389	3,223	124,457	37,403,351
Dec-15	1,342	1,400	1,256	124	256	66	398	661	193	4,251	8,777	3,394	131,794	37,535,146
WDW-2												Previ	Previous Quarter	24,267,637
Oct-15	1,378	1,234	1,252	102	181	59	467	769	248	3,497	6,206	2,023	108,411	24,376,048
Nov-15	1,376	1,400	1,252	62	100	54	341	787	217	3,154	3,429	1,851	94,629	24,470,677
Dec-15	1,326	1,400	1,253	79	66	55	281	345	209	2,709	3,394	1,886	83,966	24,554,643
WDW-3	*****							4 1 1 1	2 2 2			Previ	Previous Quarter	14,329,329
Oct-15	1,370	1,390	1,233	141	769	52	855	1,006	708	4,834	26,366	1,783	149,863	14,479,192
Nov-15	1,369	1,390	1,252	143	151	110	857	983	686	4,903	5,177	3,771	147,086	14,626,278
Dec-15	1,334	1,390	1,255	135	151	108	812	965	715	4,629	5,177	3,703	143,486	14,769,763
	-			-								Total Inje	Total Injected fluids:	76,859,552

O:\Injection Weils\Reports C-115 and Quarterty\2015\4th quartert 4th 2015 qtriy npt data Injection fluids

2/3/20164:29 PM

Navajo Refining Company, L.L.C.

2015 FOURTH QUARTER WEEKLY WAMS LEVEL TABLE

	10/6/15	10/6/15 10/12/15	10/19/15	10/19/15 10/26/15	11/2/15	11/9/15	11/16/15	11/23/15	12/15 111/9/15 11/16/15 11/23/15 11/30/15 12/7/15 12/14/16 12/16/15 12/21/15 12/28/15	12/7/15	12/14/16	12/16/15	12/21/15	12/28/15
WDW11	100	100	155**	150	150	150	145	145	145	145	145		145	Inaccessible
WDW-21	-100	100	150**	150	145	145	150	150	150	150	150		150	Inaccessible
WDW-31	255*	170	250	310***	150	250	130****	150	200	245	255	300*****	145	Inaccessible
	Comment	s: * Remov	Comments: * Removed 130 gal. ** Added 55 gal.	** Added 55		*** Remove	ed 255 gal.	****Remove	glycol *** Removed 255 gal. ****Removed 180 gal. ****Removed 200 gal.	***Remove	d 200 gal.			
))				`)			

⁴ Graduated tank gauged weekly in the field. Reading is in gallons.
 WDW-1 is Mewbourne
 WDW-2 is Chukka
 WDW-3 is Gaines

O:\Injection Wells\Reports C-115 and Quarterly\2015\4th quarterl 4th 2015 qtrly rpt data WAMS Tanks

2/4/20164:20 PM

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

November 24, 2015 Micki Schultz Navajo Refining Company P.O. Box 159 Artesia, NM 88211-0159 TEL: (575) 746-5281 FAX

RE: Quarterly WDW-1, 2, & 3 Inj Well

OrderNo.: 1510908

Dear Micki Schultz:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/20/2015 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 <u>www.hallenvironmental.com</u> 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

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1510908

Date Reported: 11/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj WellLab ID:1510908-001Matrix: AQUEOUS

Client Sample ID: WDW-1,2,&3 Effluent Collection Date: 10/19/2015 7:40:00 AM Received Date: 10/20/2015 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
IGNITABILITY METHOD 1010						Analys	: SUB
Ignitability	>200	0		°F	1	10/23/2015	R3042
SULFIDE, REACTIVE						Analysi	SUB
Reactive Sulfide	ND	1.0		mg/L	1	10/23/2015	R3042
SPECIFIC GRAVITY						Analys	: JRR
Specific Gravity	0.9991	0			1	10/20/2015 1:22:00 PM	
EPA METHOD 300.0: ANIONS						Analys	LGT
Fluoride	5.5	0.50	*	mg/L	5	10/20/2015 2:08:09 PM	
Chloride	520	50		mg/L) 10/27/2015 11:24:40 P	
Bromide	0.72	0.50		mg/L	5	10/20/2015 2:08:09 PM	R2968
Phosphorus, Orthophosphate (As P)	ND	10	н	mg/L	20	11/7/2015 4:57:03 AM	A3010
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	11/3/2015 11:53:29 PM	R2999
Sulfate	2700	50		mg/L	100	0 10/27/2015 11:24:40 P	M R2984
Nitrate+Nitrite as N	ND	1.0		mg/L	5	10/30/2015 11:15:10 A	M R2993
SM2510B: SPECIFIC CONDUCTANCE						Analys	: JRR
Conductivity	6800	0.010		µmhos/cm	1	10/20/2015 2:13:12 PM	R296
SM2320B: ALKALINITY						Analys	: JRR
Bicarbonate (As CaCO3)	296.6	20.00		mg/L CaCO3	1	10/20/2015 2:13:12 PM	R2967
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	10/20/2015 2:13:12 PM	R2967
Total Alkalinity (as CaCO3)	296.6	20.00		mg/L CaCO3	1	10/20/2015 2:13:12 PM	R2967
SM2540C MOD: TOTAL DISSOLVED SC	DLIDS					Analys	: KS
Total Dissolved Solids	4880	100	*D	mg/L	1	10/23/2015 11:44:00 A	M 21952
CORROSIVITY						Analys	: SUB
pH	7.63			pH Units	1	10/26/2015	R3042
CYANIDE, REACTIVE						Analys	: SUB
Cyanide, Reactive	ND	1.00		mg/L	1	10/28/2015	R3042
SM4500-H+B: PH						Analys	: JRR
рН	7.75	1.68	н	pH units	1	10/20/2015 2:13:12 PM	R2967
EPA METHOD 7470: MERCURY						Analys	JLF
Mercury	ND	0.00020		mg/L	1	10/21/2015 3:46:07 PM	21960
MERCURY, TCLP						Analys	: DBD
Mercury	ND	0.020		mg/L	1	11/3/2015 4:41:03 PM	22145
EPA METHOD 6010B: TCLP METALS				-		Analys	: MED
Arsenic	ND	5.0		mg/L	1	10/22/2015 5:15:45 PM	

and a second				
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysi	s Labora	ntory, Inc.		I	Date Reported: 11/24/20	15
CLIENT: Navajo Refining Company		(lient Sam	ple ID: WD	W-1,2,&3 Effluent	
Project: Quarterly WDW-1, 2, & 3 Inj	Well		Collection	n Date: 10/1	9/2015 7:40:00 AM	
Lab ID: 1510908-001	Matrix:	AQUEOUS	Received	d Date: 10/2	0/2015 8:55:00 AM	
Analyses	Result	RL Qual	Units	DF I	Date Analyzed	Batch
EPA METHOD 6010B: TCLP METALS					Analyst:	MED
Barium	ND	100	mg/L	1	10/22/2015 5:15:45 PM	21978
Cadmium	ND	1.0	mg/L	1	10/22/2015 5:15:45 PM	21978
Chromium	ND	5.0	mg/L	1	10/22/2015 5:15:45 PM	21978
Lead	ND	5.0	mg/L	1	10/22/2015 5:15:45 PM	21978
Selenium	ND	1.0	mg/L	1	10/22/2015 5:15:45 PM	21978
Silver	ND	5.0	mg/L	1	10/22/2015 5:15:45 PM	21978
EPA 6010B: TOTAL METALS					Analyst:	MED
Aluminum	0.57	0.040	mg/L	2	10/22/2015 4:50:43 PM	21972
Antimony	ND	0.10	mg/L	2	10/22/2015 4:50:43 PM	21972
Arsenic	ND	0.040	mg/L	2	10/22/2015 4:50:43 PM	21972
Barium	ND	0.040	mg/L	2	10/22/2015 4:50:43 PM	21972
Beryllium	ND	0.0060	mg/L	2	10/22/2015 4:50:43 PM	21972
Cadmium	ND	0.0040	mg/L	2	10/22/2015 4:50:43 PM	21972
Calcium	65	2,0	mg/L	2	10/22/2015 4:50:43 PM	21972
Chromium	ND	0.012	mg/L.	2	10/22/2015 4:50:43 PM	21972
Cobalt	ND	0.012	mg/L	2	10/22/2015 4:50:43 PM	21972
Copper	0.016	0.012	mg/L	2	10/22/2015 4:50:43 PM	21972
Iron	0.45	0.10	mg/L	2	10/22/2015 4:50:43 PM	21972
Lead	ND	0.010	mg/L	2	10/22/2015 4:50:43 PM	21972
Magnesium	20	2.0	mg/L	2	10/22/2015 4:50:43 PM	21972
Manganese	0.089	0.0040	mg/L	2	10/22/2015 4:50:43 PM	21972
Nickel	ND	0.020	mg/L	2	10/22/2015 4:50:43 PM	21972
Potassium	28	2.0	mg/L	2	10/22/2015 4:50:43 PM	21972
Selenium	0.27	0.10	mg/L	2	10/22/2015 4:50:43 PM	21972
Silver	ND	0.010	mg/L	2	10/22/2015 4:50:43 PM	21972
Sodium	1400	50	mg/L	50	10/22/2015 4:46:39 PM	21972
Thallium	ND	0.10	mg/L	2	10/22/2015 4:50:43 PM	21972
Vanadium	ND	0.10	mg/L	2	10/22/2015 4:50:43 PM	21972
Zinc	ND	0.040	mg/L	2	10/22/2015 4:50:43 PM	21972
EPA METHOD 8260B: VOLATILES					Analyst:	SUB
Acetonitrile	ŃD	2.0	µg/L	1	11/2/2015	R3042
Allyl chloride	ND	2,0	µg/L	1	11/2/2015	R3042
Chloroprene	ND	2.0	µg/L	1	11/2/2015	R3042
Cyclohexane	ŃĎ	2.0	µg/L	1	11/2/2015	R3042
Diethyl ether	ND	0.50	µg/L	1	11/2/2015	R3042
Diisopropyl ether	ND	2.0	μg/L	1	11/2/2015	R3042
Epichlorohydrin	ND	5.0	µg/L	1	11/2/2015	R3042
Ethyl acetate	ND	2.0	µg/L	1	11/2/2015	R3042

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
-	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 1510908 Date Reported: 11/24/2015

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj WellLab ID:1510908-001Matrix: AQUEOUS

Client Sample ID: WDW-1,2,&3 Effluent Collection Date: 10/19/2015 7:40:00 AM Received Date: 10/20/2015 8:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Ana	lyst: SUB
Ethyl methacrylate	ND	2.0	µg/L	1	11/2/2015	R3042
Ethyl tert-butyl ether	ND	2.0	µg/L	1	11/2/2015	R3042
Freon-113	ND	2.0	µg/L	1	11/2/2015	R3042
Isobutanol	ND	2.0	µg/L	1	11/2/2015	R3042
Isopropyl acetate	ND	2.0	μ g /L	1	11/2/2015	R3042
Methacrylonitrile	ND	2.0	µg/L	1	11/2/2015	R3042
Methyl acetate	ND	2.0	µg/L	1	11/2/2015	R3042
Methyl ethyl ketone	ND	2.5	μg/L	1	11/2/2015	R3042
Methyl isobutyl ketone	ND	2.5	µg/L	1	11/2/2015	R3042
Methyl methacrylate	ND	2.0	µg/L	1	11/2/2015	R3042
Methylcyclohexane	ND	2.0	µg/L	1	11/2/2015	R3042
n-Amyl acetate	ND	2.0	µg/L	1	11/2/2015	R3042
n-Hexane	ND	0.50	µg/L	1	11/2/2015	R3042
Nitrobenzene	ND	5.0	µg/L	1	11/2/2015	R3042
Pentachloroethane	ND	5.0	µg/L	1	11/2/2015	R3042
p-isopropyltoluene	ND	0.50	µg/L	1	11/2/2015	R3042
Propionitrile	ND	2.0	µg/L	1	11/2/2015	R3042
Tetrahydrofuran	ND	2.0	µg/L	1	11/2/2015	R3042
Benzene	ND	0.50	µg/L	1	11/2/2015	R3042
Toluene	ND	0.50	µg/L	1	11/2/2015	R3042
Ethylbenzene	ND	0.50	µg/L	1	11/2/2015	R3042
Methyl tert-butyl ether (MTBE)	ŃD	10	µg/L	1	11/2/2015	R3042
1,2,4-Trimethylbenzene	ND	0.50	µg/L	1	11/2/2015	R3042
1,3,5-Trimethylbenzene	ND	0.50	μg/L	1	11/2/2015	R3042
1,2-Dichloroethane (EDC)	ND	0.50	µg/L	1	11/2/2015	R3042
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1	11/2/2015	R3042
Naphthalene	ND	0.50	µg/L	1	11/2/2015	R3042
Acetone	ND	2.5	µg/L	1	11/2/2015	R3042
Bromobenzene	ND	0.50	µg/L	1	11/2/2015	R3042
Bromodichloromethane	ND	0.50	µg/L	1	11/2/2015	R3042
Bromoform	ND	0.50	µg/L	1	11/2/2015	R3042
Bromomethane	ND	0.50	μg/L	1	11/2/2015	R3042
Carbon disulfide	ND	0.50	µg/L	1	11/2/2015	R3042
Carbon Tetrachloride	ND	0.50	µg/L	1	11/2/2015	R3042
Chlorobenzene	ND	0.50	μg/L	1	11/2/2015	R3042
Chloroethane	ND	0.50	µg/L	1	11/2/2015	R3042
Chloroform	ND	0.50	µg/L	1	11/2/2015	R3042
Chloromethane	ND	0.50	μg/L	1	11/2/2015	R3042
2-Chlorotoluene	ND	0.50	μg/L	. 1	11/2/2015	R3042

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for proparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analys	sis Laborat	ory, Inc.			Date Reported: 11/24	4/2015
CLIENT: Navajo Refining Company Project: Quarterly WDW-1, 2, & 3 In Lab ID: 1510908-001	ij Well Matrix: A	AQUEOUS	Collection	Date: 10	DW-1,2,&3 Effluen /19/2015 7:40:00 Al /20/2015 8:55:00 Al	М
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Anal	yst: SUB
4-Chlorotoluene	ND	0.50	µg/L	1	11/2/2015	R30423
cis-1,2-DCE	ND	0.50	μg/L	1	11/2/2015	R30423
cis-1,3-Dichloropropene	ND	0.50	μg/L	1	11/2/2015	R30423
1,2-Dibromo-3-chloropropane	ND	0.50	μg/L	1	11/2/2015	R30423
Dibromochloromethane	ND	0.50	μg/L	1	11/2/2015	R30423
Dibromomethane	ND	0.50	µg/L	1	11/2/2015	R30423
1,2-Dichlorobenzene	ND	0.50	μg/L	1	11/2/2015	R30423
1,3-Dichlorobenzene	ND	0.50	μg/L	1	11/2/2015	R30423
1.4-Dichlorobenzene	ND	0.50	µg/L	1	11/2/2015	R30423
Dichlorodifluoromethane	ND	0.50	µg/L	1	11/2/2015	R30423
1,1-Dichloroethane	ND	0.50	μg/L	1	11/2/2015	R30423
1,1-Dichloroethene	ND	0.50	µg/L	1	11/2/2015	R30423
1,2-Dichloropropane	ND	0.50	µg/L	1	11/2/2015	R30423
1,3-Dichloropropane	ND	0.50	µg/L	1	11/2/2015	R30423
2,2-Dichloropropane	ND	0.50	µg/L	1	11/2/2015	R30423
1,1-Dichloropropene	ND	0.50	µg/L	1	11/2/2015	R30423
Hexachlorobutadiene	ND	0.50	µg/L	1	11/2/2015	R30423
2-Hexanone	ND	0.50	µg/L	1	11/2/2015	R30423
Isopropylbenzene	ND	0.50	μg/L	1	11/2/2015	R30423
Methylene Chloride	ND	2.5	µg/L	1	11/2/2015	R30423
n-Butylbenzene	ND	0.50	µg/L	1	11/2/2015	R30423
n-Propylbenzene	ND	0.50	μg/L	1	11/2/2015	R30423
sec-Butylbenzene	ND	0.50	μg/L	1	11/2/2015	R30423
Styrene	ND	0.50	μg/L	1	11/2/2015	R30423
tert-Butylbenzene	ND	0.50	µg/L	1	11/2/2015	R30423
1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	1	11/2/2015	R30423
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	. 1	11/2/2015	R30423
Tetrachloroethene (PCE)	ND	0.50	μg/L	1	11/2/2015	R30423
trans-1,2-DCE	ND	0.50	µg/L	1	11/2/2015	R30423
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	11/2/2015	R30423
1,2,3-Trichlorobenzene	ND	0.50	µg/L	. 1	11/2/2015	R30423
1,2,4-Trichlorobenzene	ND	0.50	μg/L	1	11/2/2015	R30423
1,1,1-Trichloroethane	ND	0.50	µg/L	1	11/2/2015	R30423
1,1,2-Trichloroethane	ND	0.50	μg/L	1	11/2/2015	R30423
Trichloroethene (TCE)	ND	0.50	μg/L	1	11/2/2015	R30423
Trichlorofluoromethane	ND	0.50	μg/L	1	11/2/2015	R30423
1,2,3-Trichloropropane	ND	0.50	μg/L	1	11/2/2015	R30423
Vinyl chloride	ND	0.50	μg/L	1	11/2/2015	R30423
mp-Xylenes	ND	1.0	μg/L	1	11/2/2015	R30423
כסווסועיקווו		1.0	P8/L		THATEVIV	100-720

Analytical Report Lab Order 1510908

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	\mathbf{H}	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510908 Date Reported: 11/24/2015

Batch

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: WDW-1,2,&3 Effluent Collection Date: 10/19/2015 7:40:00 AM Received Date: 10/20/2015 8:55:00 AM

DF Date Analyzed

 Project:
 Quarterly WDW-1, 2, & 3 Inj Well
 Collect

 Lab ID:
 1510908-001
 Matrix: AQUEOUS
 Received

 Analyses
 Result
 RL
 Qual
 Units

 EPA METHOD 8260B:
 VOLATILES
 ND
 0.50
 µg/L

EPA METHOD 8260B: VOLATILES						Analyst:	SUB	
c-Xylene	ND	0.50	μg/L	1	11/2/2015		R30423	
tert-Amyl methyl ether	ND	2.0	μg/L	1	11/2/2015		R30423	
tert-Butyl alcohol	ND	0.50	μg/L	1	11/2/2015		R30423	
Acrolein	ND	2.0	μg/L	1	11/2/2015		R30423	
Acrylonitrile	ND	2.0	μg/L	· 1	11/2/2015		R30423	
Bromochloromethane	ND	0.50	µg/L	1	11/2/2015		R30423	
2-Chlorcethyl vinyl ether	ND	2.0	μg/L	1	11/2/2015		R30423	
lodomethane	ND	0.50	μg/L	1	11/2/2015		R30423	
trans-1,4-Dichloro-2-butene	ND	0.50	μg/L	1	11/2/2015		R30423	
Vinyl acetate	ND	2.0	µg/L	1	11/2/2015	•	R30423	
1,4-Dioxane	ND	20	µg/L	1	11/2/2015		R30423	
Surr: 1,2-Dichlorobenzene-d4	111	70-130	%REC	1	11/2/2015		R30423	
Surr: 4-Bromofluorobenzene	106	70-130	%REC	1	11/2/2015		R30423	
Surr: Toluene-d8	104	70-130	%REC	1	11/2/2015		R30423	
EPA 8270C: SEMIVOLATILES/MOD						Analyst:	SUB	
1,1-Biphenyl	ND	2.0	µg/L	1	10/30/2015		R30423	
Atrazine	ND	2.0	µg/L	1	10/30/2015		R30423	
Benzaldehyde	3.6	2.0	μg/L	1	10/30/2015		R30423	
Caprolactam	ND	2.0	µg/L	1	10/30/2015		R30423	
N-Nitroso-di-n-butylamine	ND	2,0	µg/L	1	10/30/2015		R30423	
Acetophenone	ND	5,0	µg/L	1	10/30/2015		R30423	
1-Methylnaphthalene	ND	5.0	µg/L	1	10/30/2015		R30423	
2,3,4,6-Tetrachlorophenol	ND	5.0	µg/L	1	10/30/2015		R30423	
2,4,5-Trichlorophenol	ND	5.0	µg/L	1	10/30/2015		R30423	
2,4,6-Trichlorophenol	ND	5.0	µg/L	1	10/30/2015		R30423	
2,4-Dichlorophenoi	ND	5.0	µg/L	1	10/30/2015		R30423	
2,4-Dimethylphenol	ND	5.0	μg/L	1	10/30/2015		R30423	
2,4-Dinitrophenol	ND	5.0	µg/L	1	10/30/2015		R30423	
2,4-Dinitrotoluene	ND	5.0	µg/L	1	10/30/2015.		R30423	
2,6-Dinitrotoluene	ND	5.0	µg/L	1	10/30/2015		R30423	
2-Chloronaphthalene	ND	5.0	µg/L	1	10/30/2015		R30423	
2-Chlorophenol	ND-	5.0	μg/1	1	10/30/2015		R30423	
2-Methyinaphthalene	ND	5.0	µg/L	· 1	10/30/2015		R30423	
2-Methylphenol	ND	5.0	µg/L	1	10/30/2015		R30423	
2-Nitroaniline	ND	5.0	µg/L	1	10/30/2015		R30423	
2-Nitrophenol	ND	5.0	µg/L	1	10/30/2015		R30423	
3,3'-Dichlorobenzidine	ND	5.0	µg/L	1	10/30/2015		R30423	
3-Nitroaniline	ND	5.0	µg/L	1	10/30/2015		R30423	
4,6-Dinitro-2-methylphenol	ND	. 5,0	µg/L	1	10/30/2015		R30423	

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 5 of 29
- P Sample pH Not In Range

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Quarterly WDW-1, 2, & 3 Inj Well

CLIENT: Navajo Refining Company

1510908-001

Project:

Lab ID:

Analytical Report Lab Order 1510908

Date Reported: 11/24/2015

Client Sample ID: WDW-1,2,&3 Effluent Collection Date: 10/19/2015 7:40:00 AM Received Date: 10/20/2015 8:55:00 AM

Analyses	Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA 8270C: SEMIVOLATILES/MOD					Ana	yst: SUB
4-Bromophenyl phenyl ether	ND	5.0	µg/L	1	10/30/2015	R30423
4-Chloro-3-methylphenol	ND	5.0	µg/L	1	10/30/2015	R30423
4-Chloroaniline	ND	5.0	μg/L	1	10/30/2015	R30423
4-Chlorophenyl phenyl ether	ND	5.0	µg/L	. 1	10/30/2015	R30423
4-Nitroaniline	ND	5.0	µg/L	1	10/30/2015	R30423
4-Nitrophenol	NÐ	5.0	µg/L.	1	10/30/2015	R30423
Acenaphthene	ND	5.0	µg/L	1	10/30/2015	R30423
Acenaphthylene	ND	5.0	µg/L	1	10/30/2015	R30423
Anthracene	ND	5.0	µg/L	1	10/30/2015	R30423
Benzo(g,h,i)perylene	ND	5.0	µg/L	1	10/30/2015	R30423
Benz(a)anthracene	ND	0.10	μg/L	1	10/30/2015	R30423
Benzo(a)pyrene	ND	0.10	μg/L	1	10/30/2015	R30423
Benzo(b)fluoranthene	ND	0.10	µg/L	1	10/30/2015	R30423
Benzo(k)fluoranthene	ND	0.10	μg/L	1	10/30/2015	R30423
Bis(2-chloroethoxy)methane	ND	5.0	μg/L	1	10/30/2015	R30423
Bis(2-chloroethyl)ether	ND	5.0	μg/L	1	10/30/2015	R30423
Bis(2-chloroisopropyl)ether	ND	5.0	μg/L	1	10/30/2015	R30423
Bis(2-ethylhexyl)phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Butyl benzyl phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Carbazole	ND	5.0	μg/L	1	10/30/2015	R30423
Chrysene	ND	0.10	μg/L	1	10/30/2015	R30423
Dibenz(a,h)anthracene	ND	0.10	μg/L	1	10/30/2015	R30423
Dibenzofuran	ND	5.0	μg/L	1	10/30/2015	R30423
Diethyl phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Dimethyl phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Di-n-butyl phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Di-n-octyl phthalate	ND	5.0	μg/L	1	10/30/2015	R30423
Fluoranthene	ND	5.0	µg/L	1	10/30/2015	R30423
Fluorene	ND	5.0	μg/L	1	10/30/2015	R30423
Hexachlorobenzene	ND	1.0	μg/L	1	10/30/2015	R30423
Hexachlorobutadlene	ND	5.0	μg/L	1	10/30/2015	R30423
Hexachlorocyclopentadiene	ND	5.0	µg/L	1	10/30/2015	R30423
Hexachloroethane	ND	5.0	µg/L	1	10/30/2015	R30423
Indeno(1,2,3-cd)pyrene	ND	0.10	μg/L	1	10/30/2015	R30423
Isophorone	ND	5.0	μg/L	1	10/30/2015	R30423
Naphthalene	NĎ	5.0	μg/L	1	10/30/2015	R30423
Nitrobenzene	ND	5.0	µg/L	1	10/30/2015	R30423
N-Nitrosodi-n-propylamine	ND	5.0	µg/L	1	10/30/2015	R30423
N-Nitrosodiphenylamine	ND	2.0	µg/L	1	10/30/2015	R30423

Matrix: AQUEOUS

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	A
	Ð	Sample Diluted Due to Matrix	Е	V
	н	Holding times for preparation or analysis exceeded	1	A
	ND	Not Detected at the Reporting Limit	Р	S
	R	RPD outside accepted recovery limits	RL	R
-	s	% Recovery outside of range due to dilution or matrix		

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 6 of 29

P Sample pH Not In Range

Reporting Detection Limit

Analytical Report Lab Order 1510908

R30423

R30423

R30423

R30423

R30423

Hall Environmental Analysis Laboratory, Inc.

Surr: 2-Fluorobiphenyl

Surr: 2-Fluorophenol

Surr: Nitrobenzene-d5

Surr: Terphenyl-d14

Surr: Phenol-d5

CLIENT: Navajo Refining Company Client Sample ID: WDW-1,2,&3 Effluent **Project:** Quarterly WDW-1, 2, & 3 Inj Well Collection Date: 10/19/2015 7:40:00 AM Lab ID: 1510908-001 Matrix: AQUEOUS Received Date: 10/20/2015 8:55:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch EPA 8270C: SEMIVOLATILES/MOD Analyst: SUB R30423 Pentachlorophenol ND 5.0 μg/L 1 10/30/2015 Phenanthrene ND 5.0 μg/L 1 10/30/2015 R30423 Phenol ND 5.0 μg/L. 1 10/30/2015 R30423 Pyrene ND 5.0 µg/L 10/30/2015 R30423 1 o-Toluidine ND 2.0 μg/L 10/30/2015 R30423 1 Pyridine ND 5.0 μg/L 1 10/30/2015 R30423 1,2,4,5-Tetrachlorobenzene ND 5.0 10/30/2015 R30423 μg/L 1 Surr: 2,4,6-Tribromophenol 104 10-123 %REC 10/30/2015 R30423 1

19-130

21-120

25-130

10-130

21-141

90.8

70.2

85.6

121

44.4

%REC

%REC

%REC

%REC

%REC

1

1

1

1

1

10/30/2015

10/30/2015

10/30/2015

10/30/2015

10/30/2015

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 29
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	ŘL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Date Reported: 11/24/2015 le ID: WDW-1,2,&3 Effluent

Analytical Report Lab Order 1510908 Date Reported: 11/24/2015 Client Sample ID: TRIP BLANK

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Project: Quarterly WDW-1, 2, & 3 Inj Well **Collection Date:** 1510908-002 Lab ID: Matrix: TRIP BLANK Received Date: 10/20/2015 8:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Ana	alyst: SUB
Acetonitrile	ND	0.50	µg/L	1	11/2/2015	R3042
Allyl chloride	ND	0.50	µg/L	1	11/2/2015	R3042
Chloroprene	ND	0.50	µg/L	1	11/2/2015	R3042
Cyclohexane	ND	0.50	µg/L	1	11/2/2015	R3042
Diethyl ether	ND	0.50	µg/L	1	11/2/2015	R3042
Diisopropyl ether	ND	0.50	µg/L	1	11/2/2015	R3042
Epichlorohydrin	ND	5.0	µg/L	1	11/2/2015	R3042
Ethyl acetate	ND	0.50	µg/L	· 1	11/2/2015	R3042
Ethyl methacrylate	ND	0.50	µg/L	1	11/2/2015	R3042
Ethyl tert-butyl ether	ND	0.50	µg/L	1	11/2/2015	R3042
Freon-113	ŃD	0.50	μ g /L	1	11/2/2015	R3042
Isobutanol	ND	0.50	µg/L	1	11/2/2015	R3042
Isopropyl acetate	ND	0.50	µg/L	1	11/2/2015	R3042
Methacrylonitrile	ND	0.50	µg/L	1	11/2/2015	R3042
Methyl acetate	ND	0.50	μg/L	1	11/2/2015	R3042
Methyl ethyl ketone	ND	2.5	µg/L	. 1	11/2/2015	R304
Methyl isobutyl ketone	ND	2.5	μg/L	1	11/2/2015	R304
Methyl methacrylate	ND	0.50	μg/L	1	11/2/2015	R304
Methylcyclohexane	ND	1.0	µg/L	1	11/2/2015	R304
n-Amyl acetate	ND	0.50	µg/L	1	11/2/2015	R304
n-Hexane	ND	0.50	μg/L	1	11/2/2015	R304
Nitrobenzene	ND	5.0	΄μg/L	1	11/2/2015	R304
Pentachlorcethane	ND	5.0	µg/L	1	11/2/2015	R304
p-isopropyltoluene	ND	0.50	µg/L	1	11/2/2015	R304
Propionitrile	ND	0.50	μg/L	1	11/2/2015	R304
Tetrahydrofuran	ND	0.50	µg/L	1	11/2/2015	R3042
Benzene	ND	0.50	µg/L	1	11/2/2015	R3042
Toluene	ND	0.50	µg/L	1	11/2/2015	R304
Ethylbenzene	ND	0.50	μg/L	1	11/2/2015	R304
Methyl tert-butyl ether (MTBE)	ND	10	⊢s⊢– µg/L	1	11/2/2015	R304
1,2,4-Trimethylbenzene	ND	0.50	μg/L	1	11/2/2015	R3042
1,3,5-Trimethylbenzene	ND	0.50	μg/L	1	11/2/2015	R3042
1,2-Dichloroethane (EDC)	ND	0.50	µg/L	· · · · · · · · · · · · · · · · · · ·	11/2/2015	R3042
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1	11/2/2015	R3042
Naphthalene	ND	0.50	µg/L	1	11/2/2015	R3042
Acetone	ND	2.5	µg/L	1	11/2/2015	R3042
Bromobenzene	ND	0.50	μg/L	1	11/2/2015	R3042
Bromodichloromethane	ND	0.50	μg/L	1	11/2/2015	R3042
Bromoform	ND	0.50	µg/L	1	11/2/2015	R3042

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510908 Date Reported: 11/24/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Client Sample ID: TRIP BLANK Quarterly WDW-1, 2, & 3 Inj Well **Collection Date: Project:** 1510908-002 Lab ID: Matrix: TRIP BLANK Received Date: 10/20/2015 8:55:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch EPA METHOD 8260B: VOLATILES Analyst: SUB Bromomethane ND 0.50 μg/L 1 11/2/2015 R30423 Carbon disulfide ND 11/2/2015 R30423 0.50 μg/L 1 Carbon Tetrachloride ND 11/2/2015 R30423 0.50 µg/L 1 ND 11/2/2015 R30423 Chlorobenzene 0.50 µg/L 1 Chloroethane ND 11/2/2015 R30423 0.50 μg/L 1 Chloroform ND 0.50 μg/L 11/2/2015 R30423 1 Chloromethane ND 0.50 µg/L 11/2/2015 R30423 1 ND 11/2/2015 R30423 2-Chlorotoluene 0.50 μg/L 1 4-Chlorotoluene ND 0.50 µg/L 1 11/2/2015 R30423 cis-1,2-DCE ND 0.50 µg/L 1 11/2/2015 R30423 ND 11/2/2015 R30423 cis-1,3-Dichloropropene 0.50 μg/L 1 1,2-Dibromo-3-chloropropane ND 0.50 μg/L 1 11/2/2015 R30423 Dibromochloromethane ND 0.50 μg/L 1 11/2/2015 R30423 ND R30423 Dibromomethane 0.50 µg/L 1 11/2/2015 1,2-Dichlorobenzene ND 0.50 11/2/2015 R30423 μg/L 1 ND 0.50 11/2/2015 R30423 1.3-Dichlorobenzene μg/L 1 11/2/2015 R30423 1,4-Dichlorobenzene ND 0.50 µg/L 1 11/2/2015 R30423 Dichlorodifluoromethane ND 0.50 μg/L 1 R30423 1,1-Dichloroethane ND 0.50 11/2/2015 μg/L 1 11/2/2015 R30423 1,1-Dichloroethene ND 0.50 µg/L 1 ND 0.50 11/2/2015 R30423 1,2-Dichloropropane μg/L 1 ND 0.50 µg/L 11/2/2015 R30423 1,3-Dichloropropane 1 11/2/2015 2,2-Dichloropropane ND 0.50 µg/L 1 R30423 R30423 1,1-Dichloropropene ND 0.50 µg/L 1 11/2/2015 Hexachlorobutadiene ND 0.50 μg/L 1 11/2/2015 R30423 2-Hexanone ND 0.50 µg/L 1 11/2/2015 R30423 Isopropylbenzene ND 0,50 μg/L 1 11/2/2015 R30423 Methylene Chloride ND 2.5 11/2/2015 R30423 μg/L 1 n-Butylbenzene ND 0.50 µg/L 1 11/2/2015 R30423 n-Propylbenzene ND 0.50 µg/L 1 11/2/2015 R30423 R30423 sec-Butylbenzene ND 0.50 11/2/2015 μg/L 1 Styrene ND 0.50 11/2/2015 R30423 μg/Ľ 1 µg/L ND 0.50 1 11/2/2015 R30423 tert-Butylbenzene 1,1,1,2-Tetrachloroethane ND 0.50 11/2/2015 R30423 μg/L 1 1,1,2,2-Tetrachloroethane ND 0.50 1 11/2/2015 R30423 μg/L Tetrachloroethene (PCE) ND 0.50 1 11/2/2015 R30423 μg/L trans-1,2-DCE ND 0.50 μg/L 1 11/2/2015 R30423 11/2/2015 R30423 trans-1,3-Dichloropropene ND 0.50 μg/L 1 11/2/2015 R30423 1,2,3-Trichlorobenzene ND 0.50 1 μg/L

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510908

Date Reported: 11/24/2015

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: TRIP BLANK CLIENT: Navajo Refining Company Quarterly WDW-1, 2, & 3 Inj Well **Collection Date:** Project: 1510908-002 Received Date: 10/20/2015 8:55:00 AM Lab ID: Matrix: TRIP BLANK **DF** Date Analyzed Analyses Result **RL** Qual Units Batch EPA METHOD 8260B: VOLATILES Analyst: SUB 1,2,4-Trichlorobenzene ND 0.50 μg/L 1 11/2/2015 R30423 ND 0.50 11/2/2015 R30423 1,1,1-Trichloroethane µg/L 1 1,1,2-Trichloroethane ND 0.50 1 11/2/2015 R30423 μg/L ND 0.50 11/2/2015 R30423 Trichloroethene (TCE) 1 μg/L Trichlorofluoromethane ND 11/2/2015 R30423 0.50 µg/L 1 1,2,3-Trichloropropane ND 0.50 μg/L 1 11/2/2015 R30423 R30423 Vinyl chloride ND 0.50 11/2/2015 µg/L 1 R30423 mp-Xylenes ND 11/2/2015 1.0 µg/L 1 o-Xylene ND 0,50 μg/L 1 11/2/2015 R30423 tert-Amyl methyl ether ND 0.50 µg/L 1 11/2/2015 R30423 tert-Butyl alcohol ND 0.50 1 11/2/2015 R30423 μg/L Acrolein ND 0.50 µg/L 1 11/2/2015 R30423 Acrylonitrile ND 0.50 1 11/2/2015 R30423 µg/L ND 0.50 11/2/2015 R30423 Bromochloromethane µg/L 1 2-Chloroethyl vinyl ether ND 0.50 1 11/2/2015 R30423 μg/L Iodomethane ND 0.50 11/2/2015 R30423 1 μg/L 11/2/2015 ND 0.50 R30423 trans-1,4-Dichloro-2-butene µg/L 1 ND 0.50 11/2/2015 R30423 Vinyl acetate μg/L 1 11/2/2015 R30423 1,4-Dioxane ND 20 µg/L 1 R30423 Surr: 1,2-Dichlorobenzene-d4 108 70-130 %REC 11/2/2015 1 Surr: 4-Bromofluorobenzene 105 70-130 %REC 1 11/2/2015 R30423 Surr: Toluene-d8 102 70-130 %REC 1 11/2/2015 R30423

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limit Page 10 of 29
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Client:		Navajo Ref	-										
Project:		Quarterly V	₩D₩-1,2	2, & 3	Inj Well								
Sample ID	МВ		SampTy	/pe: ME	BLK	Tes	tCode: E	PA Method	300.0: Anions	5			
Client ID:	PBW		Batch	ID: R2	9842	F	RunNo: 2	9842					
Prep Date:		A	Analysis Da	ate: 10)/27/2015	Ş	BeqNo: 9	08890	Units: mg/L				
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride			ND	0.50									
Sulfate			ND	0.50									
Sample ID	LCS		SampTy	/pe: LC	S	Tes	TestCode: EPA Method 300.0: Anions						
Client ID:	LCSW		Batch	ID: R2	9842	F	RunNo: 2	9842					
Prep Date:		А	Analysis Da	ate: 10)/27/2015	ŝ	SeqNo: 9	08891	Units: mg/L				
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride			4.8	0.50	5.000	0	97.0	90	110		<i></i>		
Sulfate			9.8	0.50	10.00	0	98.3	90	110				
Sample ID	MB		SampTy	pe: ME	BLK	Tes	tCode: E	PA Method	300.0: Anions	5			
Client ID:	PBW		Batch	ID: R2	9930	F	RunNo: 2	9930					
Prep Date:		A	Analysis Da	ate: 10)/30/2015	ş	SeqNo: 9	11773	Units: mg/L				
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Nitrate+Nitrite	as N		ND	0.20									
Sample ID	LCS		SampTy	/pe: LC	s	Tes	tCode: E	PA Method	300.0: Anions	3			
Client ID:	LCSW		Batch	ID: R2	9930	F	RunNo: 2	9930					
Prep Date:		A	Analysis Da	ate: 10)/30/2015	5	SeqNo: 9	11774	Units: mg/L				
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Nitrate+Nitrite	as N		3.4	0.20	3.500	0	96.6	90	110				
Sample ID	МВ		SampTy	/pe: ME	3LK	Tes	tCode: E	PA Method	300.0: Anions	3			
Client ID:	PBW		Batch	ID: R2	9992	F	RunNo: 2	9992					
Prep Date:		A	Analysis Da	ate: 11	1/3/2015	5	SeqNo: 9	13762	Units: mg/L				
Analyte			Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Phosphorus, C	rthophosp	ohate (As P	ND	0.50				-	0			-	
Sample ID	LCS		SampTy	/pe: LC	S	Tes	tCode: E	PA Method	300.0: Anions	3			
Client ID:	LCSW			ID: R2			RunNo: 2						
Prep Date:		A	Analysis Da			-	SeqNo: 9		Units: mg/L				
Analyte			Result	PQL.		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1				1 040	5111 10100	0	,0.10	90	110	701 11 12		4,5101	

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

Page 11 of 29

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

Р

WO#: 1510908

24-Nov-15

QC SUMMARY REPORT

WO#:

1510908 24-Nov-15

Hall Environmental Analysis Laboratory, Inc.

Client:Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB	SampT	ype: Mi	BLK .	Tes	tCode: E	PA Method	300.0: Anions			
Client ID: PBW	Batch	Batch ID: A30103			RunNo: 3	0103				
Prep Date:	Analysis D	ate: 1	1/6/2015	S	SeqNo: 9	16979	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	ND	0.50								
					TestCode: EPA Method 300.0: Anions					
Sample ID LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	300.0: Anions			
Sample ID LCS Client ID: LCSW	•	ype: LC			tCode: E RunNo: 3		300.0: Anions			
	•	D: A3	0103	F		0103	300.0: Anions Units: mg/L	r		
Client ID: LCSW	Batch	D: A3	0103 1/6/2015	F	RunNo: 3	0103 16980		%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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man Environmental Analysis Laboratory, 1

Client:Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-R30423	SampT	ype: ME	3LK	TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch	D: R3	0423	F	RunNo: 3	30423					
Prep Date:	Analysis D	ate: 11	/2/2015	S	SeqNo: 9	928381	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl ethyl ketone	ND	2.5			-						
Methyl isobutyl ketone	ND	2.5									
p-isopropyltoluene	ND	0.50									
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Methyl tert-butyl ether (MTBE)	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
1,2-Dichloroethane (EDC)	ND	0.50									
1,2-Dibromoethane (EDB)	ND	0.50									
Naphthalene	ND	0.50									
Acetone	ND	2.5									
Bromobenzene	ND	0.50									
Bromodichloromethane	ND	0.50									
Bromoform	ND	0.50									
Bromomethane	ND	0.50									
Carbon disulfide	ND	0.50									
Carbon Tetrachloride	ND	0.50									
Chlorobenzene	ND	0.50									
Chloroethane	ND	0.50									
Chloroform	ND	0.50									
Chloromethane	ND	0.50									
2-Chlorotoluene	ND	0.50									
4-Chlorotoluene	ND	0.50									
cis-1,2-DCE	ND	0.50									
cis-1,3-Dichloropropene	ND	0.50									
1,2-Dibromo-3-chloropropane	ND	0.50									
Dibromochloromethane	ND	0.50									
Dibromomethane	ND	0.50									
1,2-Dichlorobenzene	ND	0.50									
1,3-Dichlorobenzene	ND	0.50									
1,4-Dichlorobenzene	ND	0.50									
Dichlorodifluoromethane	ND	0.50									
1,1-Dichloroethane	ND	0.50									
1,1-Dichloroethene	ND	0.50									
1,2-Dichloropropane	ND	0.50									
1,3-Dichloropropane	ND	0.50									
no biolioropropario	ND	0.50									

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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WO#:

Client:Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-R30423	SampT	ype: MB	LK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: R3	0423	F	RunNo: 3	30423				
Prep Date:	Analysis D	ate: 11	/2/2015	5	SeqNo: 9	28381	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.50					_			
Hexachlorobutadiene	ND	0.50								
2-Hexanone	ND	2.5								
Isopropylbenzene	ND	0.50								
Methylene Chloride	ND	2.5								
n-Butylbenzene	ND	0.50								
n-Propylbenzene	ND	0.50								
sec-Butylbenzene	ND	0.50								
Styrene	ND	0.50								
tert-Butylbenzene	ND	0.50								
1,1,1,2-Tetrachloroethane	ND	0.50								
1,1,2,2-Tetrachloroethane	ND	0.50								
Tetrachloroethene (PCE)	ND	0.50								
trans-1,2-DCE	ND	0.50								
trans-1,3-Dichloropropene	ND	0.50								
1,2,3-Trichlorobenzene	NĎ	0.50								
1,2,4-Trichlorobenzene	ND	0.50								
1,1,1-Trichloroethane	ND	0.50								
1,1,2-Trichloroethane	ND	0.50								
Trichloroethene (TCE)	ND	0.50								
Trichlorofluoromethane	ND	0.50								
1,2,3-Trichloropropane	ND	0.50								
Vinyl chloride	ND	0.50								
mp-Xylenes	ND	0.50								
o-Xylene	ND	0.50								
Acrylonitrile	ND	0.50								
Bromochloromethane	ND	0.50								

Sample ID LCS-R30423	SampT	Type: LC	S	TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch	h ID: R3	30423	F	RunNo: 3						
Prep Date:	Anaiysis E	Analysis Date: 11/2/2015			SeqNo: 928382			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzone	9.2	0	10.00	0	92.1	80	120				
Toluene	9.6	0	10.00	0	96.5	80	120				
Ethylbenzene,	9.7	0	10.00	0	96.9	80	120				
Chlorobenzene	9.5	0	10.00	0	94.7	80	120				
1,1-Dichloroethene	10	0	10.00	0	102	80	120				
Tetrachloroethene (PCE)	9.9	0	10.00	0	99.4	80	120				

Qualifiers:

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

E Value above quantitation range

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

WO#: 1510908

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID LCS-R30423	SampT	ype: LC	s	Test	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R3	0423	R	tunNo: 3	0423				
Prep Date:	Analysis Da	ate: 11	1/2/2015	S	eqNo: 9	28382	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	10	0	10.00	0	102	80	120		-	
o-Xylene	10	0	10.00	0	105	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

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

WO#: 1510908

24-Nov-15

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-R30423	SampT	'ype: Mi	BLK	Tes	tCode: E	PA 8270C:	Semivolatiles	/Mod		
Client ID: PBW	Batch	n ID: R3	0423	F	RunNo: 3	0423				
Prep Date:	Analysis D	ate: 10)/30/2015	S	SegNo: 9	28385	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acetophenone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2,3,4,6-Tetrachlorophenol	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
2,4-Dichlorophenol	ND	5.0								
2,4-Dimethylphenol	ND	5.0								
2,4-Dinitrophenol	ND	5.0								
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	5.0								
2-Chloronaphthalene	ND	5.0								
2-Chlorophenol	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
2-Nitroaniline	ND	5.0								
2-Nitrophenol	ND	5.0								
3,3'-Dichlorobenzidine	ND	5.0								
3-Nitroaniline	ND	5.0								
4,6-Dinitro-2-methylphenol	ND	5.0								
4-Bromophenyl phenyl ether	ND	5.0								
4-Chloro-3-methylpheriol	ND	5.0								
4-Chioroaniline	ND	5.0								
4-Chiorophenyl phenyl ether	ND	5.0								
4-Nitroaniline	ND	5.0								
4-Nitrophenol	ND	5.0								
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Anthracene	ND	5.0								
Benzo(g,h,i)perylene	ND	5.0								
Benz(a)anthracene	ND	0.10								
Benzo(a)pyrene	ND	0.10								
Benzo(b)fluoranthene	ND -									
Benzo(k)fluoranthene	ND	0.10								
Bis(2-chloroethoxy)methane	ND	5.0								
Bis(2-chloroethyl)ether	ND	5.0								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	ND	5.0								
Butyl benzyl phthalate	ND	5.0								
ardi volichi humanaro	ND	5.0								

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

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

Р

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24-Nov-15

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-R30423	SampTy	pe: ME	BLK	Tes	tCode: E	PA 8270C:	Semivolatiles	/Mod		
Client ID: PBW	Batch I	ID: R3	0423	F	RunNo: 3	0423				
Prep Date:	Analysis Da	te: 10	0/30/2015	S	SeqNo: 9	28385	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chrysene	ND	0.10								
Dibenz(a,h)anthracene	ND	0.10								
Dibenzofuran	ND	5.0								
Diethyl phthalate	ND	5.0								
Dimethyl phthalate	ND	5.0								
Di-n-butyl phthalate	ND	5.0								
Di-n-octyl phthalate	ND	5.0								
Fluoranthene	ND	5.0								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	1.0								
Hexachlorobutadiene	ND	5.0								
Hexachlorocyclopentadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	0.10								
Isophorone	ND	5.0								
Naphthalene	ND	5.0								
Nitrobenzene	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	2.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	1.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
o-Toluidine	ND	2.0								
Pyridine	ND	5.0								
1,2,4,5-Tetrachlorobenzene	ND	5.0								
Sample ID LCS-R30423	SampTy	pc: L C	S	Tes	tGode: E	PA 8270C:	Semivolatiles	/Mod		
Client ID: LCSW	Batch I	D: R3	0423	F	RunNo: 3	0423				
Prep Date:	Analysis Dat	te: 10	0/30/2015	5	eqNo: 9	28386	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit _	%RPD	_RPDLimit_	Qual
2,4-Dinitrotoluene	4.8	0	5.000	0	95.6	49	134			
Chlorenhanol	47	~	E 000	0	011	50	24			~

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Client ID: LCSW	Batch	1D: R3	0423	F	RunNo: 3	0423			
Prep Date:	Analysis D	ate: 10	0/30/2015	5	BegNo: 9	28386	Units: µg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit _	%RPDRPDLimit_	Qua
2,4-Dinitrotoluene	4.8	0	5.000	0	95.6	49	134		
2-Chlorophenol	4.7	0	5.000	0	94.4	50	31		S
4-Chloro-3-methylphenol	4.8	0	5.000	0	95.4	42	139		
4-Nitrophenel	3.2	0	5.000	0	65.0	19	137		
Acenaphthene	5.2	0	5.000	0	105	36	122		
Bis(2-ethylhexyl)phthalate	5.9	0	5.000	0	118	43	142		
N-Nitrosodi-n-propylamine	4.7	0	5.000	0	94.4	46	140		

Qualifiers:

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

E Value above quantitation range

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

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID LCS-R30423	SampT	ype: LC	S	Tes	tCode: El	PA 8270C:	Semivolatiles	/Mod		
Client ID: LCSW	Batch	1D: R3	0423	F	RunNo: 3	0423				
Prep Date:	Analysis D	ate: 1()/30/2015	S	SeqNo: 9	28386	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimIt	HighLimit	%RPD	RPDLimit	Qual
Pentachlorophenol	4.8	0	5.000	0	95.4	22	138			
Phenol	4.5	0	5.000	0	90.8	45	134			
Pyrene	4.6	0	5.000	0	92,2	45	138			

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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WO#:

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ion limits

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-21960	SampType: MBLK	TestCode: EPA Method	7470: Mercury			
Client ID: PBW	Batch ID: 21960	RunNo: 29703				
Prep Date: 10/21/2015	Analysis Date: 10/21/2015	SeqNo: 904542	Units: mg/L			
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND 0.00020					
Sample ID LCS-21960	SampType: LCS	TestCode: EPA Method	7470: Mercury			
Sample ID LCS-21960 Client ID: LCSW	SampType: LCS Batch ID: 21960	TestCode: EPA Method RunNo: 29703	7470: Mercury			
			7470: Mercury Units: mg/L			
Client ID: LCSW	Batch ID: 21960 Analysis Date: 10/21/2015	RunNo: 29703	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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Client: Navajo Refining Company **Project:** Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-22145	SampType: MBLK	TestCode: MERCURY, 1	TCLP		
Client ID: PBW	Batch ID: 22145	RunNo: 29977			
Prep Date: 11/3/2015	Analysis Date: 11/3/2015	SeqNo: 913123	Units: mg/L		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD) RPDLimit Qu	ual
Mercury	ND 0.020				
Sample ID LCS-22145	SampType: LCS	TestCode: MERCURY, 1	TCLP		
Client ID: LCSW	Batch ID: 22145	RunNo: 29977			
Prep Date: 11/3/2015	Analysis Date: 11/3/2015	SeqNo: 913124	Units: mg/L		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qu	ual
Mercury	ND 0.020 0.005000	0 101 80	120		

Qualifiers:

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

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WO#: 1510908

Client: Navajo Refining Company Quarterly WDW-1, 2, & 3 Inj Well **Project:**

Sample ID MB-21978	SampT	ype: MF	BLK	Tes	tCode: El	PA Method	6010B: TCLF	Metals		
Client ID: PBW	Batch	ID: 21	978	F	RunNo: 2	9736				
Prep Date: 10/22/2015	Analysis D	ate: 10	0/22/2015	5	SeqNo: 9	05688	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Calanium	ND	1.0								
Selenium		1.0								
Selenium Silver	ND	5.0								
	ND		s	Tes	tCode: El	PA Method	6010B: TCLF	Metals		22 111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Silver	ND SampT	5.0			tCode: El		6010B: TCLF	Metals		
Silver Sample ID LCS-21978	ND SampT	5.0 ype: LC	978	F		9736	6010B: TCLF Units: mg/L	P Metals		
Silver Sample ID LCS-21978 Client ID: LCSW	ND SampT Batch	5.0 ype: LC	978 D/22/2015	F	RunNo: 2	9736		• Metals %RPD	RPDLimit	Qual
Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015	ND SampT Batch Analysis D	5.0 Type: LC n ID: 21 nate: 10	978 D/22/2015	F	RunNo: 2 SeqNo: 9	9736 05689	Units: mg/L		RPDLimit	Qual
Silver Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015 Analyte	ND SampT Batch Analysis D Result	5.0 ype: LC 1D: 21 ate: 10 PQL	978 0/22/2015 SPK value	F S SPK Ref Val	RunNo: 2 SeqNo: 9 %REC	9736 05689 LowLimit	Units: mg/L. HighLimit		RPDLimit	Qual
Silver Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015 Analyte Arsenic	ND SampT Batch Analysis D Result ND	5.0 ype: LC 1D: 21 ate: 10 PQL 5.0	978 0/22/2015 SPK value 0.5000	F S SPK Ref Val 0	RunNo: 2 SeqNo: 9 %REC 107	9736 05689 LowLimit 80	Units: mg/L HighLimit 120		RPDLimit	Qual
Silver Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015 Analyte Arsenic Barium	ND SampT Batch Analysis D Result ND ND	5.0 ype: LC 1D: 219 vate: 10 PQL 5.0 100	978 0/22/2015 SPK value 0.5000 0.5000	F S SPK Ref Val 0 0	RunNo: 2 SeqNo: 9 %REC 107 100	9736 05689 LowLimit 80 80	Units: mg/L HighLimit 120 120		RPDLimit	Qual
Silver Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015 Analyte Arsenic Barium Cadmium	ND SampT Batch Analysis D Result ND ND ND	5.0 ype: LC 1D: 21 vate: 10 PQL 5.0 100 1.0	978 0/22/2015 SPK value 0.5000 0.5000 0.5000	F S SPK Ref Val 0 0 0	RunNo: 2 SeqNo: 9 <u>%REC</u> 107 100 102	9736 05689 LowLimit 80 80 80	Units: mg/L HighLimit 120 120 120		RPDLimit	Qual
Silver Sample ID LCS-21978 Client ID: LCSW Prep Date: 10/22/2015 Analyte Arsenic Barium Cadmium Chromium	ND SampT Batch Analysis D Result ND ND ND ND	5.0 ype: LC 1D: 219 ate: 10 PQL 5.0 100 1.0 5.0	978 D/22/2015 SPK value 0.5000 0.5000 0.5000 0.5000	F S SPK Ref Val 0 0 0 0	RunNo: 2 SeqNo: 9 %REC 107 100 102 100	9736 05689 LowLimit 80 80 80 80	Units: mg/L HighLimit 120 120 120 120		RPDLimit	Qual

Qualifiers:

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

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WO#:

24-Nov-15

QC SUMMARY REPORT

WO#: 1510908

24-Nov-15

Hall Environmental Analysis Laboratory, Inc.

Client: Navajo Refining Company **Project:** Quarterly WDW-1, 2, & 3 Inj Well

Sample ID	MB-21972	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA 6010B: 1	Total Metals			
Client ID:	PBW	Batc	h ID: 21	972	γ F	RunNo: 2	9736				
Prep Date:	10/21/2015	Analysis I	Date: 10)/22/2015	5	SeqNo: 9	05617	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		ND	0.020								
Antimony		ND	0.050								
Arsenic		ND	0.020								
Barium		ND	0.020								
Beryllium		ND	0,0030								
Cadmium		ND	0,0020								
Calcium		ND	1.0								
Chromium		ND	0,0060								
Cobalt		ND	0.0060								
Copper		ND	0.0060								
Iron		ND	0.050								
Lead		ND	0.0050								
Magnesium		ND	1.0								
Manganese		ND	0.0020								
Nickel		ND	0.010								
Potassium		ND	1.0								
Selenium		ND	0.050								
Silver		ND	0.0050								
Sodium		ND	1.0								
Thallium		ND	0.050								
Vanadium		ND	0.050								
Zinc		ND	0.020								
Sample ID	LCS-21972	Samp	Type: LC	S	Tes	tCode: E	PA 6010B: 1	Total Metals			
Client ID:	LCSW	Batc	h ID: 21	972	F	RunNo: 2	9736				
Prep Date:	10/21/2015	Analysis I	Date: 10)/22/2015	5	SeqNo: 9	05618	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Rof Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		0.52	0.020	0.5000	0	103	80	120			
Antimony		0.52	0.050	0.5000	0	103	80	120			
Arsenic		0.51	0.020	0.5000	0	101	80	120			
Barium		0.49	0.020	0.5000	0	97.9	80	120			
Beryllium		0.51	0.0030	0.5000	0	103	80	120			
Cadmium		0.50	0.0020	0.5000	0	99.2	80	120			
Calcium		49	1.0	50.00	0	97.9	80	120			
Chromium		0.49	0.0060	0.5000	0	97.6	80	120			
Cobalt		0.48	0.0060	0.5000	0	95.3	80	120			
					_						

Qualifiers:

Copper

Iron

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

0.51

0.49

0.0060

0.050

0.5000

0.5000

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

80

80

120

120

Е Value above quantitation range

102

97.9

- J Analyte detected below quantitation limits
- Page 22 of 29

Sample pH Not In Range Ρ

0

0

RL Reporting Detection Limit

Client: Navajo Refining Company

Project:

Quarterly WDW-1, 2, & 3 Inj Well

Sample ID	LCS-21972	Samp	Туре: L C	S	Tes	tCode: El	PA 6010B: '	Total Metals			
Client ID:	LCSW	Bato	h ID: 21	972	F	RunNo: 2	9736				
Prep Date:	10/21/2015	Analysis	Date: 10	/22/2015	S	SeqNo: 9	05618	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLi mit	Qual
Lead		0.49	0.0050	0.5000	0	97.9	80	120			
Magnesium		50	1.0	50.00	0	99.1	80	120			
Manganese		0.48	0.0020	0.5000	0	96.9	80	. 120			
Nickel		0.48	0.010	0.5000	0	95.8	80	120			
Potassium		47	1.0	50.00	0	94.3	80	120			
Selenium		0.49	0.050	0.5000	0	98.4	80	120			
Silver		0.099	0.0050	0.1000	0	99.2	80	120			
Sodium		49	1.0	50.00	0	98.4	80	120			
Thallium		0.51	0.050	0.5000	0	103	80	120			
Vanadium		0.51	0.050	0.5000	0	102	80	120			
Zinc		0.48	0.020	0.5000	0	95.3	80	120			
Sample ID	1510908-001BMS	Samp	Type: MS	3	Tes	tCode: El	PA 6010B: '	Total Metals			
Client ID:	WDW-1,2,&3 Effi	uen Bato	h ID: 21	972	F	RunNo: 2	9736				
Prep Date:	10/21/2015	Analysis I	Date: 10	/22/2015	S	eqNo: 9	05634	Units: mg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		. 1.2	0.040	0.5000	0.5719	126	75	125			S
Antimony		0.60	0.10	0.5000	0	120	75	125			
Arsenic		0.63	0.040	0.5000	0	126	75	125			S
Barium		0.54	0.040	0.5000	0.01050	106	75	125			
Beryllium		0.55	0.0060	0.5000	0	110	75	125			
Cadmium		0.56	0.0040	0.5000	0	11 1	75	125			
Calcium		120	2.0	50.00	65.14	113	75	125			
Chromium		0.52	0.012	0.5000	0	105	75	125			
Cobalt		0.53	0.012	0.5000	0	106	75	125			
Copper		0.62	0.012	0,5000	0.01570	121	75	125			
Iron		0.99	0.10	0.5000	0.4468	110	75	125			
Lead		0.55	0.010	0.5000	0	110	75	125			
Magnesium.		74	2.0	50.00	19.57	110	75	125			
Manganese		0.62	0.0040	0.5000	0.08908	106	75	125			
Nickel		0.54	0.020	0.5000	0	108	75	125			
Potassium		85	2.0	50.00	27.55	115	75	125			
Selenium		0.86	0.10	0.5000	0.2670	118	75	125			
Silver		0.11	0.010	0.1000	0	112	75	125			
Thallium		0.58	0.10	0.5000	0	115	75	125			
Vanadium		0.57	0.10	0.5000	0.01404	110	75	125			
Zinc		0.59	0.040	0.5000	0.03952	110	75	125			

Qualifiers:

- * Value exceeds Maximum Contaminant Lovel.
- 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

WO#: 1510908

24-Nov-15

Page 23 of 29

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID	1510908-001BMS) Samp	Type: MS	D	Tes	tCode: El	PA 6010B:	Total Metals			
Client ID:	WDW-1,2,&3 Efflu	en Bato	h ID: 21	972	Я	RunNo: 2	9736				
Prep Date:	10/21/2015	Analysis I	Date: 10	/22/2015	S	SeqNo: 9	05635	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum		1.1	0.040	0.5000	0.5719	115	75	125	4.76	20	
Antimony		0.54	0.10	0.5000	0	108	75	125	10.5	20	
Arsenic		0.59	0.040	0.5000	0	118	75	125	6.26	20	
Barium		0.51	0.040	0.5000	0.01050	99.5	75	125	6.53	20	
Beryllium		0.50	0.0060	0.5000	0	101	75	125	8.90	20	
Cadmium		0.52	0.0040	0.5000	0	104	75	125	6.55	20	
Calcium		110	2.0	50.00	65.14	88.0	75	125	11.0	20	
Chromium		0.49	0.012	0.5000	0	98.8	75	125	5.80	20	
Cobalt		0.50	0.012	0.5000	0	99.8	75	125	6.05	20	
Copper		0.58	0.012	0.5000	0.01570	112	75	125	7.19	20	
Iron		0.90	0.10	0.5000	0.4468	91.6	75	125	9.48	20	
Lead		0.51	0.010	0.5000	0	102	75	125	7.39	20	
Magnesium		69	2.0	50.00	19.57	99.3	75	125	7.30	20	
Manganese		0.58	0.0040	0,5000	0.08908	98.6	75	125	6,53	20	
Nickel		0.51	0.020	0.5000	0	101	75	125	6.22	20	
Potassium		77	2.0	50.00	27.55	98.0	75	125	10.6	20	
Selenium		0.80	0.10	0.5000	0.2670	108	75	125	6.07	20	
Silver		0.10	0.010	0.1000	0	102	75	125	8.73	20	
Thallium		0.54	0.10	0.5000	0	107	75	125	7.22	20	
Vanadium		0.53	0.10	0.5000	0.01404	103	75	125	6.69	20	
Zinc		0.55	0.040	0.5000	0.03952	103	75	125	6.44	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

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1510908 24-Nov-15

WO#:

Client:Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj Well

-

Sample ID MB-R30423	SampType: MBLK	TestCode: CYANIDE, R	eactive		
Client ID: PBW	Batch ID: R30423	RunNo: 30423			
Prep Date:	Analysis Date: 10/28/2015	SeqNo: 928390	Units: mg/L		
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RI	PD RPDLimit	Qual
Cyanide, Reactive	ND 1.00				
Sample ID LCS-R30423	SampType: LCS	TestCode: CYANIDE, R	eactive		
Client ID: LCSW	Batch ID: R30423	RunNo: 30423			
Prep Date:	Analysis Date: 10/28/2015	SeqNo: 928391	Units: mg/L		
Prep Date: Analyte	· · · · · · · · · · · · · · · · · · ·		U	PD 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

WO#: 1510908

24-Nov-15

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QC SUMMARY REPORT

WO#: 1510908

24-Nov-15

Hall Environmental Analysis Laboratory, Inc.

Client:	Navajo Refining Company
Project:	Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-R30423	SampType: MBLK	TestCode: SULFIDE, Re	active			
Client ID: PBW	Batch ID: R30423	RunNo: 30423				
Prep Date:	Analysis Date: 10/23/2015	SeqNo: 928393	Units: mg/L			
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Reactive Sulfide	ND 1.0					
Sample ID LCS-R30423	SampType: LCS	TestCode: SULFIDE, Re	active			
Sample ID LCS-R30423 Client ID: LCSW	SampType: L CS Batch ID: R30423	TestCode: SULFIDE, Re RunNo: 30423	eactive			
•			eactive Units: mg/L			
Client ID: LCSW	Batch ID: R30423 Analysis Date: 10/23/2015	RunNo: 30423		%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- \mathbf{B} Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Page 26 of 29

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

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID mb-1	SampT	ype: ME	BLK	Tes	tCode: SI	M2320B: Al	kalinity			
Client ID: PBW	Batch	ID: R2	9677	F	RunNo: 2	9677				
Prep Date:	Analysis Da	ate: 10)/20/2015	8	SeqNo: 9	04176	Units: mg/L	CaCO3		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								
Sample ID Ics-1	SampT	ype: LC	s	Tes	tCode: SI	M2320B: Al	kalinity			
		ype: LC			tCode: SI RunNo: 2		kalinity			
Sample ID Ics-1		ID: R2	9677	F		9677	kalinity Units: mg/L	. CaCO3		
Sample ID Ics-1 Client ID: LCSW	Batch	ID: R2	9677 0/20/2015	F	RunNo: 2	9677	•	. CaCO3 %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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24-Nov-15

WO#: 1510908

Client: Navajo Refining Company

Project: Quarterly WDW-1, 2, & 3 Inj Well

Sample ID	1510908-001ADUP	SampType	: DL	JP	Test	Code:	Specific Grav	/ity			
Client ID:	WDW-1,2,&3 Effluen	Batch ID	: R2	29675	R	unNo:	29675				
Prep Date:	Ai	nalysis Date	: 10	0/20/2015	S	eqNo:	903627	Units:			
Analyte	ſ	Result F	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Specific Gravity	1	1.000	0						0.0900	20	

Qualifiers:

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

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24-Nov-15

1510908

WO#:

WO#: 1510908

24-Nov-15

Hall Environmental Analysis Laboratory, Inc.

Client:Navajo Refining CompanyProject:Quarterly WDW-1, 2, & 3 Inj Well

Sample ID MB-21952	SampType: MBLK	TestCode: SM2540C MO	D: Total Disso	olved Sol	ids	
Client ID: PBW	Batch ID: 21952	RunNo: 29751				
Prep Date: 10/21/2015	Analysis Date: 10/23/2015	SeqNo: 906219	Units: mg/L			
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND 20.0					
Fotal Dissolved Solids	ND 20.0 SampType: LCS	TestCode: SM2540C MO	D: Total Disso	olved Sol	ids	
Total Dissolved Solids Sample ID LCS-21952 Client ID: LCSW		TestCode: SM2540C MO RunNo: 29751	D: Total Disso	olved Sol	ids	
Sample ID LCS-21952	SampType: LCS		D: Total Disso Units: mg/L	olved Sol	ids	
Sample ID LCS-21952 Client ID: LCSW	SampType: LCS Batch ID: 21952 Analýsis Date: 10/23/2015	RunNo: 29751	Units: mg/L	olved Sol	ids 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	Hall Environmenial A Albug TEL: 503-345-3975 F Website: www.hali	4901 Hawkins juerque, NM 87 7AX: 505-345-4	NE 109 Samp	Sample Log-In Check List							
Olient Name: NAVAJO REFINING CO	Work Order Number:	1510908		ReptNo: 1							
Received by/dale: A Logged By: Lindsay Mangin Completed By: Lindsay Mangin	10/213/15 10/20/2015 8:55:00 AM 10/20/2015 9:15:21 AM		J-yMgo J-yMgo								
Reviewed By:	10/20/15		Gelgegener versler i mennengener i here me	างการของของประกัน (14) ปีของชีวิต ที่สุดของการของของของของของของของของของของของของของข							
 <u>Chain of Custody</u> 1. Custody seals infact on sample bollies? 2. Is Chain of Custody complete? 3. How was the sample delivered? 	÷.	Yes 🗋 Yes 🗹 Courier	No [] No [] .	Not Present							
Log In 4. Was an attempt made to cool the sample	\$?	Yes 2	No 🗆	na 🗋							
5. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🕅	No 🗆	na 🗂							
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗆								
7. Sufficient sample volume for indicated las	t(s)7	Yes 🗹	No 🗍								
8. Are samples (except VOA and ONG) pror	eny preserved?	Yes 🗹	No 🗋								
9. Was preservative added to bottles?		Yes 🔲	No 🔽	NA L							
10. VOA viais have zero headspace? 11. Were any sample containers received bro	ken?	Yes 🗹	No 🖸	No VOA Viels							
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗆	for pH;							
13, Are matrices correctly identified on Chain	of Custody?	Yes Y	No []	Adjusted? http://www.com							
 14, is it clear what analyses were requested? 15. Were all holding times able to be mei? (if no, notify customer for authorization.) 	;	Yes 🗹 Yes 🗹		Chiecked by: CS							
Special Handling (if applicable) 16. Was client notified of all discrepancies wi	h this order?	Yes 🖸	No. 🗖	NA Z							

	Person Notified:	Date
	By Whom:	Via: [] eMail [] Phone [] Fax [] In Person
	Regarding:	
	Client Instructions:	
17.	Additional remarks:	
18.	Cooler Information	
	Coler No Temp *C	Condition Seal Intact Seal No Seal Date Signed By

2.4

Good

Yes

1

Ö	hain-	of-Cu	Chain-of-Custody Record	TURT-AFOUND	14114			C L		HALL ENVIRONMENTAL	2ZO			
Client Navajo Refining Co.	ajo Refi	ning Co.	-	D Standar	I Rush			ZZ	ALV	ANALYSIS LABORATORY	ABO	L B H	Ŕ	5
				Project Name:					www.halle	www.hallenvironmental.com	at, com			
Mailing Address: P.O. Box 159 Artesia,	dress, P	Q. Box 15		Cuarterly W	DW-1,2,&31	nj Well	480	1 Hawkins I	NE - Albu	4901 Hawkins NE - Albuquergue, NM 87109	8710S			
NM 88211-0159	0159			Project # P.	Project # P.O. # 187795		Tei	. 505-345-3975		Fax 505-345-4107	4107	A STATE OF A		10 1
Phone # 575-748-3311	75-748-	3311				-			are set	Analysis Request	est		- 1 m - 1 m - 1 m	
email or Fax#, 575-746-5451	文井、57 5	746-5451		Project Manager	ager			00	uiculationithint	- in second				
ONOC Package. D. Standard	age:		Level 4 (Full Validation)	Micki Schuftz	z / Scott Dentr	/ Scott Denton / Mike Holder	7 8560 EM40 El	(\$9) 09 851	steM't	SHO (a upper upper pointait an cocumental longer des	
Comer		-	, in the second s	Sampler	Elizabeth Salsheny	sbeny	, bn 1, 18 1011)/\\$ (Дар	sil p	141		la da ca admin Nacional Angel	84475/78	
C EDD (Type)	(adı)			On loe with the	On los		-1, co Bal.,	, 1 9 1 9 1	ayoe	ljuo *				ามหลักสอารัยเพื่อกาลห
				Vample	Cample letterative	ł	19.10 1010 19.84	CHOC SM-E	tte e	sisia				concelti.NA.IBNID
Date	a E	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALNO ISICOPON	Speoifie SO4, TD Cation/ar So4, TD So2/Si Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoifie Speoif	8/00/2 (\$99 909 8/002%	es) 0747 es) 0747	S61/ SW TCLP M Ca, K. M		الم الم 2008 (2019) (2019) (2019) - - - - - - - - - - - - - - - - - - -	and a state of the	268 K 183 P 19 19 19 19 19 19 19 19 19 19 19 19 19
10/19/15	7.40	Liquid	WDW-1, 2, & 3 Ethern	¢	Neat/H2SO4	18-	×			×	ant of the local data			
10/19/15	7:40	Liquid	WDW-1, 2, & 3 Ethuent	¥.	HN03	8		GENERAL	×	×				
10/19/15	7:40	Liquid	WDW-1, 2, 8.3 Effuent	Ċ)	HCL	8	×							
10/19/15	7:40		WDW-1, 2, & 3 Effuent	₩	Neat	100-		×						
10/19/15	740	Liquid	WDW-1, 2, & 3 Efficient	20	Neat	-001		×						
10/19/15	7 40	Liquid	Trip Blank	64	Neat	-002	×		1				addiry ty by ty	
10/19/15	7,40	[renta	Temperature Blank		Neat	-								
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	-044-07	-												
		-								2007.00				
		-	non								3434 CPT	avas not o	nd ni iyon	
A STREET, STREE														
Date: 101915	8	1	Reinvestrat Welizabeth Salsherry	Received by:	aut	lo/20/15 085.	Remarks: Send results to Scott Denton, Mike Holder, Micki Schultz, Robert Combs 65-dand Andrew Contreras.	od results to contreras.	Scott Den	ton, Wike H	older, Micki	Schulz	Robert C	squo
Dates	Time	Relinquished by		Received by.		Late Time								
			Those and the pression of the second		and the second secon	and the second secon	transferration and the second s		a statement of the second s	annender in the South State	E. Abite Press, and			

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HOLLYFRONTIER The HolyFromber Compared	Antilitation of Prosect Property International Control of Control	Pistoriambo post (mad formass) Pastrampis pase (seekitom card		anti-Analysistandiat Mathod Represed	Specific Gravity, MCOS, COS, CJ, SOA, TDS, pH, cond, FJ, Catorrianon bal, Br, Erva0 CFR 136.3	WOCs/SW-846 Mathor 82600 (see attached list "WOCs")	SVOCaSW-246 Method 82700 (see attached list SVOCa)	R.C.140 CFR par 261	Metals/SW-346 Mthd 6010, 7470 (see attached fist "Metals")	Cat, K., Mg, NaMO CFR 136,3	TCLP Metals, cely 40 CFR Part 261/SW- 845 Method 1311				k Reinfoereted L		
H H H	· · · · · · · · · · · · · · · · · · ·			Natison One		-			, Sejoet woldsk				stantinen sintes services and the service services of the service service services of the serv			•	nonennennennennennennennennennennennenne
Injection Well Quarterly Sample Details Attachment	utility in the second s			COZSZEN HO									unional de Anarana de Anarana de Anarana (Anarana) de Anarana de Anarana de Anarana de Anarana de Anarana de An La coste de Anarana de A			- 	ANNO MANTA SAN ANNA ANNA ANNA ANNA ANNA ANNA A
Gug		4		HOL HNOS	ytornegaan wereen Galle (a fa ra es far a f	×	X	 	1	· .							
Kevajo kefiadar Compury, Lik 361 E. Main Attesia, NM 85210 (1e1)575,748,3331 (Fax)575,746,5451	terenetistille terenetiste in adjusticati	tes to injection wells		Net (Note)	*			×	*	×	×					:	·
Kevajo liefining Co 301 E. Main Attesia, NM 85210 (Tel 575,746,5451 (Fox)575,746,5451	Nel C	Ruther pumps		a of a of a contrainers	in i	P	63	2	N	5	-tp+						
Areas Area	Project Name WDW1.2. & \$ Orty in Weil Semples Name Killspert Satebary Samples Nillshon Navejo Refining Co. L.C Start Date and Time (10/1922) 5720 (1925)	licoletantis Sample Edization] Waste water efficent pur	•	SZ24	-									LEAST CONSIGNED TO STATE OF CONTRACT OF CONTRACT.			
际	A PARTICUL Project N PARTICUL Schropters N PROPERSION AND A PROPERSION AND A PROPERSION AND A PROPERSION AND A PROPERSION AND A	and stand							10					Plecould Wiesm			88

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	1/2015
501 E MAIN PO BOX 159, ARTESIA, N.	A. 88	8210											6 Page 1		
	Т	INJE	CTION			PRODUC	TION			DISPOSIT	ION OF OIL	, gas, an	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R API No.	8 C D E 1	9 Volume	10 Pressure	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	D	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand a end of month
		132,986 122,685 131,757	1,393	**											

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

2/9/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	2/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	88210												6 Page 1		
	INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
Z 8 POOL NO. AND NAME C Property No. and Name O Well No. & U-L-S-T-R D API No. E 1 1	9 Volume	10 Pressure	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand a end o month
30-015-20894 D 78890 ILLINOIS CAMP;MORROW NORTH 023592 WDW #003	118,968 108,866 111,941	1,383	\$ \$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

3/9/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	3/2015
501 E MAIN PO BOX 159, ARTESIA, N.M	. 88210												6 Page 1		
	IN.	ECTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R API No.	8 C O 9 D Volun E 1	10 Pressure	11 C O D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	,-	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand at end of month
30-015-20894 78890 ILLINOIS CAMP:MORROW NORT 023592 WDW #003	D 130,9 D 121,9 H 1 D 133,1	7 1,383	w												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist Date

4/7/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	4/2015
501 E MAIN PO BOX 159, ARTESIA, N.M	. 88210												6 Page 1		
	INJ	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R API No.	8 C O 9 D Volumo E 1	10 Pressure	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil oi hand end o mont
30-015-20894 78890 ILLINOIS CAMP:MORROW NORT 023592 WDW #003	D <u>124,14</u> D <u>115,05</u> H D <u>129,74</u>	3 1,365	**												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

5/7/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	5/2015
501 E MAIN PO BOX 159, ARTESIA, N.M	. 88210												6 Page 1		
	INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R API No.	8 C O 9 D Volume E 1	10	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand a end of month
30-015-20894 78890 ILLINOIS CAMP;MORROW NORT 023592 WDW #003	D <u>137,792</u> D <u>124,679</u> H D <u>129,155</u>	1,389	\$ \$ \$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

6/5/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO								3 OGRID:	15694			4 Month/Yea	ar	6/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	88210											6 Page 1		
	INJEC	TION			PRODUC	TION			DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
Image: Text State Image: Text St	9 Volume	10 Pressure	o Oi D	12 Barrels of bil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod-	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand a end of month
30-015-20894 D 78890 ILLINOIS CAMP;MORROW NORTH 023592 WDW #003	133,424 124,945 132,203	1,399	w											

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

7/5/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO										3 OGRID:	15694			4 Month/Yea	ar	7/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	M. 8	8210												6 Page 1		
	Т	INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
-	8 C D E 1	9 Volume	10 Pressure	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	,-	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand at end of month
	D TH	<u>135,690</u> <u>158,617</u> <u>132,187</u>	1,392 1,391 1,373	\$\$ \$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

8/12/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	8/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	88210												6 Page 1		
	INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R	Volume	10	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil oi hand end o mont
30-015-20894 78890 ILLINOIS CAMP;MORROW NORTH 023592 WDW #003	D 133,695 214,764 H D 126,544	1,392	\$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

9/14/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	9/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	. 88210												6 Page 1		
	INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
Z 8 POOL NO. AND NAME C Property No. and Name C Well No. & U-L-S-T-R D API No. E 1	9 Volume	10	11 C D E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C O D E 4	23 Oil on hand a end of month
30-015-20894 78890 ILLINOIS CAMP:MORROW NORTH 023592 WDW #003	D 126,349 127,967 H D 161,879	1,369	\$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

10/12/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III 1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO									3 OGRID:	15694			4 Month/Yea	ar	10/2015
501 E MAIN PO BOX 159, ARTESIA, N.M	. 88210												6 Page 1		
	INJ	ECTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
POOL NO. AND NAME Property No. and Name Well No. & U-L-S-T-R API No.	8 C O 9 D Volumo E 1	10 Pressure	11 C D E 2	Barrels of Oil/conden-	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod- uced	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C D E 4	23 Oil of hand end o mont
30-015-20894 78890 ILLINOIS CAMP;MORROW NORT 023592 WDW #003	D <u>131,33</u> D <u>107,84</u> H D <u>150,32</u>	5 1,378	\$\$ \$												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

11/6/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III

1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1

Amended Report

2 Operator NAVAJO REFINING CO										3 OGRID:	15694			4 Month/Yea	ar	11/2015
501 E MAIN PO BOX 159, ARTESIA, N.I	M. 8	88210												6 Page 1		
		INJE	CTION			PRODUC	TION				DISPOSIT	ION OF OIL	, GAS, AN	D WATER		
Z <u>POOL NO. AND NAME</u> Property No. and Name Well No. & U-L-S-T-R API No. <u>96918 NAVAJO PERMO-PENN</u> 023592 WDW	8 C D E 1	9 Volume	10 Pressure	11 C D E 2	Barrels of Oil/conden-	13 Barrels of water produced	14 MCF Gas Produced	,	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter	22 C O D E 4	23 Oil on hand at end of month
30-015-27592 30-015-20894 78890 ILLINOIS CAMP:MORROW NOR 023592 WDW #003 30-015-26575	D		1,376	w w												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge.

24

Signature

Printed Name & Title

Micki Schultz Environmental Specialist

Date

12/7/2015 Phone Number

P. O. Box 1980, Hobbs, NM 88241-1980

District II

P. O. Drawer DD, Artesia, NM 88211-0719 District III

1000 Rio Brazos, Aztec, NM 84710

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION P. O. Box 6429 Santa Fe, NM 87505

OPERATOR'S MONTHLY REPORT

Form C-115 First Page Revised October 17, 1993 Instruction on Reverse Side 1 Amended Report

2 Operator NAVAJO REFINING CO								3 OGRID:	15694			4 Month/Yea	ar	11/2015
501 E MAIN PO BOX 159, ARTESIA, N.M.	88210											6 Page 1		
	INJECT	TION		PRODUC	TION				DISPOSIT	ON OF OIL	, GAS, AN	D WATER		
Z 8 POOL NO. AND NAME C Property No. and Name O Well No. & U-L-S-T-R D API No. E 1	9 Volume P	11 C O Pressure E 2	12 Barrels of Oil/conden- sate produced	13 Barrels of water produced	14 MCF Gas Produced	15 Days Prod-	16 C D E 3	17 Point of Disposition	18 Gas BTU or Oil API Gravity	19 Oil on hand at beginning of month	20 Volume (Bbls/mcf)	21 Transporter Ogrid	22 C D E 4	23 Oil on hand at end of month
30-015-20894 D <u>78890 ILLINOIS CAMP;MORROW NORTH</u> 023592 WDW #003	127,967	1,342 W 1,326 W 1,334 W												

I hereby certify that the information contained in this report is true and complete to the best of my knowledge. 24

 Signature
 Printed Name & Title
 Micki Schultz
 Date
 12/7/2015

 Environmental Specialist
 Date
 Phone Number
 575-748-3311

B.2 Treated Wastewater to Artesia POTW

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
2/1/14	56	41	97	2.6
2/2/14	56	41	96	0.0
2/3/14	57	41	98	0.0
2/4/14	50	42	92	0.0
2/5/14	63	42	104	2.1
2/6/14	45	42	87	0.0
2/7/14	47	43	89	2.6
2/8/14	53	43	96	0.0
2/9/14	52	41	94	0.0
2/10/14	57	44	101	0.0
2/11/14	47	45	92	0.0
2/12/14	50	44	94	0.0
2/13/14	51	44	95	0.0
2/14/14	47	44	91	0.0
2/15/14	55	43	98	2.7
2/16/14	55	43	98	3.8
2/17/14	56	39	96	3.8
2/18/14	66	35	101	3.7
2/19/14	63	35	98	4.0
2/20/14	64	34	98	1.5
2/21/14	74	33	107	1.4
2/22/14	70	34	104	0.0
2/23/14	67	37	104	2.2
2/24/14	75	43	118	2.8
2/25/14	95	46	141	3.2
2/26/14	95	45	140	1.4
2/27/14	71	46	117	4.3
2/28/14	67	46	113	3.7
3/1/14	61	45	106	5.6
3/2/14	95	45	140	5.0
3/3/14	95	43	138	5.6
3/4/14	71	42	113	5.9
3/5/14	95	42	137	2.8
3/6/14	71	42	112	0.7

Cooling Tower	Y-11	Y-1	Total	WWT to POTW
Blowdown to City	GPM	GPM	GPM	GPM
3/7/14	66	42	108	4.4
3/8/14	95	45	140	0.6
3/9/14	93	45	138	4.9
3/10/14	66	45	110	4.5
3/11/14	64	45	109	6
3/12/14	95	44	139	4.1
3/13/14	60	44	104	1.2
3/14/14	54	45	99	3
3/15/14	66	39	106	0
3/16/14	85	37	122	3.7
3/17/14	46	44	90	0
3/18/14	52	43	95	2.6
3/19/14	83	44	127	0
3/20/14	46	44	90	3.3
3/21/14	43	43	86	5.4
3/22/14	58	43	101	1.5
3/23/14	92	43	135	0
3/24/14	48	44	92	0
3/25/14	64	43	107	0
3/26/14	35	42	77	5.4
3/27/14	13	42	54	7.2
3/28/14	37	42	79	6.6
3/29/14	46	43	89	9.5
3/30/14	33	42	75	7.5
3/31/14	33	39	71	4.5
4/1/14	38	38	75	0.6
4/2/14	28	37	64	0
4/3/14	25	36	62	7.3
4/4/14	53	36	89	9.3
4/5/14	37	14	51	8.2
4/6/14	46	12	58	3.6
4/7/14	56	38	94	0
4/8/14	42	38	80	0
4/9/14	35	37	72	0
4/10/14	16	33	49	0

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
4/11/14	33	32	64	0
4/12/14	24	31	55	0
4/13/14	5	32	37	0
4/13/14	95	31	126	0
4/15/14	42	31	73	0
4/16/14	32	31	63	0
4/17/14	44	30	74	0
4/18/14	28	30	58	0
4/19/14	17	30	47	0
4/20/14	24	30	54	3.8
4/21/14	17	28	45	8.7
4/22/14	0	28	28	9.6
4/23/14	0	24	24	7.8
4/24/14	0	24	24	0
4/25/14	2	23	25	0
4/26/14	0	13	13	0
4/27/14	16	31	46	2
4/28/14	50	46	95	4.6
4/29/14	80	47	128	1.2
4/30/14	79	47	127	3.9
5/1/14	59	48	106	0
5/2/14	45	48	92	6.6
5/3/14	28	48	76	2.8
5/4/14	18	48	66	0
5/5/14	0	23	24	3.3
5/6/14	4	33	37	0
5/7/14	7	32	39	3.8
5/8/14	48	43	91	5.1
5/9/14	45	46	91	0
5/10/14	40	46	86	0
5/11/14	13	46	59	0
5/12/14	53	49	102	0
5/13/14	85	47	132	8.8
5/14/14	55	47	102	4.5
5/15/14	37	47	84	4.7

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
5/16/14	25	48	73	
5/17/14	25	40	73	0
5/18/14	20 14	48	62	5.4
5/19/14	14	40	59	0.6
5/20/14	16	48	64	0.0
5/21/14	10	48	67	0
5/22/14	33	48	81	3.4
5/23/14	58	47	106	13.4
5/24/14	66	48	114	9.7
5/25/14	47	48	95	6.1
5/26/14	51	45	97	0
5/27/14	38	43	81	0
5/28/14	23	44	67	0
5/29/14	26	43	69	0
5/30/14	20	43	63	2.2
5/31/14	29	44	73	3.1
6/1/14	14	43	57	6.6
6/2/14	28	45	73	0
6/3/14	20	47	67	7.9
6/4/14	28	47	75	8.9
6/5/14	30	47	77	9.9
6/6/14	34	47	81	5.5
6/7/14	48	47	95	0
6/8/14	80	48	128	0
6/9/14	87	48	135	0
6/10/14	60	47	107	0
6/11/14	45	48	93	7.1
6/12/14	49	47	96	7.7
6/13/14	37	48	85	6.8
6/14/14	17	48	64	10.1
6/15/14	24	46	70	10.6
6/16/14	38	44	82	11.5
6/17/14	49	44	93	11.4
6/18/14	58	49	107	2
6/19/14	69	55	124	0

Cooling Tower	Y-11	Y-1	Total	WWT to POTW
Blowdown to City	GPM	GPM	GPM	GPM
6/20/14	48	46	95	10.7
6/21/14	52	46	98	10.4
6/22/14	40	46	86	4.1
6/23/14	67	46	113	5.5
6/24/14	72	50	122	0
6/25/14	60	46	106	0
6/26/14	41	46	87	0
6/27/14	22	45	67	0
6/28/14	28	43	71	0
6/29/14	30	41	71	0
6/30/14	52	42	95	0
7/1/14	95	46	141	0
7/2/14	95	44	139	0
7/3/14	87	42	129	0
7/4/14	70	41	111	0
7/5/14	59	39	98	0
7/6/14	92	40	132	0
7/7/14	62	39	101	0
7/8/14	43	36	79	0
7/9/14	0	31	31	0
7/10/14	0	31	31	0
7/11/14	0	31	31	0
7/12/14	0	31	31	0
7/13/14	1	29	29	0
7/14/14	14	28	42	0
7/15/14	34	28	62	0
7/16/14	25	26	51	0
7/17/14	9	24	33	0
7/18/14	17	26	43	0
7/19/14	4	27	31	0
7/20/14	29	23	52	0
7/21/14	48	26	74	0
7/22/14	95	29	124	0
7/23/14	95	30	125	0
7/24/14	94	30	124	0

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
7/25/14	87	29	116	0
7/26/14	82	23	110	0
7/27/14	95	20	115	Ő
7/28/14	89	22	111	ő
7/29/14	91	24	115	0
7/30/14	91	23	114	0
7/31/14	95	23	118	0
8/1/14	95	23	118	0
8/2/14	92	20	112	0
8/3/14	71	18	89	0
8/4/14	48	18	66	0
8/5/14	49	18	67	0
8/6/14	46	19	65	0
8/7/14	64	22	86	0
8/8/14	79	23	102	0
8/9/14	79	22	101	0
8/10/14	72	22	94	0
8/11/14	80	20	100	0
8/12/14	63	19	82	0
8/13/14	42	18	60	0
8/14/14	52	18	70	0
8/15/14	59	17	76	0
8/16/14	62	17	79	0
8/17/14	55	15	70	0
8/18/14	45	9	54	0
8/19/14	36	8	44	0
8/20/14	39	9	48	0
8/21/14	62	24	86	0
8/22/14	88	41	129	0
8/23/14	53	45	98	0
8/24/14	42	49	91	0
8/25/14	66	49	115	0
8/26/14	74	49	123	0
8/27/14	78	49	127	0
8/28/14	55	49	104	0

Cooling Tower	Y-11	Y-1	Total	WWT to POTW
Blowdown to City	GPM	GPM	GPM	GPM
8/29/14	62	49	111	0
8/30/14	43	49	92	0
8/31/14	37	49	86	0
9/1/14	27	49	76	0
9/2/14	33	49	82	0
9/3/14	22	49	71	0
9/4/14	33	49	82	0
9/5/14	76	49	125	0
9/6/14	95	49	144	0
9/7/14	88	49	137	0
9/8/14	40	49 40	89	0
9/9/14	24	49	73	0
9/10/14	27	49	76	0
9/11/14	47	49	96	0
9/12/14	88	48	136	0
9/13/14	94	48	142	0
9/14/14	79	48	127	0
9/15/14	43	49	92	0
9/16/14	34	49	83	0
9/17/14	34	49	83	0
9/18/14	35	49	84	0
9/19/14	55	49 40	104	0
9/20/14	38	49	86	0
9/21/14	56	49	104	0
9/22/14	64	48	112	0
9/23/14	33	48	82	0
9/24/14	37	48	85	0
9/25/14	41	48	89	0
9/26/14	33	48	81	0
9/27/14	26	48	74	0
9/28/14	18	48	66	0
9/29/14	13	48	62	0
9/30/14	19	48	67	0
10/1/14	36	48	84	0
10/2/14	36	48	85	0

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
10/3/14	52	48	100	0
10/3/14	37	48	85	0
10/5/14	41	48	89	0
10/6/14	43	47	90	0
10/7/14	37	47	84	0
10/8/14	37	47	84	1.3
10/9/14	9	47	56	1.3
10/10/14	77	51	128	2.5
10/11/14	54	48	102	3
10/12/14	13	48	61	2.8
10/13/14	39	49	88	3
10/14/14	42	49	91	2.6
10/15/14	41	49	90	2.7
10/16/14	36	49	85	2.8
10/17/14	31	49	80	2.8
10/18/14	44	46	90	1.6
10/19/14	35	49	84	0
10/20/14	29	49	78	0
10/21/14	22	49	71	1.6
10/22/14	0	49	49	0.1
10/23/14	11	49	60	0
10/24/14	26	49	75	0
10/25/14	18	49	67	0
10/26/14	18	49	67	2.8
10/27/14	6	49	55	2.7
10/28/14	68	49	117	0
10/29/14	47	49	96	0
10/30/14	49	49	98	0.8
10/31/14	51	49	100	2.8
11/1/14	41	48	89	1.7
11/2/14	23	49	72	1.7
11/3/14	34	47	81	2.8
11/4/14	93	45	138	3
11/5/14	87	45	132	1
11/6/14	70	42	112	0.2

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
11/7/14	49	40	89	2.8
11/8/14	47	44	91	1
11/9/14	34	42	76	0.8
11/10/14	11	42	53	2.3
11/11/14	88	45	133	0
11/12/14	95	48	143	2.9
11/13/14	94	39	133	2.6
11/14/14	69	44	113	2.9
11/15/14	45	42	87	3
11/16/14	87	49	136	2.6
11/17/14	77	52	129	2.9
11/18/14	71	45	116	2.8
11/19/14	64	41	105	2.8
11/20/14	46	52	98	3
11/21/14	31	44	75	2.8
11/22/14	29	43	72	2.8
11/23/14	27	45	72	3
11/24/14	27	47	74	0.5
11/25/14	33	45	78	2
11/26/14	26	43	69	0.8
11/27/14	22	47	69	1.1
11/28/14	23	49	72	0.3
11/29/14	18	43	61	0.9
11/30/14	18	44	62	2.8
12/1/14	0	45	45	2.8
12/2/14	11	46	57	0.4
12/3/14	24	45	69	0.0
12/4/14	95	43	138	0.0
12/5/14	86	47	133	0.0
12/6/14	33	40	73	0.0
12/7/14	0	45	45	2.0
12/8/14	0	47	47	2.8
12/9/14	0	44	44	2.7
12/10/14	0	44	44	1.9
12/11/14	0	43	43	0.8

Cooling Tower Blowdown to City	Y-11 GPM	Y-1 GPM	Total GPM	WWT to POTW GPM
12/12/14	G FWI 0	GPW 40	GPM 40	1.7
12/12/14	0	40	40	3.0
12/13/14	0	39	39	1.2
12/15/14	0	44	44	2.3
12/16/14	0	44	44	2.3
12/17/14	0	40	40	0.9
12/18/14	0	44	44	1.9
12/19/14	0	44	44	0.0
12/20/14	0	39	39	0.0
12/21/14	0	40	40	2.2
12/22/14	0	49	49	1.9
12/23/14	0	43	43	2.0
12/24/14	0	37	37	3.7
12/25/14	0	45	45	2.6
12/26/14	0	50	50	1.6
12/27/14	0	42	42	2.0
12/28/14	0	37	37	1.0
12/29/14	0	43	43	0.8
12/30/14	0	44	44	2.7
12/31/14	0	80	80	2.6
1/1/15	0	76	76	109440 2.8
1/2/15	0	22	22	31680 2.6
1/3/15	0	39	39	56160 2.8
1/4/15	0	41	41	59040 0.8
1/5/15	0	47	47	67680 1.8
1/6/15	0	46	46	66240 1.5
1/7/15	0	44	44	63360 1.1
1/8/15	0	42	42	60480 1.4
1/9/15	0	43	43	61920 0.5
1/10/15	0	51	51	73440 2.8
1/11/15	2	49	51	73440 1.5
1/12/15	0	19	19	27360 1.1
1/13/15	0	26	26	37440 0.5
1/14/15	0	28	28	40320 2.7
1/15/15	0	24	24	34560 2.9

Cooling Tower	Y-11	Y-1	Total	ww	T to POTW	
Blowdown to City	GPM	GPM	GPM		GPM	
1/16/15	0	23	23	33120	2.4	3456
1/17/15	0	23	23	33120	2.7	3888
1/18/15	0	25	25	36000	2.7	3888
1/19/15	1	24	25	36000	2.8	4032
1/20/15	0	25	25	36000	2.8	4032
1/21/15	0	24	24	34560	2.8	4032
1/22/15	0	0	0	0	2.8	4032
1/23/15	0	0	0	0	1.2	1728
1/24/15	0	0	0	0	2.7	3888
1/25/15	0	0	0	0	2.8	4032
1/26/15	1	0	1	1440	2.8	4032
1/27/15	10	0	10	14400	2.5	3600
1/28/15	11	0	11	15840	2.8	4032
1/29/15	0	0	0	0	2.5	3600
1/30/15	0	0	0	0	3.0	4320
1/31/15	0	0	0	0	2.8	4032
2/1/15	0	0	0	0	2.6	3744
2/2/15	3	0	3	4320	2.5	3600
2/3/15	24	0	24	34560	2.8	4032
2/4/15	24	0	24	34560	2.8	4032
2/5/15	10	0	10	14400	0.6	864
2/6/15	36	0	36	51840	2.9	4176
2/7/15	51	0	51	73440	2.5	3600
2/8/15	52	0	52	74880	1.0	1440
2/9/15	37	15	52	74880	1.4	2016
2/10/15	38	14	52	74880	0.7	1008
2/11/15	1	15	16	23040	1.9	2736
2/12/15	4	18	22	31680	0.6	864
2/13/15	29	13	42	60480	0.0	0
2/14/15	41	13	54	77760	0.0	0
2/15/15	45	12	57	82080	0.0	0
2/16/15	0	11	11	15840	0.0	0
2/17/15	5	11	16	23040	1.7	2448
2/18/15	36	12	48	69120	2.8	4032
2/19/15	43	11	55	78494.92048	3.0	4320

Cooling Tower	Y-11	Y-1	Total	ww	VT to POTW	
Blowdown to City	GPM	GPM	GPM		GPM	
2/20/15	44	11	55	79338.89381	2.2	3168
2/21/15	95	11	106	153020.8772	1.7	2448
2/22/15	81	12	92	132990.6247	2.8	4032
2/23/15	67	13	80	115200	2.6	3744
2/24/15	70	23	93	133920	2.7	3888
2/25/15	78	12	90	129600	2.7	3888
2/26/15	59	12	71	102240	2.8	4032
2/27/15	45	12	56	81281.82414	3.0	4320
2/28/15	47	11	58	83604.79921	2.8	4032
3/1/15	50	11	61	88224.14654	2.8	4032
3/2/15	49	11	60	86400	3.0	4320
3/3/15	49	11	60	86400	1.5	2160
3/4/15	57	13	70	100800	2.1	3024
3/5/15	58	27	85	122400	2.8	4032
3/6/15	47	36	83	119520	2.8	4032
3/7/15	41	33	74	106560	2.7	3888
3/8/15	38	31	69	99360	3.0	4320
3/9/15	35	30	65	93600	3.0	4320
3/10/15	50	34	84	120960	0.5	720
3/11/15	59	36	95	136800	0.4	576
3/12/15	58	36	94	135360	2.9	4176
3/13/15	60	33	93	133920	1.3	1872
3/14/15	60	30	90	129600	2.5	3600
3/15/15	61	29	90	129600	3.0	4320
3/16/15	61	27	88	126720	3.0	4320
3/17/15	62	27	89	128160	0.4	576
3/18/15	70	4	74	106560	0.4	576
3/19/15	61	31	92	132480	0.0	0
3/20/15	64	31	95	136800	0.9	1296
3/21/15	62	40	102	146880	0.6	864
3/22/15	62	40	102	146880	2.5	3600
3/23/15	61	41	102	146880	2.9	4176
3/24/15	60	41	101	145440	2.5	3600
3/25/15	57	41	98	141120	0.1	144
3/26/15	56	41	97	139680	1.4	2016
0.20/10	00		÷.			2010