UICI - 8

ANNUAL REPORT

2022



March 31, 2023

Mr. Carl Chavez, CHMM
New Mexico Oli Conservation Division (Albuquerque Office)
Energy, Minerals and Natural Resources Department,
5200 Oakland Avenue, NE
Albuquerque, NM 87113

RE: FFY 2022 Annual Class I Non-Hazardous Waste Injection Wells (WDW-1, WDW-2, WDW-3, WDW-4) Report from HF Sindair Navajo Refining LLC

Dear Mr. Chavez,

Enclosed, please find the federal fiscal year 2022 (FFY 2022) Annual Injection Well Report for fluids that HF Sinclair Navajo Refining LLC (permittee) Injected into wells WDW-1, WDW-2, WDW-3 and WDW-4 during the period from October 1, 2021 to Sept 30, 2022. This report has been prepared in accordance with the December 2017 Class I Non-Hazardous Waste Injection Well Discharge Permit UICI-8, Condition 2.I (pursuant to NMAC 20.6.2.3107). All four wells are included in this annual report and are identified as follows:

- Well WDW-1
 - API #30-015-27592 under Permit UICI-8-1 (Facility ID = fCJC2117350329)
- Well WDW-2
 - API #30-015-20894 under Permit UICI-8-2 (Facility ID = fCJC2117351808)
- Well WDW-3
 - API #30-015-26575 under Permit UICI-8-3 (Facility |D = fCJC2117354810)
- Well WDW-4
 - API #30-015-44677 under Permit UICI-8-4 (Facility ID = fCJC2117357871)

This report is signed and certified in accordance with NMAC Section 20.6.2.5101.G. If there are any questions or comments, please contact Jason Roberts at 575-748-6733.

Respectfully

Kawika Tupou

Environmental Manager

HF Sinciair

HollyFrontler Navajo Refining LLC 501 East Main, Artesla, NM 88210 575-748-3311 | HFSInclair.com



Discharge Permit UICI-8 (2017), Condition 2.I Annual Report Requirements

 Cover sheet marked as "Annual Class I Non-Hazardous Waste Injection Wells (WDW-1, WDW-2, WDW-3, WDW-4), Name of Permittee, Discharge Permit Numbers, API numbers of wells, date of report, and person submitting report

Response: See cover letter.

 Summary of Class I non-hazardous waste injection well operations for the year including a description and reason for any remedial or major work on the well with a copy of supporting OCD Form C-103(s)

<u>Response:</u> There were no deviations from normal injection well operations in FFY 2022. No remedial or major work occurred during this time period. As discussed in detail in Items #6, #7, #11, and #12, required and voluntary annual testing was conducted for WDW-1, WDW-2, WDW-3, and WDW-4 during FFY 2022. The results of these testing activities have been provided to OCD via the e-permitting website.

3. Monthly injection/disposal volume, including the cumulative total carried over from the prior year

Response: See Table 1

4. Maximum, minimum, and average surface injection pressures

<u>Response:</u> See Table 1. In terms of Discharge Permit UICI-8 compliance, the hourly maximum injection pressures (occurring during FFY 2022) were within limits given in Condition 3.B as follows:

- WDW-1: max = 1,335 psi (limit = 1,585 psig)
- WDW-2: max = 1,293 psl (limit = 1,514 psig)
- WDW-3: max = 1,249 psi (limit = 1,530 psig)
- WDW-4: max = 1,500 psl (limit = 2,080 psig)
- 5. Quarterly chemical analyses including data summary and all QA/QC and DQO associated information

<u>Response:</u> See Table 2 and Attachment A. Parameters were sampled at the well distribution header so concentrations are the same for all four UIC wells. Concentrations of constituents in injected fluids were below Regulatory Levels given in Condition 2.A.

Mechanical integrity test (MIT) dato, including the type of test, i.e., duration, gauge, pressure, calibration record, etc.

Response: A summary of MIT activities at each well is provided below.

WDW-1: A successful Part I MIT was performed on 5/26/2022; test details including a copy of gauge calibration are included in the previously submitted Mechanical Integrity and Reservoir Testing Report, WDW-1 (June 17, 2022 – OCD Action ID #139500). A successful Part II MIT was performed on 8/16/2022; test details including a copy of the temperature log are included in the previously submitted Part II Mechanical Integrity Testing Report (September 12, 2022 – OCD Action ID #142056).



WDW-2: A successful Part I MIT was performed on 6/30/2022; test details including a copy of gauge calibration are included in the previously submitted Mechanical Integrity and Reservoir Testing Report, WDW-2 (July 25, 2022 – OCD Action ID #139501). A successful Part II MIT was performed on 8/17/2022; test details including a copy of the temperature log are included in the previously submitted Part II Mechanical Integrity Testing Report (September 12, 2022 – OCD Action ID #142058).

WDW-3: A successful Part I MIT was performed on 6/16/2022; test details including a copy of gauge calibration are included in the previously submitted Mechanical Integrity and Reservoir Testing Report, WDW-3 (July 25, 2022 – OCD Action ID #139503). A successful Part II MIT was performed on 8/18/2022; test details including a copy of the temperature log are included in the previously submitted Part II Mechanical Integrity Testing Report (September 12, 2022 – OCD Action ID #142059).

WDW-4: A successful Part I MIT was performed on 7/21/2022; test details including a copy of gauge calibration are included in the previously submitted Mechanical Integrity and Reservoir Testing Report, WDW-4 (August 12, 2022 – OCD Action ID #141214).

7. Fall-Off Test data

<u>Response:</u> Copies of required falloff test charts are provided in the previously referenced (Item #6) and submitted Mechanical Integrity and Reservoir Testing Reports for each well, respectively.

Summary tables listing environmental analytical laborotary data from quarterly waste effluent sampling.

Response: See Table 2 and Attachment A.

9. Brief explanation(s) describing deviation(s) from the normal injection operations

Response: There were no deviations from normal injection well operations in FFY 2022.

 Results and status of any leaks and spill reports (include any OCD Form C-141 release notification or carrective action reports)

<u>Response:</u> There were no leaks or spills associated with well injection operations (i.e., injected fluids, pipeline conveyances, etc.).

11. Area of Review (AOR) annual update summary with any new wells penetrating the injection zone (especially any and all other injection wells) within a 1-mile rodius fram WDW-1, WDW-2, WDW-3, and WDW-4

<u>Response:</u> Annual AOR updates for each well are provided in the previously referenced (Item #6) and submitted Mechanical Integrity and Reservoir Testing Reports for each well, respectively. AOR updates include a tabulation and plot summary of any new wells penetrating the injection zone within the AOR.

 Summary with interpretation of MITs, Fall-Off Tests, Bradenhead Tests, etc., with conclusion(s) and recommendation(s)

<u>Response:</u> During FFY 2022 testing, each well satisfactorily demonstrated mechanical integrity pursuant to the applicable UIC permits, guidelines and regulations. All MIT and Bradenhead Testing requirements, if applicable, were satisfied as a result of the work performed. Wellbore and reservoir properties were confirmed as similar to those determined from analysis of the previous testing conducted in each well. Further



detail regarding testing for each well is provided in the previously referenced (Item #6) and submitted Mechanical Integrity and Reservoir Testing Reports.

13. Include "Conclusions" and "Recommendations" sections at the end of the report

<u>Response:</u> No concerns relevant to continued operation, safety or containment were identified in FFY 2022. Maximum surface injection pressures given in Discharge Permit UICI-8 Condition 3.B were not exceeded as shown in Table 1. Concentrations of constituents in injected fluids were below Regulatory Levels given in Condition 2.A as shown in Table 2 (and subsequently deemed non-hazardous). As such, it is recommended that injection activities continue per the approved permits and regulations, including the planned renewal of Discharge Permit UICI-8 in FFY 2023.

TABLE 1. FFY 2022 MONTHLY INJECTION PRESSURE, FLOW RATE, ANNULAR PRESSURE, AND VOLUME

	In	jection Pressu	ire	In	jection Flowra	ite	-	Annular Pressur	re	Totalized Inj	ected Volume
Month	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Monthly	Cumulative
	(psi)	(psi)	(psi)	(gpm)	(gpm)	(gpm)	(psi)	(psi)	(psi)	(barrels)	(barrels)
30-015-27592 WDW-1											47,626,294
Oct-21	993	1,205	719	228	292	116	81	257	5	242,331	47,868,625
Nov-21	1,111	1,203	719 780	208	255	159	37	142	0	299,520	48,168,145
Dec-21			996		265	162					
	1,126	1,248		217			51	118	16	312,480	48,480,625
Jan-22	917	1,128	578	193	263	108	18	46	0	205,131	48,685,756
Feb-22	858	1,136	422	200	266	80	0	3 _	0	192,000	48,877,756
Mar-22	1,158	1,335	804	237	282	125	1	7	0	251,897	49,129,653
Apr-22	1,114	1,333	883	249	313	171	113	911	0	256,114	49,385,767
May-22	1,020	1,187	504	275	340	221	587	1,004	296	282,857	49,668,624
Jun-22	1,062	1,163	849	252	332	105	598	865	255	259,200	49,927,824
Jul-22	955	1,019	687	112	135	84	332	490	229	161,280	50,089,104
Aug-22	896	1,015	751	106	122	97	394	640	236	112,663	50,201,767
Sep-22	765	987	0	93	112	0	433	654	0	95,657	50,297,424
30-015-20894 WDW-2											29,429,340
Oct-21	987	1,123	0	77	91	53	295	574	96	81,840	29,511,180
Nov-21	1,034	1,254	790	82	110	41	177	384	96	118,080	29,629,260
Dec-21	993	1,145	891	90	106	73.0	146	323	104	129,600	29,758,860
Jan-22	907	1,077	600	122	172	76.0	410	1,219	91	129,699	29,888,559
Feb-22	814	1,028	685	81	137	0.0	818	987	478	77,760	29,966,319
Mar-22	1,010	1,146	827	102	190	50.0	786	1,196	427	108,411	30,074,730
Apr-22	1,000	1,092	837	223	302	157.0	965	1,243	709	229,371	30,304,101
May-22	1,102	1,250	921	225	320	163.0	864	1,197	626	231,429	30,535,530
Jun-22	1,026	1,143	851	216	303	74.0	708	880	534	222,171	30,757,701
Jul-22					102	74.0 75.0	803	974			
	1,069	1,293	968	86					715	123,840	30,881,541
Aug-22	972	1,207	754	77	100 89	56.0	525	938	305	81,840	30,963,381
Sep-22	1,037	1,075	978	82	89	73.0	303	528	0	84,343	31,047,724
30-015-26575 WDW-3											21,281,293
Oct-21	894	1,000	0	113	141	75	309	490	180	120,103	21,401,396
Nov-21	874	952	772	103	125	82	441	644	225	148,320	21,549,716
Dec-21	868	930	735	94	113	54	460	626	398	135,360	21,685,076
Jan-22	786	976	697	69	122	41	459	1,047	62	73,337	21,758,413
Feb-22	760	876	685	70	291	7	585	1,188	292	67,200	21,825,613
Mar-22	881	1,000	779	97	125	70	595	921	319	103,097	21,928,710
Apr-22	881	983	735	95	118	58	444	746	128	97,714	22,026,424
May-22	979	1,150	764	112	131	69	258	491	32	115,200	22,141,624
Jun-22	958	1,066	602	107	125	60	449	676	189	110,057	22,251,681
Jul-22	1,000	1,249	930	118	135	107	676	777	593	169,920	22,421,601
Aug-22	976	1,069	767	112	130	68	540	746	366	119,040	22,540,641
Sep-22	1,010	1,070	950	115	127	99	423	538	323	118,286	22,658,927
30-015-44677 WDW-4											6,263,350
Oct-21	145	187	0	155	253	88	84	189	52	164,743	6,428,093
Nov-21	143	180	119	159	249	77	79	124	53	228,960	6,657,053
Dec-21	171	189	160	240	284	208	94	125	71	345,600	7,002,653
Jan-22	230	682	155	308	541	191	118	223	43	327,360	7,330,013
Feb-22	339	1,500	150	364	542	164	176	239	110	349,440	7,679,453
Mar-22	167	184	146	200	238	123	160	247	63	212,571	7,892,024
Apr-22	170	204	136	195	298	100	178	261	97	200,571	8,092,595
May-22	209	237	178	249	285	198	213	265	166	256,114	8,348,709
Jun-22	251	304	215	297	352	248	197	249	137	305,486	8,654,195
Jul-22	258	589	191	266	318	5	176	258	113	383,040	9,037,235
Aug-22	258	301	164	299	369	63	150	247	93	317,794	9,355,029
Sep-22	260	280	210	301	329	235	92	146	62	309,600	9,664,629
- -											

TABLE 2. HF SINCLAIR FFY 2022 WWTP EFFLUENT CONCENTRATIONS INJECTED INTO UIC WELLS

"<" = value less than the laboratory reporting limit (RL)

Parameter	Units	UICI-8 Condition 2.A	12/21/2021	3/28/2022	4/26/2022	9/28/2022
Parameter	Ullis	Regulatory Level (a)	12/21/2021	3/20/2022	4/20/2022	9/20/2022
Alkalinity, bicarbonate	mg/L		826.6	477.1	626.9	582.9
Alkalinity, carbonate	mg/L	-	<2	<2	<2	<2
Alkalinity, total	mg/L		826.6	477.1	626.9	582.9
Conductivity	uS/cm		7400	6300	6500	6900
Cyanide (Reactivity)	mg/L	-	<0.05	0.0103	0.0133	0.0207
Flashpoint (Ignitability) Oxidation Reduction Potential	deg F mV	<u></u>	<170 -10.4	<170 34.9	<170 157	<170 129
pH (Corrosivity)	SU	 	7.39	7.47	7.25	7.83
Specific Gravity	su		1.0020	0.9968	0.9981	0.9989
Sulfide (Reactivity)	mg/L		0.334	<0.05	0.108	<0.05
Total Dissolved Solids	mg/L		5340	4660	4640	5120
Total Suspended Solids	mg/L			14	21	28
Bromide	mg/L		0.80	0.61	0.62	<0.5
Chloride	mg/L	-	800	720	600	490
Fluoride	mg/L		57	35	24	65
Nitrate	mg/L		<0.5	0.75	0.88	2.50
Nitrate/Nitrite	mg/L					
Nitrite	mg/L		<0.5	<0.5	<0.5	<0.5
Phosphorus, total	mg/L	-	<2.5	<2.5	<2.5	<2.5
Sulfate Calcium	mg/L mg/L	-	1800 340	2300 460	2400 490	2300 400
Magnesium	mg/L		110	140	160	130
Potassium	mg/L		140	130	100	230
Sodium	mg/L		850	640	580	880
Cation/Anion Ratio	:1			0.82	0.81	0.97
Arsenic	mg/L	TCLP=5	<5	<5	<5	<5
Barium	mg/L	TCLP=100	<100	<100	<100	<100
Cadmium	mg/L	TCLP=1	<1	<1	<1	<1
Chromium	mg/L	TCLP=5	<5	<5	<5	<5
Lead	mg/L	TCLP=5	<5	<5	<5	<5
Mercury	mg/L	TCLP=0.2	<0.02	<0.02	<0.02	<0.02
Selenium	mg/L	TCLP=1	<1	<1	<1	<1
Silver	mg/L	TCLP=5	<5	<5	<5 -0.03	<5 -0.03
Chlordane Endrin	mg/L mg/L	TCLP=0.03 TCLP=0.02	<0.03	<0.03 <0.02	<0.03 <0.02	<0.03 <0.02
Lindane	mg/L	TCLP=0.4		<0.02	<0.02	<0.4
Heptachlor	mg/L	TCLP=0.008		<0.008	<0.008	<0.008
Heptachlor Epoxide	mg/L	TCLP=0.008		<0.008	<0.008	<0.008
Methoxychlor	mg/L	TCLP=10		<10	<10	<10
Toxaphene	mg/L	TCLP=0.50		<0.50	<0.50	<0.50
2,4,5-TP (Silvex)	mg/L	TCLP = 1		<1	<1	<1
2,4-D	mg/L	TCLP = 10		<10	<10	<10
1,1-Dichloroethene	mg/L	TCLP=0.7	<0.7	<0.7	<0.7	<0.7
1,2-Dichloroethane	mg/L	TCLP=0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	mg/L	TCLP=7.5	<7.5	<7.5	<7.5	<7.5
2,4,5-Trichlorophenol	mg/L	TCLP=400	<400	<400	<400	<400
2,4,6-Trichlorophenol	mg/L	TCLP=2	<2 -0.13	<2 -0.13	<2 <0.13	<2 <0.13
2,4-Dinitrotoluene 2-Butanone	mg/L mg/L	TCLP=0.13 TCLP=200	<0.13 <200	<0.13 <200	<0.13 <200	<0.13 <200
2-butanone 2-Methylphenol	mg/L mg/L	TCLP=200 TCLP=200	<200 <200	<200 <200	<200 <200	<200 <200
3+4-Methylphenol	mg/L	TCLP=200	<200 <200	<200 <200	<200 <200	<200 <200
Benzene	mg/L	TCLP=0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	mg/L	TCLP=0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	mg/L	TCLP=100	<100	<100	<100	<100
Chloroform	mg/L	TCLP=6	<6	<6	<6	<6
Cresols	mg/L	TCLP=200	<200	<200	<200	<200
Hexachlorobenzene	mg/L	TCLP=0.13	<0.13	<0.13	<0.13	<0.13
Hexachlorobutadiene	mg/L	TCLP=0.5	<0.5	<0.5	<0.5	<0.5
Hexachloroethane	mg/L	TCLP=3	<3	<3	<3	<3
Nitrobenzene	mg/L	TCLP=2	<2	<2	<2	<2
Pentachlorophenol	mg/L	TCLP=100	<100	<100	<100	<100
Pyridine Tetrachloroethene	mg/L	TCLP=5 TCLP=0.7	<5 <0.7	<5 <0.7	<5 <0.7	<5 <0.7
Trichloroethene	mg/L mg/L	TCLP=0.7 TCLP=0.5	<0.7 <0.5	<0.7 <0.5	<0.7 <0.5	<0.7 <0.5
Vinyl chloride	mg/L mg/L	TCLP=0.5 TCLP=0.2	<0.5 <0.2	<0.5 <0.2	<0.5 <0.2	<0.5 <0.2
VIIII CHIONICE	my/L	I ICLF-U.Z	₹0.2	₹0.2	₹0.2	₹0.2

⁽a) TCLP = Toxicity Characteristic Leaching Procedure with regulatory level given in 40 CFR 261.24(b)



ATTACHMENT A

Analytical Lab Report(s)



Hall Environmental Analysis Laboratory
4901 Hawkins NE.
Albuquarqua, NM 87109
TEL: 505-345-3973 FAX: 503-345-4107
Wabalin; citents hallonvironmental.com

January 20, 2022

Randy Dade Navajo Refining Company P.O. Box 159 Artesia, NM 88211-0159

TEL: (575) 748-3311

FAX

RE: Quarterly WDW 1 2 3 4 Inj Well OrderNo.: 2112C79

Dear Randy Dade:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/22/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

arlel

4901 Hawkins NE

Albuquerque, NM 87109



Hali finvironmental Analysis Laboratory
4901 Hawkins NE
Albaquerque, NM 87109
TEL: 505-543-3975 PAX: 505-345-4107
Wabatu: clients.hallowvironmental.com

Case Narrative

WOM: 2112C79
Date: 1/20/2021

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Analytical Notes Regarding EPA Method 8270:

Pyridine is reported with an "E" flag. The "E" flag is used to represent an estimated value. Pyridine was not detected in the sample, but the calibration curve for this compound did not meet the method requirements.

Analytical Report Lab Order 2112C79 Date Reported: 1/20/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Quarterly WDW 123 4 Inj Well

Lab ID: 2112C79-001

Matrix: AQUEOUS

Collection Date: 12/21/2021 10:15:00 AM Received Date: 12/22/2021 7:25:00 AM

Client Sample ID: WDW-1,2,3 & 4 Effluent

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed 1	Satch ID
EPA METHOD 8081: PESTICIDES TCLP		7.					Analyst LSB	
Chlordane	ND	0.0012	0.075		mg/L	1	1/11/2022 7:03:42 PM	84757
Surr: Decachioroblphenyl	73.2	0	73-119		%Rsc	1	1/11/2022 7:03:42 PM	64757
Surr. Tetrachloro-m-xylene	60.2	0	36.6-84.1		%Rec	1	1/11/2022 7:03:42 PM	64757
EPA METHOD 300.0: AMIONS							Analyst MRA	
Fluoride	57	0.80	2.0		mg/L	20	12/22/2021 3:16:42 PM	R84756
Chloride	600	25	50		mg/L	100	1/8/2022 2:29:50 PM	P85040
Nitrogen, Nitrite (As N)	NO	0.027	0.50		mg/L	5	12/22/2021 3:04:18 PM	R8475E
Bromide	0.80	0.25	0.60		mgA	5	12/22/2021 3:04:18 PM	R8475E
Nitrogen, Nitrate (As N)	0.45	0.060	0.50	J	mg/L	5	12/22/2021 3:04:18 PM	R84756
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	12/22/2021 3:04:18 PM	R8475E
Sulfate	1800	25	50		mg/L	100	1/8/2022 2:29:50 PM	R85040
EPA METHOD 7470A: MERCURY							Analyst: VP	
Mercury	ND	0.20	0.0010		mg/L	5	12/27/2021 5:00:11 PM	64706
EPA METHOD 6010B: DISSOLVED METALS)						Analyst: JUF	
Calcium	340	0.29	5.0		mg/L	5	12/22/2021 8:17:59 PM	AB4757
Magnesium	110	0.17	5.0		mg/L	5	12/22/2021 8:17:59 PM	A84757
Potessium	140	1.0	5.0		mg/L	5	12/22/2021 8:17:59 PM	A84757
Sodium	860	21	50		mg/L	50	12/22/2021 8:20:16 PM	A84757
EPA 6010B: TOTAL RECOVERABLE META	LS						Analyst: JLF	
Arsenic	ND	0.22	5.0		mg/L	10	1/4/2022 5:19:46 PM	84703
Bartism	0.041	0.011	100	J	mg/L	10	1/4/2022 4:12:19 PM	84703
Cadmium	ND	0.012	1.0		mg/L	10	1/4/2022 7:10:30 PM	64703
Chromium	ND	0.017	5.0		mg/L	10	1/4/2022 4:12:19 PM	64703
Land	0.19	0.13	5.0	J	mg/L	10	1/18/2022 7:46:25 AM	64703
Selenium	ND	0.25	1.0		mg/L	10	1/4/2022 7:10:30 PM	84703
Silver	0.016	0.013	5.0	J	mg/L	10	1/4/2022 4:12:19 PM	84703
EPA METHOD 8270C TCLP							Analyst: JME	
2-Methylphenol	0.016	0.0010	200	JD	mg/L	2	1/5/2022 4:05:58 AM	64755
3+4-Methylphenol	0.026	0.00090	200	JD	mg/L	2	1/5/2022 4:05:58 AM	84755
2,4-Dinitrotoluene	ND	0.0012	0.13	D	mg/L	2	1/5/2022 4:05:58 AM	84755
Hexachlorobenzene	NO	0.0013	0,13	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Hexachlorobutedlene	CIM	0.0016	0.50	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Hexachloroethene	ND	0,00090	3.0	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Mitrobenzene	ND	0.0010	2.0	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Pentechiorophenal	ND	0.0012	100	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Pyridine	ND	0.0019	40	ED	mg/L	2	1/5/2022 4:05:58 AM	64755
2,4,5-Trichlorophenol	ND	0.0012	400	D	mg/L	2	1/5/2022 4:05:58 AM	64755

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

Qualitiers:

- Value encode Meximum Contactions Lavel.
- Semple Diluted Due to Matrix D
- Hibling three for preparation or embyole of Not Described at the Reporting Limit H

- aple pH Not In Range

Page 2 of 19

Analytical Report Lab Order 2112C79 Date Reported: 1/20/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Lab ID: 2112C79-001

Matrix: AQUEOUS

Collection Date: 12/21/2021 10:15:00 AM Received Date: 12/22/2021 7:25:00 AM

Client Sample ID: WDW-1,2,3 & 4 Effluent

Analyses	Result	MDL	PQL	Oual	Units	DF	Date Analyzed H	atch ID
EPA NETHOD 8270C TCLP							Analyst: JME	
2.4.8-Trichiorophenoi	ND	0.00087	2.0	D	mg/L	2	1/5/2022 4:05:58 AM	64755
Creeols, Total	0.042	0.0010	200	JD.	mg/L	2	1/5/2022 4:05:58 AM	64755
Sur: 2-Fluorophenol	0.497	D.00.0	15-118	8D	%Rec	2	1/5/2022 4:05:58 AM	64755
Sur: Phenol-d5	11.8	0	15-92.9	SD	%Rec	2	1/5/2022 4:05:58 AM	84755
Surr: 2,4,6-Tribromophenol	1,36	0	15-150	SD	%Rec	2	1/5/2022 4:05:58 AM	64755
Surr: Nitrobanzane-d5	71.4	0	15-136	D	%Rec	2	1/5/2022 4:05:58 AM	64755
Surr: 2-Fluoroblohemyl	69.9	0	15-134	D	%Rec	2	1/6/2022 4:05:58 AM	64755
Sur: 4-Terphenyl-d14	110	Ð	15-168	D	%Rec	2	1/6/2022 4:05:58 AM	64755
TCLP VOLATILES BY 8260B							Analyst: RAA	
Benzane	0.27	0.00023	0.50	J	mg/L	200	12/27/2021 9:38:53 PM	T84811
1,2-Dichlorosthene (EDC)	ND	0.00025	0.50		mg/L	200	12/27/2021 9:38:53 PM	70G 2D N.C
2-Butanone	ND	0.0020	200		mg/L	200	12/27/2021 9:36:53 PM	T84811
Carbon Tetrachloride	ND	0.00018	0.50		mg/L	200	12/27/2021 9:36:53 PM	
Chloroform	ND	0.00013	6.0		mg/L	200	12/27/2021 9:36:53 PM	T84811
1,4-Dichlorobenzene	ND	0.00021	7.5		mg/L	200	12/27/2021 9:36:53 PM	T84811
1,1-Dichlomethene	ND	0.00020	0.70		mg/L	200	12/27/2021 9:36:53 PM	T84811
Tetrachloroethene (PCE)	ND	0.00036	0.70		mg/L	200	12/27/2021 9:36:53 PM	T84811
Trichloroethene (TCE)	ND	0.00020	0.50		mg/L	200	12/27/2021 9:36:53 PM	T84811
Vinyl chloride	ND	0.00032	0.20		mg/L	200	12/27/2021 9:36:53 PM	T84811
Chlorobenzene	0.069	0.00016	100	J	mg/L	200	12/27/2021 9:36:53 PM	T84811
Surr: 1,2-Dichloroethane-d4	107	0	70-130		KRac	200	12/27/2021 9:36:53 PM	T84811
Sun: 4-Bromofluorobenzena	98.7	0	70-130		%Rec	200	12/27/2021 9:36:53 PM	T84811
Surr; Dibromofluoromeihene	110	0	70-130		%Rec	200	12/27/2021 0:36:53 PM	3 4 5 5 6 7 1
Surr: Toluene-d8	91.3	0	70-130		%Rec	200	12/27/2021 9:35:53 PM	T64811
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	7400	10	10		µmhoe/c	1	12/27/2021 1:06:18 PM	R84794
SM2320B: ALKALINITY					•		Analyst: JRR	
Bicarbonate (As CaCO3)	826.6	20.00	20.00		mg/L Ca	1	12/27/2021 1:08:18 PM	R84794
Carbonate (As CeCO3)	ND	2.000	2.000		mg/L Ce	1	12/27/2021 1:08:18 PM	R84794
Total Alkalinity (as CaCO3)	826,6	20.00	20.00		mg/L Ce	1	12/27/2021 1:08:18 PM	R84794
SPECIFIC GRAVITY							Analyst: JRR	
Specific Gravity	1.002	0	0			1	1/7/2022 12:54:00 PM	R85017
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: CJS	
Total Dissolved Solids	5340	100	100	*D	mg/L	1	12/30/2021 10:03:00 A	64762

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

Qualifien:

- Value seconds Mexicana Contractora Layel
- D Sample Diluted Decre Militari
- Haiding three for proposition or analysis mounts
- NET Not Detected at the Reporting Limb
- PQL Prenties Considerive Links
- 5 Recovery matrice of range day to diletion or matrix interference
- B Analysis disserted by the prosphered literary titles
- B Satispeted votes
- T Andrea Armend below assertation limbs
- P Sample of that in Lane
- III. Reporting Limit

Page 3 of 19

Analytical Report Lab Order 2112C79 Date Reported: 1/20/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Client Sample ID: TRIP BLANK

Project: Quarterly WDW 1 2 3 4 Inj Well

Collection Date:

Lab ID: 2112C79-002

Matrix: TRIP BLANK

Received Date: 12/22/2021 7:25:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
TCLP VOLATILES BY \$260B							Analyst: RA/	
Benzene	ND	0.00023	0.50		mg/L	1	12/27/2021 10:03:52 F	T84811
1,2-Dichloroethane (EDC)	ND	0.00025	0.60		mg/L	1	12/27/2021 10:03:52 F	T84811
2-Butanone	ND	0.0020	200		mg/L	1	12/27/2021 10:03:52 F	T84811
Carbon Tetrachloride	ND	0.00018	0.60		mg/L	1	12/27/2021 10:03:52 F	T84811
Chloroform	ND	0.00013	6.0		mg/L	1	12/27/2021 10:03:52 F	T84611
1,4-Dichlorobenzone	ND	0.00021	7.5		mg/L	1	12/27/2021 10:03:52 F	T84811
1,1-Dichloroethene	ND	0.00020	0.70		mg/L	1	12/27/2021 10:03:52 F	T84811
Tetrachloroethens (PCE)	ND	0.00036	0.70		mg/L	1	12/27/2021 10:03:52 P	T84811
Trichlerosthene (TCE)	ND	0.00020	0.50		mg/L	1	12/27/2021 10:03:62 P	T84811
Vinyl chloride	ND	0.00032	0.20		mg/L	1	12/27/2021 10:03:52 P	T84811
Chlombenzene	ND	0.00016	100		mg/L	1	12/27/2021 10:03:52 P	T84811
Sur: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	12/27/2021 10:03:52 F	T84811
Surr: 4-Bromofluorobezzene	93.3	0	70-130		%Rec	1	12/27/2021 10:03:52 F	T84811
Surr. Dibromofiyaromethane	105	0	70-130		%Rec	1	12/27/2021 10:03:52 F	T84811
Surr: Toluerve-d8	102	0	70-130		%Rec	1	12/27/2021 10:03:62 P	T84811

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

Qualiflere

- Value amonda Manha
- Sumple District Due to Matrix
- Heiding them for propundes or analysis exceeded. Not Detected at the Reporting Limit H
- ND

- ested below quantization fieths
- Bample pH Net in Range Reporting Limit

Page 4 of 19



Pace Analytical* ANALYTICAL REPORT

Hall Environmental Analysis Laboratory

Sample Delivery Group:

L1445523

Samples Received:

12/23/2021

Project Number:

Description:

Report To:

Andy Freeman

4901 Hawkins NE

Albuquerque, NM 87109



















Entire Report Reviewed By:

John Hawkins

John V Haukins

Project Manager Results relate only to the items tasted or calibrated and are reported as rounded values. This test report shell not be reproduced, except in full, without written approved of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures SNV-SOP-NTLI-0067 and ENV-SOP-NTLI-0068. Where sempting conducted by the customer, results relate to the accuracy of the information provided. Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Nametive	4
Sr: Sample Results	5
2112C79-001F WDW-1,2,3 & 4 EFFLUENT L1445523-01	5
Qc: Quality Control Summary	6
Wet Chemistry by Method 2580	6
Wet Chemistry by Method 4500 CN E-2016	7
Wet Chemistry by Method 4500 S2 D-2011	В
Wet Chemistry by Method 9040C	9
Wet Chemistry by Method D93/1010A	10
Gi: Glossary of Terms	11
Al: Accreditations & Locations	12
Sc. Sample Chain of Custody	13























Wet Chemistry by Method 4500 CN E-2016

Wet Chemistry by Method 4500 52 D-2011

Wet Chemistry by Method 9040C

Wet Chemistry by Method D93/1010A

SAMPLE SUMMARY

10

1

1

1

Collected by

12/26/21 22:40

01/03/22 21:51

12/27/21 16:31

12/27/21 00:35

Collected date/time Received date/time

KEG

BMD

SOM

WO5

Mt. Juliet, TN

Mt. Juliet, TN

Mt. Juliet, TN

Mt. Juliet, TN

12/28/21 14:51

01/03/22 21:51

12/27/21 16:31

12/27/21 00:35

2112C79-001F WDW-1,2,3 & 4 EFFLUENT L144	15523-01 GW			12/21/21 10:15	12/23/21 09:5	0
Method	Betch	Dilution	Preparation	Analysis	Analyst	Location
			date/time	date/time		
Wet Chemistry by Method 2580	WG1794960	1	0V02/22 08:47	01/02/22 08:47	ARD	Mt. Juliet, TN

WG1794923

WG1797616

WG1795243

WG1794911





















CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.





















John Hawkins Project Manager

Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 4500 CN E-2016. All Reactive Sulfide results reported in the attached report were determined as totals using method 4500 S2 D-20ff.

2112C79-001F WDW-1,2,3 & 4 EFFLUENT

SAMPLE RESULTS - 01

Collected date/time: 12/21/21 10:15

Wet Chemistry by Method 2580

	Result	Qualifier	Dilution	Analysis	Butch
Annlyte	m¥			date / time	
ORP	-10.4	<u>T8</u>	1	0V02/2022 08:47	WG1794960

²Tc

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	Betch
Analyta	mg/l		mg/l		date / time	
Reactive Cyanide	MD		0.0500	10	12/28/2021 14:51	WG1794923



Wet Chemistry by Method 4500 S2 D-2011

	Result	Quo Mer	ADL.	Dilution	Analysis	Betch
Analyte	mg/l		mg/l		date / time	
Reactive Sulfide	0.334	TB	0.0500	1	0V03/2022 2L51	WG1797616



`Cn

Wet Chemistry by Method 9040C

	Result	Qualifier	Dilution	Analysis	Butch	
Analyte	3 U			date / time		•
Corrosivity by pH	7.39	<u>T8</u>	1	12/27/2021 16:31	WG1795243	



Sample Narrative:

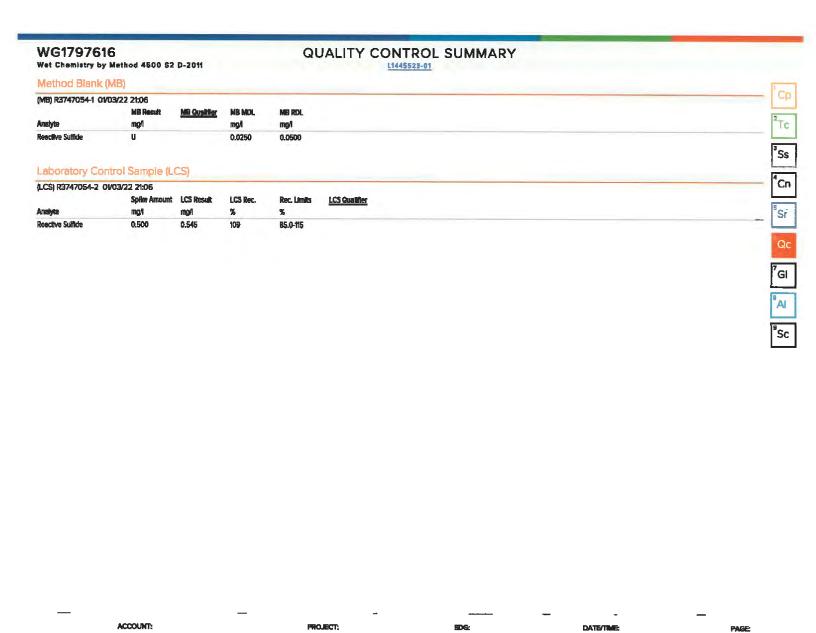
L1445523-01 WG1795243: 7.39 et 20.1C

Wet Chemistry by Method D93/1010A

Acres .	Result	Qualifier	Dilution	Analysis	Betch
Analyte	deg F			date / time	
Rashpoint	DNF at 170		1	12/27/2021 00:35	WG1794911

WG179491 Wet Chemistry by				Q	UALIT	Y CONTR		MARY				
	Original Sample											1
	01/02/22 08:47 • (DUI Original Result	t DUP Result	Dilution D	JP DITT	DUP Qualifier	DUP Diff Limits						2.
Analyte ORP	mV -10.4	mV -11.2	1 0.	v 000		mV 20						- [
												3
	introl Sample (L				ple Duplic	ate (LCSD)						4
LCS KS/4000Z-1 (Spike Amount		LCSD Result		LCSD Rec	. Rec. Limits	LCS Qualifier	LCSD Qualifier	DHT	Diff Limits		
knalyte	mV	mV Vin	mV	*	%	%		V-2	m\V	mV		_ 5
RP	108	108	110	99.9	102	86.0-105			2.40	20		
												7
												8
												19
												9
-												
	ACCOUNT:			P	ROJECT:		SDG :			DATE/TIME:	PAGE:	
Hall Envi	ronmental Analysis Lab	oretory					L14455	25		00/04/22 12:21	6 of 19	

Wet Chemistry by I	3 Method 4500 CN	I E-2016			QUALIT	Y CONTE		UMMA	RY				
Method Blank (N	MB)												I
(MB) R3745581-1 12/2	8/2114:30						_						- [
action.	MB Result	MB Qualifier	MII MDL	MB RDL									2
Ansiyte	mg/l		mg/l	riigri			_						 _ 1
Reactive Cyanide	U		0.00180	0.00500									3
L1445069-02 O													L
(OS) L1445069-02 12/	/28/21 14:42 - (DUP)) R3745581-5 1	12/28/21 14	1:43		August .							- [
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits							
Analyte	mg/l	mg/l		%		4							ľ
Reactive Cyaráde	ND	ND	1	0.000		20							1
L1445536-01 Or	iginal Sample	(OS) • Dup	licate (i	DUP)									7
(OS) L1445536-01 12/2	28/21 14:55 - (DUP)	R3745581-6 12	2/28/21 14:	:56									- [
	Original Result	DUP Result	Dilution	DUP RPD	DUP Quelifier	DUP RPD Limits							2
Analyte	mg/l	mgA		*		S.							ľ
Reactive Cyanide													_
	ND trol Sample (Lt	ND CS)	1	0.000		20							•
Laboratory Conf (LCS) R3745581-2 12/2	trol Sample (L	CS)	1 LCS Rec.	Rec. Lim	Hs LCS Que								9
Laboratory Conf (LCS) R3745581-2 12/	trol Sample (LC 28/2114:21 Spike Amount mg/l	CS) LCS Result	LCS Rec.	Rec Limi	its LCS Que								
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide	trol Sample (L0 28/21 14:31 Spiles Amount mg/l 0,100	LCS Result mg/l 0.0965	LCS Rec. % 96.5 krix Spik	Rec. Lim % 67.1-120	letrix Spike	Duplicate (M	ISD)						3
Laboratory Conf (LCS) R3745581-2 12/	trol Sample (Lú 28/21 14:31 Spiles Amount mg/l 0,100 riginal Sample 28/21 14:36 • (MS) F	CS) LCS Result mg/l 0.0965 E (OS) • Mat R3745581-3 12	1CS Rec. % 96.5 trix Splk /28/21 14:3	Rec. Limi % 67.1-120 (@ (MS) • M 87 • (MSD) R37	letrix Spike 45581-4 12/28	Duplicate (M		Ban (link)		MODELLE			
Laboratory Conf (LCS) R3745581-2 12/2 Analyta Reactive Cyanida L1445053-03 01 (OS) L1445053-03 12/2	trol Sample (Lú 28/21 14:31 Spiles Amount mg/l 0,100 riginal Sample 28/21 14:36 • (MS) F Spiles Amount	LCS Result mg/l 0.0965 E (OS) • Mat R3745581-3 12 Original Result	LCS Rec. % 96.5 trix Splk 728/21 14:3 MS Result	Rec. Limi % 67.1-120 (e (MS) • M 87 • (MSD) R37 t MSD Res	letrix Spike 45581-4 12/28 uk MS Rec.	Duplicate (M/211438 MSO Rec.	ISD)	Rec. Limits	MS Qualifier	MSD Qualifier	RPD N	RPD Limits	8
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide	trol Sample (Lú 28/21 14:31 Spiles Amount mg/l 0,100 riginal Sample 28/21 14:36 • (MS) F	CS) LCS Result mg/l 0.0965 E (OS) • Mat R3745581-3 12	1CS Rec. % 96.5 trix Splk /28/21 14:3	Rec. Limi % 67.1-120 (@ (MS) • M 87 • (MSD) R37	letrix Spike 45581-4 12/28	Duplicate (M		Rec. Limits % 90.0-110	MS Qualifier	MSD Qualifier	RPD % 200	RPD Limits % 20	
Laboratory Conf (LCS) R9745581-2 12/2 Analyte Reactive Cyanida L1445053-03 Q1 (OS) L1445053-03 12/	trol Sample (LC 28/2114:31 Spite Amount mg/l 0,100 riginal Sample 28/2114:36 • (MS) F Spite Amount mg/l 0,100	LCS Result mg/l 0.0965 E (OS) • Mat 23745581-3 12 Ortginal Result mg/l 0.00500	LCS Rec. % 96.5 VIX Splk /28/21 14:3 MS Result mg/l ND	Rec. Limi % 67.1-120 (CE (MS) - M 67 - (MSD) R37 t MSD Res mg/l 0.103	18trix Spike 45581-4 12/28 ult MS Rec. % 0.000	Duplicate (M /211438 MSD Rec. % 98.0.	Dilution 1	*			*	*	
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide L1445053-03 01 (OS) L1445053-03 12/ Analyte Reactive Cyanide	trol Sample (L0 28/2114:31 Spite Amount mg/l 0,100 riginal Sample 28/2114:36 • (MS) F Spite Amount mg/l 0.100 riginal Sample 28/2114:57 • (MS) R	CS) LCS Result mg/l 0.0965 E (OS) • Matter Result mg/l 0.00500 E (OS) • Matter Result mg/l 0.00500	LCS Rec. % 96.5 strix Spike /28/21 14:5 MS Result mg/l ND	Rec. Limi % 87,1-120 (Ce (MS) - M 87 - (MSD) R37 t MSD R37 0.103 (Ce (MS) - M 88 - (MSD) R37	45581-4 12/28 45581-4 12/28 45 0.000 45581-8 12/28	Duplicate (M/211438 MSD Rec. % 98.0. Duplicate (M/2114:59	Dilution 1	90.0-110	76	13	200	% 20	9
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide L1445053-03 12/ Analyte Reactive Cyanide L1445536-02 07 (OS) L1445536-02 12/	trol Sample (LC 28/2114:31 Spite Amount mg/l 0,100 riginal Sample 28/2114:36 • (MS) F Spite Amount mg/l 0.100	CS) LCS Result mg/l 0.0965 E (OS) • Mat 23745581-3 12 Original Result mg/l 0.00500 E (OS) • Mat 23745581-7 12/ Original Result	LCS Rec. % 96.5 VIX Spik /28/21 14:3 MS Result mg/l ND Erix Spik /28/21 14:5 MS Result	Rec. Limi % 87.1-120 (SE (MS) - M 87 - (MSD) R37 t MSD Res mg/l 0.103 (SE (MS) - M 88 - (MSD) R37 t MSD Res	45581-4 12/28 45581-4 12/28 45581-4 12/28 45581-6 12/28 45581-8 12/28 45581-8 12/28	Duplicate (M/Z11438 MSD Rec. % 98.0. Duplicate (M/Z114:59 MSD Rec.	Dilution 1	% 90.0-110			% 200 RPD	% 20 RPD Limits	9
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide L1445053-03 12/ Analyte Reactive Cyanide	trol Sample (L0 28/2114:31 Spite Amount mg/l 0,100 riginal Sample 28/2114:36 • (MS) F Spite Amount mg/l 0.100 riginal Sample 28/2114:57 • (MS) R	CS) LCS Result mg/l 0.0965 E (OS) • Matter Result mg/l 0.00500 E (OS) • Matter Result mg/l 0.00500	LCS Rec. % 96.5 strix Spike /28/21 14:5 MS Result mg/l ND	Rec. Limi % 87,1-120 (Ce (MS) - M 87 - (MSD) R37 t MSD R37 0.103 (Ce (MS) - M 88 - (MSD) R37	45581-4 12/28 45581-4 12/28 45 0.000 45581-8 12/28	Duplicate (M/211438 MSD Rec. % 98.0. Duplicate (M/2114:59	Dilution 1	90.0-110	76	13	200	% 20	
Laboratory Conf (LCS) R3745581-2 12/ Analyte Reactive Cyanide L1445053-03 12/ Analyte Reactive Cyanide L1445536-02 07 (OS) L1445536-02 12/ Analyte	trol Sample (LC 28/2114:31 Spite Amount mg/l 0,100 riginal Sample 28/2114:36 • (MS) F Spite Amount mg/l 0,100	CS) LCS Result mg/l 0.0965 E (OS) • Mat 23745581-3 12 Original Result mg/l 0.00500 E (OS) • Mat 23745581-7 12/ Original Result mg/l	LCS Rec. % 96.5 VIX Spik /28/21 14:3 MS Result mg/l ND crix Spik /28/21 14:5 MS Result mg/l	Rec. Limi % 87.1-120 (SE (MS) - M 87 - (MSD) R37 t MSD Res mg/l 0.103 (SE (MS) - M 88 - (MSD) R37 t MSD Res mg/l	45581-4 12/28 45581-4 12/28 45581-4 12/28 50.000 Letrix Spike 45581-8 12/28 MS Rec. 10.000	Duplicate (M/Z114:38 MSD Rec. % 98.0. Duplicate (M/Z114:59 MSD Rec. %	Dilution 1 ISD) Dilution	% 90.0-110 Fine, Limits %	76	13	% 200 200 RPD %	% 20 RPD Limits %	



L1445529

0V04/22 12:21

0 of 13

Hall Environmental Analysis Laboratory



ACCOUNT: PROJECT: SDG: DATE(TIME: PAGE: Hell Environmental Analysis Laboratory L1445523 0/04/22 12:21 9 of 13

WG17949' Wet Chemistry by	11 y Mathod D93/1010	A		(QUALIT	Y CONTR		MARY				
L1444846-01 (Original Sample	(OS) - Du	olicate (DUP)		-						la .
	2/27/21 00:35 · (DUP)											- C
	Original Result			DUP RPD	DUP Qualifier	DUP RPD Limits						2
Analyte	deg F	deg F		*		%						T
Flashpoint	DNF at 170	DNF at 170	14	0.000		10						³s.
L1445523-01 (Original Sample	(OS) • Du	plicate (DUP)								¹c
	2/27/21 00:35 • (DUP)	Annual Control of										- L
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits						⁵ S
Analyte	deg F	deg F		*		%						
Flashpoint	DNF at 170	DNF at 170	1	0.000		10						Q
												7
Laboratory Co	introl Sample (LC	CS) • Labo	oratory (Control San	nple Duplic	ate (LCSD)						/G
(LCS) R3744823-1 1	12/27/21 00:35 • (LCSD		2 12/27/21 LCSD Re		1 00D 0-	No. 11.00	1000	1000.0 10		2-		BA
	Calley Bearing				LCSD Re	c. Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		^o A
VnaMe	Spiles Amount dep F		1000		95	9.						
	Spike Amount deg F 126	deg F 124	deg F	% 98.3	% 103	% 96.0-104			% 4.73	76		9
Analyte Pashpoint	deg F	deg F	deg F	%					%	*		95
	deg F	deg F	deg F	%					%	*		³S
	deg F	deg F	deg F	%					%	*		35
3	deg F	deg F	deg F	%					%	*		95
	deg F	deg F	deg F	%					%	*		9 5
	deg F	deg F	deg F	%					%	*		95
	deg F	deg F	deg F	%					%	*		9 5
	deg F	deg F	deg F	%					%	*		9 5
	deg F	deg F	deg F	%					%	*		999
	deg F	deg F	deg F	%					%	*		95
	deg F	deg F	deg F	%					%	*		94,
	deg F	deg F	deg F	%					%	*		9 * `

SDG:

L1445523

DATE/TIME

0V04/22 12:21

10 of 13

PROJECT:

ACCOUNT:

Hall Environmental Analysis Laboratory

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Datas/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyta	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple enelytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limita	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Semple	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Nametive if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigms.
Case Nametive (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J3	The associated batch OC was outside the established quality control rance for precision.

Qualmer	Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate datarmination; spike value is low.
T8	Sample(s) received past/too close to holding time expiration.

Sample(s) received past/too close to holding time expiration.















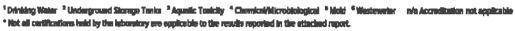




ACCREDITATIONS & LOCATIONS

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(Suite)	88-0469	New Jersey HELAP	THEOCO
difonds	2932	New Mexico ⁴	THEOCOUS
cloredo	TH000023	New York	W742
amedicut	PH-0507	North Caroline	Entre
orkie	EI7487	North Carolina ¹	DW2904
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eorgie ¹	923	Morth Dalesta	R-140
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<u>wourl</u>	340	Wisconsin	998093910
riteria	CERTOOBS	Wyoming	AZLA
LA - ISO 17025	1481.01	AINA-LAP,LLC EMLAP	100789
LA - ISO 17025 ⁵	1481,02	DOD	1481.01
eada	1481.01	USDA	P330-15-00234
A-Crypto	TH00003		



















^{*} Accordination is only applicable to the test methods specified on each scope of accreditation held by Face Analytical.



CHAIN OF CUSTODY RECORD

PAGES 1 OP. 1

B208

Hall Environmental Assalysis Laboratory
4901 Hemistus NE
Alloquerqua, Nid 87109
TEL: 505-345-3975
FAX: 505-345-4107

	paritation: Pace	CONSTANTS:	PACE TN		PHÖDO:	(800) 767-585	PAZ:	(615) 758-5859
ADMIN	12065	Lebaron Rd			ACCUCATO:		EMAIL:	(025) 756 000
e e	Mt. Ju	aliet, TN 37122				V		
TEM	*Sample	CLIENT SAMPLE ID	BOTTLE	MATRIX	COLTECUEN	CONTANER	ANALYTICA	COMMONANT
1	2112C79-001F	WDW-1,2,3 & 4 Effluent	500HDPE	Aquidus	12/21/2021 10:15:00 AM	1 RCI, ORP		20
24	2112C79-001G	WOW-1,2,3 & 4 Effect	SUOPLNACH	Aqueous	1221/2021 10:15:50 AM	1 PCI, ORP		-01
3	2112C79-001H	WDW-1,2,3 & 4 Effluent	500PL-NaOH	Aqueous	12/21/2021 10:15:00 AM	1 RCL, ORP		-OL

55285948-0150 Seal Presant/Intended Signed/Accurates

Eigned/Accurates

Correct Telias -ad:
Sufficient volume srcts
PAD Screen cd.5 mb/hc: PECIAL INSTRUCTIONS / COMMENTS clude the LAB ID and the CLIENT SAMPLE ID on all final separts. Please countil results to lab gladicard communication. Please return all coolers and blad St. Than 9:50 Talas/al 7=9:50 REPORT TRANSMOTTAL DESIRED: CHARDOOFY (solo eat) ☐ FAX O MAIL Delet FOR LAB LIEB CIVLY Date Tiens FAT: MUZH Mont 60 Jack Hall 🔯 201 00 []

Hall Environmental Analysis Laboratory, Inc.

WO#: **2112C79**

21-Jan-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions
---------------	----------------	------------------------------------

Client ID: PBW Batch ID: R84756 RunNo: 84756

Prep Date:	Analysis D	ate: 12	2/22/2021	s	SeqNo: 2	980681	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampT	ype: Ics	;	Tes						
Client ID: LCSW	Batcl	n ID: R8	4756	F	RunNo: 8	4756				
Prep Date:	Analysis Date: 12/22/2021			5	SeqNo: 2	980682	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	97.8	90	110			
Chloride	4.9	0.50	5.000	0	98.2	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.5	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	104	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.0	90	110			
Sulfate	9.7	0.50	10.00	0	96.8	90	110			

Sample ID: MB	SampT	SampType: mblk			tCode: El	S				
Client ID: PBW		Batch ID: R85040			RunNo: 85040					
Prep Date: Analys		nalysis Date: 1/8/2022			SeqNo: 2991990					
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 SampType: Ics			;	TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch	1D: R8	5040	F	RunNo: 85040						
Prep Date:	Analysis Date: 1/8/2022		8	SeqNo: 299199 1			Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	4.6	0.50	5.000	0	91.4	90	110				
Sulfate	9.1	0.50	10.00	0	90.6	90	110				

Qualifiers:

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

Page 5 of 19

Hall Environmental Analysis Laboratory, Inc.

WO# 2112C79

21-Jan-22

Chent	Nevajo Refining Company
Project:	Quarterly WDW 1 2 3 4 Inj Wel

Project: Quarter	rly WDW 1 2	3 4 1	inj Well							
Sample ID: MS-64767	SampT	ype: Mi	BLK	Tes	tCods: E	PA Method	8061; Poetick	des TCLP	15-11-11-11-11-11-11-11-11-11-11-11-11-1	
Client ID: PSW	Batch	ID: 64	767	1	RumNo: 8	6069				
Prep Date: 12/26/2021	Analysis D	eto: 1	1/2022		SegNo: 2	943207	Units: mg/L			
Analyta	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	KRPD	RPDLImit	Que
Chiterdane	ND	0.030	4.55							
Sur: Decschlaroblphenyl	0.0022		0.002500		67.1	73	119			
Sur: Tetrachioro-m-xylune	0.0014		0.002500		58.3	36.6	84.1			
Semple ID: MB-64767	SampTy	ype: MI	BLK	Tes	tCode: E	PA Method	6081: Pestick	des TCLF		
Client ID: PBW	Betch	ID: 64	757	RunNo: 85360			10.01	300		
Prep Date: 12/28/2021	Analysis Di	min: 1	11/2022		SegNo: 2	992208	Unite: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	WREC	LowLimit	HighLimit	%RPD	RPDLImit	Qua
Chlordane	ND	0.030								
Sur: Decachlomolphenyl	0.0022		0.002500		88.2	73	119			
Surr: Tetrachloro-m-xylene	0.0014		0.002500		55.4	36.6	84.1			
Sample ID: LC8-84757	SampT	ype: LC	28	TestCode: EPA Method 5081: Pesticides TCLP						
Client ID: LCSW	Batch	ID; 84	767		RunNo: 8	5069				
Prep Data: 12/28/2021	Analysis D	ate: 1/	11/2022	1	SeqNo: 2	993316	Units: %Rec	k!		
Analyte	Result	PQL	6PK value	SPK Ref Val	KREC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Surr: Decachlorobiphenyl	0.0022		0.002500		90.0	73	119			
Surr: Tetrachloro-m-xytene	0.0015		0.002500		62.0	36.6	84.1			
Sample ID: LCS-64757	SampT)	yps: LC	:8	Tes	tCode: E	PA Method	8081: Pestick	des TCLP		
Client ID: LCSW	Belch	ID: 64	757	1	RumNo: 8	5089				
Prep Date: 12/28/2021	Analysis Da	ato: 1/	11/2022	Ġ	SeqNo: 2	993316	Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	KREC	LowLimit	HighLimit	%RPD	RPDLImit	Quel
Surr: Decechiorobiphenyl	0.0023		0.002500		91.7	73	119			
Sur: Tetrachloro-m-xylana	0.0016		0.002500		62.3	36.0	84.1			
Sample ID: LCSD-84757	8ampT;	ype: LC	SD SD	Tes	iCode: E	PA Method	8081: Peatlek	dee TCLP		
Client ID: LCSS02	Batch	ID; 64	767		tunNo: 8	0088				
m m t animana	- Total 1.3	50.50					11.70 1.20			

Qualifiers:

- Value exceeds Mincheson Committees Layer
- D Comple Diluted Due to Metric

Prep Date: 12/29/2921

Surr: Decachloroblphenyl

Surr. Tetrachloro-m-xylene

- H Holding these for properation or analysis extended
- 1913 Not Detected at the Reporting Link
- PQL Prestine Quadrative Limit
- S. Kecovery consider of range due to diffusion or socials beneficians:

Analysis Date: 1/11/2022

0.0023

0.0014

Analyte detected in the searchied Method Blank:

SegNo: 2993320

56.2

LowLimit

73

36.6

Units: %Rec HighLimit

119

84.1

%RPD

0

0

E Intimated veloc

SPK value SPK Ref Vet KREC

0.002500

0.002500

- J Analyse dissout below symmetricine limit
- P Namphi pill Not in Rango
- M. Reporting Link

Page 6 of 19

RPDLImit

0

Qual

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

Qual

21-Jan-22

Client: Navajo

Navajo Refining Company

Regult

Froject: Quarterly WDW 123 4 Inj Well

Semple ID: LCSD-84767

SampType: LCSD

TestCode: EPA Method 8081: Pesticides TCLP

Batch ID: 64757

RunNo: 85069

Client ID: LC3302
Prep Date: 12/26/2021

Analysis Data: 1/11/2022

SeqNo: 2983321 U

LowLimit

Units: "ARec

Analyte
Sur: Decachlorobiphenyl
Sur: Tetrachloro-m-xylene

0.0024 0.002500 0.0014 0.002500

SPK value SPK Ref Vet

PQL

94.7 56.7

%REC

73 119 36.6 64.1

HighLimit

0

%RPD

RPDLimit

0

Qualifiers:

- Wiles amonda Manhama Contembrant Lovel
- D Sample Diland Due to Matrix
- H Holding three the proporation or analysis succeeded
- Mill 19of Departed at the Experies Time
- POL Practical Committive Limit
- B % Recovery extable of range rise to dilution or metric bandimens.
- B Analyte detected in the associated Marked Blan
- E Ballmeted value
- J Analyte detected below quantitation limits
- P Hough pH Net In Respo
- III. Reporting Limit

Page 7 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: 21124

21-Jan-23

Client:

Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: 199ng Ica	Samp	Type: LC	3	Tes	Code: T					
Client ID: LC&W	Batch ID: T84611 Analysis Date: 12/27/2021			F	tunNo: 8	4811				
Prep Date:				SeqNo: 2983267			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	KRPD	RPDLImit	Quel
Benzene	0.017	0.00023	0.02000	0	86.5	70	130			
1,1-Dichloroethens	0.017	0.00020	0.02000	0	85.8	70	130			
Tritablomethens (TCE)	0.017	0.00020	0.02000	0	82.9	70	130			
Chilorobarranno	0.018	0.00016	0.02000	0	66.3	70	130			
Surr. 1,2-Dichloroethane-d4	0.0094		0.01000		94.4	70	130			
Surr. 4-Bromofluorobenzone	0.010		0.01000		100	70	130			
Sur: Dibromofluoromethano	0.0095		0.01000		95.0	70	130			
Sum: Toluene-d8	0.0093		0.01000		92.7	70	130			

Sample ID: mb	SampType: MBLK Batch ID: T84611 Analysis Date: 12/27/2021		Tes	tCode: T	CLP Votefil					
Client ID: PSW			F	RunNo: 64811						
Prep Date:			SeqNo: 2982370			Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Senzane	ND	0.50								
,2-Dichloroethans (EDC)	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachlorida	ND	0.50								
Chloroform	ND	8.0								
A-Dichlorobenzene	ND	7.5								
,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
richloroethens (TCE)	ND	0.50								
/inyl chioride	ND	0.20								
Chlorobenzene	ND	100								
Surr: 1,2-Dichlomethane-d4	0.0090		0.01000		90.0	70	130			
Surr: 4-Bromoliuoroberzoene	0.010		0.01000		101	70	130			
Surr: Disromofluoromethene	0.0094		0.01000		94.3	70	130			
Sur: Tolunno-d8	0.0094		0.01000		93.6	70	130			

Qualifiers

- Velice emach: Marriages Connections Level
- D Sample Diluted Day to Matrix
- H Holding these for proporation or analysis exceeded
- ND Not Determint the Repenting Line
- PQL Prestine Quantitative Limit
- 16 Recovery consider of trange also on dilection or matrix belowings
- B Aughts decound in the associated Method Educa-
- E Indicated value
- J Analyse descued below quantitation limit
- P Bomple pili Not in Kong
- IL Reporting Line

Page 8 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: **2112C79**

21-Jan-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-64755	Samp1	уре: МЕ	3LK	Tes	tCode: El	PA Method	8270C TCLP				
Client ID: PBW	Batcl	n ID: 64	755	F	RunNo: 84	4935					
Prep Date: 12/28/2021	Analysis D	Analysis Date: 1/5/2022			SeqNo: 2989261			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
2-Methylphenol	ND	200									
3+4-Methylphenol	ND	200									
2,4-Dinitrotoluene	ND	0.13									
Hexachlorobenzene	ND	0.13									
Hexachlorobutadiene	ND	0.50									
Hexachloroethane	ND	3.0									
Nitrobenzene	ND	2.0									
Pentachlorophenol	ND	100									
Pyridine	ND	40								E	
2,4,5-Trichlorophenol	ND	400									
2,4,6-Trichlorophenol	ND	2.0									
Cresols, Total	ND	200									
Surr: 2-Fluorophenol	0.12		0.2000		60.0	15	118				
Surr: Phenol-d5	0.091		0.2000		45.7	15	92.9				
Surr: 2,4,6-Tribromophenol	0.15		0.2000		76.6	15	150				
Surr: Nitrobenzene-d5	0.063		0.1000		63.4	15	136				
Surr: 2-Fluorobiphenyl	0.060		0.1000		60.3	15	134				
Surr: 4-Terphenyl-d14	0.11		0.1000		110	15	168				

Sample ID: LCS-64755	SampType: LC	Tes	tCode: EF	PA Method						
Client ID: LCSW	Batch ID: 64	755	F	RunNo: 84	1935					
Prep Date: 12/28/2021	Analysis Date: 1/	5/2022	S	SeqNo: 2 9	989262	Units: mg/L				
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
2-Methylphenol	0.075 0.00010	0.1000	0	75.5	19	106				
3+4-Methylphenol	0.16 0.00010	0.2000	0	80.5	16.3	112				
2,4-Dinitrotoluene	0.068 0.00010	0.1000	0	67.8	15	99.6				
Hexachlorobenzene	0.088 0.00010	0.1000	0	88.4	41.8	111				
Hexachlorobutadiene	0.057 0.00010	0.1000	0	57.1	15	91.5				
Hexachloroethane	0.066 0.00010	0.1000	0	65.5	15	87.5				
Nitrobenzene	0.072 0.00010	0.1000	0	71.8	19.3	114				
Pentachlorophenol	0.083 0.00010	0.1000	0	82.5	29	103				
Pyridine	0.023 0.00010	0.1000	0	23.0	15	92.6			E	
2,4,5-Trichlorophenol	0.087 0.00010	0.1000	0	87.0	25.2	114				
2,4,6-Trichlorophenol	0.078 0.00010	0.1000	0	78.1	25.7	112				
Cresols, Total	0.24 0.00010	0.3000	0	78.9	15	145				
Surr: 2-Fluorophenol	0.13	0.2000		63.0	15	118				
Surr: Phenol-d5	0.10	0.2000		49.9	15	92.9				
Surr: 2,4,6-Tribromophenol	0.18	0.2000		91.2	15	150				

Qualifiers:

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

Page 9 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#:

2112C79

21-Jan-22

Client:

Navajo Refining Company

0.078

0.078

0.12

Project:

Quarterly WDW 1 2 3 4 Inj Well

Sample ID: LC8-64766

SampType: LC8

TestCode: EPA Method 8270C TCLP

Client ID: LCSW

Betch ID: 64755

RunNo: 84936

138

134

188

Prep Date: 12/20/2021

Analysia Date: 1/5/2022

0.1000

0.1000

0.1000

0.1000

SeqNo: 2989262

75.7

78.0

122

Unita: mg/L

HighLimit

Analyta Surr: Nitrobenzene-d5

Result POL SPK value SPK Ref Val

%REC LowLimit

%RPD **RPDLImit**

Sur. 2-Puomblohenyl Sur: 4-Terphanyl-d14

> Sample ID: 2112C79-901BMS SampType: MS

TestCode: EPA Method 8279C TCLP

RunNo: 84935

Units: mg/L

Prep Date: 12/28/2021

Client ID: WDW-1,2,3 & 4 EMQ

Analysis Date: 1/5/2022

Batch ID: 64755

SeqNo: 2869264

15

16

15

Analyte Result PQL SPK value SPK Ref Val 1/4 REC LowLimit HighLimit %RPD **RPDLImit** Quel 2-Mathylphonol 0.10 0,00020 0.1000 0.01601 65.0 101 D 0.2000 0.02632 3+4-Mothylphenol 0.18 0.00020 79.2 16.9 97.9 D 2,4-Dinttrotoluene 0.059 0.00020 0.1000 59.5 20.1 90.5 D 0.085 0.00020 0.1000 108 Hexachlorobenzene 0 84.9 34 D Hexachlorobutediens 0.1000 0.061 0.00020 0 81.4 15 99.7 D Hexachloron frame 0.071 0.00020 0.1000 70.7 15 86.4 D Nirobenzane 0.071 0.00020 0.1000 o 70.9 15 109 D 0.1000 0 Pentachiorophanol ND 0.00020 0 15 130 SD 0.1000 50.7 Pyrkline 0.051 0.00020 0 15 82 ED 0.1000 5 25 2,4,5-Trichlorophenol 0.0052 0.00020 Ð 28.1 105 SD 2,4,6-Trichlorophenol 0.0048 0.00020 0.1000 0 4.76 21.5 110 SD Creeole, Total 0.35 0.00020 0.3000 0.04232 102 15 127 D Sur: 2-Fluorophenol 0.0083 0.2000 4.13 15 118 SD Sur: Phenol-d5 0.049 0.2000 24.5 15 B2.0 D Surr. 2.4 B-Tribromophenol 0.010 0.2000 5.07 150 SD 15 Sur: Nitrobenzane-d5 0.078 0.1000 78.0 15 138 D Sur: 2-Fluorobiohenvi 0.079 0.1000 78.8 15 134 D

Sample ID: 2112C79-001EMSD SampType: MBD TestCode: EPA Method 8270C TCLP

15

Client ID: WDW-1,2,3 & 4 Efflu

Sur: 4-Terpherns-d14

Betch ID: 64755

0.11

RunNo: 84935

107

168

Prep Dela: 12/28/2021	Analysis Date: 1/5/2022			8	BeqNo: 2	908205	Units: mg/L				
Analyte	Result	PQL	BPK value	SPK Ref Val	KREC	LowLimit	HighLimit	%RPD	RPDLImit	Quel	
2-Methylphenal	0.086	0.00020	0,1000	0.01601	69.9	15.8	101	18.2	20	D	
3+4-Methylphenal	0.14	0.00020	0.2000	0.02632	55.7	16.9	97.9	29.1	20	RD	
2,4-Dinisrotolusno	0.063	0.00020	0.1000	0	62.8	20.1	90.5	5.42	20	D	
Hexachlorobenzene	0.092	0.00020	0.1000	0	92.3	34	108	8.35	20	D	
Hexachlorobutadiena	0.059	0.00020	0.1000	0	59.0	15	99.7	3.65	20	D	
Hasachloroothene	0.067	0.00020	0.1000	0	67.2	15	98.4	5,18	20	. D	
Nitrobenzene	0.072	0.00020	0.1000	0	71.7	15	109	1.12	20	D	

Qualifiers

- Semple Diluted Doe to Midnis D
- H Healting times for proporation of
- Not Detected at the Reporting Limit
- Provident Quantitative Limit

- ds pH Max In Range

Page 10 of 19

D

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112079

21-Jen-22

Citent:

Navajo Refining Company

Quarterly WDW 1 2 3 4 Inj Well Project:

Sample ID: 2112C79-001BMSD SampType: MSD TestCode: EPA Method 8279C TCLP

Client ID: WDW-1,2,3 & 4 Efflu Batch ID: 64755 RunNo: \$4936

Prep Date: 12/28/2021	Analysis Date: 1/5/2022				SeqNo: 2	203205	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Quet	
Pentachlorophenol	ND	0.00020	0.1000	0	0	15	130	0	20	8D	
Pyridine	0.049	0.00020	0.1000	0	48.8	15	82	4.15	20	ED	
2,4,5-Trichlorophenol	0.0021	0.00020	0.1000	0	2.09	28.1	105	88.2	20	RSD	
2,4,6-Trichlorophanol	0.0035	0.00020	0.1000	0	3.52	21.5	110	30.0	20	RSD	
Crescis, Total	0.26	0.00020	0,3000	0.04232	74.0	15	127	27.0	20	RD	
Sur: 2-Ruorophenol	0.0028		0.2000		1.41	16	118	0	0	SD	
Sur: Phonol-d5	0.030		0.2000	11	15.1	15	92.9	0	0	D	
Sur: 2,4,8-Tribramophenal	0.0062		0.2000		3,08	15	160	0	0	SD	
Surr: Nitrobenzene-d5	0.073		0.1000		72.8	15	188	0	0	D	
Sur: 2-Fluorobiphonyl	0.078		0.1000		77.8	15	134	0	0	D	
Surr: 4-Terphonyl-d14	0.11		0.1000	100	109	16	166	0	0	D	

Qualiflers:

- Velte moveds Maximum, Com-Sumple Distant Date to Matrie.
- D
- Н
- Not Depoted at the Reporting Limit
- FQL.

- do pill Net lis Range

Page 11 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

21-Jen-22

Client:

Navajo Refining Company

Project:

Quarterly WDW 1 2 3 4 Inj Well

Sample ID: Ica-1 98.3u9 aC

SampType: los

TestCode: 8M2510B: Specific Conductures

Client ID: LCSW

Batch ID: R84794

RunNo: 84794

Prep Date:

Units: umhos/cm

Analyta

Analysis Date: 12/27/2021

SeqNo: 2982430

%RPD

SPK value SPK Ref Val %REC LowLimit Regult PQL

Qual

99.30

101

115

Conductivity

100

HighLimit

10

RPDLImit

Qualiflers

Sample Diluted Due to Matrix

H

Remple pH Not In Beage

Reporting Links

Page 12 of 19

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

21-Jan-22

Cilent:

Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-64796

SampType: MBLK

TestCode: EPA Method 7479A: Mercury

Client ID: PRW

Batch ID: 64709

RunNo: 84787

SPK value SPK Ref Val %REC LowLimit

Prep Date: 12/23/2021

Analysis Date: 12/27/2021

SeqNo: 2982004

Units: ma/L HighLimit

RPDLImit

Analyte MUCLEY

PQL Result ND 0.00020

Sample ID: LCBLL-84706

SampType: LCSLL

TestCode: EPA Method 7470A: Marcury

Client ID: BatchQC

Batch ID: 64706

RunNo: 84787

Prep Date: 12/23/2021 Analysis Date: 12/27/2021

SeqNo: 2992005 Units: mg/L

50

Analyte

SPK value SPK Ref Val POL

%REC LowLimit **%RPD**

%RPD

RPDLImit

0.00017 0.00020 0.0001501

115

150

Marcury

TestCode: EPA Method 7470A: Mercury

HighLimit

Client ID: LCSW

Sample D: LCS-64706

SampType: LCS Betch ID: 64704

RunNo: 84787 SegNo: 2982806

Units: mo/L

Analyte Marcury

Prep Date: 12/23/2021 Analysis Date: 12/27/2021 Result

PQL

0.005000

0.005000

SPK value SPK Ref Vel %REC LowLimit 98.3

HighLimit

%RPD **RPDLImit** Qual

Sample ID: 2112C79-901EMS

Prep Date: 12/23/2021

SampType: M8

TestCode: EPA Method 7479A: Mercury

Client ID: WDW-1,2,3 & 4 Effect Batch ID: 64706

Regult

0.0049 0.00020

RunNo: 54767 SeqNo: 2982150

Unite: mg/L

Analyte Mercury

0.0010 0.005000

POL

Analysis Date: 12/27/2021

SPK value SPK Ref Val %REC

HighLimit

%RPD RPDLImit

Qual

S

Sample ID: 2112C79-001EMSD

SempTyps: MSD Client ID: WDW-1,2,3 & 4 Effici Batch ID: 84708

RunNo: 84787

0

Units: mg/L

Analyte Morcury

Prep Date: 12/23/2021

Analysis Date: 12/27/2021 PQL SPK value SPK Ref Val %REC LowLimit Result

SeqNo: 2982151

Low imit

TeetCode: EPA Method 7470A: Mercury

HighLimit

125

KRPD **RPDLImit**

20

8

Qualiflers:

- Sample Diluted Don to Matrix
- н Holding three the proportion or a No Desected at the Reporting Links
- - % Bacovery conside of range doe to dilution or a

- caple pH Net In Range

Page 13 of 19

Hall Environmental Analysis Laboratory, Inc.

46

1.0

WO#

RPDLImit

%RPD

HighLimit

120

2112C79

21-Jan-23

Quel

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB SampType; MBLK TestCode: EPA Method 6810B: Dissolved Metals
Client ID: PSW Batch ID: A94757 RunNo: 84757
Prep Date: Analysis Date: 12/22/2021 SeqNo: 2950772 Units: mg/L

50.00

 Analyte
 Result
 PQL

 Calcium
 ND
 1.0

 Magnesium
 ND
 1.0

 Potesstum
 ND
 1.0

 Sodium
 ND
 1.0

Sample ID: LCS SampType: LCS TestCode: EPA Method 6016B: Dissolved Metals Client ID: LCSW Batch ID: A84757 RunNo: \$4757 Prep Delec Analysis Date: 12/22/2021 SeqNo: 2980774 Units: mg/L **HighLimit** Reault **PQL** SPK value SPK Ref Val NREC LowLimit Analyte %RPD **RPDLImit** Qual Calcium 47 1.0 50,00 0 94.0 80 120 Magnoslum 47 50.00 0 98.4 1.0 60 120 Potestium 46 1.0 50.00 0 92.8 80 120

0

92.1

80

SPK value SPK Ref Val. %REC LowLimit

Qualiflers:

Sodium

- Valor cessols bisohems Connectors: Level
- D Hample Diluted Doe to Matrix
- H. Holding those the proposition of analysis encounted
- ND Not Detected at the Reporting Limit
- PCIL Provided Quantitative Limit
- 8 W Bacayany cutoids of corps due to dilution or entire interference
- B Analyse detected to the president Nanthal Work
- B. Entlemed value
- J Analyte detected below quantization limit
- P Smooth pH Not In Range
- 2L Reporting Links

Page 14 of 19

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112079

21-Jan-22

Client: Navajo Refining Company Quarterly WDW 1 2 3 4 Inj Well Project:

Sample ID: MB-64703 SampType: MBLK TostCode: EPA 6010B: Total Recoverable Metals:

Client ID: PBW Batch ID: 64703 RUNO: 84026

Prep Date: 12/22/2021 Analysis Date: 1/4/2022 SeaNo: 2989656 Unita: ma/L

SPK value SPK Raf Val %REG LowLimit Analyte PQL HighLimit %RPD **RPDLImit**

Amenic ND 0.030 Rentum ND 0.0020 Chromkim ND 0.0060 Shor ND 0.0050

Semple ID: LCS-64703 SampType: LCS TestCode: EPA 6010B: Total Recoverable Metals Client ID: LCSW Betch ID: 64703 RunNo: 84926

Prep Date: 12/22/2021 Analysis Date: 1/4/2022 SeqNo: 2989063 Unite: mg/L

%RPD SPK value SPK Ref Vel **KREC RPDLImit** Analyta Requit PQL LowLimit **HighLimit** Qual Areanic 0,45 0,030 0.5000 0 69,3 80 120 0.5000 Bertum 0.44 0.0020 0 87.2 80 120 Chromium 0.40 0.0060 0.5000 a 80.0 80 120 Silver 0.091 0.0050 0.1000 120

TestCode: EPA 6810B: Total Recoverable Metale Sample ID: LC8D-64703 SampTypa: LCSD Client ID: LC8802 Batch ID: 64703 RunNo: 84926 Preo Date: 12/22/2021 Analysis Data: 1/4/2022 SegNo: 2989084 Units: ma/L Analyte POL SPK value SPK Ref Vel %REC LowLimit HighLimit **KRPD RPDLImit** Quel Areenic 0.44 0.030 0.5000 Ω 88.4 80 120 0.960 20 Bertum 0.44 0.0020 0.5000 0 87.1 80 120 0.0742 20 Chromium 0.41 0.0080 0.5000 0 81.1 80 120 1.38 20 0.090 0.0050 0.1000 90.3 120 20 Siver 80 0.388

Sample ID: MB-64703 SampType: MBLK TestCode; EPA 6010B: Total Recoverable Metals Client ID: PEW Batch ID: 64703 RunNo: 84928 Prep Date: 12/22/2021 Analysis Date: 1/4/2022 SeqNo: 2989221 Unite: mg/L SPK value SPK Ref Val 16 REC LowLimit Analyte Regult PQL HighLimit **%RPD RPDLimit** Quel

Cadmain ND 0.0020 Salonium ND 0.050

Sample ID: LC8-64703 SampType: LCS TestCode: EPA 60/10B: Total Recoverable Metals Client ID: LCSW Batch ID: 64703 RunNo: 84826 Prso Date: 12/22/2021 Analysis Date: 1/4/2022 SeqNo: 2906223 Units: mg/L SPK value SPK Ref Val %REC **PQL** LowLimit **HighLimit** %RPD Analyte Regult **RPDLImit** Qual Cadmium 0.0020 0.5000 96.6 60 120

Selenkum 0.050 0.5000 0.49 Ð 97.9 60 120

Qualifiers:

- Sample Diluted Due to Matrix
- Holding times for proportion or some Not Determed at the Reporting Limit H
- rtical Quantuties Litak POL.
 - M Naturary outside of energo due to dilution or contric fainth
- ted in the aspectated Mathed
- and value
- plo pH Not In Parge

Page 15 of 19

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79 21-Jan-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: LCSD-64703 SampType: LCSD TestCode: EPA 6010B: Total Recoverable Metals

Client ID: LCSS02 Batch ID: 64703 RunNo: 84926

Prep Date: Analysis Date: 1/4/2022 SeqNo: 2989224 Units: mg/L 12/22/2021

PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result 0.745 Cadmium 0.48 0.0020 0.5000 0 95.9 80 120 20 80 0 0.49 0.050 0.5000 97.7 120 0.211 20 Selenium

Sample ID: MB-64703 SampType: MBLK TestCode: EPA 6010B: Total Recoverable Metals

Client ID: PBW Batch ID: 64703 RunNo: 85207

Prep Date: 12/22/2021 Analysis Date: 1/12/2022 SeqNo: 2997505 Units: mg/L

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

Lead ND 0.020

Sample ID: LCS-64703 SampType: LCS TestCode: EPA 6010B: Total Recoverable Metals

Client ID: LCSW Batch ID: 64703 RunNo: 85207

Prep Date: 12/22/2021 Analysis Date: 1/12/2022 SeqNo: 2997517 Units: mg/L

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

Lead 0.41 0.020 0.5000 82.0 80 120

Sample ID: LCSD-64703 SampType: LCSD TestCode: EPA 6010B: Total Recoverable Metals

Client ID: LCSS02 Batch ID: 64703 RunNo: 85207

0.42

Prep Date: 12/22/2021 Analysis Date: 1/12/2022 SeqNo: 2997518 Units: mg/L

0.5000

%REC %RPD **RPDLimit** Qual Analyte Result **PQL** SPK value SPK Ref Val HighLimit LowLimit 0.020

83.9

80

120

2.38

20

Qualifiers:

Lead

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit PQL

% Recovery outside of range due to dilution or matrix interference

Analyte detected in the associated Method Blank

Estimated value

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Limit Page 16 of 19

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

21-Jan-22

Client:

Navajo Refining Company

Result

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: mb-1 alk

SampType: mbild

TestCode: \$182320R: Alkalinity

Client ID: PBW

Batch ID: R84794

RunNo: 84794

Units: mg/L CaCO3

HighLimit

HighLimit

110

Analyte

Prep Date:

Analysis Date: 12/27/2021 PQL

SecNo: 2982456

XRPD

%RPD

RPDLImit

Total Albalinity (as CaCO3)

Sample ID: Ice-f all:

ND 20.00

SampType: ice

Client ID: LCSW Betch ID: R84794

RunNo: 84784

TestCode: 3M23205: Alkalinity

Prep Date: Analysis Date: 12/27/2021 Analyte SPK value SPK Ref Val %REC

SeqNo: 2982457

Unite: mg/L CaCO3

RPDLImit Qual

Total Albalinity (so CaCO3) Sample ID: mb-2 alk 74.80 20.00 SampType: mblk

PQL

80.00 93.5

8PK value SPK Ref Vel %REC LowLimit

TestCode: SM23268: Alkalinity

TestCode: 8M2320B: Alkalinity

LowLimit

90

Clent ID: PBW

Satch ID: R84794

RunNo: 84784

Prep Date: Analysis Date: 12/27/2021 SeaNo: 2982479

Units: mg/L CaCO3

Analyte

Regult PQL SPK value SPK Ref Val %REC LowLimit HighLimit

%RPD

RPDLImit Qual

Total Alkalinity (se CaCOS)

20.00

Sample ID: les-2 all: Client ID: LCSW

SampType: les Batch ID: R84794

RunNo: 54794

Prep Date:

Analysis Dats: 12/27/2021

SeqNo: 2882480

Units: mg/L CeCO3

Analyte

Result PQL

Total Albalinity (se CaCO3)

75.32 20.00 80.00

SPK value SPK Ref Val %REC LowLimit 942

HighLimit %RPD

RPDLImit Cual

Sample ID: mb-3 alk

Client ID: PSW

SempType: mblk

TestCode: SM2320B: Alkalinity

RunNo: 84754

Preo Date:

Batch ID: R84794 Analysis Dale: 12/27/2021 PQL

SeqNo: 2982802

Unite: mg/L CaCO3

Analyte **Total Alicelaty (se CeCO3)**

ND 20.00

Result

Result

74.96

SPK value SPK Ref Val %REC LowLimit HighLimit %RPD

RPDLImit Quel

Sample ID: Ica-3 alk

SempType: les

TestCode: 8M2328B: AlkaHnity

Client ID: LCSW

Batch ID: R84794

RunNo: 84794

%RPD

Prep Delex

Analysis Date: 12/27/2021

SeqNo: 2082503

Units: mg/L CeCO3

Analyte

Total Alcalinity (se CeCO3)

PQL 20.00

SPK value SPK Ref Val %REC LowLimit 80.00

93.7

HighLimit

RPDLImit Qual

- Qualifiers:
 - Sample Diluted Due to Metric
- н Holding times for preparation or
- and at the Reporting Limb
- cry octable of range d

Page 17 of 19

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

21-Jan-22

Client:

Navajo Refining Company

Project:

Quarterly WDW 123 4 Inj Well

Sample ID: 2112C78-001CDUP SampType: DUP

TestCode: Specific Gravity

Client ID: WDW-1,2,3 & 4 Efflu Setch ID: R85017

RunNo: 86017

Prop Date:

Analysis Date: 1/7/2022

SeqNo: 2991233

Units:

Analyle

Result POL

SPK value SPK Ref Val %REC LowLimit HighLimit

%RPD RPDLImit Qual

Specific Gravity

1,001

0

0,0999

Qualifiers:

e Diluted Dee to Matrix

ND

PQL

Page 18 of 19

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2112C79

21-Jan-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-64762 SampType: MBLK TestCode: SM2549C MOD: Total Dissolved Solids

Client ID: PSW Batch ID: 64762 RunNo: 84892

Prep Date: 12/29/2021 Analysis Date: 12/39/2021 SeqNo: 2966299 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val MREC LowLimit HighLimit MRPD RPDLimit Qual

Total Dissolved Solids ND 20.0

Sample ID: LCS-64762 SampType: LCS TestCode: SM2549C MOD: Total Disselved Bolida

Client ID: LCBW Batch ID: 64762 RunNo: 84992

Prep Date: 12/28/2021 Analysis Date: 12/30/2021 SeqNo: 2986300 Units: mg/L

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

Total Disadved Solids 1000 20.0 1000 0 100 60 120

Qualifiers:

- Velenament Markett Country | Lord
- D Bereich Diktor Dog to Matric
- H Holding those for preparation or analysis convoled
- (III) Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- Secondy comide of range doe to dilution or matrix interference
- B Analysis deducted by the associated Mothed Blass
- E Betleward value
- J Analyse descent below quantitation that
- P Sample pH Not In Hange
- RL Reporting Class

Page 19 of 19



Hall Environmental Analysis Laboratory 4901 Havekitz NE

TEL: 505-345-3975 FAX: 505-345-4107 Webstie: clients.hallanvirannesvol.com

Albuquarque, NM 87109 Sample Log-In Check List

Client Name: Nevejo Rafining	Work Order Nur	nber: 2112C79		RoptNo: 1
Received By: Issulah Ortiz	12/22/2021 7:26:0	0 AM	I-0 S-4	*
Completed By: Seen Livingston	12/22/2021 8:67:1	8 AM	5 /	4
Rentewed By: MPG 12-	22/14		<i>چن</i> سیر	
Chain of Custody				
1. Is Chain of Custody complete?		Yes 🗹	No 🔲	Not Present
2. How was the sample delivered?		Courier		
Log In				
3. Was an attempt made to cool the samp	Nes?	Yes 🗹	No 🗆	NA 🗆
4. Were all samples received at a temper	nium of >0°C to 6.0°C	Yee 🗹	No 🗆	NA 🗆
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗆	
6. Sufficient sample volume for indicated t	est(s)?	Yea 🗹	No 🗆	reference
7. Are samples (except VOA and ONG) pr	openly preserved?	Yee 🗹	No 🗆 .	Let .
8. Was preservative added to bottlee?		Yes 🗹	No-	NA 🗆
9. Racewed at least 1 viel with headepece	<1/4" for AQ VOA?	Yes 🗹	No 🗀	MA 🗀
(I), Were any sample containers received it	oroken?	Yes 🗆	No 🗹	# of preserved
Does paperwork match bottle labels? (Note discrepancies on chein of custody	n	Yes 🗹	No 🗆	for pit: 2 2 (Sbr (12) miless noted)
2. Are metrices correctly Identified on Cha	-	Yes 🗹	No 🗆	Adjusted? Les
3, le it clear what analyses were requested	77	Yes 🗹	No 🗆	1 -
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes 🗹	No 🗆	Checked by: Jn 12 22
Special Handling (if applicable)				
15, Was ofent notified of all discrepancies	with this order?	You 🗆	No. 🗆	NA 🖾
Person Natified:	Debi			
By Whom:	Via:	OMed P	hone Fex	☐ in Person
Regarding:			-	
Client Instructions:	-			
16. Additional remarks: 0.5ml of Hi	MUS was acted	ed to su	imple oc	DIE GO- Ph. 27. Jr. 12/2
7. Cooler Information Cooler No Temp °C Condition 1 0.5 Good	Seel Intect Seel No.	Seel Date	Signed By	

Client Nav			stody Record	Turn-Aroun					_		LLI									
				Project Nar														200		
Mailing Ad	dress: P.	O. Box 1	59 Artesia,		/DW-1, 2, 3 & 4	4 Inj Well		490	1 Hew	kins	www.he									
NM 88211-	-0159			Project #: P	.0. # 251841			Tel	505-3	45-3	9975	Fex (505-34	5-410	77					
Phone #: 5	75-748-	3311									Α	nalys	is Rec	uest						
email or Fe	pdf: 575-	748-545		Project Mar	nager:		ಥ	0	B		8		Į.	П					П	
QAQC Pad Standar			☐ Level 4 (Full Validation)	Randy Dad			4 E E	06280 50	Od 627		6010 Helta	138.3	CFR P							
☐ Other_				Sampler:	Brady Hubber		8 B P	88	12 8	18	2 E	F	3.5					1		
o EDD (T)	ype)			On toe: Sample Ter	mpereture: d	I No	1 4 4 5 E	M BAB M	1849 let	R per	846 M	Ne.40	S Pet	1908						
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Specific Gravity, H003,-003; St. 804, 198, pH, equd, Fl, Cattorianion bal, Br, En/40	VOCA(8W-846 Method 6280C (see stached list VOCs)	SVOCe/SW-849 Method 82700 (see attached let '3VOCe')	R,C,W0 CFR part 281	Metals/SW-846 Mind 6010, 7470 (see attached list Wer	Ca, K, Mg, Ne/40 CFR 138.3	TCLP Metals, only 40 CFR Part 281/ SW-846 Method 1311	Chigidane 8081.A						
12/21/21	10:15	Liquid	WDW-1, 2, 3 & 4 Effluent	3	Negt/H2SO4	lào	x						x							
12/21/21	10:15	Liquid	WDW-1, 2, 3 & 4 Effluent	1	HNO3						x	X								
12/21/21	10:15	Liquid	WDW-1, 2, 3 & 4 Effluent	3	HCL			×												
12/21/21	10:15	Liquid	WDW-1, 2, 3 & 4 Effluent	2	Neat				x											
12/21/21	10:15		WDW-1, 2, 3 & 4 Effluent	2	Neat					x										
12/21/21		Liquid	WDW-1, 2, 3 & 4 Effluent	1	Nest	上					1-2-1			x						
			Der somble bott			002														
			Der some bott	12/22/	20									\Box					П	
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Dele: 1	Time: 11:30	Relinquist 1- Relinquist	ed by: Brady History Ready Miley and by:	Received by: Received by:	mix	Date Time	Remarks	s: Sen	d recul	ts to	Scott De			Holds	r, and	Rand	y Dede			
10/21	1900	aci		I-0-	- cour	12/22/21 07	2.5	-	اعادوان	data :					renort.				_	



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Allouquerque, NM 67109
TEL: 505-345-3975 FAX: 505-545-4107
Website: www.hallenvironmental.com

OrderNo.: 2203E91

May 13, 2022

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

FAX

RE: PSP WDW 1 23 4 Inj Well

Dear Randy Dade:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/29/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers 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 #NM0901

Sincerely.

Andy Freeman

Laboratory Manager

Balel

4901 Hawkins NE

Albuquerque, NM 87109



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

Case Narrative

WO#: 2203E91

Date: 5/13/2022

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Analytical Notes:

Full list TCLP was requested for the two samples in this report. Per the TCLP Method 1311, "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run". All TCLP compounds are reported as totals in this report, at the TCLP Limits, since the low solids content did not require filtration. The TCLP term is used in the method header; this is used to represent that the compounds listed are the specific TCLP compounds and that these compounds are reported at the TCLP regulatory limits.

The cations were filtered using a 0.45um filter for the C/A balance determination.

CLIENT: Navajo Refining Company

Analytical Report Lab Order 2203E91 Date Reported: 5/13/2022

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: WDW-1,2,3 & 4 Effluent

Project: PSP WDW 1 2 3 4 Inj Well

Collection Date: 3/28/2022 9:35:00 AM

Lab ID: 2203E91-001

Matrix: AQUEOUS

Received Date: 3/29/2022 8:15:00 AM

180 ID. 2203E31-001	AND DESCRIPTION OF THE PARTY OF	MODOUG	JAMES	CELVEU.	UNIVE. 314	231202	2 5.13.00 AM	
Analyses	Result	MDL	RL	Qual	Units	DF	Date Analysed	Batch II
EPA METHOD 8061: PESTICIDES TCLP							Analyst: JME	
Chlordane	ND	0.00050	0.030		mg/L	1	4/8/2022 11:41:10 AM	66537
Endrin	ND	0.000049	0.020		mg/L	1	4/8/2022 11:41:10 AM	66537
gamma-BHC (Lindone)	ND	0.000041	0.40		mg/L	1	4/8/2022 11:41:10 AM	66537
Heptachlor	ND	0.000041	0.0080		mg/L	1	4/8/2022 11:41:10 AM	66537
Heptachior epoxide	ND	0.000047	0.0080		mg/L	1	4/8/2022 11:41:10 AM	68537
Methoxychlor	NO	0.000046	10		mg/L	1	4/8/2022 11:41:10 AM	68537
Tomphene	ND	0.00050	0.50		mg/L	1	4/8/2022 11:41:10 AM	66537
Surr: Decachiorobiphenyl	87.1	0	73-119		%Rec	1	4/8/2022 11:41:10 AM	86537
Surr: Tetrachloro-m-xylana	117	0	36.6-84.1	8	%Rec	1	4/8/2022 11:41:10 AM	66637
EPA METHOD 300.0: ANIONS							Analyst: CAS	1
Fluoride	35	2.0	5.0	•	mg/L	60	4/8/2022 10:49:57 AM	R87132
Chloride	720	12	25	•	mg/L.	60	4/8/2022 10:49:57 AM	R87132
Nitrogen, Nitrita (As N)	ND	0.027	0.60		mg/L	5	3/29/2022 4:27:18 PM	R86833
Bromide	0.01	0.25	0.50		mg/L	5	3/29/2022 4:27:16 PM	R86833
Nitrogen, Nitrate (As N)	0.75	0.050	0.50		mg/L	5	3/29/2022 4:27:18 PM	R88833
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/2W2022 4:27:18 PM	R86833
Sulfate	2300	12	25	•	mg/L	50	4/8/2022 10:49:67 AM	RB7133
EPA METHOD 6020A: TCLP METALS							Analyst: DBK	6
Arsenic	0.0078	0.0050	5.0	J	mg/L	10	3/30/2022 2:59:41 PM	56484
Leed	ND	0.0050	5.0		mg/L	10	3/30/2022 2:59:41 PM	86484
Selenium	0.087	0.0060	1.0	J	mg/L	10	3/30/2022 2:59:41 PM	88484
EPA METHOD 7470A: MERCURY							Analyst: VP	
Marcury	0.00034	0.000091	0.020	J	mg/L	1	3/30/2022 2:32:07 PM	66490
EPA METHOD 0010B: DISSOLVED META	ALS						Analyst: JLF	
Caldum	480	0.58	10		mg/L	10	4/5/2022 6:20:12 PM	A87057
Magneatum	140	0.34	10		mg/L	10	4/5/2022 6:20:12 PM	A87057
Potassium	130	2.1	10		mg/L	10	4/6/2022 6:20:12 PM	A87057
Sodium	640	4,2	10		mg/L	10	4/8/2022 12:49:55 PM	A8712E
EPA 6010B: TCLP METALS							Analyst JLF	
Berlum	0.041	0.0053	100	J	mo/L	5	4/5/2022 3:54:17 PM	68484
Cadmium	ND	0.0058	1.0		mg/L	5	4/5/2022 3:54:17 PM	66484
Chromium	ND	0.0084	5.0		mg/L	5	4/6/2022 3:54:17 PM	88484
Silver	0.0068	0.0083	5.0	J	mg/L	5	4/5/2022 3:54:17 PM	86484
EPA METHOD 8270C TCLP							Analyst: DAM	1
2-Methylphenol	ND	0.00061	200		mg/L	1	4/13/2022 11:15:48 PM	98542
3+4-Methylphanol	ND	0.00045	200		ma/L	1	4/13/2022 11:15:48 PM	98542
		6.67.5						3.7

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

Qualifiers:

- Value encode Missioners Contaminant Level.
- D Sample Clinted Due to Matrix
- H Holding three for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL Practical Quantitative Units
- 5 14 Recovery outside of cause due to dilution or matrix intenformer
- B Armlyte detected in the associated Mathod Blant
- E Enforced who
- J Analyte detected below quantization limits
- P flumple pEl Not in Rung
- RL Reporting Line

Page 2 of 22

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2203E91-001 Client Sample ID: WDW-1,2,3 & 4 Effluent

Collection Date: 3/28/2022 9:35:00 AM

Received Date: 3/29/2022 8:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed l	latch ID
EPA METHOD 8270C TCLP		A 1777					Anelyst: DAM	N.
2,4-Dirittrotoluene	ND	0.00062	0.19		mg/L	1	4/13/2022 11:15:48 PM	86542
Hexachlorobenzene	ND	0.00068	0.19		mg/L	1	4/13/2022 11:15:48 PM	96542
Hexachlorobutadiene	ND	0.00082	0.50		mg/L	1	4/13/2022 11:15:48 PM	66642
Hexachlorosthane	ND	0.00045	3.0		mg/L	1	4/13/2022 11:15:48 PM	66542
Nitrobenzene	ND	0.00051	2.0		mg/L	1	4/13/2022 11:15:48 PM	66542
Pertachlorophenol	ND	0.00059	100		mg/L	1	4/13/2022 11:15:48 PM	66542
Pyridine	ND	0.00093	5.0		mg/L	1	4/13/2022 11:15:48 PM	66542
2,4,5-Trichlorophenol	ND	0.00062	400		mg/L	1	4/13/2022 11:15:48 PM	66542
2,4,8-Trichlorophenol	ND	0.00043	2.0		mg/L	1	4/13/2022 11:15:48 PM	66542
Cresols, Total	ND	0.00051	200		mg/L	1	4/13/2022 11:15:48 PM	66542
Surr: 2-Fluorophenol	46.8	0	15-118		%Rec	1	4/13/2022 11:15:48 PM	66642
Sur: Phenol-d5	36.0	0	15-92.9		%Rec	1	4/13/2022 11:15:48 PM	68542
Sur: 2,4,6-Triforomophanol	50.4	0	15-150		%Rec	1	4/13/2022 11:15:48 PM	68542
Surr. Nitrobenzane-d5	63.3	0	15-136		%Rec	1	4/13/2022 11:15:48 PM	88542
Sur: 2-Fluoroblphenyl	51.4	0	15-134		%Rec	1	4/13/2022 11:15:48 PM	66542
Sun: 4-Terphenyl-d14	74.5	0	15-168		%Rec	1	4/13/2022 11:15:48 PM	66542
TCLP VOLATILES BY 8260B							Analyst CCM	
Benzene	ND	0.00023	0.50		mg/L	200	4/8/2022 9:14:00 PM	T87038
1,2-Dichloroethane (EDC)	ND	0.00025	0.50		mg/L	200	4/8/2022 9:14:00 PM	T87039
2-Butanone	ND	0.0020	200		mg/L	200	4/6/2022 9:14:00 PM	T87039
Carbon Tetrachlorida	ND	0.00018	0.50		mg/L	200	4/8/2022 8:14:00 PM	T87036
Chloroform	ND	0.00013	6.0		mg/L	200	4/6/2022 9:14:00 PM	T67039
1,4-Dichlorobanzana	ND	0.00021	7.5		mg/L	200	4/6/2022 9:14:00 PM	T87039
1,1-Dichloroethene	ND	0.00020	0.70		mg/L	200	4/8/2022 9:14:00 PM	T87039
Tetrachloroethene (PCE)	NO	0.00036	0.70		mg/L	200	4/8/2022 9:14:00 PM	T87039
Trichloroethene (TCE)	ND	0.00020	0.50		mg/L	200	4/8/2022 9:14:00 PM	T87039
Vinyi chloride	ND	0.00032	0.20		mg/L	200	4/8/2022 9:14:00 PM	T87039
Chlorobenzana	ND	0.00016	100		mg/L	200	4/6/2022 9:14:00 PM	T87039
Sur: 1,2-Dichloroethene-d4	104	0	70-130		%Rec	200	4/6/2022 9:14:00 PM	T87039
Sur: 4-Bromofluorobenzene	99.3	0	70-130		%Rec	200	4/6/2022 9:14:00 PM	T87035
Sur: Dibromofluoromethene	105	0	70-130		%Rec	200	4/6/2022 9:14:00 PM	T87039
Surr: Toluene-d8	95.6	0	70-130		%Rec	200	4/E/2022 9:14:00 PM	T87039
SM2510B: SPECIFIC CONDUCTANCE							Analyst: LRN	
Conductivity	8300	10	10		µmhos/s	1	4/5/2022 1:59:25 PM	R6702
SM4500-H+B / 9040C: PH							Analyst: LRN	
Hq	7.72			н	pH units	1	4/6/2022 1:59:25 PM	R8702
SM2320B: ALKALINITY							Analyst: LRN	

Matrix: AQUEOUS

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

Qualifiers:

- Value converts Micrimum Count Sample Dilated Due to Metric
- D
- н Holding times the proposition or ma
- Not Detected at the Reporting Limit. Fruitful Quartistive Limit æ
- Ni Il movemy consider at range due to dilection or ensists interior
- E
- Sample pH Not In Range

Page 3 of 22

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2203E91-001 Matrix: AQUEOUS

Client Sample ID: WDW-1,2,3 & 4 Effluent Collection Date: 3/28/2022 9:35:00 AM Received Date: 3/29/2022 8:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst: LRI	4
Bicarbonata (As CaCO3)	477.1	20.00	20.00		mg/L Ca	1	4/5/2022 1:59:25 PM	R87028
Cerbonate (As CaCO3)	MD	2.000	2.000		mg/L Ce	1	4/5/2022 1:59:25 PM	R87028
Total Alkalinity (as CaCO3)	477.1	20.00	20.00		mg/L Ca	1	4/5/2022 1:59:25 PM	R87025
SPECIFIC GRAVITY							Analyst: CAS	3
Specific Gravity	0.9988	0	O			1	4/11/2022 4:41:00 PM	R87156
SM2540C MOD: TOTAL DISSOLVE	D SOLIDS						Analyst: KS	
Total Dissolved Solids	4880	100	100	*0	mg/L	1	4/7/2022 11:00:00 AM	66599
SM 2540D: TSS							Analyst: KS	
Suspended Solids	14	4.0	4.0		mg/L	1	4/5/2022 10:33:00 AM	68600

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

Qualifiers:

- Valus seconds Maniteuro Contacional Level Sample Dibased Dan to Matrix
- Halding shares for proporation or enalysis exc H
- Not Detected at the Reporting Links
- Practical Quantitative Limit. % Recovery annulus of range due to dilection or to
- Analyte detected in the associated Method Black
- Analyte detected below quantization limits
- Sample pH Not in Range
- Reporting Limit

Page 4 of 22

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: PSP WDW 1 23 4 Inj Well

Lab ID: 2203E91-002 Client Sample ID: CTB to City of POTW

Collection Date: 3/28/2022 10:05:00 AM

Received Date: 3/29/2022 8:15:00 AM

Section 1 Section 1	ar co-dro-do-d	17.5		20120	- 10000 777	11271		
Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed B	steh ID
EPA METHOD 8081: PESTICIDES TCLP							Analyst JME	
Chlordane	ND	0.00060	0.030		mg/L	1	4/8/2022 12:07:30 PM	66537
Endrin	ND	0.000049	0.020		mg/L	1	4/8/2022 12:07:30 PM	66537
gamma-BHC (Lindane)	ND	0.000041	0.40		mg/L	1	4/8/2022 12:07:30 PM	66637
Heptachlor	ND	0.000041	0.0080		mg/L	1	4/8/2022 12:07:30 PM	66537
Heptachlor epoxide	ND	0.000047	0.0080		mg/L	1	4/8/2022 12:07:30 PM	66537
Mathoxychior	ND	0.000048	10		mg/L	1	4/8/2022 12:07:30 PM	88537
Toxaphene	ND	0.00050	0.50		mg/L	1	4/8/2022 12:07:30 PM	88537
Sur: Decechloroblphenyl	97,6	0	73-119		%Rec	1	4/8/2022 12:07:30 PM	88537
Surr: Tetrachloro-m-xylane	73.1	0	36.6-64.1		%Rec	1	4/8/2022 12:07:30 PM	68537
EPA METHOD 300,0: ANIONS							Analyst: CAS	
Fluoride	1.1	0.040	0,10		mg/L	1	4/8/2022 11:02:18 AM	R8713
Chloride	100	6.0	10		mg/L	20	3/29/2022 5:29:21 PM	R8683
Nitrogen, Nitrite (As N)	0.049	0.0053	0.10	J	mg/L	1	3/29/2022 4:52:07 PM	R8683
Bromkle	ND	0.060	0,10		mg/L	1	3/29/2022 4;52:07 PM	R8683
Nitrogen, Nitrate (As N)	4.9	0.010	0,10		mg/L	1	3/29/2022 4:52:07 PM	R8683
Phosphorus, Orthophosphale (As P)	2.0	0.25	0.50		mg/L	1	3/29/2022 4:52:07 PM	R8683
Sulfate	740	5.0	10	•	mg/L	20	3/29/2022 5:29:21 PM	R86833
EPA METHOD 6020A: TCLP METALS							Analyst: DBK	
Arsenic	ND	0.0050	5.0		mg/L	10	3/30/2022 3:04:15 PM	66464
Lead	ND	0.0050	5.0		mg/L	10	3/30/2022 3:04:15 PM	88484
Selenium	ND	0.0050	1.0		mg/L	10	3/30/2022 3:04:15 PM	88484
EPA METHOD 7470A: MERCURY							Analyst: VP	
Mercury	ND	0.000091	0.020		mg/L	1	3/30/2022 2:34:11 PM	66490
EPA METHOD 60108: DISSOLVED METALS	3						Analyst: JLF	
Calcium	220	0.58	10		mg/L	10	4/5/2022 6:23:18 PM	A8705
Magnesium	84	0.034	1.0		mg/L	1	4/5/2022 6:46:41 PM	A8705
Potassium	1.9	0.21	1.0		mg/L	1	4/5/2022 6:46:41 PM	A8705
Sodium	81	2.1	5.0		mg/L	6	4/8/2022 12:52:47 PM	A8712
EPA 6010B: TCLP METALS							Analyst: JLF	
Berlum	0.022	0.0011	100	J	mg/L	1	4/5/2022 7:11:20 PM	88484
Cadmium	ND	0.0012	1.0		mg/L	1	4/5/2022 7:11:20 PM	68484
Chromium	0.0024	0.0017	5.0	J	mg/L	1	4/5/2022 7:11:20 PM	68484
Silver	0.0032	0.0013	5,0	J	mg/L	1	4/5/2022 7:11:20 PM	88484
EPA METHOD 8270C TCLP			-				Analyst: DAM	
2-Methylphenol	ND	0.00061	200		mg/L	1	4/13/2022 11:56:38 PM	06542
3+4-Methylphenol	ND	0.00045	200		mg/L	1	4/13/2022 11:56:36 PM	10000

Matrix: AQUEOUS

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

Qualifiers

- Sample Diluted Day to Marks
- H Holding times for preparation or contyche
 HD Not Denoted at the Reporting Limit

- mple pH Not In Range

Page 5 of 22

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2203E91-002

Matrix: AQUEOUS

Client Sample ID: CTB to City of POTW Collection Date: 3/28/2022 10:05:00 AM

Received Date: 3/29/2022 8:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C TCLP							Analyst: DAM	
2,4-Dinitrotoluene	ND	0,00062	0.13		mg/L	1	4/13/2022 11:58:36 PM	88542
Hexachlorobenzene	ND	0,00066	0.13		mg/L	1	4/13/2022 11:56:36 PM	88542
Hexachlorobutadiene	ND	0,00082	0.50		mg/L	1	4/13/2022 11:56:36 PM	88542
Hexachloroethene	ND	0.00045	3.0		mg/L	1	4/13/2022 11:56:35 PM	68542
Nitrobenzene	ND	0.00051	2.0		mg/L	1	4/13/2022 11:56:38 PM	66542
Pentachlorophenol	ND	0,00059	100		mg/L	1	4/13/2022 11:56:36 PM	68542
Pyridine	ND.	0.00093	5.0		mg/L	1	4/18/2022 11:56:36 PM	68542
2,4,5-Trichlorophonol	ND.	0.00062	400		mg/L	1	4/13/2022 11:56:38 PM	88542
2,4,6-Trichlorophenol	ND.	0.00043	2.0		mg/L	1	4/13/2022 11:55:35 PM	86542
Cresols, Total	ND	0.00051	200		mg/L	1	4/13/2022 11:58:38 PM	66542
Sur: 2-Fluorophenol	58.8	0	15-118		%Rec	1	4/13/2022 11:58:38 PM	68542
Sun: Phenol-d5	43.1	0	15-92.9		%Rec	1	4/13/2022 11:58:36 PM	66542
Surr: 2,4,6-Tribromophenol	61.6	0	15-150		%Rec	1	4/13/2022 11:56:36 PM	68542
Surr. Nitrobenzene-d5	70.6	0	15-138		%Rec	1	4/13/2022 11:56:36 PM	66542
Surr: 2-Fluorobiphenyl	59.1	0	15-134		%Rec	1	4/13/2022 11:56:36 PM	66542
Surr: 4-Terphenyl-d14	88.0	0	16-168		%Rec	1	4/13/2022 11:56:38 PM	88542
TCLP VOLATILES BY 8260B							Analyst: CCM	
Benzene	ND	0.00023	0.60		mg/L	200	4/6/2022 9:37:00 PM	T87039
1,2-Dichlorosthans (EDC)	ND	0.00025	0.60		mg/L	200	4/0/2022 9:37:00 PM	T87039
2-Butanone	ND	0.0020	200		mg/L	200	4/0/2022 9:37:00 PM	T87039
Carbon Tetrachlorida	ND	0.00018	0.50		mg/L	200	4/0/2022 9:37:00 PM	T87039
Chloroform	ND	0.00013	6.0		mg/L	200	4/6/2022 9:37:00 PM	T87039
1,4-Dichloroberizene	ND	0.00021	7.5		mg/L	200	4/0/2022 9:37:00 PM	T87038
1,1-Dichlorosthene	ND	0.00020	6.70		mg/L	200	4/8/2022 9:37:00 PM	T87039
Tetrachloroethene (PCE)	ND	0.00036	0.70		mg/L	200	4/0/2022 9:37:00 PM	T87038
Trichloroethene (TCE)	ND	0.00020	0.50		mg/L	200	4/8/2022 9:37:00 PM	T87039
Vinyl chloride	ND	0.00032	0.20		mg/L	200	4/8/2022 9:37:00 PM	T87038
Chlorobenzene	ND.	0.00016	100		mg/L	200	4/8/2022 9:37:00 PM	T87038
Surr: 1,2-Dichloroethane-d4	106	O	76-130		%Rec	200	4/8/2022 9:37:00 PM	T87039
Surr: 4-Bromofluoroberzene	87.5	0	70-130		%Rec	200	4/6/2022 9:37:00 PM	T87039
Surr: Dibromofluoromethane	107	0	70-130		%Rec	200	4/6/2022 9:87:00 PM	T87039
Surr: Toluene-dB	98.7	0	70-130		%Rec	200	4/6/2022 9:37:00 PM	T87039
SM2510B: SPECIFIC CONDUCTANCE							Analyst: LRN	
Conductivity	1700	10	10		µmhoe/c	1	4/5/2022 2:19:18 PM	R8702E
SM4500-H+B / 9040C: PH	*77.				•		Analyst: LRN	
pH	7.29			н	pH units	1	4/5/2022 2:10:18 FM	R87028
BM2320B: ALKALINITY							Analyst: LRN	
							The second secon	

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

Qualifierm

- Value exceeds Menimum Controlleral Lovel.
- D Sample Dilinced Date to Main's:
- H Halling times for proposation or analysis exceeded
- MD Nor Detected at the Reporting Linds
- POL Practical Committee Limit
- 5 % Recovery outside of mage due to dilution or mornit interference
- B Analyte detected in the associated Method Black
- R Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not in Manage
- RL Reporting Limb

Page 6 of 22

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Project: PSP WDW 1 23 4 Inj Well

Lab ID: 2203E91-002

Matrix: AQUEOUS

Client Sample ID: CTB to City of POTW

Collection Date: 3/28/2022 10:05:00 AM Received Date: 3/29/2022 8:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2320B: ALKALINITY							Analyst LRN	
Bicarbonate (As CeCO3)	35.00	20.00	20.00		mg/L Ca	1	4/5/2022 2:19:16 PM	R8702E
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	4/5/2022 2:19:16 PM	R87026
Total Alkalinity (se CaCO3)	35.00	20.00	20.00		mg/L Ca	1	4/5/2022 2:19:18 PM	R8702E
SPECIFIC GRAVITY							Analyst: CAS	3
Specific Gravity	0.9900	0	0			1	4/11/2022 4:41:00 PM	R8715E
SM2548C MOD: TOTAL DISSOLVI	ED SOLIDS						Analyst: KS	
Total Dissolved Solida	1380	40.0	40.0	*D	mg/L	1	4/7/2022 11:00:00 AM	66699
SM 2540D: TSS							Analyst: K3	
Suspended Solids	9.0	4.0	4.0		mg/L	1	4/5/2022 10:33:00 AM	88800

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

Qualifiers:

- Volum exceeds Maximum Contractant Lovel.
- Sample Diluted Due to Matrix Holding times for preparation or analysis Not Detected at the Reporting Limit н
- MD
- Practical Quantitative Limit
- % Recovery extelds of range day in dilution or matrix between
- ed value
- Analyse detected below questionless finds
- Sample p.H. Wet In França
- riding Limit

Page 7 of 22

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

WDW_1 2 3	R A Effluent					-1777107					
				mg/L	meg/L	mg/L	meq/L	mg/L	meg/L	mg/L	meq/L
460		22 0									
140		64	5.27								
	65.64		19.82								
m g/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L,	mg/L	meq/L	mg/L	meq/L
2300	47.89	740	15.41								
720	20.31	100	2.82								
477.1	9.53	35.00	0.70								
		2.0	0.19								
0.75	0.05	4.9	0.35	-							
35	1.84	1.1	0.06								
0.61	0.01										
	79.63	-	19.53								
6300		1700									
	0.82		1.01								
	10		1								
RATIOS											
4660		1380									
4715		1257									
•	1.0		1.1								
	0.74		0.81								
	0.75		0.74								
	1.3					1					
	1.0		1.2								
	2203Es mg/L 640 130 460 140 2300 720 477.1 0.75 35 0.61 6300	640 27.84 130 3.32 480 22.96 140 11.52 65.64 mg/L meg/L 2300 47.89 720 20.31 477.1 9.53 0.75 0.05 35 1.84 0.61 0.01 79.63 6300 RATIOS 4660 4715 1.0 0.74 0.75 1.3	2203E91-001 2203E mg/L meg/L mg/L 640 27.84 81 130 3.32 1.9 480 22.96 220 140 11.52 64 mg/L meq/L mg/L 2300 47.89 740 720 20.31 100 477.1 8.53 35.00 2.0 2.0 0.75 0.05 4.9 35 1.84 1.1 0.61 0.01 79.63 6300 1700 0.82 10 RATIOS 1380 4715 1.0 0.74 0.75 1.3	Text	Text	The color	The color	The color of the	The color	The image of the	2203E91-001 2203E91-002 mg/L meg/L meg/L

Cation/Anion belance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L- 5%
Ratio measured TDS:celculated TDS - 1.0-1.2. Ratio Calculated TDS:EC - 0.55-0.7. Ratio Measured TDS:EC-0.55-0.7. Ratio of anion sum:EC - 0.9-1.1.
Ratio of cation sum:EC - 0.9-1.1

^{*} Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alicalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES



Pace Analytical* ANALYTICAL REPORT

April 07, 2022

Hall Environmental Analysis Laboratory

Sample Delivery Group:

L1476728

Samples Received:

03/30/2022

Project Number:

Description:

Report To:

Andy Freeman

4901 Hawkins NE

Albuquerque, NM 87109

Ср

Tc















Entire Report Reviewed By:

John Hawkins Project Manager

John V Hankins

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where as ampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are acceled.

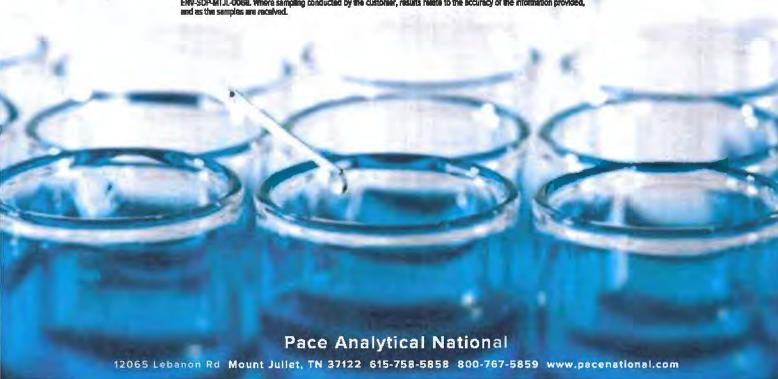


TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr. Sample Results	5
2203E91-001F WDW-1,2,3 & 4 EFFLUENT L1476728-01	5
2203E91-001G WDW-1,2,3 & 4 EFFLUENT L1476728-02	6
2203E91-001H WDW-1,2,3 & 4 EFFLUENT L1476728-03	7
2203E91-002F CTB TO CITY OF POTW L1476728-04	8
2203E91-002G CTB TO CITY OF POTW L1476728-05	9
2203E91-002H CTB TO CITY OF POTW L1476728-06	10
Qc: Quality Control Summary	11
Wet Chemistry by Method 2580	11
Wet Chemistry by Method 4500 CN E-2016	13
Wet Chemistry by Method 4500 S2 D-2011	14
Wet Chemistry by Method 9040C	15
Wet Chemistry by Method D93/1010A	17
Chlorinated Acid Herbicides (GC) by Method 8151A	18
GI: Glossary of Terms	19
Al: Accreditations & Locations	20
Sc: Sample Chain of Custody	21



















SAMPLE SUMMARY

2203E91-001F WDW-1,2,3 & 4 EFFLUENT L14	76728-01 Wast	e	Cnlieded by	Collected date/time 03/28/22 09:35	Received del 09/30/22 09	
Method	Betch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1841054	1	03/31/22 12:11	03/31/2212:11	JWS	Mt. Juliet, TN
Chlorinsted Acid Herbicides (GC) by Method 8151A	WG1842932	1	04/05/22 04:17	04/06/22 13:13	HLA	Mt. Juliet, TN
2203E91-001G WDW-1,2,3 & 4 EFFLUENT L14	76728-02 GW		Collected by	Collected date/time 03/28/22 09:35	Received da 03/30/22 09	
Method	Betch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 2580	WG1840372	1	03/31/22 01:58	03/31/22 01:58	ARD	Mt. Juliet, TN
2203E91-001H WDW-1,2,3 & 4 EFFLUENT L14	76728-03 GW		Collected by	Collected data/time 03/28/22 09:35	Received de 03/30/22 09	200,000,000
Method	Batch	Davidon	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500 CN E-2016	WG1841262	1	03/31/22 17:11	04/01/22 10:12	LDT	Mt. Juliet. TN
Wet Chemistry by Method 4500 S2 D-2011	W61840723	1	03/30/22 20:33	03/30/22 20:33	TWF	Mt. Juliet, TN
Wet Chemistry by Method 9640C	W51842212	1	04/05/22 12:00	04/05/22 12:00	GI	Mt Juliet TN
Wet Chemistry by Method D93/1010A	WG1840943	1	03/31/22 01:00	03/31/22 01:00	wos	Mt. Juliet, TN
2203E91-002F CTB TO CITY OF POTW L147	5729 04 West		Collected by	Collected date/time 03/28/22 10:05	Received da 03/30/22 09	
Method	Batch	Dilution	Preparation	Analysis	Analyst	Location
Metrica		Diludon	date/time	date/time	reniya.	DOCUMENT
Preparation by Method 1311	WG1841054	1	03/31/22 12:11	03/31/22 12:11	JWS	Mt. Juliet. TN
Chlorinsted Acid Herbicides (GC) by Method 8151A	WG1842932	1	04/05/22 04:17	04/06/22 14:11	AO	Mt. Juliet, TN
2203E91-002G CTB TO CITY OF POTW L147	'6728-05 GW		Collected by	Collected deto/time 03/28/22 10:05	Received do 03/30/22 09	
	76728-05 GW Betch	Dilution	Preparation	03/28/22 10:05 Analysis		
Method	Difference Annual	Dilution		03/28/22 10:05	03/30/22 09	Location
2203E91-002G CTB TO CITY OF POTW L147 Method Wet Chemistry by Method 2580	Betch		Preparation date/time 03/31/22 01:58	03/28/22 10:05 Analysis date/time 03/31/22 01:58	Analyst ARD	Location Mt. Juliet, TP
Method Wet Chemistry by Method 2580	Betch WG1840372		Preparation date/time	O3/28/22 10:05 Analysis date/time	Analyst ARD	Location Mt. Juliet, The
Method Wet Chemistry by Method 2580 2203E91-002H CTB TO CITY OF POTW 1.147	Betch WG1840372		Preparation date/time 03/31/22 01:58 Collected by	03/28/22 10:05 Analysis detertime 03/31/22 01:58 Collected date/time 03/28/22 10:05 Analysis	Analyst ARD Received da	Location Mt. Juliet, The
Method Wet Chemistry by Method 2580 2203E91-002H CTB TO CITY OF POTW L147 Method	Betch WG1840372 76728-06 GW Betch	1 Dilution	Preparation date/time 03/31/22 01:58 Collected by Preparation date/time	O3/28/22 10:05 Analysis date/time O3/31/22 O1:58 Collected date/time O3/28/22 I0:05 Analysis date/time	Analyst ARD Received da 103/30/22 05 Analyst	Location Mt. Juliet, The standing land.
Method Wet Chemistry by Method 2580 2203E91-002H CTB TO CITY OF POTW L147 Method Wet Chemistry by Method 4500 CN E-2016	Betch WG1840372 76728-06 GW Betch WG1841262	1 Dilution	Preparation date/time 03/31/22 01:58 Collected by Preparation date/time 03/31/22 17:11	O3/28/22 10:05 Anelysis dete/time O3/31/22 O1:58 Collected date/time O3/28/22 I0:05 Anelysis date/time O4/01/22 10:13	Analyst ARD Received de 03/30/22 05 Analyst LDY	Location Mt. Juliet, The standard Control Location Mt. Juliet, The standard Control Mt. Juliet, The standard Control
Method Wet Chemistry by Method 2580 2203E91-002H CTB TO CITY OF POTW L147 Method	Betch WG1840372 76728-06 GW Betch	1 Dilution	Preparation date/time 03/31/22 01:58 Collected by Preparation date/time	O3/28/22 10:05 Analysis date/time O3/31/22 O1:58 Collected date/time O3/28/22 I0:05 Analysis date/time	Analyst ARD Received da 103/30/22 05 Analyst	Location Mt. Juliet, TN startime

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.





















Project Narrative

All Reactive Cyanide results reported in the attached report were determined as totals using method 4500 CN E-2016. All Reactive Sulfide results reported in the attached report were determined as totals using method 4500 S2 D-2011. 2203E91-001F WDW-1,2,3 & 4 EFFLUENT

SAMPLE RESULTS - 01

Collected date/time: 03/28/22 89:35 Preparation by Method 1311

	Result	Qualifier	Ртер	Betch
Analyte			date / time	
TCLP Extraction			3/31/2022 12:11:40 PM	WG1841054
Fluid	1		3/31/2022 12.11:40 PM	WG1841054
Initial pH	NA		3/31/2022 12:11:40 PM	WG1841054
Final pH	N/A		3/31/2022 12 11-40 PM	WG1841054





	Result	Qualifier	RDL	Limit	Dilution	Analysis	Betch
Analyta	mg/L		mgA	mg/l		date / time	
2,4,5-TP (Silvex)	ND		0.00200	1	1	04/06/2022 13:13	WG1842932
2,4-D	ND		0.00200	10	1	04/06/2022 13:13	W61842932
(S) 2,4-Dichlarophenyl Acetic Acid	41.0		14.0-158			04/06/2022 13:13	W61842532











2203E91-001G WDW-1,2,3 & 4 EFFLUENT Collected date/time: 03/28/22 09:35

SAMPLE RESULTS - 02

Wet Chemistry by Method 2580

	Result	Qualifier	Dflution	Analysis	<u>Batch</u>
Analyte	mV			date / time	
ORP	34.9	<u>T8</u>	1	03/31/2022 01:58	WG1840372



















2203E91-001H WDW-1,2,3 & 4 EFFLUENT Collected date/time: 03/28/22 09:35

SAMPLE RESULTS - 03

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	Batch	
Analyta	Ngm		mg/l		date / time		
Reactive Cyanide	0.0103		0.00500	1	04/0V2022 10:12	WG1841262	



Wet Chemistry by Method 4500 S2 D-2011

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l		date / time	
Reactive Sulfide	ND		0.0500	1	03/30/2022 20:33	WG1840723



Wet Chemistry by Method 9040C

	Result	Qualifier	Dilution	Analysis	Batch	
Analyte	SU			date / time		
Corrosivity by pH	7,47	TB	1	04/05/2022 12:00	WG1842212	



Sample Narrative:

L1476728-03 WG1842212: 7.47 at 18.5C



Wet Chemistry by Method D93/1010A

	Hesult	Qualmer	Difficien	Analysis	Banch
Analyte	deg F			date / time	
Reshpoint	DNF at 170		1	03/31/2022 01:00	WG1840943



2203E91-002F CTB TO CITY OF POTW Collected date/time: 03/28/22 10 05

SAMPLE RESULTS - 04

Preparation by Method 1311

	Result	Qualifier	Ртер	Batch	
Analyte .		100	date / time		
TCLP Extraction	-		3/31/2022 12:11:40 PM	WG1841054	
Fluid	1		3/31/2022 12:11.40 PM	WG1841054	
Inittial pH	N/A		3/31/2022 12:11:40 PM	WG1841054	
Final pH	N/A		3/31/2022 12:11:40 PM	WG1841054	

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	RDL	Limit	Dilution	Analysis	Batch
Analyte	mg/l		mg/l	mg/l		date / time	
2,4,5-TP (Sliver)	ND		0.00200	1	1	04/06/2022 14:11	WG1842932
2,4-D	ND		0.00200	10	1	04/06/2022 14:11	WG1842932
(5) 2,4-Dichlorophanyi Acetic Acid	40.6		14.0-158			04/08/2022 14:11	WG1842932



















2203E91-002G CTB TO CITY OF POTW Collected date/time: 03/28/22 10:05

SAMPLE RESULTS - 05

Wet Chemistry by Method 2580

The second secon						
	Result	Qualifier	Dilution	Analysis	Batch	
Analyte	mV			date / time		
ORP	65.8	TB	1	03/31/2022 01:58	WG1840372	



















2203E91-002H CTB TO CITY OF POTW

SAMPLE RESULTS - 06

Collected date/time: 03/28/22 10:05

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	Betch
Analyte	mg/t		mg/l		date / time	
Reactive Cyanide	ND		0.00500	1	04/01/2022 10:13	WG1841262

2 Tc

Wet Chemistry by Method 4500 S2 D-2011

	Result.	Qualifier	RDL	Dilution	Analysis	Betch Control of the
Analyte	mg/l		mg/t		date / time	
Reactive Sulfide	ND		0.0500	1	03/30/2022 20:34	WG1B407Z3



Wet Chemistry by Method 9040C

	Result	Qualifier	Däution	Analysis	Betch
Analyte	SU			date / time	
Corrostvity by pH	7.20	<u>T8</u>	1	04/06/2022 11:38	WG1843431



Sample Nurrative:

L1476728-06 WG1843431: 7.20 @ 20.55C



PAGE:

10 of 21

Wet Chemistry by Method D93/1010A

	Result	Qualifier	Dilution	Analysis	Betch
Analyte	deg F			date / time	
Fleshpoint	DNF at 170		1	03/31/2022 01:00	WG1840943



Wet Chemistry b	372 by Method 2580				QUALIT	Y CONTRO	L SUMMARY		
.1476010-17.C	Original Sample (051 - Dup	licate (C	UPI					
	33/91/22 01:58 • (DUP)								
	Original Basult			DUP DIT	DUP Qualifier	DUP DIT Limits			
knalyte	mW .	mV		mV .		m∀			
DRP	190	192	1	2.00		20			
L1476010-18 C	Original Sample ((05) • (Dup	nicate (I	OUP					
OS) L1476010-18 (03/31/22 01:58 · (DUP)	R3775877-4	03/3V22 C	t58					
	Original Besuit	DUP Result	Dilution	DUF DIT	DUF Qualities	DUP DUT Limits			
Analytic .	nit	mV		mΥ		mV			
36	240	240	1	0.600		20			
L1476010-19 C	Original Sample	- Dup	olicate (I	JUP					
	09/31/22 OL58 - (DUF)								
	Original Result		Dilution	DUP DIFF	DUP Qualifier	DUP DISFLIMITS			
Analyte	m¥	mV		mV		WY			
	225	294	1	0.900		20			
	Original Sample 03/31/22 0558 - (DUP) Original Result	R3775877-6			6.7 A 22 A	energy visit			
					DUP Com Hier	DLP Off Links			
Armiyte	mY	mY	Designation	uA.	DLIP Qualifier	DUP DAY LIMBS			
Amilyte OKP			1		DLP GunHar				
DIEP	mΥ	mY 279	1	mV E.SO	DUP Qualifier	mV .			
.1476010-21 C	mV 286 Diliginal Sample (03/31/22 01:58 - (DUP)	mY 279 (OS) • Dup R3775877-7	1 0)(Cete (1	mV ESO Vt58		mY 20			
089 LW76010-21 0	mY 286 Dilginal Sample (03/51/22 01:59 - (DUP) Original Result	mY 279 (OS) • Duy R3775877-7 DUP Namuk	1 0)(Cete (1	mV ESO X:58 DUP DIF	DUP Qualifier	20 DUP DIST Limits			
	mY 286 Dilginal Sample 03/51/22 01:59 - (DUP) Original Besult mY	279 279 (OS) • DUP R3775877-7 DUP Result	1 Olicete (C O3/31/22 C Diluttori	ESO ESO ESO DUP DIF		DUP DIF Limits			
.1476010-21 0 05) LW76010-21 (mY 286 Dilginal Sample (03/51/22 01:59 - (DUP) Original Result	mY 279 (OS) • Duy R3775877-7 DUP Namuk	1 0)(Cete (1	mV ESO X:58 DUP DIF		20 DUP DIST Limits			
1476010-21 0 05j L1476010-21 (lanijan	mY 286 Dilginal Sample 03/51/22 01:59 - (DUP) Original Besult mY	mY 279 DUP ROS) • DUP ROS) • DUP ROS) • DUP ROSE ROSE ROSE ROSE ROSE ROSE ROSE ROSE	1 O3/3/V22 C Dilutton	MV E.50 H-58 DUP DBF MV 3.10		DUP DIF Limits			
005) L1476010-21 0 005) L1476010-21 0 008P	mV 286 Dispinal Sample (03/51/22 01:59 - (DUP) Original Result mV 292 Original Sample 03/31/22 01:58 - (DUP)	mY 279 (OS) • DUI R3775877-7 DUP Result MY 289 R3775877-8	1 C3/31/22 C Dilution 1 plicante	MV E.SO KESS DUP DUF MV 1.10 DULP)	DIP Qualifier	20 DUP DIF Limits			
005) L1476010-22	mV 286 Disginal Sample (Ca/5V22 01:58 - (DUP) Griginal Result mV 292 Driginal Sample (Ca/5V22 01:58 - (DUP) Griginal Result	mY 279 (OS) • DUP R3775877-7 DUP Result R4775877-8 DUP Result	1 ONCERE (I O3/31/22 C Disallon 1	MV E.SO DUP DUP DUP DUF DUP DUF		DUP DIST Limits mV 20			
CATA COLO - 22 COS L. 1476010 - 21 COS L. 1476010 - 22 COS L	mV 286 Disginal Sample (Ca/5V22 Ot:58 - (DUP) Original Result mV 292 Original Sample (Ca/3V22 Ot:58 - (DUP) Original Result mV	mV 279 COS) • DUP Remark mV 289 COS • DUP Remark mV 289 COS • DUP Remark mV	1 OJASTA CO OJASTA CO Dilution 1 Pilicane OJASTA CO OJASTA CO Dilution	mV E.SO VI.58 DUP DWY 110 CO:58 DUP DWY mV	DIP Qualifier	DUP DIST Limits mV 20 DUP Dist' Limits mV			
COS) L1476010-22 C	mV 286 Disginal Sample (Ca/5V22 01:58 - (DUP) Griginal Result mV 292 Driginal Sample (Ca/5V22 01:58 - (DUP) Griginal Result	mY 279 (OS) • DUP R3775877-7 DUP Result R4775877-8 DUP Result	1 C3/31/22 C Dilution 1 plicante	MV E.SO DUP DUP DUP DUF DUP DUF	DIP Qualifier	DUP DIST Limits mV 20			
COMP 1476010-21 C COS) L1476010-21 C Anniya CORP 14478010-22	mV 286 Disginal Sample (Ca/5V22 Ot:58 - (DUP) Original Result mV 292 Original Sample (Ca/3V22 Ot:58 - (DUP) Original Result mV	mV 279 COS) • DUP Remark mV 289 COS • DUP Remark mV 289 COS • DUP Remark mV	1 OJASTA CO OJASTA CO Dilution 1 Pilicane OJASTA CO OJASTA CO Dilution	mV E.SO VI.58 DUP DWY 110 CO:58 DUP DWY mV	DIP Qualifier	DUP DIST Limits mV 20 DUP Dist' Limits mV	spe:	DATE/IIME	PAGE

WG1840372 QUALITY CONTROL SUMMARY Wet Chemistry by Method 2880 L1476010-23 Original Sample (OS) - Euplicate (DUP) (OS) L1476010-23 03/31/22 OLS8 - (DUP) R3775877-9 03/31/22 OLS8 Original Result (XLP Result Dilution DUF DIT 4.20 LW75010-24 Original Sample (OS) • Duplicate (DUP) (OS) L1478010-24 03/31/22 01:58 - (DUP) R3775877-ID 03/31/22 01:58 DUP DOF **DUP DIE Limits** DUP Queller 20 0.000 L1476728-02 Original Sample (OS) • Duplicate (DUP) (OS) L1476728-02 03/31/22 01:56 - (DUP) R3775877-ft 03/31/22 01:58 **DUP DUT Limite DUP Qualifier** 20 L'476728-05 Cripinal Sample (DS) - Duplicate (DUP) (OS) L1476728-05 03/31/22 01:58 - (DUF) R3775677-12 03/31/22 01:58 Organi least (All'Heart **DUP DITUMS** DLP Qualities πV all. m¥ 65.8 68.0 2.20 20 Laboratory Cormol Sample (LCS) - Laboratory Control Sample Duplicate (LCSD) (LCS) R3775877-1 03/31/22 01:50 · (LCSD) R3776877-2 03/31/22 01:58 Spiles Amount LCS Result LCSD Desuit LCS Bec. LCSD Rec. Rec. Limits LCS Quelifier LCSD Quelifique DITT **DNF Limits** 108 11D 110 102 102 86.0405 0.300 ACCOUNT PROJECT: DATE/TIME: L1476728 04/07/22 00:03

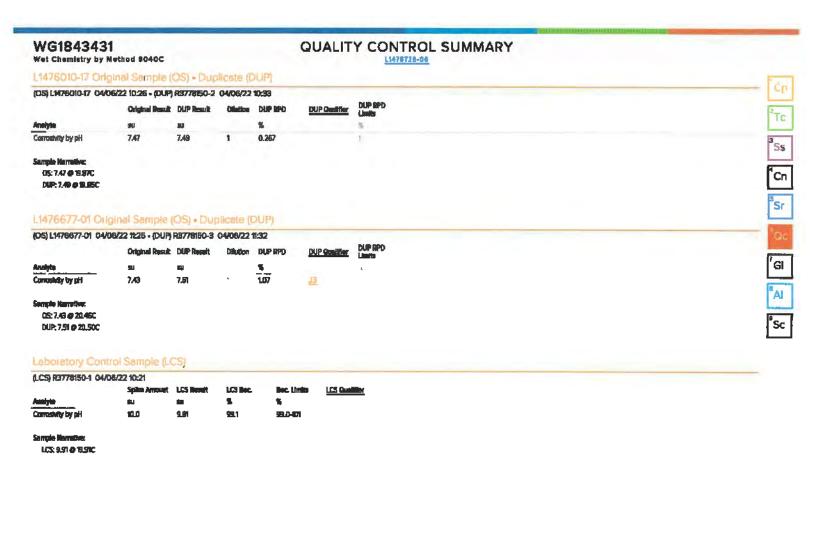
Het Chemistry by	2 Method 4500 CN	E-2018		C	BUALIT	Y CONTR		UMMAI	RY				
Method Blank (ME)												
ME) R3776480-1 O4/		Carrier States	22125	200									
	MA Result	MB Qualifier	ME HEAL most	MB ROL									
Applyto Reactive Countrie	mo/i		0.0000	0.00500					_				
appoint Cyman				0,0000									
1475719-01 On	ginal Sample (OSj - Dupli	cate (D	UP)									
(DS) L1476719-01 04/	0V22 10:04 • (DUP) I	R2776480-3 O	4 / QV22 1	2:06		G. Levin Land							
	Original Result	DUP Reselt	Dilution	DUP RPD	DUP Gunititer	DUP RPD Limits							
aniyi»	mg/L	mgñ		4		1							
hearthre Cyeritie	ND	ND	1	0,000		20							
L1476734-01 Ch	ininal Samele I	IOS) - Duesti	(rate If	NUEV									
DS) L9476794-01 04													_
(D2) EH-VOT34-UT ON	Original Result		Divide	DUP RPD	DUP Qualifier	DUP RPD Umlis							
Armiyin:	mg/l	mg/l				\$							
Reactive Ovenide	ND	MD		0.000		20							
	-		1			20							
Laboratory Com	trol Sample (L) 4/0/22 09:58	CS)	12255		75.00								
Laboratory Com	trol Sample (L) 4/0/22 09:58 Spice Amount	LCS Result	LCS Rec.	Rec. Limit	LCS Out								
Laborelory Cor LCS R8776480-2 O	trol Sample (L) 4/0/22 09:58	CS)	12255		<u> 165 9u</u>		_	_					
Laboratory Con LCS) RS776480-2 O Analyte Reactive Cymitie	AA7V22 09:58 Spile Amount mg/L 0.000	LCS Result mg/l 0.0052	LCS Rec.	Rec. Limit %. 97.1-120		the control of the co	ISD)	-					
Laboratory Corr LCSy R377648G-2 O Analyte Reactive Cyrentie	Arov Sample (L.) 4/07/22 09:58 Spiles Amount mg/l 0.000 Original Sample 4/07/22 10:08 - (MS)	LCS Result mg/l 0.0052	LCS Rec. 3 95.1	Rec. Lief % (7.1-120) (MS) = M 0-09 - (MSC) R	ātris Spilse	Duplicale (M							
Laboratory Corr (LCS) R3776480-2 O Analyto Reactive Cyunkie	AFOV22 09:58 Spiles Amount mg/L 0.000 Priginal Sample 4/01/22 10:08 - (MS) Spiles Amount	LCS Result mg/l 0.0052 (COS) = Matter R23776480-4 COntained Result	LCS Rec. 18 95.1 04/04/22 1 MS Rece	Rec. Lief 18. 07.1-120 (MS) = M 0-09 - (MSC) R 15 MSD Rep	etric Spiles 9775480-5 O	Duplicale (M	ISD)	Rec, Limite	MS Gualifter	MED Combine	290	NFO Limits	
Laboratory Corr LCS) RS776480-2 O Analyte Rective Cyrekie L1476720-02 O RSS L1476720-02 O Analyte	A/OV22 09:58 Spile Amount mg/ 0.000 Iniginal Sample 4/OV22 10:08 - (MS) Spile Amount mg/l	LCS Result mgfl 0.0652 (CS) a Martin Result mgfl 10.0652	LCS Rec. 195.1	Rec. Limit 18. (MS) = M. (MS) = M. (MS) = M. (MS) Rec. (MSD) Rec.	etric Spilos 9775490-5 O et MS Rec.	Duplicate (M 401/22 10:10 MSD Noc. 15	CMutton		MS Gualifier	<u>15)</u> (****)	5	*	
Laboratory Corr (LCS) R377648G-2 O Analyte Reactive Cyrentie	AFOV22 09:58 Spiles Amount mg/L 0.000 Priginal Sample 4/01/22 10:08 - (MS) Spiles Amount	LCS Result mg/l 0.0052 (COS) = Matter R23776480-4 COntained Result	LCS Rec. 18 95.1 04/04/22 1 MS Rece	Rec. Lief 18. 07.1-120 (MS) = M 0-09 - (MSC) R 15 MSD Rep	etric Spiles 9775480-5 O	Duplicale (M		Rec, Limits 45.	MS Gualther	MS) Contine			
Lobor old y Corr LCS) RS776480-2 O Analyto Reactive Cyunide L4476720-02 O Analyto Reactive Cyunide	Arol Sample (L.) 4/01/22 09:58 Spiles Amount mpl 0.000 Priginal Sample 4/01/22 10:08 - (MS) Spiles Amount mpl 0.000	LCS Result mgfi 0.0952 (CS) = Mart R23778480-4 C Original Result mgfi 0.0394	UCS Rec. 3, 95.1 95.1 95.1 MS Recommend O.196	Rec. Limit 9. 97.1-120 (MS) = M 0-09 - (MSC) R t MSD Rev mg/l 0.196	81775480-5 O of MS Rec. %	Duplicate (M 40x22 10:10 NSD Unc. N.	Ciliution		MS Countries	MSD Cambber	5	*	
Laboratory Corr (LCS) R9776480-2 O Analyte Rective Cyrekie L4476720-02 O (OS) L1476720-02 O	AVOV22 10:06 - (MS) Wiginal Sample 4/01/22 10:06 - (MS)	LCS Result mg/l 0.005.2 (CS) = Mart Color Ma	LCS Rec. 3, 95.1 11 24/0V22 1 MS Receiving 10,196	Rec. Limit 18. 97.1-1220 (MS) = M4 (MSO) Rev (MSO) Rev (MSO) R27. 9.136 (M	81776-480-5 O et MS Rec. 16 96.6 8000 S Dalkon 776480-8 O44	Duplicate (MACH22 10:10 MSD Nac. 15. MG6	CMutton 1	90.0-110			0.000	20	
Laboratory Corr (LCS) RS776480-2 O Analyta Reactive Cymitie L1476720-02 O Analyta Reactive Cymitie	A/OV/22 09:58 Spiles Amount mg/l 0.000 Priginal Sample 4/OV/22 10:08 - (MS) Spiles Amount mg/l 0.000 Priginal Sample 4/OV/22 10:16 - (MS) Spiles Amount Spiles Amount	LCS Result mg/l 0.005.2 (CS) = Mart (CS)	LCS Rec. 3, 95.1 11 24/0V22 1 MS Received 10, 196 11 MS Received 10,	Rec. Limit 18. 97.1-120 (MS) = M. 10-109 - (MSD) Re MSD Rec MS	Strik Spikes 9775480-5 O In his Rec. 16 96.6 PARTIX Spikes 979480-9 OAU IN NE Rec.	Duplicate (M MON/22 10:10 MSD fine. % ML6	Ciliution	90.0-110 Blec. Dwills	MS Qualifier	MSD Qualifier	0.000	% 20	
Lobor elbiy Corr LCS RS776480-2 O Analyte Reactive Cyunitie L1476720-02 O Analyte Reactive Cyunitie L1476734-02 O Analyte	Arovizz 09:58 Spilze Amount mg/ 0.100 Priginal Sample 4/04/22 10:06 - (MS) Spilze Amount mg/l 0.100 Priginal Sample 4/04/22 10:16 - (MS) Spilze Amount mg/l Spilze Amount mg/l	LCS Result mg/l 0.005.2 (CS) = Mast Conglinal Result mg/l 0.0394 (CS) = Mart Conglinal Result mg/l 0.0394	LCS Rec. 3 95.1 95.1 104/09/22 1 MS Resulting 1 0.136	Rec. Limit 18. 97.1-120 (MSC) = M4 (MSC) RW mgA (0.196 (MSC) RZ (1850 RW mgA)	81776-480-5 Out MS Rec. % 96.6	Duplicate (M MON/22 10:10 MSD fine. % ML6 Duplicate (M ON/22 10:29 MSD Rec. %	Ciliution 1 Ciliution	SE GO.O-TO	MS OurMon		0.000	TO Limits	
Laboratory Corr (LCS) RS776480-2 O Analyta Reactive Cymitie L1476720-02 O Analyta Reactive Cymitie	A/OV/22 09:58 Spiles Amount mg/l 0.000 Priginal Sample 4/OV/22 10:08 - (MS) Spiles Amount mg/l 0.000 Priginal Sample 4/OV/22 10:16 - (MS) Spiles Amount Spiles Amount	LCS Result mg/l 0.005.2 (CS) = Mart CS RESULT RESULT Mg/l 0.0094 (CS) = Mart RESULT	LCS Rec. 3, 95.1 11 24/0V22 1 MS Received 10, 196 11 MS Received 10,	Rec. Limit 18. 97.1-120 (MS) = M. 10-109 - (MSD) Re MSD Rec MS	Strik Spikes 9775480-5 O In his Rec. 16 96.6 PARTIX Spikes 979480-9 OAU IN NE Rec.	Duplicate (M MON/22 10:10 MSD fine. % ML6	CMutton 1	90.0-110 Blec. Dwills			0.000	% 20	
Laboratory Corr LCSp RS776480-2 O Analyte Reactive Cyrentie LSST L1476720-02 O Analyte Reactive Cyrentie L1476734-02 O Analyte COS) L1476734-02 O Analyte	Arovizz 09:58 Spilze Amount mg/ 0.100 Priginal Sample 4/04/22 10:06 - (MS) Spilze Amount mg/l 0.100 Priginal Sample 4/04/22 10:16 - (MS) Spilze Amount mg/l Spilze Amount mg/l	LCS Result mg/l 0.005.2 (CS) = Mast Conglinal Result mg/l 0.0394 (CS) = Mart Conglinal Result mg/l 0.0394	LCS Rec. 3 95.1 95.1 104/09/22 1 MS Resulting 1 0.136	Rec. Limit 18. 97.1-120 (MSC) = M4 (MSC) RW mgA (0.196 (MSC) RZ (1850 RW mgA)	81776-480-5 Out MS Rec. % 96.6	Duplicate (M MON/22 10:10 MSD fine. % ML6 Duplicate (M ON/22 10:29 MSD Rec. %	Ciliution 1 Ciliution	SE GO.O-TO	MS OurMon		9,000 0.000 5,740	TO Limits	PAGE



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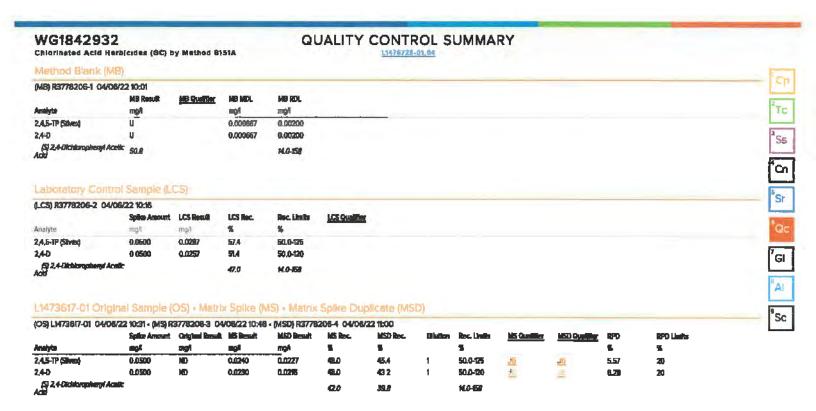
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GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Discialmer - information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

I IDDIONICIONIC CIN	to the certification
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(5)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analyses reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different then 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically detarmined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prepietch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample if there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narretive (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.

Qualifier	Description
ß	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
T8	Sample(s) received past/too close to holding time expiration.

















This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Sample Summary (Ss)

ACCREDITATIONS & LOCATIONS

lebame	40660	Nebresks	NE-CS-15-05
heta	17-028	Nevada	TN000032021-1
rizona	A20612	New Hampshire	2975
ricenses	88-0469	Now Jersey-NELAP	TH002
allfornie	2932	New Mexico 1	TH00003
plorado	TN00003	New York	11742
onnecticut	PH-0197	North Carolina	Em375
cricia	E87487	North Carolina ¹	DW21704
ion la	KEAP	North Caroline ⁹	41
iorgiā ¹	923	North Dalasta	R-140
aho	TN00003	Ohio-VAP	CL0069
incis .	200008	Oklahoma	9915
dana	C-TN-OI	Oregon	TN200002
WA	364	Pennsylvania	68-02979
Traces	E-10277	Rhode blend	LA000356
enflucity ^{1 d}	KY90010	South Ceroline	84004002
ordincky ²	10	South Dalasta	mři
outsterne	AB0792	Termessee 14	2006
ouiste na	LA018	Testans	T104704245-20-18
sine	T1000003	Teas*	LABORIZ.
ayland	324	Utah	TN000032021-11
essechusetts	M-TN003	Vermont	VT2008
lainigun	9958	Virginia	110033
lunesota	047-999-395	Weshington	C947
ssissippi	TH00003	West Virginia	233
ksouri	340	Wisconsin	998093910
ordana	CERTOOSS	Wyoming	A21.A
PLA - ISO 17025	1461.01	AHA-LAP,LLC EMLAP	100789
ZLA - ISO 17025	1461.02	DOD	1461.01
made	1461.01	USDA	P330-15-00234



^{*} Mot all certifications held by the laboratory are applicable to the results reported in the attached report.











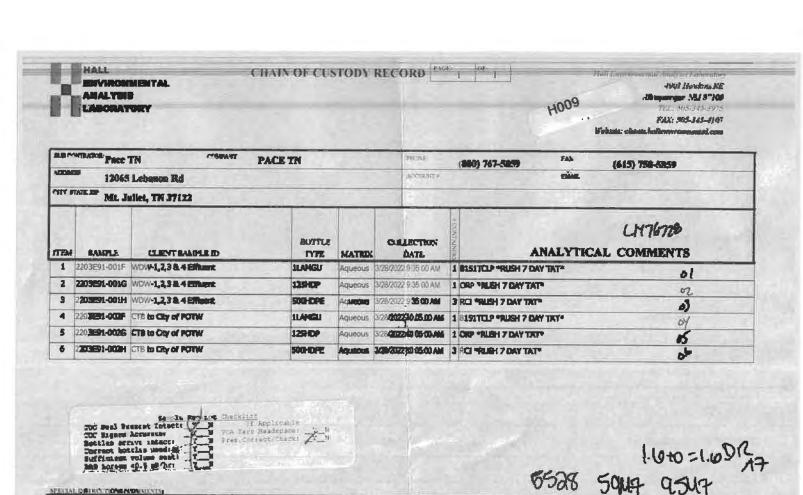








^{*} Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



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POLLAD USE ONLY

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er include the LAB ID and the CLICAT SAARILE ID on all final reports. Plane o

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SHERD -

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Septent []

TAT

Hall Environmental Analysis Laboratory, Inc.

WO#:

2203E91

15-May-22

Client Project: Navajo Refining Company

Sample ID: MIR

PSP WDW 1 23 4 Ini Well

Regult

ND

	-
Client ID:	DRW

SampType: Mblk

TestCode: EPA Mathod \$80.0: Anlone

Botch ID: R06833

POL

0.50

SPK value SPK Ref Val

RunNo: 86833

%RPD

%RPD

%RPD

Prep Dated

Analyte

Analysis Date: 5/29/2022

SeqNo: 3096895

%REC LowLimit

Units: mg/L HighLimit

RPDLImit

RPDLImit

RPDUmit

Qual

Quel

Qual

Chilorida Nitrogen, Nibite (As N) Bromide

ND 0.10 ND 0.10 Nitrogen, Nitrete (As N) 0.10 ND 0.50 Phosphorus, Orthophosphate (As P. ND Suttella ND 0.50

Sample ID: LCS Client ID: LCSW

Prep Date:

SampType: LCS Batch ID: RE6833

Analysis Date: 3/29/2022

TestCode: EPA Method 308.0: Anlons

RunNo: 88833

SeqNa: 3866896

Units: mark

Analyte PQL SPK value SPK Raf Val **%REC** LowLimit HighLimit Chloride 0.60 5,000 a **B3.2** 20 110 Mitrogen, Nitrite (As N) 0.97 0.10 1.000 0 96.7 90 110 Bromide 2.500 2.4 0.10 0 97.5 90 110 2.5 Nitrogen, Nitrate (As N) 0.10 2.500 100 90 110 ۵ Phosphorus, Orthophosphate (As P 4.0 0.50 5,000 91.9 90 110 Suffeta 0.50 10.00 93.6 90 110

Sample ID: 2203E91-002CMS Client ID: CTB to City of POT SampType: MS

TestCode: EPA Method 300.0: Anlone

Batch ID: R86833

FlunNo: 80033

Prep Date:

Analysis Date: 3/29/2022

SeqNo: 3068925

Units: mg/L

Analyte Regult PQL SPK value SPK Ref Vel **%REC** LowLimit HighLimit 0.97 Mitrogen, Nitrita (As N) 0.10 1.000 0.04900 92.5 83.4 105 Bromkle 2,500 2.4 0.10 97.1 912 108 0.50 5.000 Phosphorus, Orthophosphata (As P. 2.040 80.5 80.1 109

Sample ID: 2203E91-002CMSD

SampType: M&D

TestCode: EPA Method 300.0: Antons

Client ID: CTB to City of POT

Berich ID: R88833

RunNo: 86833

Prep Date:
Anelyte
Nitrogen, Nitrite (
Browlets

Prep Dete:	Analysis [Date: 8/	29/2022		BegNo: 30	066926	Units: mg/L			
Anelyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPOLImit	Quel
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0.04900	93.1	83.4	105	0.655	20	
Eromide	2.4	0,10	2,500	0	97.9	91.2	106	0.911	20	
Phosphones, Orthophosphate (Ae P	6,2	0.50	5.000	2.040	82.3	80.1	109	1,52	20	

Qualifiers

- Value repeate March muni Com
- D Sample Diluted Dire to Mutels
- Holding those for preparation or analysis exec H
- MD Not Detected at the Reporting Limit
- Analyte detected in the numerical Mathed Blank
- معلمه المراه
- Analyte detected below quantitation limbs
- ple pH Net In Range
- rting Limit

Page 8 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203E91

13-May-22

Client:	Navajo Refining Company
Project:	PSP WDW 1 23 4 Inj Well

Sample ID: MB	SampT	ype: mi	olk	Tes	tCode: E					
Client ID: PSW	Batch ID: R87132			17	tunNo: 8	7132				
Prep Date:	Analysis D	hate: 4/	8/2022		SeqNo: 3	080891	Units: mg/L			
Analyte	Result	POL	SPK value	SPK Ref Vel	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
-Tuorida	ND	0.10								
Chioride	ND	0.50								
A Marini	ND	0.50								
Sample ID: LCS	SampT	ypa: ks		Too	tCode: E	PA Method	300.0: Anlone	K.i		
Client ID: LCSW	Batch ID; R87132		RunNo: 87132							

Client ID: LCSW	Batc	Batch ID; R87132			RunNo: 8	7132				
Prep Date:	Analysis C	eta: 4/	W2022		SeqNo: 3	080692	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chlorida	4.8	0.50	5.000	0	95,5	90	110			
Sulfate	9.8	0.50	10.00	0	95.7	90	110			

Qualiflers:

- Video escocia Mindrago Controland Lord.
- D Sumple Dilated Due to Materix
- H Halding times for preparation or analysis expended
- NO. Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- 5 % Receivery craimble of range date to effection or craries interference
- B Applyes detected in the associated Mathed Black
- B. Bathented value
- J Amilyta detected below quantitation linds
- P Sample pH Not In Burge
- Til. Reporting Limit

Page 9 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#:

2283配91

13-May-22

Client:

Navajo Refining Company

Project:

PSP WDW 1 23 4 Inj Well

Result

0.0011

0.049

0.051

0.048

0.00091

Sample ID: MB-66484

Prep Date: 3/29/2022

SampType: MBLK

PQL

TestCode: EPA Method 8020A: TCLP Metals

Client ID: PBW

Batch ID: 98484 Analysis Date: 3/30/2022 RunNo: 86849

SeqNo: 3067900

Units: mg/L HighLimit

%RPD **RPDLImit**

Qual

Qual

Analyte Areanic Lasai Selenium

SPK value SPK Ref Val %REC LowLimit ND 0.0010 ND 0.0010 ND 0.0010

Sample ID: MSLLLCS-88484

SampType: LCSLL

TestCode: EPA Method 6020A: TCLP Methic

70

Client ID: BatchQC

Baich ID: 86464

RunNo: 88849

Prep Date: 3/29/2022

Analysia Date: 3/30/2022 PQL

0.0010

0.0010

0.001000

0.001000

0.001000

SegNo: 3067910

Units: mo/L

Analyte Result Aremic 0.00087 0.0010

8PK value SPK Ref Val %REC LowLimit HighLimit 0 107 70 130 %RPD **RPDLImit** Quel

RPDLimit

Salanium Sample ID: MSLCS-66464

SampType: LCS

RunNoc 88848

0

TestCode: EPA Method 6026A: TCLP Metals

130

Client ID: LCSW Prep Date: 3/29/2022 Batch ID: 68484

SeqNo: 3887911

90.9

Unite: mg/L

HighLimit %RPD

Analyte Amenic Load

Salanlum

Lead

Analysis Date: 3/30/2022 Result PQL

0.0010

0.0010

0.0010

SPK value SPK Ref Val %REC 0.05000 98.6 80 120 0.05000 102 80 120 0 0.05000 0 96.2 80 120

Qualifiers

- Sucurity Diluted Date to Marsin D
- Holding times for presenting or analysis H
- MD Not Detected at the Reporting Limit POL Positive Lint.
- % Musewary orthide of range due to diletion or suttric interfer
- ed in the emperimed Method Dilesi Anather delice
- E Estimated write
- Amilyte Statuskel helaw countilation limbs
- flounds alf. Not in Rango

Page 10 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203E91 13-May-22

Client: Project: Navajo Refining Company PSP WDW 1 23 4 Inj Well

Sample ID: MB-66537	Samp	Type: ME	LK	Tos	TestCode: EPA Method 8081: Peeticides TGLP						
Client (D: PBW	Bet	Betch ID: #8537		# () F	TunNo: 8	7097					
Prop Date: 3/31/2022	Analysis	Dete: 4/	0/2022		SeqNo: 3	080682	Unite: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Vel	%REC	LowLimit	HighLimit	%RPD	RPDUmit	Qual	
Chlordane	ND	0.030									
Endrin	NO	0.020									
gemme-EHC (Lindens)	ND	0.40									
Heptachlor	ND	0.0080									
Heptachior epodicie	ND	0.0080									
Methoxychior	ND	10									
Toxaphene	ND	0.50									
Surr: Decerhiorobiphenyl	0.0028		0.002500		113	73	119				
Surr: Tetrachioro-m-xylene	0.0019		0.002500		75.6	36.6	84.1				

Sample ID: MB-65537	Samp	Type: ME	LK	Tes	tCode: E	PA Method	8081: Pestici	des TCLP	,	
Client ID: PSW	Bate	h ID: 664	537		tunNo: 8	7097				
Prep Date: 3/31/2022	Analysia Date: 4/8/2022		্	BeqNo: 8	080553	Unite: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	WREC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Chlordana	ND	0.030								
Endrin	ND-	0.020								
gemme-BHC (Lindana)	ND	0,40								
teptachlor	ND	0800.0								
leptechlor epodde	ND	0.0080								
Methocychlor	ND	10								
Toxaphene	ND	0.50								
Surr: Decechionobiphenyl	0,0029		0.002500		118	73	119			
Sun: Tetrachioro-m-xylene	0,0019		0.002500		78.7	36.6	84.1			

Sample ID: LCS-55537	Semi	Type: LC	3	Tes	tCode: El	PA Method	8081; Peetick	des TCLP		
Client ID: LCSW	Bat	ch ID: 66	537		tunNo: 8	7087				
Prep Date: 3/31/2022	Analysis Date: 4/8/2022				SeqNo: 3	080664	Unite: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Endrin	0.00048	0.00010	0.0005000	0	98.9	58.3	128			
gamme-BHC (Lindane)	0.00038	0.00010	0.0005000	0	76.3	45.8	103			
Heptachilor	0.00037	0.00010	0.0005000	0	74.3	33.7	104			
Haptachior epoxide	0,00047	0.00010	0.0005000	0	93,6	50.1	116			
Methoxychlor	0,00061	0.00010	0.0005000	0	101	15	203			
Sur: Decachiorobiphenyl	0.0029		0.002500		115	73	119			
Sur: Tetrachioro-m-xylene	0.0015		0.002500		60.8	36,6	64.1			

Qualifiers:

- Value essends Mississero Contembrant Level.
- D Sample Dilated Don to Mintale.
- H Holding those for proposation or enabals consisted.
- ND Not Detected at the Reporting Limit
- PQL. Fractical Quantitative Limit
- 8 K Roomery antide of range due to distribut or matrix interference
- D Armhais decembed in the amounted Marthari Wheel
- E Britantal value
- J Analyte detected below quantitation limits
- P Sumple pH Not In Range
- BL Reporting Limb

Page 11 of 22

Hall Environmental Analysis Laboratory, Inc.

WOW:

2203E91

13-May-22

Client: Project: Navajo Refining Company

PSP WDW 1 23 4 Inj Well

Semple ID: LC3-66837		Type: LC			TestCode: EPA Method 8061: Pesticides TCLP						
Client ID: LCSW	Betch ID: 68537				RumNo: 8	7697					
Prep Date: 3/31/2022	Analysis	Date: 4/	8/2022		SegNo: 3	080555	Units: mg/L				
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Endrin	0.00050	0.00010	0.0005000	0	101	56,3	126				
general-BHC (Undere)	0.00041	0.00010	0.0006000	. 0	82.5	45.8	103				
Heptechlor	0.00038	0.00010	0.0006000	0	76.4	33.7	104				
Heptachlor apoxide	0.00047	0.00010	0.0005000	0	93.7	50.1	116				
Methoxychlor	0.00052	0.00010	0.0006000	0	104	15	203				
Surr: Decachlorobiphenyl	0.0030		0.002500		119	73	119				
Surr: Tetrachloro-m-xylene	0.0016		0.002500		63.5	38.8	84.1				

Qualiflera

- io Dilumd Due to March.

Page 12 of 22

Hall Environmental Analysis Laboratory, Inc.

WOW: 2203E91 13-May-22

Client: Navajo Refining Company Project: PSP WDW 1 23 4 Inj Well

Sample ID: 100ng 624 ica	Samp	ype: LC	8	Tee	tCode: T	os by 8250E				
Client ID: LCSW	lent ID: LCSW Beich ID: T67839		7039	F						
Prep Date:	Analysis D	Pate: 4/	6/2022		eqNo: 3	077978	Unite: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Benzane	0.021	0.50	0.02000	0	105	70	130			J
1,1-Dichlorgethene	0.020	0.70	0.02000	0	101	70	130			J
Trichioroetherus (TCE)	0.020	0.50	0.02000	0	101	70	130			J
Chlorobenzene	0.021	100	0.02000	0	105	70	130			J
Sur: 1,2-Dichloroethane-d4	0.010		0.01000		101	70	130			
Sur: 4-Bramofluorobenzane	0.010		0.01000		104	70	130			
Sur: Dibromofluoromethane	0.010		0.01000		101	70	130			
Sur: Toluena-dã	0.0099		0.01000		98.9	70	130			

Qualifiers:

- Value exceeds Meximum Consuminant Level.
- Special Divised Due to Matrix D
- ND
- % Recovery outside of range due to effection or mustic interfer
- B Analyte detected in the consisted Method Block

- apit pH Not in Range

Page 13 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#:

2203E91

13-May-22

Client:

Navajo Refining Company

Project: PSP WDW 1 23 4 Inj Well

Sample ID: mb-65542	Samp	Type: Mil	LK	Tes	tCode; E	PA Method	8270C TCLP			
Client ID: PBW	Barto	h ID: 66	542		RunNo: 8	7231				
Prep Date: 4/1/2022	Analysis Data: 4/13/2022			SeqNo: 8084458			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Quel
2-Mathylphenol	ND	200								
1:4-Methylphanal	ND	200								
2,4-Dinitrotoluene	ND	0.13								
texachlorobenzene	ND	0.13								
texachlorobutediene	ND	0.60								
issach)oroshens	ND	3.0								
Vilrobenzana	ND	2.0								
^a entachiorophenoi	ND	100								
yridina	ND	5.0								
LA,5-Trichlorophenol	ND	400								
L4,8-Trichlorophenol	ND	2.0								
Ornsoln, Total	ND	200								
Sur: 2-Pluorophenol	0.11		0.2000		55,0	15	118			
Sur: Phenol-d5	0,082		0,2000		41.0	15	82.9			
Sun: 2.4.6-Trioromophenoi	0.13		0.2000		62.7	15	150			
Sun: Mitrobenzene-dő	0.085		0.1000		65.3	15	136			
Sur: 2-Fluoroblphenyl	0.052		0.1000		51.8	15	134			
Surr. 4-Terphenyl-d14	0.075		0.1000		74.5	15	168			

Sample ID: Ice-68542	Sam	Type: LC	S	Tes	tCode: El	A Method	8270C TCLP			
Client ID: LCSW	Bar	ch ID: 66	542	F	tunNo: 8	7231				
Prep Date: 4/1/2022	Analysis	Date: 4/	13/2022	\$	legNo: 3	084450	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Vel	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
2-Methylphenol	0.058	0.00010	0.1000	0	55.8	19	108			
3+4-Methylphenol	0.11	0.00010	0.2000	0	53.3	16.3	112			
2,4-OlnBrotoluene	0.034	0.00010	0.1000	0	34.3	15	99.6			
Hexachlarobenzane	0.052	0.00010	0.1000	0	52.4	41.8	111			
Herachlorobutadiene	0.042	0.00010	0,1000	0	41.8	15	81.5			
Heuschluroethane	0.048	0.00010	0.1000	0	48.3	15	87.5			
Wirobenzane	0.059	0.00010	0.1000	0	50.3	19.3	114			
Pentachlorophenol	0.057	0.00010	0.1000	0	56.7	29	103			
Pytidine	0.039	0.00010	0.1000	0	39.3	15	92.6			
2,4,5-Trichkstophenol	0.062	0.00010	0.1000	0	51.7	25.2	114			
2,4,6-Trichlarophenol	0.063	0.00010	0.1000	0	52.9	25.7	112			
Crascola, Total	0.16	0.00010	0.3000	0	54.1	15	145			
Sur: 2-Fluorophenol	0.092		0.2000		45.9	15	118			
Surr. Phenol-d5	0.071		0.2000		35.3	15	92.9			
Sur: 2,4,5-Tribromophenol	0.12		0.2000		61.8	15	150			

Qualificre:

- Value records Maximum Contendant Love
- D Sample Dileted Day to Matrix
- H Rolling times for presention or profess coverded
- ND Not Detected at the Especific Limit
- PQL Purifical Quantitative Line
- % Theory existée of rengo due to délution or univis interference
- B Analysis democracy in the management handward Minds
- H Betimized value
- J America detected below quantitation firmit
- P Sample pHI Not In Hange
- III. Reporting Link

Page 14 of 22

Hall Environmental Analysis Laboratory, Inc.

WO# 2203E91 13-May-22

Client: Navajo Refining Company PSP WDW 1 23 4 Inj Well Project:

Semple ID: Ics-66542 TestCode: EPA Method 8279C TCLP SampType: LCS Client ID: LCSW Batch ID: 04542 RunNo: 87231 Prep Date: 4/1/2622 Analysis Date: 4/13/2022 SeqNo: 3084459 Units: mg/L SPK value SPK Ref Val %REC HighLimit %RPD **RPDL**mit Analyte Result Quel 0.058 0.1000 58.5 15 138 Sun: Mitrobenzame-d5 0.051 Sum: 2-Fluorobiohern/ 0.1000 50.8 15 134 15 168 Sur: 4-Terphenyl-d14 0.077 0.1000 77.0

Qualifiers:

- h Maximus Costandant Local.
- Sample Dilated Day to Matrix
- Holding those for proporation or analysis executed
- Not Detected at the Reporting Limit.
- Practical Constitution Limit
- % Recovery coulde of range doe to dilution or matrix istards
- Analyte detected in the associated Mathod Blank Estimated value
- E
- Analyse detected halow quantitation limits
- Ample pH Not In Range
- BL. Reporting Limit

Page 15 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#:

2203E91

13-May-22

Client:

Navajo Refining Company

Project:

PSP WDW 1 23 4 Inj Well

Sample ID: Ice-1 100.2u8 oC

SampType: les

TestCode: SM2510B: Specific Conductance

Client ID: LCSW

Batch ID: R67028

RunNo: 87028

Prop Date:

Analysis Date: 4/5/2022

PQL

SeqNo: 3075463

Units: umhos/cm

Analyte Conductivity Result 100

SPK value SPK Ref Val %REC

LowLimit

115

HighLimit

RPDLImit

Sample ID: ica-2 100.2u8 oC

SampTypa: lcs

TestCode: SM2510B; Specific Conductance

Client ID: LCSW

Batch ID: R87028

RunNo: 87028

Analysis Dats: 4/5/2022

PQL

SeqNo: 3875427

SPK value SPK Ref Val %REC LowLimit

Units: jumhos/cm

HighLimit %RPD

%RPD

Qual

Analyte

Prep Date:

100.2

104

RPDLImit

Conductivity

Result 100

115

10

QualMera:

H

Value Extends Mankouris Continuisma Level. Holding times for preparation or sombain ex-

Sample Cibried Don to Matrix b

ND. Not Descrine at the Emporting Limit

my optable of range day to dilution or metric interf

Analyte detected in the associated Method Rhad

Enforced value

Amilyte detected below quantitation limits

ople pH Nat In Banga

orting Limit

Page 16 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203E91 13-May-22

Client:

Navajo Refining Company

Project:

PSP WDW 1 23 4 Inj Well

Sample ID: MB-66490

SempType: MBLK

TestCode: EPA Method 7470A: Mercury

Client ID: PBW

Batch ID: 06460

RunNo: 86867

SPK value SPK Ref Val %REC LowLimit

Prep Date: 3/30/2022

Analysis Date: 3/30/2022

SeqNo: 3068731

Units: mg/L **HighLimit**

%RPD **RPDLImit**

Analyte Mercury

PQL ND 0.00020

Sample ID: LCSLL-66490

SampType: LCSLL

TestCode: EPA Method 7479A: Mercury

Client ID: BetchQC

Batch ID: 66496

RunNo: 80887

Prep Date: 3/30/2022

Analysis Date: 3/30/2022

SeqNo: 3068732

Units: mg/L

Analyte Mercury

PQL SPK value SPK Ref Val 0.00019 0.00020 0.0001500

%REC LowLimit 129

HighLimit 150 %RPD **RPDLImit** Quel

Sample ID: LCS-66490 SampType: LCS

TestCode: EPA Method 7470A: Mercury RunNo: 86967

Client ID: LCSW Prep Date: 3/30/2022

Betch ID: 66490 Analysis Date: 3/30/2022

SegNo: 3068733

Unite: mg/L

Qual

Analyte

SPK value SPK Ref Val %REC LowLimit POL 0.0048 0.00020 0.005000

92.4

HighLimit 85 115 %RPD **RPDLImit**

Mercury

Sample ID: LCSD-96490 SampType: LCSD

TestCode: EPA Method 7470A: Mercury RunNo: 88887

HighLimit

Analyte

Prep Date: 3/30/2022

Client ID: LC8802 Batch ID: 65490 Analysis Date: 3/30/2022

SeqNo: 3068734

Unita: mg/L

%RPD **RPDLimit**

لعبت

Mercury

SPK value SPK Ref Val %REC LowLimit 0.0048 0.00020 0.005000

91.1

1.45

Qualifiers:

- Value arcords Missimum Communicant Level.
- Sample Diluted Due to Matrix
- Holding times the proposition or enally Not Detected at the Reporting Limb
- ND Practical Quantitative Limit POL
- We Becovery contrible of surges due to allustres ar ventrus leave
- Analyte detected in the esseciated Method Blac

- ople pH Not In Range
- Reporting Limit

Page 17 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203E91 13-May-22

Client: Project: Navajo Refining Company PSP WDW 1 23 4 Inj Well

Sample ID: MB-A	SampT	ype: Mi	BLK	Tes	tCode: E	PA Method	6010B: Dieso	lyed Met	als:	
Client ID: PBW	Batc	h ID: AG	7057	F	RunNo: 6	7057				
Prep Date:	Analysis D	Sestin: 44	5/2022		SeqNoc a	077198	Unite mg/L			
Anniyte	Result	PQL	SPK value	SPK Ref Val	KREC	LowLimit	HighLimit	%RPD	RPDLImit	Qual
Calcium	ND	1.0								
Magneolum	ND	1.0								
Poleseium	ND	1.0			_					
Polamium Sample ID: LCS-A		1.0 ype: LC	3	Tes	tCode: El	PA Method	6010B: Dieso	ived Meb	elo	_
Sample ID: LCS-A Client ID: LCS-W	SampT		1		tCode: El	:A	6010B: Dieso	ived Met	ala	_
Sample ID: LCS-A	SampT	ypa: LC h ID: A8	7057	1	10 TE 1	7057	6010B: Dieso Unite: mg/L	ived Meb	ale	
Sample ID: LCS-A Client ID: LCSW Prep Date:	Samp1 Batcl	ypa: LC h ID: A8	7057 5/2022	1	tumNo: 8	7057		ived Med	RPDLImit	Quel
Sample ID: LCS-A Client ID: LCSW Prep Date: Analyte	Sampi Batca Analysis C	ype: LC h ID: A8 Date: 4/	7057 5/2022	F	tumNo: 8 SeqNo: 3	7057 077198	Unite: ing/L			Quel
Sample ID: LCS-A Client ID: LCSW	Sampi Batci Analysis C Result	Type: LC h ID: A8 Dete: 4/	7057 5/2022 8PK value	SPK Red Val	tunNo: 8 SeqNo: 3 %REC	7057 077198 LowLimit	Unite: mg/L HighLimit			Qual

Semple ID: LCSD-A Client ID: LCSS02 Prep Date:	Sampi Bato Analysia D	7057	E	NGode: El BunNo: 8 BegNo: 3	7057	60108: Diese Units: mg/L	ala.			
Anelyte	Result	PQL	SPK value	SPK Ref Val			HighLimit	%RPD	RPDLImit	Qual
Caldum	56	1.0	50.00	0	112	80	120	0.933	20	
Magnesium	54	1.0	50.00	0	108	80	120	0.834	20	
Polassium	53	1.0	60.00	0	107	80	120	0.832	20	

Sample ID: MB	SampT	BLIK	Tes	TestCode: EPA Method 60108: Dissolved Metals								
Client ID: PBW	Betich	ID: A	7128	F	RunNo: 8	7128						
Prep Date:	Analysis D	late: 4	8/2022	0.5	BeqNa: 3	080438	Units: mg/L	k				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual		
Sodium	ND	1.0										

Sample ID: LCS	SampT	SampType: LC8				TestCode: EPA Method 6010B: Dissolved Metals							
Client ID: LCSW	Butc	ID: A	7128	F	tunNo: 8	7128							
Prep Date:	Analysis D	Osta: 4/	8/2022	5	SeqNo: 3080446								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLImit	Qual			
Sodium	48	1.0	50.00	0	95.4	80	120						

Qualiflerer

- in Differed Days to Matrix
- B

Page 18 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#:

2203E91

13-May-22

Client: Project: Navajo Refining Company PSP WDW 1 23 4 Inj Well

Sample ID: MB-86484

SampType: MBLK

TestCode: EPA 60108: TGLP Metals

Client ID: PBW

Client ID: LCSW

Betch ID: 66484

ND

ND

RunNo: 86888

SPK value SPK Ref Val. 1/4 REC LowLimit

Prep Date: 3/29/2022

Analysis Date: 3/31/2022 PQL

0.0020

0.0020

SeqNo: 3089889

Units: mg/L HighLimit

RPDLImit

Cuted

Qual

Qual

Analyte Berium Cedmium Chromium Silver

0.0060 0.0050 ND

Sample ID: LCS-66484

SampType: LCS

TestCode: EPA 6010B: TCLP Metals

Batch ID: 68454

PQL

RunNo: 86888

%REC

Units: mo/L

HighLimit

120

120

120

Prep Date: 3/29/2022 Analysis Date: 3/31/2022

SeqNo: 3009891 LowLimit

%RPD

%RPD

RPDLImit

RPDLImit

%RPD

Analyte Berlum Cadmium Chromium Silver

0.5000 0.0020 0.50 0.0020 0.5000 0 100 60 0.50 0.0060 0.5000 0 101 80 0.10 0.0050 0.1000 103 80

Semple ID: 2203E91-001EM8

SampType: MB

TestCode: EPA 6010B: TCLP Metals

Client ID: WDW-1,2,3 & 4 EMu

Betch ID: 66484

RunNo: 87087

Unite: mg/L

Prep Date: 3/29/2022 Analysis Date: 4/8/2022 SeqNo: 3077186

Analyte Berlum Cadmium Chromium

Silver

Result PQL SPK value SPK Ref Val %REC **HighLimit** LowLimit 0.49 0.010 0.5000 0.04065 76 125 0.45 0.010 0.5000 0 8.08 76 125 0.44 0.030 0.5000 0 BB D 76 125 0.096 0.025 0.1000 0.006833 88.5 75 125

SPK value SPK Raf Val

Sample ID: 2203E91-001EMSD Client ID: WDW-1,2,3 & 4 Effici

SampType: MSD

TestCode: EPA 6010B: TCLP Metals Batch ID: 68484

RunNo: 87057

Prep Date: 3/29/2022 Analysis Date: 4/9/2022 SegNo: 3077187 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Berlum	0.50	0.010	0.5000	0.04065	91.3	75	125	1.47	20
Cadmium	0.47	0.010	0.5000	0	93.0	75	125	2.43	20
Chromium	0.45	0.030	0.5000	0	89.5	75	125	1.69	20
Säver	0.094	0.025	0.1000	0.006833	86.9	75	126	2.72	20

Qualiflers:

- Value especie Mindenen Contenings Level Sample Distind Day to Maris
- Halding times for proporation or easily Not Detected at the Reporting Limit
- PUL Practical Quantitative Litt
- overy outside of mage due to dilution or suring hunderman
- alyza datasted in the amounted Marked Ellepic

- Sample pill Hot In Hange

Page 19 of 22

Hall Environmental Analysis Laboratory, Inc.

WOW:

2203E91

13-May-12

Cilent:

Navajo Refining Company

Project:

PSP WDW 1 23 4 Inj Well

Sample ID: mb-/ all:

SampType: mblk

TestCode: \$M2320B: Alkalinity

Client ID: PBW

Betch ID: R87028

RunNo: 87028

Units: mg/L CaCOS

HighLimit

Prep Date:

Analysis Date: 4/5/2022

SeqNo: 3075482

Analyte Total Alkalinity (as CeCO3) Result PQL SPK value SPK Ref Val %REC LowLimit ND 20.00

SampType: Ice

TestCode: \$M2320B: Alkalinity

Sample ID: Ica-1 mlk Client ID: LCSW

Batch ID: RS7028

RunNo: 87028

Prep Date:

Analysis Date: 4/8/2022

BegNo: 3675483

Units: mg/L CaCO3

Analyte Total Alkalinity (as CaCO3) Result 73.64

PQL

SPK value SPK Ref Val %REC LowLimit 92.0

HighLimit 110 %RPD **RPDLImit**

Quel

20.00

Analysis Date: 4/5/2022

TestCode: SM2329B: AlkaBnity

HighLimit

RPDLImit

RPDLImit

Sample ID: mb-2 alls Client ID: PBW

SampType: mblk Batch ID: R87028

RunNo: 67026

SegNo: 3075505

TestCode: SM2320B: Alkalinity

Units: mg/L CaCO3

%RPD

Qual

Qual

Analyte Total Alkalinty (as CaCO3)

Sample ID: Ics-2 alk

Client ID: LCSW

Prep Date:

PQL 20.00 ND

SPK value SPK Ref Val %REC LowLimit

SampType: Ics

RunNo: 87028

Units: mg/L CaCO3

Prep Date:

Batch ID: R87029 Analysis Date: 4/5/2022

SeqNo: 3075506

HighLimit %RPD

RPDLImit Qual

Analyte Total Alkalinity (sus CuCO3) Requit 73.84

PQL

80.00

20.00

SPK value SPK Ref Val

%REC

LowLimit

Qualifiers:

Sample Diluted Date to Marris

H by times for proporation of analysis Not Detected at the Reporting Links

ed in the associated blothed Physic

apis pili Net its Renge

Page 20 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#:

2203E91

13-May-22

Client: Project:

Analyte

Navajo Refining Company

PSP WDW 1 23 4 Inj Well

Sample ID: MB-66699

SempType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PSW

Batch ID: 68599

PQL

RunNo: 87062

Prep Date: 4/4/2022

Analysis Date: 4/7/2022

SegNo: 3677421

Units: mg/L

HighLimit

%RPD **RPDLImit**

Qual

Tatal Dissolved Solids

ND

Result

SampTypa: LC8

TestCode: SM2549C MOD: Total Dissolved Solids

Client ID: LCSW Prep Date: 4/4/2022

Sample ID: LC8-66599

Bertch ID: 66599 Analysis Date: 4/7/2022

PQL

RunNo: 87062

Units: mg/L

HighLimit

SeqNo: 3077422

%RPD **RPDLImit**

Qual

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SPK value SPK Ref Val

102

Total Disaglend Solids

120

Analyte

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1000

SPK value SPK Ref Val 1/4 REC LowLimit

%REC LowLimit

Qualifiers:

- esda Masilogos Conic
- Sargle Distel Dos to Matrix D
- H Holding these for proposation or o
- Not Detected at the Reporting Limit.
- Practical Quantuties Limit

- В
- ple pH Net In Range

Page 21 of 22

Hall Environmental Analysis Laboratory, Inc.

WO#: 2203E91

13-May-22

Client: Project: Navajo Refining Company PSP WDW 1 23 4 Inj Well

Result

Sample ID: MB-56606 Client ID: PBW

Sample ID: LCS-68600

Prep Data: 4/4/2022

Client ID: LCSW

SampType: MBLK

Batch ID: 56600

TestCode: SM 2640D: TSS

RunNo: 87001

SPK value SPK Ref Val %REC LowLimit HighLimit

Prep Date: 4/4/2022

Analysis Date: 4/5/2022

PQL

SeqNo: 3074139

Units: mg/L

%RPD

Qual

Suspended Solids

Analyta

ND 4.0

SampType: LCS Batch ID: 66600 TestCode: SM 25400: TSS

RunNo: 87001

Analysis Date: 4/5/2022

SeqNo: 3074140 Units: mg/L

NREC LowLimit

HighLimit

%RPD **RPDLImit** Quel

RPDLImit

Analyte

Result PQL 92

B2.40

SPK value SPK Ref Val

119.05

Suspended Solida

4.0

Qualiflers:

- Sample Diluted Due to Mareta
- H by those for preparation or
- Mot Deceated at the Reporting Limit 3013

- unio nell Nes In Romen

Page 22 of 22



Half Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 303-345-3973 FAX: 503-345-4107 Websits; clienta hallanvironmental.com

Sample Log-In Check List

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.		Specific Gravity, (ORP, pH, T8S	Zeo TCLP Compounds	8270 TCLP Compounds	<u>2</u>	KCRA 8 Metals	8081 TCLP Compounds	8151 TCLP Compounds						
3/28/22	9:35	Liquid	WDW-1, 2, 3 & 4 Effluent	**		a	10	x												
3/28/22	9:36	Liquid	WDW-1, 2, 3 & 4 Effluent	3-40ml VQ4	HCL				X											
3/28/22	9:35	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Ambe	none					x									1	
3/28/22	9:35	Liquid	WDW-1, 2, 3 & 4 Effluent	548							x									\Box
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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

OrderNo.: 2204B57

May 25, 2022

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

FAX

RE: PSP WDW 1 2 3 4 Inj Well

Dear Randy Dade:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/27/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109



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

Case Narrative

WO#: **2204B57**Date: **5/25/2022**

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Analytical Notes:

Full list TCLP was requested for the two samples in this report. Per the TCLP Method 1311, "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run". All TCLP compounds are reported as totals in this report, at the TCLP Limits, since the low solids content did not require filtration. The TCLP term is used in the method header; this is used to represent that the compounds listed are the specific TCLP compounds and that these compounds are reported at the TCLP regulatory limits.

The cations were filtered using a 0.45um filter for the C/A balance determination.

Client Sample ID: WDW-1,2,3 & 4 Effluent

Collection Date: 4/26/2022 9:25:00 AM

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2204B57-001A Matrix: Aqueous

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed I	Batch ID
TCLP VOLATILES BY 8260B						Analyst: CCM	
Benzene	ND	0.00023	0.50	mg/L	200	4/27/2022 10:15:00 PM	T87552
1,2-Dichloroethane (EDC)	ND	0.00025	0.50	mg/L	200	4/27/2022 10:15:00 PM	T87552
2-Butanone	ND	0.0020	200	mg/L	200	4/27/2022 10:15:00 PM	T87552
Carbon Tetrachloride	ND	0.00018	0.50	mg/L	200	4/27/2022 10:15:00 PM	T87552
Chloroform	ND	0.00013	6.0	mg/L	200	4/27/2022 10:15:00 PM	T87552
1,4-Dichlorobenzene	ND	0.00021	7.5	mg/L	200	4/27/2022 10:15:00 PM	T87552
1,1-Dichloroethene	ND	0.00020	0.70	mg/L	200	4/27/2022 10:15:00 PM	T87552
Tetrachloroethene (PCE)	ND	0.00036	0.70	mg/L	200	4/27/2022 10:15:00 PM	T87552
Trichloroethene (TCE)	ND	0.00020	0.50	mg/L	200	4/27/2022 10:15:00 PM	T87552
Vinyl chloride	ND	0.00032	0.20	mg/L	200	4/27/2022 10:15:00 PM	T87552
Chlorobenzene	ND	0.00016	100	mg/L	200	4/27/2022 10:15:00 PM	T87552
Surr: 1,2-Dichloroethane-d4	99.6	0	70-130	%Rec	200	4/27/2022 10:15:00 PM	T87552
Surr: 4-Bromofluorobenzene	97.7	0	70-130	%Rec	200	4/27/2022 10:15:00 PM	T87552
Surr: Dibromofluoromethane	102	0	70-130	%Rec	200	4/27/2022 10:15:00 PM	T87552
Surr: Toluene-d8	90.8	0	70-130	%Rec	200	4/27/2022 10:15:00 PM	T87552

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Navajo Refining CompanyClient Sample ID: WDW-1,2,3 & 4 EffluentProject:PSP WDW 1 2 3 4 Inj WellCollection Date: 4/26/2022 9:25:00 AM

Lab ID: 2204B57-001B Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed B	atch ID
EPA METHOD 8081: PESTICIDES TCLP							Analyst: JME	
Chlordane	ND	0.0050	0.030	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Endrin	ND	0.00049	0.020	D	mg/L	10	5/18/2022 10:41:44 AM	67182
gamma-BHC (Lindane)	ND	0.00041	0.40	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Heptachlor	ND	0.00041	0.0080	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Heptachlor epoxide	ND	0.00047	0.0080	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Methoxychlor	ND	0.00046	10	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Toxaphene	ND	0.0050	0.50	D	mg/L	10	5/18/2022 10:41:44 AM	67182
Surr: Decachlorobiphenyl	0	0	73-119	SD	%Rec	10	5/18/2022 10:41:44 AM	67182
Surr: Tetrachloro-m-xylene	0	0	36.6-84.1	SD	%Rec	10	5/18/2022 10:41:44 AM	67182
EPA METHOD 8270C TCLP							Analyst: DAM	
2-Methylphenol	ND	0.00051	200		mg/L	1	5/3/2022 5:44:26 PM	67188
3+4-Methylphenol	ND	0.00045	200		mg/L	1	5/3/2022 5:44:26 PM	67188
2,4-Dinitrotoluene	ND	0.00062	0.13		mg/L	1	5/3/2022 5:44:26 PM	67188
Hexachlorobenzene	ND	0.00066	0.13		mg/L	1	5/3/2022 5:44:26 PM	67188
Hexachlorobutadiene	ND	0.00082	0.50		mg/L	1	5/3/2022 5:44:26 PM	67188
Hexachloroethane	ND	0.00045	3.0		mg/L	1	5/3/2022 5:44:26 PM	67188
Nitrobenzene	ND	0.00051	2.0		mg/L	1	5/3/2022 5:44:26 PM	67188
Pentachlorophenol	ND	0.00059	100		mg/L	1	5/3/2022 5:44:26 PM	67188
Pyridine	0.0059	0.00093	5.0	J	mg/L	1	5/3/2022 5:44:26 PM	67188
2,4,5-Trichlorophenol	ND	0.00062	400		mg/L	1	5/3/2022 5:44:26 PM	67188
2,4,6-Trichlorophenol	ND	0.00043	2.0		mg/L	1	5/3/2022 5:44:26 PM	67188
Cresols, Total	ND	0.00051	200		mg/L	1	5/3/2022 5:44:26 PM	67188
Surr: 2-Fluorophenol	42.8	0	15-118		%Rec	1	5/3/2022 5:44:26 PM	67188
Surr: Phenol-d5	34.5	0	15-92.9		%Rec	1	5/3/2022 5:44:26 PM	67188
Surr: 2,4,6-Tribromophenol	46.4	0	15-150		%Rec	1	5/3/2022 5:44:26 PM	67188
Surr: Nitrobenzene-d5	68.1	0	15-136		%Rec	1	5/3/2022 5:44:26 PM	67188
Surr: 2-Fluorobiphenyl	60.5	0	15-134		%Rec	1	5/3/2022 5:44:26 PM	67188
Surr: 4-Terphenyl-d14	83.9	0	15-168		%Rec	1	5/3/2022 5:44:26 PM	67188

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 26

Client Sample ID: WDW-1,2,3 & 4 Effluent

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company **Project:**

Lab ID: 2204B57-001C

PSP WDW 1 2 3 4 Inj Well Collection Date: 4/26/2022 9:25:00 AM Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: MRA	A
Fluoride	24	0.80	2.0	*	mg/L	20	4/27/2022 9:16:29 PM	R87581
Chloride	600	25	50	*	mg/L	100	5/5/2022 7:33:05 PM	R87788
Nitrogen, Nitrite (As N)	0.17	0.027	0.50	J	mg/L	5	4/27/2022 9:03:38 PM	R87581
Bromide	0.62	0.25	0.50		mg/L	5	4/27/2022 9:03:38 PM	R87581
Nitrogen, Nitrate (As N)	0.88	0.050	0.50		mg/L	5	4/27/2022 9:03:38 PM	R87581
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	4/27/2022 9:03:38 PM	R87581
Sulfate	2400	25	50	*	mg/L	100	5/5/2022 7:33:05 PM	R87788
SM2510B: SPECIFIC CONDUCTANCE							Analyst: LRN	I
Conductivity	6500	10	10		µmhos/c	1	4/28/2022 4:12:20 PM	R87620
SM4500-H+B / 9040C: PH							Analyst: LRN	l
рН	7.33			Н	pH units	1	4/28/2022 4:12:20 PM	R87620
SM2320B: ALKALINITY							Analyst: LRN	I
Bicarbonate (As CaCO3)	626.9	20.00	20.00		mg/L Ca	1	4/28/2022 4:12:20 PM	R87620
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	4/28/2022 4:12:20 PM	R87620
Total Alkalinity (as CaCO3)	626.9	20.00	20.00		mg/L Ca	1	4/28/2022 4:12:20 PM	R87620
SPECIFIC GRAVITY							Analyst: CAS	;
Specific Gravity	0.9981	0	0			1	5/10/2022 4:15:00 PM	R87962
SM2540C MOD: TOTAL DISSOLVED SOI	LIDS						Analyst: KS	
Total Dissolved Solids	4640	100	100	*D	mg/L	1	5/5/2022 1:25:00 PM	67191
SM 2540D: TSS							Analyst: KS	
Suspended Solids	21	4.0	4.0		mg/L	1	5/4/2022 12:57:00 PM	67224

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

Qualifiers:

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

Page 4 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2204B57-001D

Client Sample ID: WDW-1,2,3 & 4 Effluent Collection Date: 4/26/2022 9:25:00 AM

Matrix: Aqueous

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: JRF	2
Calcium	490	2.9	50	mg/L	50	5/16/2022 8:36:22 AM	A88011
Magnesium	160	1.7	50	mg/L	50	5/16/2022 8:36:22 AM	A88011
Potassium	100	10	50	mg/L	50	5/16/2022 8:36:22 AM	A88011
Sodium	580	21	50	mg/L	50	5/16/2022 8:36:22 AM	A88011

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 5 of 26

Client Sample ID: WDW-1,2,3 & 4 Effluent

Collection Date: 4/26/2022 9:25:00 AM

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2204B57-001E Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6020A: TCLP METALS							Analyst: DB	K
Arsenic	0.012	0.0025	5.0	J	mg/L	5	5/4/2022 12:10:37 PM	67111
Lead	ND	0.0025	5.0		mg/L	5	5/2/2022 4:17:19 PM	67111
Selenium	0.29	0.0025	1.0	J	mg/L	5	5/2/2022 4:17:19 PM	67111
EPA METHOD 7470A: MERCURY							Analyst: VP	
Mercury	ND	0.000091	0.020		mg/L	1	5/2/2022 1:09:17 PM	67181
EPA 6010B: TCLP METALS							Analyst: JLF	=
Barium	0.051	0.0011	100	J	mg/L	1	4/28/2022 3:31:14 PM	67111
Cadmium	ND	0.0012	1.0		mg/L	1	4/28/2022 3:31:14 PM	67111
Chromium	ND	0.0017	5.0		mg/L	1	4/28/2022 3:31:14 PM	67111
Silver	0.0066	0.0013	5.0	J	mg/L	1	4/28/2022 3:31:14 PM	67111

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 6 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Client Sample ID: CTB to City of POTW

Project: PSP WDW 1 2 3 4 Inj Well Collection Date: 4/26/2022 9:50:00 AM

Lab ID: 2204B57-002A Matrix: Aqueous

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed	Batch ID
TCLP VOLATILES BY 8260B						Analyst: CCN	1
Benzene	ND	0.00023	0.50	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
1,2-Dichloroethane (EDC)	ND	0.00025	0.50	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
2-Butanone	ND	0.0020	200	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Carbon Tetrachloride	ND	0.00018	0.50	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Chloroform	ND	0.00013	6.0	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
1,4-Dichlorobenzene	ND	0.00021	7.5	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
1,1-Dichloroethene	ND	0.00020	0.70	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Tetrachloroethene (PCE)	ND	0.00036	0.70	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Trichloroethene (TCE)	ND	0.00020	0.50	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Vinyl chloride	ND	0.00032	0.20	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Chlorobenzene	ND	0.00016	100	mg/L	200	4/27/2022 10:38:00 PM	/ T87552
Surr: 1,2-Dichloroethane-d4	96.2	0	70-130	%Rec	200	4/27/2022 10:38:00 PM	/ T87552
Surr: 4-Bromofluorobenzene	96.1	0	70-130	%Rec	200	4/27/2022 10:38:00 PM	/ T87552
Surr: Dibromofluoromethane	103	0	70-130	%Rec	200	4/27/2022 10:38:00 PM	/ T87552
Surr: Toluene-d8	91.1	0	70-130	%Rec	200	4/27/2022 10:38:00 PM	/ T87552

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
- PQL Practical Quanitative Limit
 - S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company Client Sample ID: CTB to City of POTW Project: PSP WDW 1 2 3 4 Inj Well Collection Date: 4/26/2022 9:50:00 AM

Lab ID: 2204B57-002B Matrix: Aqueous

Analyses	Result	MDL	, RL	Qual Units	DF	Date Analyzed I	Batch ID
EPA METHOD 8081: PESTICIDES TCLP						Analyst: JME	
Chlordane	ND	0.00050	0.030	mg/L	1	5/18/2022 11:08:06 AM	67182
Endrin	ND	0.000049	0.020	mg/L	1	5/18/2022 11:08:06 AM	67182
gamma-BHC (Lindane)	ND	0.000041	0.40	mg/L	1	5/18/2022 11:08:06 AM	67182
Heptachlor	ND	0.000041	0.0080	mg/L	1	5/18/2022 11:08:06 AM	67182
Heptachlor epoxide	ND	0.000047	0.0080	mg/L	1	5/18/2022 11:08:06 AM	67182
Methoxychlor	ND	0.000046	10	mg/L	1	5/18/2022 11:08:06 AM	67182
Toxaphene	ND	0.00050	0.50	mg/L	1	5/18/2022 11:08:06 AM	67182
Surr: Decachlorobiphenyl	80.7	0	73-119	%Red	: 1	5/18/2022 11:08:06 AM	67182
Surr: Tetrachloro-m-xylene	59.8	0	36.6-84.1	%Red	; 1	5/18/2022 11:08:06 AM	67182
EPA METHOD 8270C TCLP						Analyst: DAM	
2-Methylphenol	ND	0.00051	200	mg/L	1	5/3/2022 7:54:16 PM	67188
3+4-Methylphenol	ND	0.00045	200	mg/L	1	5/3/2022 7:54:16 PM	67188
2,4-Dinitrotoluene	ND	0.00062	0.13	mg/L	1	5/3/2022 7:54:16 PM	67188
Hexachlorobenzene	ND	0.00066	0.13	mg/L	1	5/3/2022 7:54:16 PM	67188
Hexachlorobutadiene	ND	0.00082	0.50	mg/L	1	5/3/2022 7:54:16 PM	67188
Hexachloroethane	ND	0.00045	3.0	mg/L	1	5/3/2022 7:54:16 PM	67188
Nitrobenzene	ND	0.00051	2.0	mg/L	1	5/3/2022 7:54:16 PM	67188
Pentachlorophenol	ND	0.00059	100	mg/L	1	5/3/2022 7:54:16 PM	67188
Pyridine	ND	0.00093	5.0	mg/L	1	5/3/2022 7:54:16 PM	67188
2,4,5-Trichlorophenol	ND	0.00062	400	mg/L	1	5/3/2022 7:54:16 PM	67188
2,4,6-Trichlorophenol	ND	0.00043	2.0	mg/L	1	5/3/2022 7:54:16 PM	67188
Cresols, Total	ND	0.00051	200	mg/L	1	5/3/2022 7:54:16 PM	67188
Surr: 2-Fluorophenol	65.0	0	15-118	%Red	: 1	5/3/2022 7:54:16 PM	67188
Surr: Phenol-d5	45.0	0	15-92.9	%Red	: 1	5/3/2022 7:54:16 PM	67188
Surr: 2,4,6-Tribromophenol	79.1	0	15-150	%Red	: 1	5/3/2022 7:54:16 PM	67188
Surr: Nitrobenzene-d5	75.4	0	15-136	%Red	: 1	5/3/2022 7:54:16 PM	67188
Surr: 2-Fluorobiphenyl	71.3	0	15-134	%Red	: 1	5/3/2022 7:54:16 PM	67188
Surr: 4-Terphenyl-d14	82.1	0	15-168	%Red	: 1	5/3/2022 7:54:16 PM	67188

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 8 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company PSP WDW 1 2 3 4 Inj Well Project:

Client Sample ID: CTB to City of POTW Collection Date: 4/26/2022 9:50:00 AM

Lab ID: 2204B57-002C	C Matrix: Aqueous								
Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID	
EPA METHOD 300.0: ANIONS							Analyst: MR/	A	
Fluoride	1.3	0.040	0.10		mg/L	1	4/27/2022 9:29:20 PM	R87581	
Chloride	58	5.0	10		mg/L	20	4/27/2022 9:42:12 PM	R87581	
Nitrogen, Nitrite (As N)	ND	0.0053	0.10		mg/L	1	4/27/2022 9:29:20 PM	R87581	
Bromide	ND	0.050	0.10		mg/L	1	4/27/2022 9:29:20 PM	R87581	
Nitrogen, Nitrate (As N)	1.5	0.010	0.10		mg/L	1	4/27/2022 9:29:20 PM	R87581	
Phosphorus, Orthophosphate (As P)	1.8	0.25	0.50		mg/L	1	4/27/2022 9:29:20 PM	R87581	
Sulfate	960	5.0	10	*	mg/L	20	4/27/2022 9:42:12 PM	R87581	
SM2510B: SPECIFIC CONDUCTANCE							Analyst: LRN	I	
Conductivity	1700	10	10		µmhos/c	1	4/28/2022 4:36:53 PM	R87620	
SM4500-H+B / 9040C: PH							Analyst: LRN	I	
рН	7.36			Н	pH units	1	4/28/2022 4:36:53 PM	R87620	
SM2320B: ALKALINITY							Analyst: LRN	l	
Bicarbonate (As CaCO3)	49.16	20.00	20.00		mg/L Ca	1	4/28/2022 4:36:53 PM	R87620	
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	4/28/2022 4:36:53 PM	R87620	
Total Alkalinity (as CaCO3)	49.16	20.00	20.00		mg/L Ca	1	4/28/2022 4:36:53 PM	R87620	
SPECIFIC GRAVITY							Analyst: CAS	6	
Specific Gravity	0.9986	0	0			1	5/10/2022 4:15:00 PM	R87962	
SM2540C MOD: TOTAL DISSOLVED S	OLIDS						Analyst: KS		
Total Dissolved Solids	1500	20.0	20.0	*	mg/L	1	5/5/2022 1:25:00 PM	67191	
SM 2540D: TSS							Analyst: KS		
Suspended Solids	9.0	4.0	4.0		mg/L	1	5/4/2022 12:57:00 PM	67224	

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

Qualifiers:

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

Page 9 of 26

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Lab ID: 2204B57-002D

Client Sample ID: CTB to City of POTW Collection Date: 4/26/2022 9:50:00 AM

Matrix: Aqueous

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed	Batch ID
EPA METHOD 6010B: DISSOLVED METAL	Analyst: JR	R					
Calcium	250	0.29	5.0	mg/L	5	5/16/2022 8:40:17 A	M A88011
Magnesium	75	0.034	1.0	mg/L	1	5/16/2022 8:38:16 Al	M A88011
Potassium	2.1	0.21	1.0	mg/L	1	5/16/2022 8:38:16 Al	M A88011
Sodium	60	0.42	1.0	mg/L	1	5/16/2022 8:38:16 A	M A88011

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 10 of 26

Client Sample ID: CTB to City of POTW

Date Reported: 5/25/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: PSP WDW 1 2 3 4 Inj Well

PSP WDW 1 2 3 4 Inj Well **Collection Date:** 4/26/2022 9:50:00 AM

Lab ID: 2204B57-002E Matrix: Aqueous

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 6020A: TCLP METALS							Analyst: DB	K
Arsenic	0.0011	0.00050	5.0	J	mg/L	1	5/4/2022 12:12:01 PM	67111
Lead	0.00091	0.00050	5.0	J	mg/L	1	5/2/2022 4:12:09 PM	67111
Selenium	0.0034	0.00050	1.0	J	mg/L	1	5/2/2022 4:12:09 PM	67111
EPA METHOD 7470A: MERCURY							Analyst: VP	
Mercury	ND	0.000091	0.020		mg/L	1	5/2/2022 1:11:25 PM	67181
EPA 6010B: TCLP METALS							Analyst: JLF	=
Barium	0.027	0.0011	100	J	mg/L	1	4/28/2022 3:37:46 PM	67111
Cadmium	ND	0.0012	1.0		mg/L	1	4/28/2022 3:37:46 PM	67111
Chromium	0.0050	0.0017	5.0	J	mg/L	1	4/28/2022 3:37:46 PM	67111
Silver	0.0035	0.0013	5.0	J	mg/L	1	4/28/2022 3:37:46 PM	67111

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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 11 of 26

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	WDW-1,2,3	& 4 Effluent	CTB to Cit	y of POTW								
HEAL LAB NUMBER	2204B	57-001	2204B	57-002								
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	580	25.23	60	2.61						•		
Potassium	100	2.56	2.1	0.05								
Calcium	490	24.45	250	12.48								
Magnesium	160	13.17	75	6.17								
Total Cations		65.41		21.31								
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2400	49.97	960	19.99				•				
Chloride	600	16.93	58	1.64								
Bicarbonate (CaCO3)	626.9	12.53	49.16	0.98								
Carbonate (CaCO3)												
Phosphate (P)			1.8	0.17								
Nitrite (N)	0.17	0.01										
Nitrate (N)	0.9	0.06	1.5	0.11	-							
Fluoride	24	1.26	1.3	0.07								
Bromide	0.62	0.01										
Total Anions		80.77		22.96								
Elect. Cond. (µMhos/cm)	6500		1700									
CATION/ANION RATIO		0.81		0.93								
% Difference		11		4								
TOTAL DISSOLVED SOLIDS	RATIOS											
TDS (measured)	4640		1500									
TDS (calculated)	4735		1448									
Ratio meas TDS:calc TDS		1.0		1.0								
Ratio Meas. TDS:EC		0.71		0.88								
Ratio Calc. TDS:EC		0.73		0.85								
Ratio of anion sum:EC		1.2		1.4								
Ratio of cation sum:EC		1.0		1.3								

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%
Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

^{*} Analyte not detected (below method detection limit).
** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.
GENERALLY ACCEPTED RANGES



Pace Analytical* ANALYTICAL REPORT

Ss

[†]Cn

Sr

Qc

GI

Sc

Hall Environmental Analysis Laboratory

Sample Delivery Group:

L1487566

Samples Received:

04/28/2022

Project Number:

Description:

Report To:

Andy Freeman

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By: John V Houkins

John Hawkins Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
2204B57-001F WDW-1,2,3 & 4 EFFLUENT L1487566-01	5
2204B57-001G WDW-1,2,3 & 4 EFFLUENT L1487566-02	6
2204B57-001H WDW-1,2,3 & 4 EFFLUENT L1487566-03	7
2204B57-002F CTB TO CITY OF POTW L1487566-04	8
2204B57-002G CTB TO CITY OF POTW L1487566-05	9
2204B57-002H CTB TO CITY OF POTW L1487566-06	10
Qc: Quality Control Summary	11
Wet Chemistry by Method 2580	11
Wet Chemistry by Method 4500 CN E-2016	13
Wet Chemistry by Method 4500 S2 D-2011	14
Wet Chemistry by Method 9040C	16
Wet Chemistry by Method D93/1010A	17
Chlorinated Acid Herbicides (GC) by Method 8151A	18
GI: Glossary of Terms	19
Al: Accreditations & Locations	20
Sc Sample Chain of Custody	21



















SAMPLE SLIMMARY

2204B57-001F WDW-1,2,3 & 4 EFFLUENT L14875	66-01 Was		Collected by	Collected date/time	Received da	la filma
204007 0011 11011 1,2,5 & 4 E1 1 E0E141 E14075		ste		04/26/22 09:25	04/28/22 09	
lethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
reparation by Method 1311 hiorinated Acid Herbicides (GC) by Method 8151A	WG1859202 WG1860542	1	05/05/22 14:00 05/09/22 02:53	05/05/22 14:00 05/10/22 02:08	JDG HMH	Mt. Juliet, TN Mt. Juliet, TN
2204B57-001G WDW-1,2,3 & 4 EFFLUENT L14875	66-02 GV	V	Collected by	Collected date/time 04/26/22 09:25	Received da 04/28/22 09	
lethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
fet Chemistry by Method 2580	WG1859241	1	05/06/22 11:27	05/06/22 11:27	ARD	Mt. Juliet, TN
2204B57-001H WDW-1,2,3 & 4 EFFLUENT L14875	66-03 GV	v	Collected by	Collected date/time 04/26/22 09:25	Received da 04/28/22 09	
lethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
et Chemistry by Method 4500 CN E-2016	WG1859852	1 1	05/07/22 18:20	05/09/22 17:49	CAT	Mt. Juliet, TN
Fet Chemistry by Method 4500 S2 D-2011	WG1862545	1	05/13/22 17:59	05/13/22 17:59	SMW	Mt. Juliet, TN
fet Chemistry by Method 9040C	WG1859881	1	05/09/22 13:45	05/09/22 13:45	EPW	Mt. Juliet, TN
et Chemistry by Method D93/1010A	WG1858842	1	05/05/22 19:00	05/05/22 19:00	WOS	Mt. Juliet, TN
2204B57-002F CTB TO CITY OF POTW L148756	6-04 Was	te	Collected by	Collected date/time 04/26/22 09:50	Received da: 04/28/22 09	
lethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
reparation by Method 1311	WG1859202	1	05/05/22 14:00	05/05/22 14:00	JDG	Mt. Juliet, TN
hionnated Acid Herbicides (GC) by Method 8151A	WG1860542	1	05/09/22 02:53	05/10/22 02:23	НМН	Mt. Juliet, TN
			Collected by	Collected date/time	Received da	
2204B57-002G CTB TO CITY OF POTW L148756	6-05 GW			04/26/22 09:50	04/28/22 09	.00
fethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
et Chemistry by Method 2580	WG1859241	1	05/06/22 11:27	05/06/22 11:27	ARD	Mt. Juliet, TN
2204B57-002H CTB TO CITY OF POTW L148756	6-06 GW		Collected by	Collected date/time 04/26/22 09:50	Received da: 04/28/22 09	
lethod	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Vet Chemistry by Method 4500 CN E-2016	WG1859852	1	05/07/22 18:20	05/09/22 17:53	CAT	Mt. Juliet, TN



















Wet Chemistry by Method 4500 S2 D-2011

Wet Chemistry by Method 9040C

Wet Chemistry by Method D93/1010A

WG1862546

WG1859881

WG1858842

05/12/22 18:30

05/09/22 13:45

05/05/22 19:00

05/12/22 18:30

05/09/22 13:45

05/05/22 19:00

AW

EPW

WOS

Mt. Juliet, TN

Mt. Juliet, TN

Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.





















John Hawkins Project Manager

John V Howkins

All Reactive Cyanide results reported in the attached report were determined as totals using method 4500 CN E-2016. All Reactive Sulfide results reported in the attached report were determined as totals using method 4500 S2 D-2011.

Sample Delivery Group (SDG) Narrative

Analysis was performed from an improper container for the following samples.

Lab Sample ID Project Sample ID Method 2204B57-002H CTB TO CITY L1487566-06 4500 S2 D-2011 **OF POTW**

Hall Environmental Analysis Laboratory

SDG:

L1487566

Page 108 of 181

SAMPLE RESULTS - 01

Collected date/time: 04/26/22 09:25

Preparation by Method 1311

	Result	Qualifier	Prep	<u>Batch</u>
Analyte			date / time	
TCLP Extraction	-		5/5/2022 2:00:42 PM	WG1859202
Fluid	1		5/5/2022 2:00:42 PM	WG1859202
Initial pH	N/A		5/5/2022 2:00:42 PM	WG1859202
Final pH	N/A		5/5/2022 2:00:42 PM	WG1859202







Cn

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	RDL	Limit	Dilution	Analysis	Betich .	
Analyte	mg/l		mg/l	mg∕l		date / time		
2,4,5-TP (Silvex)	ND	<u>J4</u>	0.00200	1	1	05/10/2022 02:08	WG1860542	
2,4-D	ND	<u>J4</u>	0.00200	10	1	05/10/2022 02:08	WG1860542	
(\$) 2,4-Dichlorophenyl Acetic Acid	89.6		14.0-158			05/10/2022 02:08	WG1860542	











Page 109 of 181

SAMPLE RESULTS - 02

Wet Chemistry by Method 2580

Collected date/time: 04/26/22 09:25

	the substitute of the substitu									
	Result	Qualifier	Dilution	Analysis	Batch					
Analyte	mV .	- 4-5		date / time						
ORP	157	<u>T8</u>	1	05/06/2022 11:27	WG1859241					



















SAMPLE RESULTS - 03

Page 110 of 181

Collected date/time: 04/26/22 09:25

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	<u>Betch</u>
Analyte	mg/l		mg/l		date / time	
Reactive Cyanide	0.0133		0.00500	1	05/09/2022 17:49	WG1859852

Wet Chemistry by Method 4500 S2 D-2011

	Result	Qualifier	RDL	Dilution	Analysis	Betch
Analyte	mg/l		mg/l		date / time	
Reactive Sulfide	0.108	Q	0.0500	1	05/13/2022 17:59	WG1862545



Sample Narrative:

L1487566-03 WG1862545: Ran out of hold due to supply chain issues.



Cn

Wet Chemistry by Method 9040C

	Result	Qualifier	Dilution	Analysis	Betch
Analyte	SU			date / time	
Corrosivity by pH	7.25	<u>T8</u>	1	05/09/2022 13:45	WG1859881



Sample Narrative:

L1487566-03 WG1859881: 7.25 at 20.5C



i	
	Sc

Wet Chemistry by Method D93/1010A

	Result	Qualifier	Dilution	Analysis	<u>Betch</u>
Analyte	deg F			date / time	
Flashpoint	DNF at 170		1	05/05/2022 19:00	WG1858842

SAMPLE RESULTS - 04

Collected date/time: 04/26/22 09:50

Preparation by Method 1311

	Result	Qualifier	Prep	Batch .
Analyte			date / time	
TCLP Extraction	-		5/5/2022 2:00:42 PM	WG1859202
Fluid	1		5/5/2022 2:00:42 PM	WG1859202
Initial pH	N/A		5/5/2022 2:00:42 PM	WG1859202
Final pH	N/A		5/5/2022 2:00:42 PM	WG1859202







Cn

Chlorinated Acid Herbicides (GC) by Method 8151A

	Result	Qualifier	RDL	Limit	Dilution	Analysis	<u>Betich</u>	
Analyte	mg/l		mg/l	mg/l		date / time		
2,4,5-TP (Silvex)	ND	<u>J4</u>	0.00200	1	1	05/10/2022 02:23	WG1860542	
2,4-D	ND	<u>J4</u>	0.00200	10	1	05/10/2022 02:23	WG1860542	
(\$) 2,4-Dichlorophenyl Acetic Acid	81.2		14.0-158			05/10/2022 02:23	WG1860542	











Hall Environmental Analysis Laboratory

SDG:

Page 112 of 181

SAMPLE RESULTS - 05

Wet Chemistry by Method 2580

Collected date/time: 04/26/22 09:50

THE PARTY OF THE P	and the second s					
	Result	Qualifier	Dilution	Analysis	<u>Betch</u>	
Analyte	m V			date / time		
ORP	149	T8	1	05/06/2022 11:27	WG1859241	



















SAMPLE RESULTS - 06

Page 113 of 181

Collected date/time: 04/26/22 09:50

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	<u>Betich</u>
Analyte	mg/l		mg/l		date / time	
Reactive Cyanide	ND		0.00500	1	05/09/2022 17:53	WG1859852

Wet Chemistry by Method 4500 S2 D-2011

	Result	Qualifier	RDL	Dilution	Analysis	<u>Betch</u>
Analyte	mg/l		mg/l		date / time	
Reactive Sulfide	ND	Q	0.0500	1	05/12/2022 18:30	WG1862546



Sample Narrative:

L1487566-06 WG1862546: Ran out of hold due to supply chain issues.



Wet Chemistry by Method 9040C

	Result	Qualifier	Dilution	Analysis	Betch .
Analyte	su			date / time	
CorrosMity by pH	7.54	<u>T8</u>	1	05/09/2022 13:45	WG1859881



Sample Narrative:

L1487566-06 WG1859891: 7.54 at 19.9C





Wet Chemistry by Method D93/1010A

	Result	Qualifier	Dilution	Analysis	Batch Batch
Analyte	deg F			date / time	
Flashpoint	DNF at 170		1	05/05/2022 19:00	WG1858842

WG1859: Wet Chemistry	241 by Method 2660				QUALIT	Y CONTRO	OL SUMMARY			
L14 87 566-02	2 Original Sample	(OS) - Du	plicate	(DUP)						100
OS) L1487566-02	2 05/06/22 11:27 • (DUP) R3788898-3	05/06/2	2 11:27						Ct
	Original Result		Dilution		DUP Qualifier	DUP DW Limits				2_
Inalyte	m∀	mV		mV		m∀				To
ORP	157	149	1	7.80		20				3
										3Ss
L1487566-05	5 Original Sample	(OS) • Du	plicate	(DUP)						4
OS) L1487566-0:	5 05/06/22 11:27 - (DUP	•								Cı
	Original Result		Dilution	DUP DIFF	DUP Qualifier	DUP DW Limits				6
Analyte	m∀	mV		mΥ		mV				Sr
ORP	149	156	1	7.20		20				
										ď
L1487958-01	Orlginal Sample	(OS) • Du	plicate (DUP)						7
(OS) L1487958-01	1 05/06/22 11:27 • (DUP)				0.0					(GI
	Original Result	120200000000000000000000000000000000000	Dilution	2.20000000	DUP Qualifier	DUP Diff Limits				а
Unalyte	m∀	mV		шĄ		mV				A
ORP	359	359	1	0.200		20				9 Se
	2 Original Sample 2 05/06/22 ft:27 • (DUP Original Result) R3788898-6	6 05/06/22		DUP Qualifier	DUP DIT Limits				
Analyte	mV	mV		mV		m∀				
ORP	87. 0	67. 1	1	0.100		20				
L1487958-03	3 Original Sample	(OS) - Du	plicate	(DUP)						
(OS) L1487958-00	3 05/06/22 11:27 • (DUP) R3788898- 7	05/06/20	2 11:27						
	Original Result	DUP Result	Dilution	DUP DIFF	DUP Qualifler	DUP DIT Limits				
Analyte	m∀	mV		m∀		m∀				
ORP	314	303	1	0.600		20				
				DUD.						
I 1487958-04	l Original Sample	(OS) - Du	olicate i	ๆวนษา						
	4 Original Sample			<u> </u>						
	4 Original Sample 4 05/06/22 11:27 • (DUP) Original Result) R378889B-8		2 TI:27	DUP Qualifier	DUP DIT Limits				
(OS) L1487958-04	4 05/06/22 11:27 • (DUP) R378889B-8	9 05/06/22	2 TI:27	DUP Qualifier	DUP DIT Limits				
(OS) L1487958-04 Analyte	4 05/06/22 11:27 • (DUP Original Result) R378889B-8 DUP Result	9 05/06/22	2 11:27 DUP DHT	<u>DUP Qualifier</u>	EES 500 -005				
(OS) L1487958-04	4 05/06/22 11:27 • (DUP) Original Result mV) R378889B-8 DUP Result mV	9 05/06/22 Dilution	2 11:27 DUP DHT mV	<u>DUP Qualifier</u>	m∀				
(OS) L1487958-04 Analyte	4 05/06/22 11:27 • (DUP) Original Result mV) R378889B-8 DUP Result mV	9 05/06/22 Dilution	2 11:27 DUP DHT mV	DUP Qualifier PROJECT:	m∀	SDG:	DATE/ПМЕ :	PAGE	

	y Method 2680					L1487586-	2,05					
_14 <mark>87958-05</mark> (Original Sample	(OS) • Du	plicate ((DUP)								
OS) L1487958-05 (05/06/22 ft:27 • (DUP)				255 A. S. OV.	AT WELL						
	Original Result		Dilution	DUP DHF	DUP Qualifier	DUP DWF Limits						
Analyte ORP	mV 316	mV 316	1	0.100		m∜ 20						
JAC T	36	310		0.100		20						
L1487958-06	Original Sample	(OS) • Du	plicate ((DUP)								
(OS) L1487958-06(05/06/22 ft:27 - (DUP)	R3788896-10	05/05/2	ł2 1 1:27								
	Original Result		Dilution		DUP Qualifier	DUP Diff Limits						
Analyte	m∀	m∀		mV		mV						
ORP	73.9	76.5	1	2.60		20						
	Original Sample	(OS) • Du	plicate ((DUP)								
L1487958-07 (
	05/06/22 11:27 - (DUP)	R3788898-11	05/05/22	2 TI:27								
			05/06/22 Dilution		DUP Qualifier	DUP Diff Limits						
(OS) L1487958-07 (05/06/22 11:27 - (DUP)				DUP Qualifier	DUP Diff Limits mV						
(OS) L1487958-07 (Analyte ORP	05/05/22 Ti:27 - (DUP) Original Result mV 197	DUP Result mV 197	Dilution	DUP Diff mV 0.800	DUP Qualifier							
(OS) L1487958-07 (Analyte ORP L1487958-08 (05/06/22 11:27 - (DUP) Original Result mV	DUP Result mV 197 (OS) • Du	Dilution 1 plicate (2 05/06/2	DUP Diff mV 0.800 (DUP)	DUP Qualifler DUP Qualifler	mV						
(OS) L1487958-07 (Analyte ORP L1487958-08 ((OS) L1487958-08 (05/06/22 11:27 - (DUP) Original Result m/ 197 Driginal Sample 05/06/22 11:27 - (DUP)	DUP Result mV 197 (OS) • Du	Dilution 1 plicate (2 05/06/2	DUP Diff mV 0.800 (DUP) 22 11:27		mV 20						
(OS) L1487958-07 (Analyte ORP L1487958-08 ((OS) L1487958-08 (OS/OS/22 Tt:27 - (DUP) Original Result m/ 197 Original Sample OS/OS/22 Tt:27 - (DUP) Original Result	DUP Result mV 197 (OS) • Du 0 R3788898-12 DUP Result	Dilution 1 plicate (2 05/06/2	DUP Diff mV 0.800 (DUP) 22 11:27 DUP DIFF		mV 20 DUP DWY LIMITS						
OS) L1487958-07 (Analyte ORP L1487958-08 (OS) L1487958-08 (Analyte ORP	OS/OS/22 Tt:27 - (DUP) Original Result: mV 197 Original Sample OS/OG/22 Tt:27 - (DUP) Original Result: mV	DUP Result mV 197 (OS) • DUI R3789898-12 DUP Result mV 255	Dilution 1 plicate (2 05/06/2 Dilution 1	DUP DHF mV 0.800 (DUP) 22 11:27 DUP DHF mV 3.70	DUP Qualifier	mV 20 DUP DW Limits mV 20						
OS) L1487958-07 (Analyte ORP L1487958-08 (OS) L1487958-08 (Analyte ORP	OS/OS/22 Tt:27 - (DUP) Original Result mV 197 Original Sample OS/OS/22 Tt:27 • (DUP) Original Result mV 251	DUP Result mV 197 (OS) • Dup Result mV 255 (CS) • Labo	Dilution 1 plicate (2 05/06/2 Dilution 1	DUP DHF mV 0.800 (DUP) 22 11:27 DUP DHF mV 3.70	DUP Qualifier	mV 20 DUP DW Limits mV 20						
(OS) L1487958-07 (Analyte ORP L1487958-08 ((OS) L1487958-08 (Analyte ORP	OS/OS/22 TI:27 - (DUP) Original Result mV 197 Original Sample OS/OS/22 TI:27 • (DUP) Original Result mV 251 ontrol Sample (LC) OS/OS/22 11:27 • (LCS)	DUP Result mV 197 (OS) • Du R3788898-12 DUP Result mV 255 CS) • Labo R3788898-2	Dilution 1 plicate (2 05/06/2 Dilution 1 ratory C 2 05/06/2	DUP DHF mV 0.800 (DUP) 22 11:27 DUP DHF mV 3.70 Control Sar 22 11:27	DUP Qualifier mple Duplic	DUP DINT Limits mY 20 ate (LCSD)	LCS Qualifier	LCSD Quellin	Diff	DHTLinits		
Analyte ORP L1487958-08 ((OS) L1487958-08 (Analyte ORP Laboratory Co (LCS) R3788898-1 (OS/OS/22 TI:27 - (DUP) Original Result mV 197 Original Sample OS/OS/22 TI:27 - (DUP) Original Result mV 251 ontrol Sample (LC) Spike Amount	DUP Result mV 197 (OS) • DUP Result mV 255 CS) • Labo O) R3788898-1: CS Result mV 255	Dilution 1 plicate (2 05/06/2 Dilution 1 pratory C 2 05/06/2 LCSD Res	DUP Diff mV 0.800 (DUP) 22 11:27 DUP DIFF mV 3.70 Control Sar 22 11:27 suit LCS Rec	DUP Qualifier mple Duplic	DUP DINT Limits mV 20 ate (LCSD)	LCS Quelifier	LCSD Qualifier		DHT Limits mY		
(OS) L1487958-07 (Analyte ORP L1487958-08 ((OS) L1487958-08 (Analyte ORP	OS/OS/22 TI:27 - (DUP) Original Result mV 197 Original Sample OS/OS/22 TI:27 • (DUP) Original Result mV 251 ontrol Sample (LC) OS/OS/22 11:27 • (LCS)	DUP Result mV 197 (OS) • Du R3788898-12 DUP Result mV 255 CS) • Labo R3788898-2	Dilution 1 plicate (2 05/06/2 Dilution 1 ratory C 2 05/06/2	DUP DHF mV 0.800 (DUP) 22 11:27 DUP DHF mV 3.70 Control Sar 22 11:27	DUP Qualifier mple Duplic	DUP DINT Limits mY 20 ate (LCSD)	LCS Quellifler	LCSD Qualifier	Diff. mV 7,40	DHT Limits mY 20		

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05/16/22 15:58

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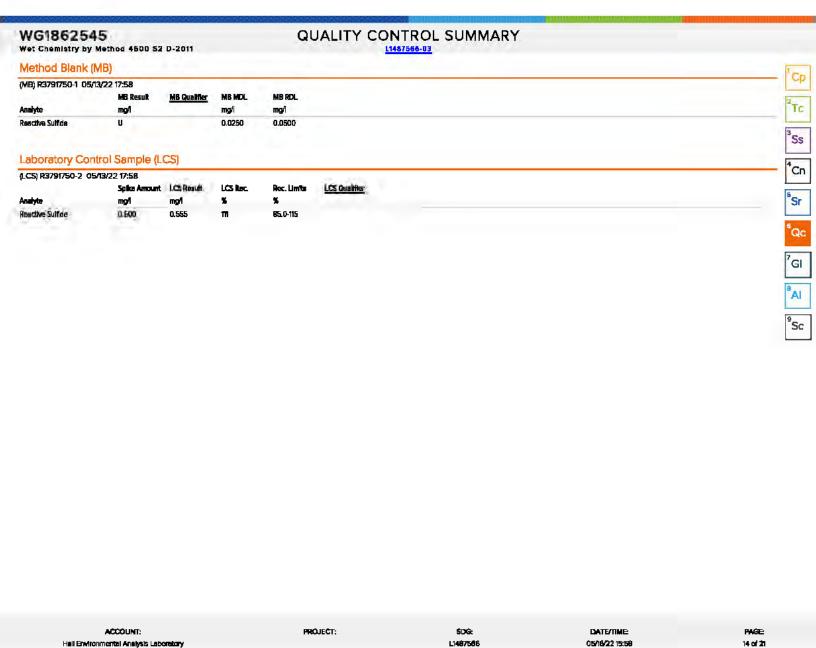
12 of 21

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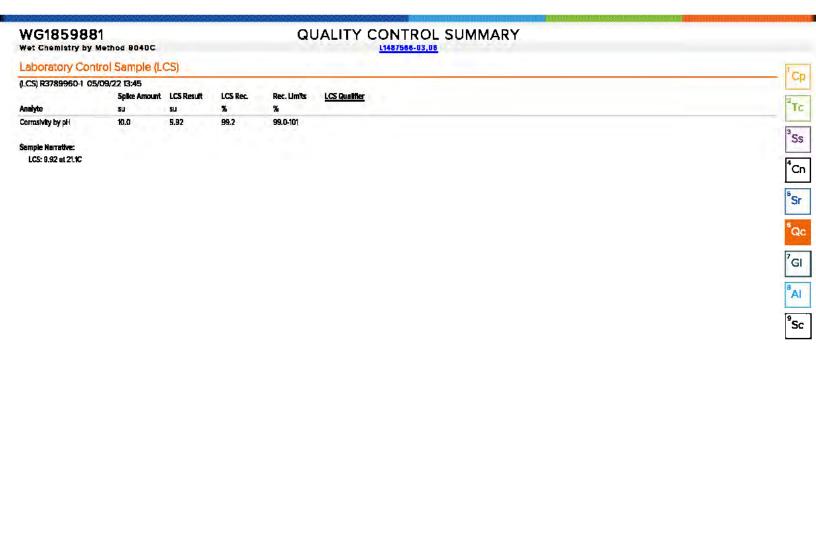
Hall Environmental Analysis Laboratory

Wet Chemistry by	52 Method 4500 CN	E-2016		C	QUALIT	1 CONTI		UMMA	RY				
vlethod Blank ((MB)												
MB) R3789863-1 O5		M. T.	40	L Gov. Serv									
Inalyte	MB Result mgf	MB Qualifier	MB MDL	MB RDL mg/l									
Reactive Cyenide	U		0.00180	0.00500									
													
	Original Sample			. ,									
(OS) L1487559-02 0	15 /09/22 17:37 - (DUP					DUP RPD							
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	Limita							
Analyto	mg/l	mg/l		76		x							
Reactive Cyanide	ND	ND	1	0.000		20							
L1487566-03 C	Original Sample	(OS) - Dup	licate (DUP)									
(OS) L1487566-03 0	5/09/22 17:49 • (DUF	7 R3789863-8	05/09/2	2 17:50									
	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limita							
						Limite							
Analyto	mo/l	mo/l		%		\$							
Reactive Cyanide	mg/ a.orss ntrol Sample (LC	mg/1 0.0142 CS)	1	% 6.55		% 20							
Reactive Cyaride Laboratory Cor (LCS) R3789863-2 0	0.0133 Introl Sample (LC 05/09/22 17:30 Spike Amount	0.0142 CS) LCS Result	LCS Rec.	6.55	a LCS Quel	20							
Reedthe Cyaride Laboratory Cor (LCS) R3789863-2 0 Analyza	0.0133 ntrol Sample (LC 05/08/22 17:30	0.0142 CS)		6. 55	a <u>LCS Quel</u>	20							
Rective Cyaride Laboratory Cor (LCS) R3789863-2 0 Analyte Reactive Cyaride	0.0rs3 ntrol Sample (LC 05/09/22 17:30	0.0142 LCS Result mg/l 0.108 (OS) • Maturation Matura	LCS Rec. % 108	855 Rec, Limit % 87.1-120 SE (MS) = M8	atrix Spike 3789863-5 0!	20 Her Duplicate (M	(ISD)	Ruc, Limits	MS Quarther	MSD Ourliffer	8PD	RPO L'Imrits	
Reactive Cyarilde Laboratory Cor LCS) R3789863-2 0 Inalyto Reactive Cyarilde L1487559-03 0 (OS) L1487559-03 0	0.0rs3 ntrol Sample (LC 05/09/22 17:30	0.0142 CS) LCS Result mg/l 0.108 (OS) • Matu	LCS Rec. % 108	855 Rec, Limit % 87.1-120 SE (MS) = M8	atrix Spike 3789863-5 0!	20		Ruc, Limits	MS Quelffar	MSD Qualifier	87-D %	RBPD L'Imrits: %	
(LCS) R3789863-2 0 Analyto Reactive Cyanide L1487559-03 C	0.0133 ntrol Sample (LC 05/09/22 17:30 Spike Amount mg/l 0.100 Original Sample 15/09/22 17:41 • (MS) I Spike Amount	0.0142 LCS Result mp1 0.108 (OS) • Matures Market	LCS Rec. % 108 108 Fix Spik 5/09/22 1 MS Result	Rec, Limit % 87.1-120 (MS) = M2 17:42 • (MSD) R3 t M50 Rest	atrix Spike 3789663-5 0! It M5 Rec.	Duplicate (M 5/09/22 17:43 MSD Risc,			MS Quelffier	MSD Qualifier			
Reedthe Cyaride Laboratory Cor LCS) R3789863-2 0 Analyto Reactive Cyaride L1487559-03 C (OS) L1487559-03 O Analyto Reactive Cyaride	0.0rs3 ntrol Sample (LC 05/09/22 17:30 Spike Amount mg/l 0.100 Original Sample 05/09/22 17:41 • (MS) I Spike Amount mg/l 0.100	0.0142 CS) LCS Result mg/l 0.106 (OS) • Material Result mg/l ND (OS) • Material Result mg/l	LCS Rec. % 108 108 5/09/22 1 MS Result mg/l 0.0996	6.55 Rec, Limit % 87.1-120 SE (MS) = M2 17:42 • (MSD) RC t M5D Resu mg/l 0.105	atrix Spike 3789663-5 0! At MS Rac. 99.6 trix Spike	Duplicate (M 5/09/22 17:43 MSD Risc, % 105	Dilution	4	MS Quarther	MSD Qualifier	56	75	
Reective Cyaride Laboratory Cor (LCS) R3789863-2 0 Analyto Reactive Cyaride L1487559-03 C (OS) L1487559-03 O Analyto Reactive Cyaride	0.0033 ntrol Sample (LC 05/09/22 17:30 Spike Amount mg/l 0.100 Original Sample 05/09/22 17:41 • (MS) I Spike Amount mg/l 0.100	0.0142 CS) LCS Result mg/l 0.106 (OS) • Matr mg/l ND (OS) • Matr mg/l ND (OS) • Matr R2789863-6 0	LCS Rec. 96 108 Fix Spik 5/09/22 1 MS Result mg/l 0.0996	6.55 Rec, Limit % 87.1-120 SE (MS) = M2 17:42 • (MSD) RC t MSD Resu mg/l 0.105 E (MS) = M8	atrix Spike 3789663-5 0! & MS Rac. 99.6 trix Spike 3789863-7 0!	20 Mer Duplicate (M 5/09/22 17:43 MSD Ruc, 105 Duplicate (M 5/09/22 17:46	Dilutton 1 SD)	% 90,0-110			% 5,28	% 20	
Reactive Cyarilde Laboratory Cor (LCS) R3789863-2 0 Analyto Reactive Cyarilde L1487559-03 0 Analyto Reactive Cyarilde L1487562-01 0 (OS) L1487562-01 0	0.0133 Introl Sample (LC 05/09/22 17:30 Spike Amount mg/1 0.100 Original Sample 05/09/22 17:41 • (MS) 1 Spike Amount mg/1 0.100 Original Sample 5/09/22 17:44 • (MS) 1 Spike Amount	0.0142 LCS Result mg/l 0.108 (OS) • Mature Mg/l ND (OS) • Mature Mg/l ND (OS) • Mature Mg/l ND Original Result mg/l COS) • Mature Mg/l ND Original Result Mg/l	LCS Rec. 96 108 5/09/22 1 MS Result mg/l 0.0996 bx Spike 5/09/22 1 MS Result	Rec, Limit % 87.1-120 17:42 • (MSD) R2 t MSD Resu mg/l 0.105 e (MS) • Ma 17:45 • (MSD) R2 t MSD Resu	atrix Spike 3789663-5 0! & MS Rac. 99.6 trix Spike 3789863-7 0!	Duplicate (M 5/09/22 17:43 MSD Risc, % 105	Dilution	4	MS Qualifier	MSD Qualifier	% 5,28 RPD	75	
Reactive Cyanide Laboratory Cor (LCS) R3789863-2 0 Analyto Reactive Cyanide L1487559-03 C (OS) L1487559-03 O Analyto Reactive Cyanide	0.0033 ntrol Sample (LC 05/09/22 17:30 Spike Amount mg/l 0.100 Original Sample 05/09/22 17:41 • (MS) I Spike Amount mg/l 0.100	0.0142 CS) LCS Result mg/l 0.106 (OS) • Matr mg/l ND (OS) • Matr mg/l ND (OS) • Matr R2789863-6 0	LCS Rec. 96 108 Fix Spik 5/09/22 1 MS Result mg/l 0.0996	6.55 Rec, Limit % 87.1-120 SE (MS) = M2 17:42 • (MSD) RC t MSD Resu mg/l 0.105 E (MS) = M8	atrix Spike 3789663-5 0! At M5 Rac. 99.6 477× Spike 3789863-7 0! At M5 Rec.	20 Moderate (Moderate (Mo	Dilutton 1 SD)	90,0-110 Rac, Limits			% 5,28	% 20	
Reactive Cyarilde Laboratory Cor (LCS) R3789863-2 0 Analyto Reactive Cyarilde L1487559-03 C (OS) L1487559-03 O Analyto Reactive Cyarilde	0.0133 Introl Sample (LC 05/09/22 17:30 Spike Amount mg/1 0.100 Original Sample 05/09/22 17:41 + (MS) Spike Amount mg/1 0.100 Original Sample 5/09/22 17:44 + (MS) Spike Amount mg/1	0.0142 LCS Result mg/l 0.108 (CS) = Matrix mg/l 0.108 (CS) = Matrix mg/l (CS) = Matrix mg/l	LCS Rec. 9. 108 5/09/22 1 MS Result mg/l 0.0996 bx Spike 5/09/22 1 MS Result mg/l	Rec, Limit % 87.1-120 CE (MS) = Ma 17:42 • (MSD) RC t MSD Rest mg/l 0.105 E (MS) = Ma 17:45 • (MSD) RC t MSD Rest mg/l 0.0920	atrix Spike 3789663-5 0! At M5 Rac. 99.6 trix Spike 3789863-7 0! At M5 Rec.	20 Her Duplicate (M 5/09/22 17:43 MSD Rec. 105 Duplicate (M 5/09/22 17:46 MSD Rec. %	Dilution 1 SD) Dilution	90,0-110 Rec, Limits %	MS Qualifier		% 5,28 R87D % 5.70	% 20 RSFD Llimits:	PAGE





ACCOUNT: PROJECT: \$DG: DATE/TIME PAGE: Hall Environmental Analysis Laboratory 1,1497566 05/16/22 15:58 15 of 21



SDG:

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DATE/TIME

05/16/22 15:58

PAGE:

16 of 21

PROJECT:

ACCOUNT:

Hall Environmental Analysis Laboratory



ACCOUNT: Hall Environmental Analysis Laboratory PROJECT:

SDG: L1487586 DATE/TIME: 05/16/22 15:58 PAGE: 17 of 21



SDG

L1487586

DATE/TIME

05/16/22 15:58

18 of 21

PROJECT:

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Hall Environmental Analysis Laboratory

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Oualifler	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Delected) or "BDL" (Below Delectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
o	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
TB	Sample(s) received past/too close to holding time expiration.





















Alebema	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey NELAP	TN002
California	2932	New Mexico ¹	TN00003
Caloreda	TN00003	New York	11742
Connecticut	PH-0197	North Cerolina	Em/375
Floride	E87487	North Carolina 1	DW21704
Georgia	NELAP	North Carolina ^a	41
Georgia ¹	923	North Delecta	R-140
ldaho	TN00003	Ohio-VAP	CL0059
limais	200008	Oldahoma	9915
Indiana	C-TN-01	Oregon	TN200002
lowa	364	Pennsylvania	68-02979
Kenses	E-10277	Rhade Island	LAQ00356
Kentucky ¹⁴	KY90010	South Carolina	84004002
Kentudky ^z	16	South Delicita	n/a
Louisiana	AG0792	Tennessee 14	2006
Louisiana	LACHE	Texas	T104704245-20-18
Maine	TN00003	Texas ^s	LAB0152
Maryland	324	Uteh	TN000032021-11
Messachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missourl	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	AŽLA
A2LA - ISO 17025	1461,01	AJHA-LAP,LLC EMLAP	100789
A2LA - ISO 17025 ³	1461.02	DOD	146 1.0 1
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquetic Toxicity ⁴ Chemical/Microbiological ⁸ Mold ⁴ Wastewater n/a Accreditation not applicable



















SDG:

L1487566

^{*} Not all certifications held by the laboratory are applicable to the results reported in the attached report.

^{*} Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



CHAIN OF CUSTODY RECORD

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Hall Environmental Analysis Luboratory 4901 Hankins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-410"

Website: www.hallenvironmental.com

SUBCONTRATOR Pace TN COMPANY PHONE PACE TN (800) 767-5859 (615) 758-5859 ADDRESS ACCOUNT # EMAIL 12065 Lebanon Rd CTLY, STATE, ZIP Mt. Juliet, TN 37122 ANALYTICAL COMMENTS BOTTLE COLLECTION CLIENT-SAMPLE ID MATRIX SAMPLE TYPE 1 8151TCLP *RUSH 7 DAY TAT* 1 2204B57-001F WDW-1,2,3 & 4 Effluent 1LAMGU 4/26/2022 9:25:00 AM Aqueous -01 2 2204857-001G WDW-1,2,3 & 4 Effluent 125HDP Aqueous 4/26/2022 9:25:00 AM 1 ORP *RUSH 7 DAY TAT* -02 500HDPE 4/26/2022 9:25:00 AM 3 RCI *RUSH 7 DAY TAT* 2204B57-001H WDW-1,2,3 & 4 Effluent 3 Aqueous -03 2204B57-002F CTB to City of POTW 1LAMGU Aqueous 4/26/2022 9:50:00 AM 1 8151TCLP *RUSH 7 DAY TAT* -04 2204B57-002G CTB to City of POTW 125HDP 4/26/2022 9:50:00 AM 1 ORP *RUSH 7 DAY TAT* 5 Aqueous -05 2204B57-002H CTB to City of POTW 500HDPE 4/26/2022 9 50 00 AM 3 RCI *RUSH 7 DAY TAT* Aqueous -06

SPECIAL INSTRUCTIONS / COMMEN	18:	C	7767 0976 9790 2. Sear Present Intent CO. Signed Activate: Enties arrive of their Southern buttles hands Sufficient volume ment RAT Sheem (0.5 m hc) 7767 0976 9790 1. A Deta Readgewest / 11 Fre. isset Their 7867 7867 7867 7867 7868								
Please include the LAB ID and t	he CLIENT SAMPL	E ID on all final reports.	Please e-mail results	s to lab@hall	environmental com.	Please return all coolers and blue	ice. Thank yo	u			
Relinquiahed By	Date A/27/2022 Time:	9:38 AM Hasarond By	Jay l)-	Date 18 7	Time Og @		T TRANSMIT		FIONLINE		
Jac	Date Time	9:38 AM Reserved By Reserved By	face ef-	Date 18 7	Time Og ®	HARDY : PY (extra user)	☐ FAX	☐ EMAIL	ONLINE		
Relinquished By Relinquished By Relinquished By	4/27/2022	9:38 AM	fact ef-	Date: Date:		HARDY : PY (extra user)	FOR LAB USE	☐ EMAIL	ONLINE		

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: PBW Batch ID: R87581 RunNo: 87581 Prep Date: Analysis Date: 4/27/2022 SeqNo: 3099704 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.10 Fluoride ND Chloride ND 0.50 Nitrogen, Nitrite (As N) ND 0.10 **Bromide** ND 0.10 Nitrogen, Nitrate (As N) ND 0.10 Phosphorus, Orthophosphate (As P ND 0.50 Sulfate ND 0.50

Sample ID: LCS	Samp1	Гуре: Ics	;	TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batcl	h ID: R8	7581	F	RunNo: 8	7581				
Prep Date:	Analysis Date: 4/27/2022			8	SeqNo: 3	099705	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.5	90	110			
Chloride	4.6	0.50	5.000	0	92.5	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.0	90	110			
Bromide	2.4	0.10	2.500	0	97.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.6	90	110			
Sulfate	10	0.50	10.00	0	100	90	110			

Sample ID: MB	SampT	SampType: mblk			Code: El	PA Method	;			
Client ID: PBW	Batch	ID: R8	7788	R	tunNo: 8	7788				
Prep Date:	Analysis D	ate: 5 /	5/2022	S	eqNo: 3	109682	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	SampT	3	Tes	tCode: El	3					
Client ID: LCSW	Batch	1D: R8	7788	F	RunNo: 8	7788				
Prep Date:	Analysis D	ate: 5/	5/2022	S	SeqNo: 3	109683	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.8	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			

Qualifiers:

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

Page 12 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67111 SampType: MBLK TestCode: EPA Method 6020A: TCLP Metals

Client ID: PBW Batch ID: 67111 RunNo: 87655

Prep Date: 4/27/2022 Analysis Date: 5/2/2022 SeqNo: 3103419 Units: mg/L

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

 Lead
 ND
 0.0010

 Selenium
 ND
 0.0010

Sample ID: MSLLLCS-67111 SampType: LCSLL TestCode: EPA Method 6020A: TCLP Metals

Client ID: BatchQC Batch ID: 67111 RunNo: 87655

Prep Date: 4/27/2022 Analysis Date: 5/2/2022 SeqNo: 3103420 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.0012 0.0010 Lead 0.001000 124 70 130 0.00099 0.0010 0.001000 n 98.7 **7**0 Selenium 130 J

Sample ID: MSLCS-67111 SampType: LCS TestCode: EPA Method 6020A: TCLP Metals

Client ID: LCSW Batch ID: 67111 RunNo: 87655

Prep Date: 4/27/2022 Analysis Date: 5/2/2022 SeqNo: 3103421 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Lead 0.052 0.0010 0.05000 0 103 80 120 Selenium 0.0010 0.05000 0 96.0 80 120 0.048

Sample ID: MB-67111 SampType: MBLK TestCode: EPA Method 6020A: TCLP Metals

Client ID: PBW Batch ID: 67111 RunNo: 87716

Prep Date: 4/27/2022 Analysis Date: 5/4/2022 SeqNo: 3107038 Units: mg/L

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

Arsenic ND 0.0010

Sample ID: MSLLLCS-67111 SampType: LCSLL TestCode: EPA Method 6020A: TCLP Metals

Client ID: BatchQC Batch ID: 67111 RunNo: 87716

Prep Date: 4/27/2022 Analysis Date: 5/4/2022 SeqNo: 3107039 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.00096 0.0010 0.001000 70 130 96.1 Arsenic

Sample ID: MSLCS-67111 SampType: LCS TestCode: EPA Method 6020A: TCLP Metals

Client ID: LCSW Batch ID: 67111 RunNo: 87716

Prep Date: 4/27/2022 Analysis Date: 5/4/2022 SeqNo: 3107040 Units: mg/L

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

Arsenic 0.050 0.0010 0.05000 0 99.7 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 POL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 13 of 26

Hall Environmental Analysis Laboratory, Inc.

0.50

0.002500

0.002500

ND

0.0023

0.0018

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67182	SampType: MBLK		TestCode: EPA Method 8081: Pesticides TCLI							
Client ID: PBW	Bato	ch ID: 67	182	F	RunNo: 8	8093				
Prep Date: 5/2/2022	Analysis	Date: 5 /	18/2022	8	SeqNo: 3	123051	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								
Toxaphene	ND	0.50								
Surr: Decachlorobiphenyl	0.0024		0.002500		94.2	73	119			
Surr: Tetrachloro-m-xylene	0.0018		0.002500		72.6	36.6	84.1			
Sample ID: MB-67182	Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	8081: Pestici	des TCLP		
Client ID: PBW	Bato	ch ID: 67	182	F	RunNo: 8	8093				
Prep Date: 5/2/2022	Analysis	Date: 5/	18/2022	8	SeqNo: 3	123052	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								

Sample ID: LCS-67182 SampType: LCS		S	Tes									
Client ID: LCSW	Bat	ch ID: 67 ′	182	F	RunNo: 88	B093						
Prep Date: 5/2/2022	Analysis	Date: 5/	18/2022	S	SeqNo: 3	123054	Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Endrin	0.00047	0.00010	0.0005000	0	93.5	56.3	126					
gamma-BHC (Lindane)	0.00040	0.00010	0.0005000	0	81.0	45.8	103					
Heptachlor	0.00027	0.00010	0.0005000	0	53.2	33.7	104					
Heptachlor epoxide	0.00043	0.00010	0.0005000	0	85.9	50.1	116					
Methoxychlor	0.00055	0.00010	0.0005000	0	111	15	203					
Surr: Decachlorobiphenyl	0.0022		0.002500		87.0	73	119					
Surr: Tetrachloro-m-xylene	0.0016		0.002500		64.1	36.6	84.1					

Qualifiers:

Toxaphene

Surr: Decachlorobiphenyl

Surr: Tetrachloro-m-xylene

- 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
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank

92.2

72.8

73

36.6

119

84.1

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

Page 14 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: LCS-67182	SampType: LCS		Tes	tCode: El	des TCLP)			
Client ID: LCSW	Batch ID: (7182	F	RunNo: 8	8093				
Prep Date: 5/2/2022	Analysis Date:	5/18/2022	8	SeqNo: 3	123055	Units: mg/L			
Analyte	Result PQI	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00047 0.0001	0.0005000	0	94.4	56.3	126			
gamma-BHC (Lindane)	0.00041 0.0001	0.0005000	0	82.4	45.8	103			
Heptachlor	0.00027 0.0001	0.0005000	0	53.4	33.7	104			
Heptachlor epoxide	0.00043 0.0001	0.0005000	0	86.3	50.1	116			
Methoxychlor	0.00052 0.0001	0.0005000	0	103	15	203			
Surr: Decachlorobiphenyl	0.0021	0.002500		85.3	73	119			
Surr: Tetrachloro-m-xylene	0.0016	0.002500		64.2	36.6	84.1			
Sample ID: LCSD-67182	SampType: LCSD		Tes	tCode: El	PA Method	8081: Pestici	des TCLP)	·
Client ID: LCSS02	Batch ID: 67182		F	RunNo: 88093					

Client ID: LCSS02	Bat	ch ID: 67	182	RunNo: 88093							
Prep Date: 5/2/2022	Analysis	Date: 5/	18/2022	8	SeqNo: 3	123056	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Endrin	0.00048	0.00010	0.0005000	0	95.9	56.3	126	2.57	20		
gamma-BHC (Lindane)	0.00042	0.00010	0.0005000	0	83.6	45.8	103	3.16	20		
Heptachlor	0.00034	0.00010	0.0005000	0	67.7	33.7	104	24.0	20	R	
Heptachlor epoxide	0.00045	0.00010	0.0005000	0	89.7	50.1	116	4.30	20		
Methoxychlor	0.00054	0.00010	0.0005000	0	108	15	203	2.80	20		
Surr: Decachlorobiphenyl	0.0022		0.002500		88.7	73	119	0	0		
Surr: Tetrachloro-m-xylene	0.0015		0.002500		61.0	36.6	84.1	0	0		

Sample ID: LCSD-67182	Samp	SampType: LCSD			TestCode: EPA Method 8081: Pesticides TCLP					
Client ID: LCSS02	Bat	ch ID: 67	182	F	RunNo: 8	8093				
Prep Date: 5/2/2022	Analysis	Date: 5/	18/2022	S	SeqNo: 3	123057	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00048	0.00010	0.0005000	0	96.0	56.3	126	1.73	20	
gamma-BHC (Lindane)	0.00043	0.00010	0.0005000	0	85.1	45.8	103	3.12	20	
Heptachlor	0.00034	0.00010	0.0005000	0	67.6	33.7	104	23.5	20	R
Heptachlor epoxide	0.00045	0.00010	0.0005000	0	89.5	50.1	116	3.56	20	
Methoxychlor	0.00052	0.00010	0.0005000	0	103	15	203	0.199	20	
Surr: Decachlorobiphenyl	0.0022		0.002500		87.5	73	119	0	0	
Surr: Tetrachloro-m-xylene	0.0017		0.002500		68.7	36.6	84.1	0	0	

Qualifiers:

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

Page 15 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: 100ng Ics	Samp1	SampType: LCS			tCode: T 0	CLP Volatile	es by 8260B			
Client ID: LCSW	Batc	h ID: T8	7 552	F	RunNo: 8	7552				
Prep Date:	Analysis [Date: 4/	27/2022	S	eqNo: 3	099812	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.022	0.50	0.02000	0	108	70	130			J
1,1-Dichloroethene	0.020	0.70	0.02000	0	102	70	130			J
Trichloroethene (TCE)	0.021	0.50	0.02000	0	104	70	130			J
Chlorobenzene	0.020	100	0.02000	0	99.4	70	130			J
Surr: 1,2-Dichloroethane-d4	0.0097		0.01000		96.6	70	130			
Surr: 4-Bromofluorobenzene	0.010		0.01000		99.8	70	130			
Surr: Dibromofluoromethane	0.010		0.01000		101	70	130			
Surr: Toluene-d8	0.0091	0.0091 0.01000			91.2	70				
Sample ID: mb	Samp ¹	SampType: MBLK			tCode: T (CLP Volatile				

Client ID: PBW	Batcl	h ID: T8	7552	F	RunNo: 8	7552				
Prep Date:	Analysis D	Date: 4/	27/2022	5	SeqNo: 3	099813	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
1,2-Dichloroethane (EDC)	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Chlorobenzene	ND	100								
Surr: 1,2-Dichloroethane-d4	0.0099		0.01000		99.0	70	130			
Surr: 4-Bromofluorobenzene	0.0099		0.01000		99.4	70	130			
Surr: Dibromofluoromethane	0.010		0.01000		101	70	130			
Surr: Toluene-d8	0.0092		0.01000		92.5	70	130			

Qualifiers:

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

Page 16 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: mb-67188	SampType: MBLK			Tes	tCode: El	PA Method	8270C TCLP			
Client ID: PBW	Batcl	h ID: 67 '	188	F	RunNo: 8	7 709				
Prep Date: 5/2/2022	Analysis D	Date: 5/	3/2022	S	SeqNo: 3	105691	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.14		0.2000		69.3	15	118			
Surr: Phenol-d5	0.094		0.2000		46.9	15	92.9			
Surr: 2,4,6-Tribromophenol	0.14		0.2000		69.0	15	150			
Surr: Nitrobenzene-d5	0.082		0.1000		82.0	15	136			
Surr: 2-Fluorobiphenyl	0.072		0.1000		71.5	15	134			
Surr: 4-Terphenyl-d14	0.076		0.1000		75.8	15	168			

Sample ID: Ics-67188 S	ampType: LCS	Tes	tCode: EPA Method	8270C TCLP				
Client ID: LCSW	Batch ID: 67188	F	RunNo: 87709					
Prep Date: 5/2/2022 Analy	/sis Date: 5/3/202	22 5	SeqNo: 3105692	Units: mg/L				
Analyte Res	ult PQL SPI	K value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual	
2-Methylphenol 0.0	77 0.00010	0.1000 0	77.0 19	106				
3+4-Methylphenol 0.	16 0.00010	0.2000 0	82.4 16.3	112				
2,4-Dinitrotoluene 0.0	56 0.00010	0.1000 0	55.7 15	99.6				
Hexachlorobenzene 0.0	70 0.00010	0.1000 0	70.2 41.8	111				
Hexachlorobutadiene 0.0	57 0.00010	0.1000 0	56.6 15	91.5				
Hexachloroethane 0.0	64 0.00010	0.1000 0	64.5 15	87.5				
Nitrobenzene 0.0	72 0.00010	0.1000 0	71.6 19.3	114				
Pentachlorophenol 0.0	63 0.00010	0.1000 0	63.0 29	103				
Pyridine 0.0	18 0.00010	0.1000 0	18.3 15	92.6				
2,4,5-Trichlorophenol 0.0	78 0.00010	0.1000 0	77.7 25.2	114				
2,4,6-Trichlorophenol 0.0	76 0.00010	0.1000 0	75.7 25.7	112				
Cresols, Total 0.	24 0.00010	0.3000 0	80.6 15	145				
Surr: 2-Fluorophenol 0.	.13	0.2000	62.8 15	118				
Surr: Phenol-d5 0.0	86	0.2000	43.0 15	92.9				
Surr: 2,4,6-Tribromophenol 0	.15	0.2000	73.6 15	150				

Qualifiers:

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

Page 17 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: 2204B57

25-May-22

Client: Navajo Refining Company **Project:** PSP WDW 1 2 3 4 Inj Well

Sample ID: Ics-67188 SampType: LCS TestCode: EPA Method 8270C TCLP

Client ID: LCSW Batch ID: 67188 RunNo: 87709

Prep Date: 5/2/2022 Analysis Date: 5/3/2022 SeqNo: 3105692 Units: mg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.078 0.1000 Surr: Nitrobenzene-d5 77.9 15 136 Surr: 2-Fluorobiphenyl 0.069 0.1000 69.4 15 134 0.1000 Surr: 4-Terphenyl-d14 0.085 84.9 15 168

Sample ID: 2204b57-001bms SampType: MS TestCode: EPA Method 8270C TCLP

Client ID: WDW-1,2,3 & 4 Efflu Batch ID: 67188 RunNo: 87709

Prep Date: 5/2/2022	Prep Date: 5/2/2022 Analysis Date: 5/3/2022			8	SeqNo: 3105694					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.075	0.00010	0.1000	0	74.9	15.8	101			
3+4-Methylphenol	0.16	0.00010	0.2000	0	79.1	16.9	97.9			
2,4-Dinitrotoluene	0.058	0.00010	0.1000	0	57.5	20.1	90.5			
Hexachlorobenzene	0.072	0.00010	0.1000	0	71.6	34	108			
Hexachlorobutadiene	0.063	0.00010	0.1000	0	63.0	15	99.7			
Hexachloroethane	0.068	0.00010	0.1000	0	67.9	15	86.4			
Nitrobenzene	0.073	0.00010	0.1000	0	72.6	15	109			
Pentachlorophenol	0.024	0.00010	0.1000	0	24.1	15	130			
Pyridine	0.049	0.00010	0.1000	0.005858	42.9	15	82			
2,4,5-Trichlorophenol	0.073	0.00010	0.1000	0	7 3.0	28.1	105			
2,4,6-Trichlorophenol	0.064	0.00010	0.1000	0	64.3	21.5	110			
Cresols, Total	0.23	0.00010	0.3000	0	77.7	15	127			
Surr: 2-Fluorophenol	0.12		0.2000		60.6	15	118			
Surr: Phenol-d5	0.086		0.2000		43.2	15	92.9			
Surr: 2,4,6-Tribromophenol	0.15		0.2000		73.1	15	150			
Surr: Nitrobenzene-d5	0.079		0.1000		78.9	15	136			
Surr: 2-Fluorobiphenyl	0.070		0.1000		70.4	15	134			
Surr: 4-Terphenyl-d14	0.082		0.1000		81.6	15	168			

Sample ID: 2	2204b57-001bmsd	SampType: MSD T	estCode: EPA Method 8270C TCLP
Client ID: V	WDW-1,2,3 & 4 Efflu	Batch ID: 67188	RunNo: 87709
la a.		D. (O 11 0400000 11 '4 W

Prep Date: 5/2/2022 Analysis Date: 5/3/2022			S	SeqNo: 3105695						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.080	0.00010	0.1000	0	80.2	15.8	101	6.81	20	
3+4-Methylphenol	0.17	0.00010	0.2000	0	84.2	16.9	97.9	6.20	20	
2,4-Dinitrotoluene	0.059	0.00010	0.1000	0	59.2	20.1	90.5	2.89	20	
Hexachlorobenzene	0.077	0.00010	0.1000	0	76.6	34	108	6.76	20	
Hexachlorobutadiene	0.066	0.00010	0.1000	0	66.0	15	99.7	4.73	20	
Hexachloroethane	0.069	0.00010	0.1000	0	68.9	15	86.4	1.50	20	
Nitrobenzene	0.076	0.00010	0.1000	0	75.9	15	109	4.40	20	

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQLPractical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference
- В Analyte detected in the associated Method Blank
- Estimated value Ε
- Analyte detected below quantitation limits
- Sample pH Not In Range P
- RLReporting Limit

Page 18 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

 Sample ID:
 2204b57-001bmsd
 SampType:
 MSD
 TestCode:
 EPA Method 8270C TCLP

 Client ID:
 WDW-1,2,3 & 4 Efflu
 Batch ID:
 67188
 RunNo:
 87709

Prep Date: 5/2/2022 Analysis Date: 5/3/2022 SeqNo: 3105695 Units: mg/L

Frep Date. 5/2/2022	Allalysis	Date. 3/	ate. 3/3/2022 Sequit			103033	Office. Hig/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Pentachlorophenol	0.040	0.00010	0.1000	0	39.5	15	130	48.7	20	R
Pyridine	0.056	0.00010	0.1000	0.005858	49.7	15	82	13.1	20	
2,4,5-Trichlorophenol	0.077	0.00010	0.1000	0	77.3	28.1	105	5.68	20	
2,4,6-TrichloropheпоI	0.076	0.00010	0.1000	0	75.8	21.5	110	16.4	20	
Cresols, Total	0.25	0.00010	0.3000	0	82.9	15	127	6.40	20	
Surr: 2-Fluorophenol	0.13		0.2000		66.1	15	118	0	0	
Surr: Phenol-d5	0.096		0.2000		47.8	15	92.9	0	0	
Surr: 2,4,6-Tribromophenol	0.16		0.2000		81.0	15	150	0	0	
Surr: Nitrobenzene-d5	0.081		0.1000		81.2	15	136	0	0	
Surr: 2-Fluorobiphenyl	0.073		0.1000		73.3	15	134	0	0	
Surr: 4-Terphenyl-d14	0.078		0.1000		78.3	15	168	0	0	

Qualifiers:

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

Page 19 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57 25-May-22**

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: lcs-1 98.6uS eC SampType: lcs TestCode: SM2510B: Specific Conductance

Client ID: LCSW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101479 Units: µmhos/cm

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

Conductivity 100 10 98.60 0 102 85 115

Qualifiers:

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

Page 20 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57 25-May-22**

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67181 SampType: MBLK TestCode: EPA Method 7470A: Mercury

Client ID: PBW Batch ID: 67181 RunNo: 87656

Prep Date: 5/2/2022 Analysis Date: 5/2/2022 SeqNo: 3103457 Units: mg/L

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

Mercury ND 0.00020

Sample ID: LCSLL-67181 SampType: LCSLL TestCode: EPA Method 7470A: Mercury

Client ID: BatchQC Batch ID: 67181 RunNo: 87656

Prep Date: 5/2/2022 Analysis Date: 5/2/2022 SeqNo: 3103458 Units: mg/L

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

Mercury 0.00014 0.00020 0.0001500 0 95.6 50 150 J

Sample ID: LCS-67181 SampType: LCS TestCode: EPA Method 7470A: Mercury

Client ID: LCSW Batch ID: 67181 RunNo: 87656

Prep Date: 5/2/2022 Analysis Date: 5/2/2022 SeqNo: 3103459 Units: mg/L

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

Mercury 0.0051 0.00020 0.005000 0 102 85 115

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 21 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB	TestCode: EPA Method 6010B: Dissolved Metals										
Client ID: PBW	PBW Batch ID: A88011				RunNo: 8						
Prep Date:	rep Date: Analysis Date: 5/16/2022				SeqNo: 3	119568	Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Calcium	ND	1.0									
Magnesium	ND	1.0									
Potassium	ND	1.0									
Sodium	ND	1.0									

Sample ID: LCS	SampT	ype: LC	s	TestCode: EPA Method 6010B: Dissolved Metals										
Client ID: LCSW	Batcl	h ID: A8	8011	F	RunNo: 8	8011								
Prep Date:	Analysis D	Date: 5 /	16/2022	8	SeqNo: 3119570			ı						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Calcium	51	1.0	50.00	0	102	80	120							
Magnesium	51	1.0	50.00	0	103	80	120							
Potassium	51	1.0	50.00	0	102	80	120							
Sodium	50	1.0	50.00	0	100	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
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 22 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67111 SampType: MBLK TestCode: EPA 6010B: TCLP Metals

Client ID: PBW Batch ID: 67111 RunNo: 87611

Prep Date: 4/27/2022 Analysis Date: 4/28/2022 SeqNo: 3100575 Units: mg/L

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

 Barium
 ND
 0.0020

 Cadmium
 0.0028
 0.0020

 Chromium
 ND
 0.0060

 Silver
 ND
 0.0050

Sample ID: LCS-67111 SampType: LCS TestCode: EPA 6010B: TCLP Metals

Client ID: LCSW Batch ID: 67111 RunNo: 87611

Prep Date: 4/27/2022 Analysis Date: 4/28/2022 SeqNo: 3100577 Units: mg/L

SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result **PQL** LowLimit **HighLimit** Qual 0.5000 0 **Barium** 0.47 0.0020 93.9 80 120 Cadmium 0.48 0.0020 0.5000 0 95.5 80 120 В Chromium 0.47 0.0060 0.5000 0 93.9 80 120 Silver 0.096 0.0050 0.1000 0 96.0 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
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 23 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: mb-1 alk SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101381 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 alk SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101382 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 76.12 20.00 80.00 0 95.2 90 110

Sample ID: mb-2 alk SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101404 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-2 alk SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101405 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 75.60 20.00 80.00 0 94.5 90 110

Sample ID: mb-3 alk SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101427 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-3 alk SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R87620 RunNo: 87620

Prep Date: Analysis Date: 4/28/2022 SeqNo: 3101428 Units: mg/L CaCO3

Total Alkalinity (as CaCO3) 76.32 20.00 80.00 0 95.4 90 110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantative Limit
S % Recovery outside of range due to dilution or matrix interference

B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 24 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67191 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 67191 RunNo: 87767

Prep Date: 5/3/2022 Analysis Date: 5/5/2022 SeqNo: 3108756 Units: mg/L

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

Total Dissolved Solids ND 20.0

Sample ID: LCS-67191 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 67191 RunNo: 87767

Prep Date: 5/3/2022 Analysis Date: 5/5/2022 SeqNo: 3108757 Units: mg/L

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

Total Dissolved Solids 1010 20.0 1000 0 101 80 120

Qualifiers:

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

Page 25 of 26

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204B57**

25-May-22

Client: Navajo Refining Company
Project: PSP WDW 1 2 3 4 Inj Well

Sample ID: MB-67224 SampType: MBLK TestCode: SM 2540D: TSS

Client ID: PBW Batch ID: 67224 RunNo: 87726

Prep Date: 5/3/2022 Analysis Date: 5/4/2022 SeqNo: 3106971 Units: mg/L

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

Suspended Solids ND 4.0

Sample ID: LCS-67224 SampType: LCS TestCode: SM 2540D: TSS

Client ID: LCSW Batch ID: 67224 RunNo: 87726

Prep Date: 5/3/2022 Analysis Date: 5/4/2022 SeqNo: 3106972 Units: mg/L

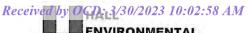
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Suspended Solids 90 4.0 92.40 0 97.4 83.44 119.05

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
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 26 of 26



ENVIRONMENTAL ANALYSIS LABORATORY Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Sample Log-In Check List

Website: www.hallenvironmental.com Client Name: Navajo Refining Work Order Number: 2204B57 RcptNo: 1 Guarages Salogot Received By: Juan Rojas 4/27/2022 7:10:00 AM Completed By: Sean Livingston 4/27/2022 10:32:16 AM Reviewed By: KPG 4-27-22 Chain of Custody 1. Is Chain of Custody complete? Yes V No 🗌 Not Present 2. How was the sample delivered? Courier Log In 3. Was an attempt made to cool the samples? No 🗆 Yes 🗸 NA 🔲 Were all samples received at a temperature of >0° C to 6.0°C No 🗌 Yes V NA [] 5. Sample(s) in proper container(s)? No 🗌 Yes V No 🗌 Sufficient sample volume for indicated test(s)? Yes V No 🗌 7. Are samples (except VOA and ONG) properly preserved? Yes V 8. Was preservative added to bottles? No 🗸 Yes NA 9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes V No 🗆 NA 🗌 10. Were any sample containers received broken? Yes 🗆 No V # of preserved bottles checked 11. Does paperwork match bottle labels? Yes V No 🗆 for pH: (Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain of Custody? Yes V No 🗌 13. Is it clear what analyses were requested? Yes 🗸 No 🗌 14. Were all holding times able to be met? Yes 🗸 No 🗌 (If no, notify customer for authorization.) Special Handling (if applicable) 15. Was client notified of all discrepancies with this order? Yes No 🗌 NA V Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: Roured off 175ml from Soundles 20/2,0028 2012. 17. Cooler Information for orp analys. S. In 4/27/22. Temp °C | Condition | Seal Intact | Seal No Cooler No Seal Date Signed By

0.6

Good

Chain-of-Custody Record		Turn-Around Time:					HALL ENVIRONMENTAL												
Olione, 14d	vajo rien	mig oo.		Standard > Rush X Project Name:				ANALYSIS LABORATORY										RY	
		-0						www.hallenvironmental.com											
Mailing Address: P.O. Box 159 Artesia, NM 88211-0159			PSP WDW-1, 2, 3 &4 Inj Well Project #: P.O. # 251841				4901 Hawkins NE - Albuquerque, NM 87109												
							Tel. 505-345-3975 Fax 505-345-4107												
Phone #: 575-748-3311							Analysis Request												
email or Fax#: 575-746-5451			Project Mar	nager:															
QA/QC Pac	kage:							auce										1	- 1 1
□ Standar	rd		□ Level 4 (Full Validation)	Randy Dad	e			Balance	spu	sp			spi	sp				1 1	
□ Other _				Sampler:	Brady Hubbar			CIA	noon	Compounds			noc	noc				11	11
□ EDD (T	ype)			On Ice: Yes No Sample Temperature: A.3 10.3 = 0.6					J W	omo		8	mo	E O				1	
				Sample Ter	nperature: A.	340.320	4	Specific Gravity, ORP, pH, TSS	PC			Neta	PC	В				1 1	
Date	Time	Matrix	Sample Request ID	Container Type and #	Container Type and # Preservative Type HEAL No.				8260 TCLP Compounds	8270 TCLP	RCI	RCRA 8 Metals	8081 TCLP Compounds	8151 TCLP Compounds					
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	4.4	w=	C	PI	x											
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	3-40ml VO	HCL				x										
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none					x									
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	***							x								
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	1-250ml P	HNO3							x							
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none								х						
4/26/22	9:25	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none	24	_							х					
4/26/22	9:50	Liquid	CTB to City POTW	**	**	රුර	2	x											
4/26/22	9:50	Liquid	CTB to City POTW	3-40ml VOA	HCL				x								-5		
4/26/22	9:50	Liquid	CTB to City POTW	1-1L Amber	none					x									
4/26/22	9:50	Liquid	CTB to City POTW	***	***						x								
4/26/22	9:50	Liquid	CTB to City POTW	1-250ml P	HNO4							x							
4/26/22	9:50	Liquid	CTB to City POTW	1-1L Amber	none								x				- 1		
4/26/22	9:50	Liquid	CTB to City POTW	1-1L Amber	none	-	-							x					
Date: 4-2622 Date: 1	Time: 11:15	Relinquishe Relinquishe	Early Hubens	Received by: Received by: Date Time Property III5 Received by: Received by:				Remarks: Dissolved Cations by EPA Method 200.7. **1-500ml unpreserved plastic, 1-125ml H2SO4 plastic, 1-125ml HNO3 plastic. ** 1-500ml unpreserved plastic, 1-500ml NaOH plastic, 1-500ml											
4/20/20	1900	a	Luming	120	Received by: NaOH/ZnAcetate plastic. NaOH/ZnAcetate plastic.														



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

November 09, 2022

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

FAX:

RE: Quarterly WDW 1 2 3 4 Inj Well OrderNo.: 2209H25

Dear Randy Dade:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/30/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers 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 #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505 245 4102

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

WO#: 2209H25 Date: 11/9/2022

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Analytical Notes:

Full list TCLP was requested for the two samples in this report. Per the TCLP Method 1311, "If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run". All TCLP compounds are reported as totals in this report, at the TCLP Limits, since the low solids content did not require filtration. The TCLP term is used in the method header; this is used to represent that the compounds listed are the specific TCLP compounds and that these compounds are reported at the TCLP regulatory limits.

The cations were filtered using a 0.45um filter for the C/A balance determination.

Analytical Report Lab Order 2209H25

Date Reported: 11/9/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Lab ID: 2209H25-001 **Matr**

Matrix: AQUEOUS

Collection Date: 9/28/2022 11:18:00 PM **Received Date:** 9/30/2022 7:30:00 AM

Client Sample ID: WDW-1,2,3 & 4 Effluent

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES TCLF	•						Analyst: JM	E
Chlordane	ND	0.00050	0.030		mg/L	1	10/20/2022 10:53:00 A	M 70615
Endrin	ND	0.000062	0.020		mg/L	1	10/20/2022 10:53:00 A	M 70615
gamma-BHC (Lindane)	ND	0.000054	0.40		mg/L	1	10/20/2022 10:53:00 A	M 70615
Heptachlor	ND	0.000041	0.0080		mg/L	1	10/20/2022 10:53:00 A	M 70615
Heptachlor epoxide	ND	0.000051	0.0080		mg/L	1	10/20/2022 10:53:00 A	M 70615
Methoxychlor	ND	0.000075	10		mg/L	1	10/20/2022 10:53:00 A	M 70615
Toxaphene	ND	0.00050	0.50		mg/L	1	10/20/2022 10:53:00 A	M 70615
Surr: Decachlorobiphenyl	55.0	0	40.9-111		%Rec	1	10/20/2022 10:53:00 A	M 70615
Surr: Tetrachloro-m-xylene	77.3	0	15-107		%Rec	1	10/20/2022 10:53:00 A	M 70615
EPA METHOD 300.0: ANIONS							Analyst: JM	Т
Fluoride	65	0.92	2.0	*	mg/L	20	9/30/2022 1:53:36 PM	R91467
Chloride	490	25	50	*	mg/L	100	10/3/2022 1:19:11 PM	R91508
Nitrogen, Nitrite (As N)	0.31	0.057	0.50	J	mg/L	5	9/30/2022 1:15:01 PM	R91467
Bromide	0.45	0.25	0.50	J	mg/L	5	9/30/2022 1:15:01 PM	R91467
Nitrogen, Nitrate (As N)	2.5	0.10	0.50		mg/L	5	9/30/2022 1:15:01 PM	R91467
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/30/2022 1:15:01 PM	R91467
Sulfate	2300	25	50	*	mg/L	100	10/3/2022 1:19:11 PM	R91508
EPA METHOD 6020A: TCLP METALS							Analyst: ELS	3
Arsenic	0.027	0.0025	5.0	J	mg/L	5	10/19/2022 2:08:07 Pt	A 70719
Lead	ND	0.0025	5.0		mg/L	5	10/19/2022 2:08:07 Pt	v 70719
Selenium	0.040	0.0025	1.0	J	mg/L	5	10/19/2022 2:08:07 Pt	и 70719
EPA METHOD 7470A: MERCURY							Analyst: VP	
Mercury	ND	0.000091	0.020		mg/L	1	10/10/2022 3:50:37 Pt	И 70693
EPA METHOD 6010B: DISSOLVED ME	TALS						Analyst: JRI	₹
Calcium	400	0.29	5.0		mg/L	5	10/12/2022 12:52:32 F	M A91762
Magnesium	130	0.17	5.0		mg/L	5	10/12/2022 12:52:32 F	M A91762
Potassium	230	1.0	5.0		mg/L	5	10/12/2022 12:52:32 F	M A91762
Sodium	880	4.2	10		mg/L	10	10/12/2022 1:28:12 Pf	A A 91762
EPA 6010B: TCLP							Analyst: JRI	₹
Barium	0.049	0.0011	100	J	mg/L	1	10/12/2022 1:36:42 PI	<i>I</i> 70719
Cadmium	ND	0.0012	1.0		mg/L	1	10/12/2022 1:36:42 Pt	и 70719
Chromium	ND	0.0017	5.0		mg/L	1	10/12/2022 1:36:42 Pt	и 70719
Silver	0.0058	0.0013	5.0	J	mg/L	1	10/12/2022 1:36:42 Pt	<i>I</i> 70719
EPA METHOD 8270C TCLP							Analyst: JM	E
2-Methylphenol	ND	0.0050	200		mg/L	1	10/14/2022 12:10:38 A	M 70605
3+4-Methylphenol	ND	0.0051	200		mg/L	1	10/14/2022 12:10:38 A	M 70605

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
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 20

Analytical Report Lab Order 2209H25

Date Reported: 11/9/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Lab ID:

2209H25-001 Matrix: AQUEOUS

Collection Date: 9/28/2022 11:18:00 PM Received Date: 9/30/2022 7:30:00 AM

Client Sample ID: WDW-1,2,3 & 4 Effluent

	1/2401121 1	ТОСТОСТ			Jucc. 7, 5	U, 202	2 7.50.00 1111	
Analyses	Result	MDL	, RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C TCLP							Analyst: JM	E
2,4-Dinitrotoluene	ND	0.0049	0.13		mg/L	1	10/14/2022 12:10:38 A	AM 70605
Hexachlorobenzene	ND	0.019	0.13		mg/L	1	10/14/2022 12:10:38 A	M 70605
Hexachlorobutadiene	ND	0.017	0.50		mg/L	1	10/14/2022 12:10:38 A	M 70605
Hexachloroethane	ND	0.014	3.0		mg/L	1	10/14/2022 12:10:38 /	M 70605
Nitrobenzene	ND	0.0049	2.0		mg/L	1	10/14/2022 12:10:38 A	M 70605
Pentachlorophenol	ND	0.027	100		mg/L	1	10/14/2022 12:10:38 A	AM 70605
Pyridine	ND	0.014	5.0		mg/L	1	10/14/2022 12:10:38 A	M 70605
2,4,5-Trichlorophenol	ND	0.0063	400		mg/L	1	10/14/2022 12:10:38 A	M 70605
2,4,6-Trichlorophenol	ND	0.0059	2.0		mg/L	1	10/14/2022 12:10:38 A	AM 70605
Cresols, Total	ND	0.027	200		mg/L	1	10/14/2022 12:10:38 A	M 70605
Surr: 2-Fluorophenol	61.6	0	18.1-88.9		%Rec	1	10/14/2022 12:10:38 A	M 70605
Surr: Phenol-d5	45.3	0	17-61.5		%Rec	1	10/14/2022 12:10:38 A	M 70605
Surr: 2,4,6-Tribromophenol	87.2	0	29.8-104		%Rec	1	10/14/2022 12:10:38 A	M 70605
Surr: Nitrobenzene-d5	71.4	0	22.2-111		%Rec	1	10/14/2022 12:10:38 A	AM 70605
Surr: 2-Fluorobiphenyl	61.8	0	24.6-96.3		%Rec	1	10/14/2022 12:10:38 A	AM 70605
Surr: 4-Terphenyl-d14	90.8	0	53.4-124		%Rec	1	10/14/2022 12:10:38 A	AM 70605
TCLP VOLATILES BY 8260B							Analyst: BR	М
Benzene	ND	0.00023	0.50		mg/L	200	10/11/2022 9:34:52 PI	M A91711
1,2-Dichloroethane (EDC)	ND	0.00025	0.50		mg/L	200	10/11/2022 9:34:52 PI	M A91711
2-Butanone	ND	0.0020	200		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Carbon Tetrachloride	ND	0.00018	0.50		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Chloroform	ND	0.00013	6.0		mg/L	200	10/11/2022 9:34:52 PI	M A91711
1,4-Dichlorobenzene	ND	0.00021	7.5		mg/L	200	10/11/2022 9:34:52 PI	M A91711
1,1-Dichloroethene	ND	0.00020	0.70		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Tetrachloroethene (PCE)	ND	0.00036	0.70		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Trichloroethene (TCE)	0.036	0.00020	0.50	J	mg/L	200	10/11/2022 9:34:52 PI	M A91711
Vinyl chloride	ND	0.00032	0.20		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Chlorobenzene	ND	0.00016	100		mg/L	200	10/11/2022 9:34:52 PI	M A91711
Surr: 1,2-Dichloroethane-d4	122	0	70-130		%Rec	200	10/11/2022 9:34:52 PI	M A91711
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	200	10/11/2022 9:34:52 PI	M A91711
Surr: Dibromofluoromethane	103	0	70-130		%Rec	200	10/11/2022 9:34:52 PI	M A91711
Surr: Toluene-d8	106	0	70-130		%Rec	200	10/11/2022 9:34:52 PM	M A91711
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JT1	Г
Conductivity	6900	10	10		µmhos/c	1	10/4/2022 3:32:18 PM	R91537
SM4500-H+B / 9040C: PH							Analyst: JT 1	г
рН	8.04			Н	pH units	1	10/4/2022 3:32:18 PM	R91537
SM2320B: ALKALINITY							Analyst: JT 1	Г

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
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 20

Analytical Report Lab Order 2209H25

Date Reported: 11/9/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Lab ID:

2209H25-001 Matrix: AQUEOUS

Collection Date: 9/28/2022 11:18:00 PM Received Date: 9/30/2022 7:30:00 AM

Client Sample ID: WDW-1,2,3 & 4 Effluent

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed I	Batch ID
SM2320B: ALKALINITY							Analyst: JTT	
Bicarbonate (As CaCO3)	582.9	20.00	20.00		mg/L Ca	1	10/4/2022 3:32:18 PM	R91537
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	10/4/2022 3:32:18 PM	R91537
Total Alkalinity (as CaCO3)	582.9	20.00	20.00		mg/L Ca	1	10/4/2022 3:32:18 PM	R91537
SPECIFIC GRAVITY							Analyst: CAS	
Specific Gravity	0.9989	0	0			1	10/3/2022 2:34:00 PM	R91481
SM2540C MOD: TOTAL DISSOLVE	SOLIDS						Analyst: SNS	
Total Dissolved Solids	5120	200	200	*D	mg/L	1	10/5/2022 8:58:00 AM	70542
SM 2540D: TSS							Analyst: KS	
Suspended Solids	28	4.0	4.0		mg/L	1	10/4/2022 11:09:00 AM	70560

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
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 20



Pace Analytical* ANALYTICAL REPORT



Ss

[†]Cn

Sr

Qc

GI

Sc

Hall Environmental Analysis Laboratory

Sample Delivery Group:

L1542745

Samples Received:

10/04/2022

Project Number:

Description:

Report To:

Andy Freeman

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By: John V Houkins

John Hawkins Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
2209H25-001FG WDW-1,2,3 & 4 EFFLUENT L1542745-01	5
Qc: Quality Control Summary	6
Wet Chemistry by Method 2580	6
Wet Chemistry by Method 4500 CN E-2016	7
Wet Chemistry by Method 4500 S2 D-2011	9
Wet Chemistry by Method 9040C	10
Wet Chemistry by Method D93/1010A	11
Semi-Volatile Organic Compounds (LCMS) by Method SW-846 8321	12
GI: Glossary of Terms	13
Al; Accreditations & Locations	14
See Samula Chain of Custady	nc.







Ss











Hall Environmental Analysis Laboratory

Semi-Volattle Organic Compounds (LCMS) by Method SW-846 8321

Method

Preparation by Method 1311

Wet Chemistry by Method 2580

Wet Chemistry by Method 9040C

Wet Chemistry by Method D93/1010A

Wet Chemistry by Method 4500 CN E-2016

Wet Chemistry by Method 4500 \$2 D-2011

2209H25-001FG WDW-1,2,3 & 4 EFFLUENT L1542745-01 GW

Location

Mt. Juliet, TN

SAMPLE SUMMARY

Dilution

1

1

2

Batch

WG1937384

WG1946070

WG1937600

WG1937427

WG1941732

WG1937917

WG1938291

Collected by

Preparation

date/time

10/06/22 11:58

10/21/22 07:45

10/06/22 17:42

10/05/22 12:02

10/12/22 17:00

10/06/22 03:00

10/09/22 14:25

Collected date/time Received date/time 09/28/22 23:18

Analysis

date/time

10/06/22 11:56

10/21/22 07:45

10/07/22 12:41

10/05/22 12:02

10/12/22 17:00

10/06/22 03:00

10/13/22 17:54

Analyst

MTL

ARD

CAT

JAR

NTG

AAS

MSB

10/04/22 09:00

















Released to Imagingcolul 22/2023 11:23:37 AM

Hall Environmental Analysis Laboratory

L1542745

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.





















John Hawkins Project Manager

John V Howkins

All Reactive Cyanide results reported in the attached report were determined as totals using method 4500 CN E-2016. All Reactive Sulfide results reported in the attached report were determined as totals using method 4500 S2 D-2011.

Sample Delivery Group (SDG) Narrative

Analysis was performed from an improper container for the following samples.

Lab Sample ID Project Sample ID Method 2209H25-001FG WDW-1,2,3 & 4 4500 CN E-2016 L1542745-01 **EFFLUENT**

The following analysis were performed from an unpreserved, insufficiently or inadequately preserved sample.

Project Sample ID Method Lab Sample ID 2209H25-001FG WDW-1,2,3 & 4 4500 CN E-2016 L1542745-01 **EFFLUENT**

Page 151 of 181

SAMPLE RESULTS - 01

Collected date/time: 09/28/22 23:18

Preparation by Method 1311

	Result	Qualifier	Prep	<u>Batch</u>
Analyte			date / time	
TCLP Extraction	-		10/6/2022 11:56:16 AM	WG1937384
Fluid	1		10/6/2022 11:56:16 AM	WG1937384
Initial pH	N/A		10/6/2022 11:56:16 AM	WG1937384
Final pH	N/A		10/6/2022 11:56:16 AM	WG1937384



²Tc

Ss

Wet Chemistry by Method 2580

	Result	Qualifier	Dilution	Analysis	Betch Control of the
Analyte	mV			date / time	
ORP	129	<u>T8</u>	1	10/21/2022 07:45	<u>WG1946070</u>



⁶Qc

Wet Chemistry by Method 4500 CN E-2016

	Result	Qualifier	RDL	Dilution	Analysis	<u>Betich</u>
Analyte	mg/l		mg/l		date / time	
Reactive Cyanide	0.0207		0.00500	1	10/07/2022 12:41	WG1937600





Wet Chemistry by Method 4500 S2 D-2011

	· ·						
		Result	Qualifier	RDL	Dilution	Analysis	Betch
Analyte		mg/l		mg/l		date / time	
Reactive Sulfide		ND	<u>J6</u>	0.0500	1	10/05/2022 12:02	WG1937427



Wet Chemistry by Method 9040C

	Result	Qualifier	Dilution	Analysis	Betch
Analyte	su			date / time	
pH	7.83	<u>T8</u>	1	10/12/2022 17:00	WG1941732

Sample Narrative:

L1542745-01 WG1941732: 7.83 at 19.1C

Wet Chemistry by Method D93/1010A

	• •					
	Result	Qualifier	Dilution	Analysis	Batch .	
Analyte	deg F			date / time		
Flashpoint	DNF at 170		1	10/06/2022 03:00	WG1937917	

Semi-Volatile Organic Compounds (LCMS) by Method SW-846 8321

	•					
	Result	<u>Qualifier</u> RD)L Umi	Dilution	n Analysis	<u>Betch</u>
Analyte	mg/l	m _f	g/l mg/l		date / time	
2,4-D	ND	0.	0400 10	2	10/13/2022 17:54	WG1938291
2,4,5-TP (Slivex)	ND	0,	0400 1	2	10/13/2022 17:54	WG1938291
(S) 2,4-D8-D3	129	70	.0-130		10/13/2022 17:54	WG1938291

WG19460 Wet Chemistry b					QUALIT	Y CONTR		MARY				
L1542745-01	Original Sample ((OS) - Du	plicate (f	DUP)								1
(OS) L1542745-01	10/21/22 07:45 • (DUP)	R3851271-3	10/21/22 07	7:45	7 35 OF	Planter						
	Original Result		Dilution	DUP DHT	DUP Qualifier	DUP DIIF Limits						2
Analyte	mV	mV		mV		mΥ						7,
ORP	129	130	1	1.00		20						3,
L1547426-06	Original Sample	(OS) • Du	iplicate ((DUP)								_
(OS) L1547426-06	10/21/22 07:45 - (DUP)	R3851271-4	10/21/22 0	7:45								4
	Original Result	DUP Result	Dilution	DUP Diff	DUP Qualifier	DUP Diff Limits						5
						41						12,
Analyte	m√	mV		mV		mV						
Analyte ORP	mV 286	mV 289	1	mV 3.70		mv 20						_
ORP L1547868-01 (286 Orlginal Sample (10/21/22 07:45 - (DUP)	(OS) • Duj R3851271-5	p <mark>licate (</mark> I 10/21/22 07	3.70 DUP) 7:45	स्थानिकार्य वाद्रा	20						5 6 7
ORP L1547868-01 ((OS) L1547868-01	286 Original Sample (10/21/22 07:45 - (DUP) Original Result.	289 (OS) • Dup R3851271-5 DUP Result	p <mark>licate (</mark> I 10/21/22 07	3.70 DUP) 7:45 DUP Diff	DUP Qualifier	20 DUP Driff Limits						5
ORP L1547868-01 (286 Original Sample (10/21/22 07:45 - (DUP) Original Result.	(OS) • Duj R3851271-5	p <mark>licate (</mark> I 10/21/22 07	3.70 DUP) 7:45	DUP Qualifier	DUP Driff Limits mV 20						7,
ORP L1547868-01 ((OS) L1547868-01 (Analyte ORP	286 Original Sample (10/21/22 07:45 - (DUP) Original Result. mV	289 (OS) • Dup R3851271-5 • DUP Result mV 336	p <mark>licate (I</mark> 10/21/22 07 Dilution 1	3.70 DUP) 7:45 DUP DIFF mV 0.100		DUP Driff Limits mV 20						5
L1547868-01 (CS) L1547868-01 Analyte ORP	Z86 Original Sample (10/21/22 07:45 - (DUF)) Original Result mV 336	(OS) • Dup R3851271-5 DUP Result mV 336	plicate (I 10/21/22 07 Dilution 1	3.70 DUP) 7:45 DUP Diff mV 0.100 Control Sar		DUP Driff Limits mV 20						7,
L1547868-01 (CS) L1547868-01 Analyte ORP	286 Original Sample (10/21/22 07:45 - (DUP) Original Result mV 336 Ontrol Sample (LC	(OS) • Dup R3851271-5 DUP Result mV 336 CS) • Labo	plicate (I 10/21/22 07 Dilution 1	3.70 DUP) 7:45 DUP Diff mV 0.100 Control Sar 7:45	mple Duplic	DUP Diff Limits mV 20 cate (LCSD)	LDS Quelifier	LCSD Qualifier	Oin	OHTLImite		7,
L1547868-01 (CS) L1547868-01 Analyte ORP	286 Original Sample (10/21/22 07:45 - (DUP) Original Result mV 336 Ontrol Sample (LC	(OS) • Dup R3851271-5 DUP Result mV 336 CS) • Labo	plicate (I 10/21/22 07 Dilution 1 0ratory C 10/21/22 07	3.70 DUP) 7:45 DUP Diff mV 0.100 Control Sar 7:45	mple Duplic	DUP Diff Limits mV 20 cate (LCSD)	LCS Qualifier	LCSD Qualitier	nico Vm	OHT Limite mV		7,

ACCOUNT: PROJECT: SDG: DATE/TIME PAGE: Hall Environmental Analysis Laboratory L1542745 10/21/22 tt09 6 of 15

WG1937600

lethod Blank (I	MR)												
ME) R3845870-1 10/	•												
MO) KOOTOOTOT KAN	MB Result	MB Qualifier	MB MDL	MB RDL									
Analyte	mg/l	Mis Assess	mg/l	mg/l									
Reactive Cyenide	U		0.00180	0.00500									
-													
: := :0700 04 O.	· · · · · · · Comple	1001 Dur	W	- 1 IPA									
L1542 733-0 1 Or													
(OS) L1542733-01 10/		6.55.5				N = DNb							
	Original Result	, DUP Result	Dilution	DUP RPD DU	UP Qualifler	DUP RPD Limbs							
Analyto	mg/l	mg/l		%		x							
Reactive Cyanide	ND	ND	1	0.000		20							
L1542734-02 O	irlainal Sample	ACS - Dur	nlicate /	DI IP)									
(OS) L1542734-02 10													
(O3) LITHE/STOE IN	C. A. C. T. A.					DUP RPD							
	Original Result		DIMIDI	27 Y Y Y Y	UP Qualifier	Limita							
Analyto	mg/l	mg/l		%		4							
Reactive Cyanide	ND	ND	1	0.000		20							
Laboratory Con	urol Sample (L'	CSI											
(LCS) R3845870-2 10		~ ,											
(LCS) REGISTER	Solke Amount	LCS Result	LCS Rec.	Rec, Limita	LCS Qual	alifler							
Analyto	mg/l	mg/l	76	*	-	<u> </u>							
Reactive Cyanide	0.100	0.0985	98.5	87.1-120									
-													
	and the state	100	77 - 11		· Calls	-							
L1542733-02 O	-	17 17		1 1 7	-	-	SD)						
(OS) L1542733-02 10	, ,												
Analyto	-	Original Result	t MS Result mg/l		MS Rec. %	, MSD Rec, %	Diution	Ruc, Limbs %	MS Qualifier	MSD Qualifier	1870 16	RPD Limits %	
Reactive Cyanide	mg/l 0.100	mg/l ND	0.0880	mg/l 0.0881	88.0	88.1	1	90,0-110	-08	100	0.114	20	
Reactive Cyanica	U,NJO	NU	0.0000	UJJoan	88.0	88.1	1	ACTO-110	<u>JB</u>	7.0	U,TI+	20	
Sample Nametive:													
•	re due Lo matrix interfere	ence.											
	ure due to matrix interfer												

L1542745

DATE/TIME

10/2V22 Tt09

PAGE

7 at 15

PROJECT:

QUALITY CONTROL SUMMARY

ACCOUNT:

Hall Environmental Analysis Laboratory

Tc.

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9 Sc

QUALITY CONTROL SUMMARY WG1937600 Wet Chemistry by Method 4500 CN E-2016 L1542742-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD) (OS) L1542742-01 10/07/22 12:32 • (MS) R3845870-7 10/07/22 12:33 • (MSD) R3845870-8 10/07/22 12:34 Spike Amount Original Result MS Result MSD Result MS Rec MSD Rec. Dilution Rec. Limits MSD Qualifier RPD Limits MS Qualifier RPD Analyte mg/l mg/l mg/l % % 0.0953 Reactive Cyanida 0.100 ND 0.0957 93.7 93.3 90.0-110 0.419 20

ACCOUNT: Hall Environmental Analysis Laboratory PROJECT:

SDG: L1542745 DATE/TIME: 10/2V22 109 PAGE: 8 of 15 WG1937427

Wet Chemistry by Method 4500 SZ D-2011 L1542745-01 Method Blank (MB) (MB) R3844889-1 10/05/22 11:56 MB RDL MB Resuk MB Qualffer MB MDL Tc Analyte mg/l mg/l mg/l 0.0500 Reactive Sulfide U 0.0250 3SS L1542751-01 Original Sample (OS) • Duplicate (DUP) ⁴Cn (OS) L1542751-01 10/05/22 12:04 - (DUP) R3844889-5 10/05/22 12:04 DUP RPD Limits Original Result DUP Result Dilution DUP RPD DUP Qualifier ⁵Sr Analyte % % mg/l Reactive Sulfide ND 0.000 20 Qc Laboratory Control Sample (LCS) GI (LCS) R3844889-2 10/05/22 11:56 Spike Amount LCS Result LCS Qualifier LCS Rec. Rec. Limits Al mg/l mg/l Reactive Suffice 0.500 0,526 105 85.0-115 9Sc L1542745-01 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD) (OS) L1542745-01 10/05/22 12:02 • (MS) R3844889-3 10/05/22 12:03 • (MSD) R3844889-4 10/05/22 12:03 Spike Amount Diligheil Result MS Result MSD Result MS RE MSD Rex: Dilution Rec. Limits MESO DESIRBER REPO PPD Limits VE Guiller mg/l mg/l mg/l mg/l Reactive Suffice 0.500 MD 79.4 30.0420 4.19 20 10.414 0.397 32.3 <u>J6</u>

QUALITY CONTROL SUMMARY



ACCOUNT: Hall Environmental Analysis Laboratory PROJECT:

SDG: L1542745 DATE/TIME: 10/2V22 109 PAGE: 10 of 15

Li534417-01 Original Sample OS - Duplicate DUP	WG193791 Wet Chemistry by	A STATE OF THE PARTY OF THE PAR	A			QUALIT	Y CONTR		MARY			
Original Result DUP Result DUP Result DUP RPD DUP Qualifier Limits	L1534417-01 On	ginal Sample (OS) - Dup	olicate (D	OUP)							t_
Analyte deg F deg F % % % Hashpoint DNF at 170 DNF at 170 1 0.000 10 L1542757-01 Original Sample (OS) * Duplicate (DUP) (OS) L1542757-01 10/06/22 03:00 * (DUP) R3845562-4 10/06/22 03:00 Original Result DUP Result Dilution DUP RPD DUP Qualifier Limits Analyte deg F deg F % % % Reshpoint DNF at 170 DNF at 170 1 0.000 10 Laboratory Control Sample (LCS) * Laboratory Control Sample Duplicate (LCSD) (ACS) R3845562-1 10/06/22 03:00 * (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCS Result LCS Rec. LCSD Rec. Rec. Limits LCS Qualifier LCSD Qualifier RPD RPD Limits Analyte deg F deg F % % % % % % % % % % % % % % % % % %	(OS) L1534417-01 10/0	06/22 03:00 • (DUP)	R3845562-3	3 10/06/22	03:00							- Ср
Analyte deg F deg F % % % Hashpoint DNF et 170 DNF et 170 1 0.000 10 L1542757-01 Original Sample (OS) * Duplicate (DUP) (OS) L1542757-01 10/06/22 03:00 • (DUP) R3845562-4 10/06/22 03:00 Original Result DVP Result Dikrion DVP RPD DVP Qualifier Dimits Analyte deg F deg F % % % Hashpoint DNF et 170 DNF et 170 1 0.000 10 Laboratory Control Sample (LCS) * Laboratory Control Sample Duplicate (LCSD) (LCS) R3845562-1 10/06/22 03:00 • (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCSD Result LC		Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier						^a Tc
L1542757-01 Original Sample (OS) - Duplicate (DUP) (OS) L1542757-01 10/06/22 03:00 - (DUP) R3845562-4 10/06/22 03:00 Driginal Result DUP Result Dilution DUP RPD DUP Quelifier Dumits Analyte deg F deg F % % % Reshpoint DNF at 170 DNF at 170 1 0.000 10 Laboratory Control Sample (LCS) - Laboratory Control Sample Duplicate (LCSD) (LCS) R3845562-1 10/06/22 03:00 - (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCSD Result LCSD Result LCSD Rec. LCSD Rec. LCSD Quelifier LCSD Quelifier RPD RPD Limits Analyte deg F deg F deg F & % % % % % % % % % %	Analyte	deg F	deg F		%							10
(OS) L1542757-01 10/06/22 03:00 • (DUP) R3845562-4 10/06/22 03:00 Original Result DUP Result DUP RPD DUP Qualifier DUP RPD DUP Qualifier Limits Analyte deg F deg F % % Reshpoint DNF at 170 DNF at 170 1 0.000 10 Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD) (LCS) R3845562-1 10/06/22 03:00 • (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCSD Result	Fleshpoint	DNF et 170	DNF et 170	1	0.000		10					3Ss
Original Result DUP Result DILution DUP RPD DUP Qualifier DUP RPD Limits	L1542757-01 Or	iginal Sample	(OS) • Du	plicate (l	DUP)							⁴ Cn
Analyte deg F deg F % % % Reshpoint DNF at 170 DNF at 170 1 0.000 10 Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD) (LCS) R3845562-1 10/06/22 03:00 - (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCSD Result Resul	(OS) L1542757-01 10/	06/22 03:00 · (DUP) R3845562-	4 10/06/22	2 03:00		7.2 87.2					
Restrict		Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier						⁵ Sr
Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD) (LCS) R3845562-1 10/06/22 03:00 • (LCSD) R3845562-2 10/06/22 03:00 Spike Amount LCS Result LCSD Result LCSD Resc. LCSD Rec. Rec. Limits LCS Qualifier LCSD Qualifier RPD RPD Limits Analyte deg F deg F % % % % % %	Analyte	deg F	deg F		%		%					
(LCS) R3845562-1 10/06/22 03:00 - (LCSD) R3845562-2 10/06/22 03:00 - Spike Amount LCS Result LCSD Result LCS Result LCSD Qualifier RPD RPD Limits Analyte deg F deg F % % % % % % % % % % % % % % % % % %	Flashpoint	DNF at 170	DNF at 170	1	0.000		10					[®] Qc
Spike Amount LCS Result LCSD Result LCS Rec. LCSD Rec. Limits LCS Qualifier LCSD Qualifier RPD RPD Limits Analyte deg F deg F % % % % %	Laboratory Con	trol Sample (LC	CS) • Labo	oratory (Control Sa	mple Duplic	ate (LCSD)					⁷ GI
Analyte deg F deg F % % % %	(LCS) R3845562-1 10.	/06/22 03:00 - (LCS	D) R384556	2-2 10/06/	22 03:00			V2.4.5	23 A 1 3 A	- Million -		8
		A STATE OF THE PARTY OF THE PAR						LCS Qualifier	LCSD Qualifier			Al
Restipolit 126 128 124 101 98.1 96.0-904 3.18 10	22.5											9
	Reshpoint.	126	128	124	101	98.1	96.0-104			3.18	10	Sc

 ACCOUNT:
 PROJECT:
 SDG:
 DATE/TIME
 PAGE:

 Hall Environmental Analysis Laboratory
 L154/2745
 10/20/22 tb09
 11 of 15

QUALITY CONTROL SUMMARY WG1938291 Semi-Volatile Organic Compounds (LCMS) by Method SW-846 8321 Method Blank (MB) (MB) R3848141-2 10/13/22 11:45 MB Qualffer MB MOL MB RDL MB Result TC Analyte mg/l mg/l mg/l 0.0400 2,4-D U 0.0133 2,4,5-TP (Slivex) U 0.0133 0.0400 SS (5) 2,4-08-03 259 7 70.0-130 ⁴Cn Laboratory Control Sample (LCS) 5Sr (LCS) R3848141-1 10/13/22 11:13 Spike Amount LCS Result LCS Rec. Rec. Limits LCS Qualifler Analyte mg/l mg/l Qc. 2,4-D 97.0 70.0-130 0.200 0.194 2,4,5-TP (Sliver) 0.200 0.260 130 70.0-130 GI (S) 2,4-08-03 270 70.0-130 ./1 A L1539727-01 Original Sample (OS) - Matrix Spike (MS) - Matrix Spike Duplicate (MSD) (OS) L1539727-01 10/13/22 12:07 - (MS) R3848141-3 10/13/22 12:28 - (MSD) R3848141-4 10/13/22 12:50 Sc Spike Amount Original Result MS Result MSD Result MSD Rec. RPD RPO Limites MS Rec Citation Rec. Limits MS DunMer MSD Qualifier Analyte × mgf mgf mg/l mg/l % 0.210 30 0.200 ND 0.188 94.0 105 70.0-130 11.1 240 2 <u>개</u> 2,4,5-TP (Silver) 0.200 ND 0.281 0.298 141 149 70.0-130 <u>J5</u> 5.87 30 Ø 2408-03 135 134 70.0-130

Hall Environmental Analysis Laboratory L1542745 10/20/22 1t.09 12 of 15

SDG

DATE/TIME

PROJECT:

ACCOUNT:

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.



A STATE OF THE STA	
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Oualifler	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for

Qualifier	Description	
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.	
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high,	
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.	
TB	Sample(s) received past/too close to holding time expiration.	

each sample will provide the name and method number for the analysis reperted.

times of preparation and/or analysis.



















Sample Summary (Ss)

This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and

Received by OCD: 3/30/2023 10:02:58 ACCREDITATIONS & LOCATIONS

Alebema	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey NELAP	TN002
California	2932	New Mexico 1	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Em/375
Florida	E87487	North Carolina 1	DW21704
Georgia	NELAP	North Carolina ²	41
Georgia ¹	923	North Dakota	R-140
ldaho	TN00003	Ohio-VAP	CL0069
litrois	200008	Oldahoma	9915
Indiana	C-TN-01	Oregon	TN200002
lowa	364	Pennsylvania	68-02 97 9
Kansas	E-10277	Rhade Island	LAQ00356
Kentucky ¹⁴	KY90010	South Carolina	84004002
Kentucky ^z	16	South Delicita	n/a
Louisiana	AI90792	Tennessee 14	2006
Louisiam	LACHE	Texas	T104704245-20-18
Maine	TN00003	Texas ⁶	LAB0152
Maryland	324	Uteh	TN000032021-11
Messachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERTO086	Wyoming	AŽLA
A2LA - ISO 17025	1461,01	AJHA-LAP,LLC EMLAP	100789
A2LA - ISO 17025 ⁵	1461.02	DOD	146L01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquetic Toxicity ⁴ Chemical/Microbiological ⁸ Mold ⁴ Wastewater n/a Accreditation not applicable



















^{*} Not all certifications held by the laboratory are applicable to the results reported in the attached report.

^{*} Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

CHAIN OF CUSTODY RECORD PAGE: 1 OF: 1

1046

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

SUB CO	NTRATOR Pace	TN COMPANY	PACE TN		PHONE	(800) 767-58	59 FAX	(615) 758-5859
ADDRES	12065	Lebanon Rd		1	ACCOUNT *		EMAIL.	
СПҮ, 81	Mt. Ju	uliet, TN 37122		A Y				
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTIC	LISY 2745 AL COMMENTS
1	2209H25-001F	WDW-1,2,3 & 4 Effluent	1LAMGU	Aqueous	9/28/2022 11 18:00 PM	1 8151TCLP		一
2	2209H25-001G	WDW-1,2,3 & 4 Effluent	500HDPE	Aqueous	9/28/2022 11 18:00 PM	3 RCI, ORP		-ful

Sample Rep	1100		
COC Seal Present Intact: -1	74	If Applicable	
CCC Signed Accurate:	76	VCA Zero Headspace:	Y_14
Sottles arrive intact:	- 21	Pres. Correct/Check:	YN
Torrect bottles used:	36		-
Sufficient volume sent:	11		
RAD Screen <0.5 mR hr:	31		

			1	/		
Ratinguished By	Date 9/30/2022	Time: 10:29 AM	my full	70/4/22	109.00	REPORT TRANSMITTAL DESIRED:
Relinquished By:	Date:	Time	Received By:	Date	Time	FOR LAB USE ONLY
Kelinquished By	Date	Типе	Received By	Date	Turne	Temp of samples 4. 7 C Attempt to Cook?
TAT:	Standard 5	RUSH	Next BD 🔲 2nd BD 🗀	3rd 91		Contrents

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Qual

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: **PBW** Batch ID: R91467 RunNo: 91467 SeqNo: 3275657 Prep Date: Analysis Date: 9/30/2022 Units: mg/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit**

 Fluoride
 ND
 0.10

 Nitrogen, Nitrite (As N)
 ND
 0.10

 Bromide
 ND
 0.10

 Nitrogen, Nitrate (As N)
 ND
 0.10

 Phosphorus, Orthophosphate (As P)
 ND
 0.50

Sample ID: LCS SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: **LCSW** Batch ID: R91467 RunNo: 91467 Prep Date: Analysis Date: 9/30/2022 SeqNo: 3275665 Units: mg/L %RPD Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual Fluoride 0.54 0.10 0.5000 0 109 90 110 Nitrogen, Nitrite (As N) 0.99 1.000 0 99.3 90 0.10 110 **Bromide** 2.5 0.10 2.500 0 99.8 90 110 0 104 2.6 0.10 2.500 90 110 Nitrogen, Nitrate (As N) Phosphorus, Orthophosphate (As P) 5.000 0 92.8 90 0.50 110

Sample ID: 2209H25-001CMS SampType: ms TestCode: EPA Method 300.0: Anions Client ID: WDW-1,2,3 & 4 Efflu Batch ID: R91467 RunNo: 91467 Prep Date: Analysis Date: 9/30/2022 SeqNo: 3275681 Units: mg/L Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

0.50 87.0 Nitrogen, Nitrite (As N) 4.7 5.000 0.3110 83.4 110 0.4460 12 0.50 12.50 94.6 89.4 110 **Bromide** Nitrogen, Nitrate (As N) 15 0.50 12.50 2.517 100 89.5 113 Phosphorus, Orthophosphate (As P) 21 2.5 25.00 85.6 80.1 109

Sample ID: 2209H25-001CMSD SampType: msd TestCode: EPA Method 300.0: Anions

Client ID: WDW-1,2,3 & 4 Efflu Batch ID: R91467 RunNo: 91467

Prep Date: Analysis Date: 9/30/2022 SeqNo: 3275682 Units: mg/L

1 Tep Date.	Allalysis	Jaco. 31.	30/2022	`	Joq140. 3/	2/3002	Onio. IIIg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0.3110	87.5	83.4	110	0.535	20	
Bromide	12	0.50	12.50	0.4460	94.9	89.4	110	0.236	20	
Nitrogen, Nitrate (As N)	15	0.50	12.50	2.517	101	89.5	113	0.322	20	
Phosphorus, Orthophosphate (As P)	22	2.5	25.00	0	86.4	80.1	109	0.902	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
POL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range RL Reporting Limit

ple pH Not In Range Page 5 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

RPDLimit

Qual

09-Nov-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R91508 RunNo: 91508

Prep Date: Analysis Date: 10/3/2022 SeqNo: 3277697 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 SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R91508 RunNo: 91508

Prep Date: Analysis Date: 10/3/2022 SeqNo: 3277698 Units: mg/L

%REC Analyte Result **PQL** SPK value SPK Ref Val LowLimit HighLimit %RPD 0.50 5.000 93.8 90 Chloride 4.7 0 9.6 0.50 10.00 96.1 90 110 Sulfate

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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 6 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: 2209H25

09-Nov-22

Client: Navajo Refining Company **Project:** Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70719 SampType: MBLK TestCode: EPA Method 6020A: TCLP Metals

Client ID: **PBW** Batch ID: 70719 RunNo: 91792

SeqNo: 3290983 Prep Date: Analysis Date: 10/13/2022 10/10/2022 Units: mg/L

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

Arsenic ND 0.0010

Sample ID: MSLLLCS-70719 SampType: LCSLL TestCode: EPA Method 6020A: TCLP Metals Client ID:

RunNo: 91792 **BatchQC** Batch ID: 70719

Prep Date: 10/10/2022 Analysis Date: 10/13/2022 SeqNo: 3290984 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.00089 0.0010 0.001000 89.3 70 130 Arsenic

TestCode: EPA Method 6020A: TCLP Metals Sample ID: MSLCS-70719 SampType: LCS Batch ID: 70719 Client ID: **LCSW** RunNo: 91792 Prep Date: 10/10/2022 Analysis Date: 10/13/2022 SeqNo: 3290985 Units: mg/L

PQL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual 0.050 0.0010 0.05000 99.5 80 Arsenic 120

Sample ID: MB-70719 SampType: MBLK TestCode: EPA Method 6020A: TCLP Metals Client ID: Batch ID: 70719 RunNo: 91927 Prep Date: Analysis Date: 10/19/2022 10/10/2022 SeqNo: 3297606 Units: mg/L POL SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result LowLimit HighLimit Qual

0.0010 Lead ND ND 0.0010 Selenium

Sample ID: MSLLLCS-70719 SampType: LCSLL TestCode: EPA Method 6020A: TCLP Metals Client ID: Batch ID: 70719 RunNo: 91927 **BatchQC** SeqNo: 3297607 Prep Date: 10/10/2022 Analysis Date: 10/19/2022 Units: mg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.00095 0.0010 0.001000 0 94.9 70 130 Lead 0.001000 0.00085 0.0010 0 85.1 70 Selenium 130 J

Sample ID: MSLCS-70719 TestCode: EPA Method 6020A: TCLP Metals SampType: LCS Client ID: **LCSW** Batch ID: 70719 RunNo: 91927 Prep Date: 10/10/2022 Analysis Date: 10/19/2022 SeqNo: 3297610 Units: mg/L SPK Ref Val Analyte Result **PQL** SPK value %REC LowLimit HighLimit %RPD **RPDLimit** Qual Lead 0.048 0.0010 0.05000 0 96.9 80 120 0.048 0.0010 0.05000 0 96.4 80 120 Selenium

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank В
- Above Quantitation Range/Estimated Value E
- Analyte detected below quantitation limits
- P Sample pH Not In Range

RI. Reporting Limit Page 7 of 20

Hall Environmental Analysis Laboratory, Inc.

0.0026

0.0023

0.002500

0.002500

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70615	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8081: Pesticio	des TCLP		
Client ID: PBW	Bato	ch ID: 706	615	F	RunNo: 9	1950				
Prep Date: 10/5/2022	Analysis	Date: 10	/20/2022		SeqNo: 3	299347	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								
Toxaphene	ND	0.50								
Surr: Decachlorobiphenyl	0.0026		0.002500		102	40.9	111			
Surr: Tetrachloro-m-xylene	0.0024		0.002500		95.4	15	107			
Sample ID: MB-70615	Samp	Туре: МЕ	BLK	TestCode: EPA Method 8081: Pesticides TCLP						
Client ID: PBW	Bato	h ID: 706	615	F	RunNo: 9	1950				
Prep Date: 10/5/2022	Analysis	Date: 10	/20/2022		SeqNo: 3	299348	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlordane	ND	0.030								
Endrin	ND	0.020								
gamma-BHC (Lindane)	ND	0.40								
Heptachlor	ND	0.0080								
Heptachlor epoxide	ND	0.0080								
Methoxychlor	ND	10								
Toxaphene	ND	0.50								

Sample ID: LCS-70615	SampType:	LCS	TestCode: EPA Method 8081: Pesticides TCLP						
Client ID: LCSW	Batch ID: 70615			RunNo: 9	1950				
Prep Date: 10/5/2022	Analysis Date:	10/20/2022		SeqNo: 3	299349	Units: mg/L			
Analyte	Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin	0.00050 0.000	10 0.0005000	0	99.6	56.3	126			
gamma-BHC (Lindane)	0.00045 0.000	10 0.0005000	0	89.9	45.8	103			
Heptachlor	0.00035 0.000	10 0.0005000	0	69.3	33.7	104			
Heptachlor epoxide	0.00047 0.000	10 0.0005000	0	93.9	50.1	116			
Methoxychlor	0.00050 0.000	10 0.0005000	0	99.9	15	203			
Surr: Decachlorobiphenyl	0.0024	0.002500		95.8	40.9	111			
Surr: Tetrachloro-m-xylene	0.0021	0.002500		83.6	15	107			

Qualifiers:

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

Surr: Decachlorobiphenyl

Surr: Tetrachloro-m-xylene

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank

40.9

15

111

107

103

93.2

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 8 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: LCS-70615	SampType: L0	cs	TestCode: EPA Method 8081: Pesticides TCLP							
Client ID: LCSW	Batch ID: 70	615	F	RunNo: 9	1950					
Prep Date: 10/5/2022	Analysis Date: 1	0/20/2022	5	SeqNo: 32	299350	Units: mg/L				
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Endrin	0.00048 0.00010	0.0005000	0	95.5	56.3	126				
gamma-BHC (Lindane)	0.00046 0.00010	0.0005000	0	91.2	45.8	103				
Heptachlor	0.00034 0.00010	0.0005000	0	68.8	33.7	104				
Heptachlor epoxide	0.00046 0.00010	0.0005000	0	91.7	50.1	116				
Methoxychlor	0.00048 0.00010	0.0005000	0	96.2	15	203				
Surr: Decachlorobiphenyl	0.0024	0.002500		96.5	40.9	111				
Surr: Tetrachloro-m-xylene	0.0020	0.002500		81.4	15	107				
Sample ID: LCSD-70615	SampType: LCSD		Tes	tCode: EF	es TCLP	_				
Client ID: LCSS02	Batch ID: 70	615	F	RunNo: 91950						
				0 11 22222						

	-									
Client ID: LCSS02	Bat	ch ID: 70 0	615	F	RunNo: 9	1950				
Prep Date: 10/5/2022	Analysis	Date: 10)/20/2022	•	SeqNo: 3	299351	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
En drin	0.00048	0.00010	0.0005000	0	95.7	56.3	126	3.96	20	
gamma-BHC (Lindane)	0.00044	0.00010	0.0005000	0	87.8	45.8	103	2.36	20	
Heptachlor	0.00032	0.00010	0.0005000	0	64.0	33.7	104	7.92	20	
Heptachlor epoxide	0.00045	0.00010	0.0005000	0	90.4	50.1	116	3.77	20	
Methoxychlor	0.00053	0.00010	0.0005000	0	105	15	203	5.02	20	
Surr: Decachlorobiphenyl	0.0022		0.002500		88.0	40.9	111	0	0	
Surr: Tetrachloro-m-xylene	0.0018		0.002500		72.2	15	107	0	0	

Sample ID: LCSD-70615	SampType: LCSD TestCode: EPA Method 8081: Pesticides TCLP										
Client ID: LCSS02	Batch ID: 70	615	F	RunNo: 9'	1950						
Prep Date: 10/5/2022	Analysis Date: 1	0/20/2022	SeqNo: 3299352 Units: mg/L								
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
En drin	0.00046 0.00010	0.0005000	0	91.0	56.3	126	9.03	20			
gamma-BHC (Lindane)	0.00044 0.00010	0.0005000	0	88.2	45.8	103	1.87	20			
Heptachlor	0.00032 0.00010	0.0005000	0	64.1	33.7	104	7.79	20			
Heptachlor epoxide	0.00045 0.00010	0.0005000	0	89.1	50.1	116	5.24	20			
Methoxychlor	0.00046 0.00010	0.0005000	0	92.8	15	203	7.42	20			
Surr: Decachlorobiphenyl	0.0022	0.002500		88.1	40.9	111	0	0			
Surr: Tetrachloro-m-xylene	0.0018	0.002500		70.7	15	107	0	0			

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 9 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

			_							
Sample ID: 100ng Ics	Samp ⁻	Гуре: LC	S	Tes	tCode: T (CLP Volatile	es by 8260B			
Client ID: LCSW	Batc	h ID: A9	1711	F	RunNo: 9º	1711				
Prep Date:	Analysis [Date: 10	/11/2022	\$	SeqNo: 32	286772	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.018	0.010	0.02000	0	89.0	70	130			
1,1-Dichloroethene	0.018	0.010	0.02000	0	90.6	70	130			
Trichloroethene (TCE)	0.018	0.010	0.02000	0	91.8	70	130			
Chlorobenzene	0.018	0.010	0.02000	0	90.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.014		0.01000		138	70	130			S
Surr: 4-Bromofluorobenzene	0.010		0.01000		102	70	130			
Surr: Dibromofluoromethane	0.012		0.01000		118	70	130			
Surr: Toluene-d8	0.010		0.01000		102	70	130			
Sample ID: mb	Samp ⁻	Гуре: МВ	BLK	Tes	tCode: TO	CLP Volatile	es by 8260B			
Client ID: PBW	Batc	h ID: A9	1711	F	RunNo: 9	1711				
Prep Date:	Analysis [Date: 10	/11/2022	\$	SeqNo: 32	286774	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
1,2-Dichloroethane (EDC)	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,1-Dichloroethene	ND	0.70								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	0.00025	0.50								J
Vinyl chloride	ND	0.20								
Chlorobenzene	ND	100								
Surr: 1,2-Dichloroethane-d4	0.012		0.01000		122	70	130			
Surr: 4-Bromofluorobenzene	0.011		0.01000		113	70	130			

Qualifiers:

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

Surr: Dibromofluoromethane

Surr: Toluene-d8

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.

0.010

0.011

0.01000

0.01000

B Analyte detected in the associated Method Blank

103

108

70

70

130

130

- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

Page 10 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70605	Samp1	Гуре: МЕ	BLK	Tes	stCode: El	PA Method	8270C TCLP			
Client ID: PBW	Batcl	h ID: 706	605	F	RunNo: 9	1785				
Prep Date: 10/5/2022	Analysis D	Date: 10	/13/2022	;	SeqNo: 3	291329	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.12		0.2000		58.3	18.1	88.9			
Surr: Phenol-d5	0.088		0.2000		43.8	17	61.5			
Surr: 2,4,6-Tribromophenol	0.13		0.2000		66.2	29.8	104			
Surr: Nitrobenzene-d5	0.066		0.1000		65.7	22.2	111			
Surr: 2-Fluorobiphenyl	0.059		0.1000		59.1	24.6	96.3			
Surr: 4-Terphenyl-d14	0.082		0.1000		81.9	53.4	124			

SampType: LCS TestCode: EPA Method 8270C TCLP									
Bato	ch ID: 706	605	F	RunNo: 91	1785				
Analysis	Date: 10	/13/2022	5	SeqNo: 32	291330	Units: mg/L			
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
0.069	0.00010	0.1000	0	69.5	19	106			
0.15	0.00010	0.2000	0	74.6	16.3	112			
0.048	0.00010	0.1000	0	48.3	15	99.6			
0.063	0.00010	0.1000	0	62.7	41.8	111			
0.027	0.00010	0.1000	0	27.3	15	91.5			
0.029	0.00010	0.1000	0	29.0	15	87.5			
0.063	0.00010	0.1000	0	62.8	19.3	114			
0.060	0.00010	0.1000	0	60.0	29	103			
0.046	0.00010	0.1000	0	45.6	15	92.6			
0.071	0.00010	0.1000	0	70.7	25.2	114			
0.066	0.00010	0.1000	0	65.8	25.7	112			
0.22	0.00010	0.3000	0	72.9	15	145			
0.11		0.2000		55.5	18.1	88.9			
0.083		0.2000		41.7	17	61.5			
0.14		0.2000		69.2	29.8	104			
	Result 0.069 0.15 0.048 0.063 0.027 0.029 0.063 0.060 0.046 0.071 0.066 0.22 0.11 0.083	Batch ID: 706 Analysis Date: 10 Result PQL 0.069 0.00010 0.15 0.00010 0.048 0.00010 0.063 0.00010 0.027 0.00010 0.063 0.00010 0.060 0.00010 0.046 0.00010 0.046 0.00010 0.066 0.00010 0.066 0.00010 0.022 0.00010 0.11 0.083	Batch ID: 70605 Analysis Date: 10/13/2022 Result PQL SPK value 0.069 0.00010 0.1000 0.15 0.00010 0.2000 0.048 0.00010 0.1000 0.063 0.00010 0.1000 0.027 0.00010 0.1000 0.063 0.00010 0.1000 0.063 0.00010 0.1000 0.064 0.00010 0.1000 0.071 0.00010 0.1000 0.066 0.00010 0.1000 0.22 0.00010 0.3000 0.11 0.2000 0.083 0.2000	Batch ID: 70605 F Analysis Date: 10/13/2022 SPK value SPK Ref Val Result PQL SPK value SPK Ref Val 0.069 0.00010 0.1000 0 0.15 0.00010 0.2000 0 0.048 0.00010 0.1000 0 0.063 0.00010 0.1000 0 0.027 0.00010 0.1000 0 0.063 0.00010 0.1000 0 0.063 0.00010 0.1000 0 0.066 0.00010 0.1000 0 0.071 0.00010 0.1000 0 0.066 0.00010 0.1000 0 0.22 0.00010 0.3000 0 0.11 0.2000 0	Batch ID: 70605 RunNo: 99 Analysis Date: 10/13/2022 SeqNo: 32 Result PQL SPK value SPK Ref Val %REC 0.069 0.00010 0.1000 0 69.5 0.15 0.00010 0.2000 0 74.6 0.048 0.00010 0.1000 0 48.3 0.063 0.00010 0.1000 0 62.7 0.027 0.00010 0.1000 0 27.3 0.029 0.00010 0.1000 0 29.0 0.063 0.00010 0.1000 0 62.8 0.060 0.00010 0.1000 0 60.0 0.046 0.00010 0.1000 0 70.7 0.066 0.00010 0.1000 0 65.8 0.22 0.00010 0.3000 0 72.9 0.11 0.2000 55.5 0.083 0.2000 41.7	Batch ID: 70605 RunNo: 91785 Analysis Date: 10/13/2022 SeqNo: 3291330 Result PQL SPK value SPK Ref Val %REC LowLimit 0.069 0.00010 0.1000 0 69.5 19 0.15 0.00010 0.2000 0 74.6 16.3 0.048 0.00010 0.1000 0 48.3 15 0.063 0.00010 0.1000 0 62.7 41.8 0.027 0.00010 0.1000 0 27.3 15 0.029 0.00010 0.1000 0 29.0 15 0.063 0.00010 0.1000 0 62.8 19.3 0.060 0.00010 0.1000 0 62.8 19.3 0.064 0.00010 0.1000 0 62.8 19.3 0.071 0.00010 0.1000 0 70.7 25.2 0.066 0.00	Batch ID: 70605 RunNo: 91785 Analysis Date: 10/13/2022 SeqNo: 3291330 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit 0.069 0.00010 0.1000 0 69.5 19 106 0.15 0.00010 0.2000 0 74.6 16.3 112 0.048 0.00010 0.1000 0 48.3 15 99.6 0.063 0.00010 0.1000 0 62.7 41.8 111 0.027 0.00010 0.1000 0 27.3 15 91.5 0.029 0.00010 0.1000 0 29.0 15 87.5 0.063 0.00010 0.1000 0 62.8 19.3 114 0.063 0.00010 0.1000 0 62.8 19.3 114 0.060 0.00010 0.1000 0 60.0 29 103	Batch ID: 70605 RunNo: 91785 Analysis Date: 10/13/2022 SeqNo: 3291330 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD 0.069 0.00010 0.1000 0 69.5 19 106 0.15 0.00010 0.2000 0 74.6 16.3 112 0.048 0.00010 0.1000 0 48.3 15 99.6 0.063 0.00010 0.1000 0 62.7 41.8 111 0.027 0.00010 0.1000 0 27.3 15 91.5 0.029 0.00010 0.1000 0 29.0 15 87.5 0.063 0.00010 0.1000 0 62.8 19.3 114 0.066 0.00010 0.1000 0 60.0 29 103 0.046 0.00010 0.1000 0 70.7	Batch ID: 70605 RunNo: 91785 Analysis Date: 10/13/2022 SeqNo: 3291330 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit 0.069 0.00010 0.1000 0 69.5 19 106 112 112 112 112 112 112 112 112 114 112 114

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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

Page 11 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: LCS-70605	SampType: LCS TestCode: EPA Method 8270C TCLP											
Client ID: LCSW	Batc	h I D: 70	605	F	RunNo: 9º	1785						
Prep Date: 10/5/2022	2 Analysis Date: 10/13/2022 SeqNo: 3291330 Units: mg/L											
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: Nitrobenzene-d5	0.068		0.1000		67.7	22.2	111					
Surr: 2-Fluorobiphenyl	0.064 0.1000 64.2 24.6 96.3											
Surr: 4-Terphenyl-d14	0.087	0.087 0.1000 87.0 53.4 124										

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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 12 of 20

Hall Environmental Analysis Laboratory, Inc.

99

WO#: 2209H25

09-Nov-22

Client: Navajo Refining Company Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: Ics-1 99.4uS eC SampType: LCS TestCode: SM2510B: Specific Conductance

Client ID: LCSW Batch ID: R91537 RunNo: 91537

10

Prep Date: Analysis Date: 10/4/2022 SeqNo: 3279123 Units: µmhos/cm

99.40

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

99.8

85

115

Conductivity

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

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

В Analyte detected in the associated Method Blank

Above Quantitation Range/Estimated Value E

Analyte detected below quantitation limits

Sample pH Not In Range P RLReporting Limit

Page 13 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70693 SampType: MBLK TestCode: EPA Method 7470A: Mercury

Client ID: PBW Batch ID: 70693 RunNo: 91673

Prep Date: 10/10/2022 Analysis Date: 10/10/2022 SeqNo: 3284866 Units: mg/L

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

Mercury ND 0.00020

Sample ID: LCSLL-70693 SampType: LCSLL TestCode: EPA Method 7470A: Mercury

Client ID: BatchQC Batch ID: 70693 RunNo: 91673

Prep Date: 10/10/2022 Analysis Date: 10/10/2022 SeqNo: 3284867 Units: mg/L

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

Mercury 0.00020 0.00020 0.0001500 0 135 50 150

Sample ID: LCS-70693 SampType: LCS TestCode: EPA Method 7470A: Mercury

Client ID: LCSW Batch ID: 70693 RunNo: 91673

Prep Date: 10/10/2022 Analysis Date: 10/10/2022 SeqNo: 3284868 Units: mg/L

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

Mercury 0.0051 0.00020 0.005000 0 102 85 115

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit POL Practical Quanitative Limit

PQL Practical Quanitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range RL Reporting Limit Page 14 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID:	МВ-А	SampT	уре: МЕ	BLK	Tes	tCode: EF	PA Method	6010B: Disso	lved Metal	s	
Client ID:	PBW	Batch	1D: A9	1762	F	RunNo: 9º	1762				
Prep Date:		Analysis D	ate: 10	/12/2022	5	SeqNo: 32	289919	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Magnesium		ND	1.0								
Potassium		ND	1.0								
Sodium		ND	1.0								

Sample ID: LCS-A	Samp1	Гуре: LC	6010B: Disso	lved Meta	ls					
Client ID: LCSW	Batcl	h ID: A9	1762	F	RunNo: 9	1762				
Prep Date:	Analysis D) Date: 10	/12/2022	5	SeqNo: 3	289921	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	103	80	120			
Magnesium	52	1.0	50.00	0	105	80	120			
Potassium	52	1.0	50.00	0	104	80	120			
Sodium	51	1.0	50.00	0	103	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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 15 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70719 SampType: MBLK TestCode: EPA 6010B: TCLP
Client ID: PBW Batch ID: 70719 RunNo: 91762

Prep Date: 10/10/2022 Analysis Date: 10/12/2022 SeqNo: 3293715 Units: mg/L

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

 Barium
 ND
 0.0020

 Cadmium
 ND
 0.0020

 Chromium
 ND
 0.0060

 Silver
 ND
 0.0050

Sample ID: LCS-70719 TestCode: EPA 6010B: TCLP SampType: LCS Client ID: Batch ID: 70719 RunNo: 91762 **LCSW** Prep Date: 10/10/2022 Analysis Date: 10/12/2022 SeqNo: 3293717 Units: mg/L %REC %RPD **PQL** SPK value SPK Ref Val LowLimit HighLimit **RPDLimit** Analyte Result Qual 0.5000 0 Barium 0.48 0.0020 96.5 80 120 Cadmium 0.48 0.0020 0.5000 0 96.2 80 120 0.48 0.0060 0.5000 0 96.7 80 120 Chromium Silver 0.099 0.0050 0.1000 0 99.1 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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 16 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: mb-1 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R91537 RunNo: 91537

Prep Date: Analysis Date: 10/4/2022 SeqNo: 3279059 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 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R91537 RunNo: 91537

Prep Date: Analysis Date: 10/4/2022 SeqNo: 3279060 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 77.64 20.00 80.00 0 97.0 90 110

Sample ID: mb-2 alk SampType: MBLK TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R91537 RunNo: 91537

Prep Date: Analysis Date: 10/4/2022 SeqNo: 3279082 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-2 alk SampType: LCS TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R91537 RunNo: 91537

Prep Date: Analysis Date: 10/4/2022 SeqNo: 3279083 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 77.52 20.00 80.00 0 96.9 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 17 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25 09-Nov-22**

Client: Navajo Refining Company
Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: 2209H25-001CDUP SampType: DUP TestCode: Specific Gravity

Client ID: WDW-1,2,3 & 4 Efflu Batch ID: R91481 RunNo: 91481

Prep Date: Analysis Date: 10/3/2022 SeqNo: 3276457 Units:

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

Specific Gravity 0.9998 0 0.0901 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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 18 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70542 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 70542 RunNo: 91532

Prep Date: 10/3/2022 Analysis Date: 10/5/2022 SeqNo: 3278878 Units: mg/L

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

Total Dissolved Solids ND 20.0

Sample ID: LCS-70542 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 70542 RunNo: 91532

Prep Date: 10/3/2022 Analysis Date: 10/5/2022 SeqNo: 3278879 Units: mg/L

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

Total Dissolved Solids 1030 20.0 1000 0 103 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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 19 of 20

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209H25**

09-Nov-22

Client: Navajo Refining Company

Project: Quarterly WDW 1 2 3 4 Inj Well

Sample ID: MB-70560 SampType: MBLK TestCode: SM 2540D: TSS

Client ID: PBW Batch ID: 70560 RunNo: 91514

Prep Date: 10/3/2022 Analysis Date: 10/4/2022 SeqNo: 3277855 Units: mg/L

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

Suspended Solids ND 4.0

Sample ID: LCS-70560 SampType: LCS TestCode: SM 2540D: TSS

Client ID: LCSW Batch ID: 70560 RunNo: 91514

Prep Date: 10/3/2022 Analysis Date: 10/4/2022 SeqNo: 3277856 Units: mg/L

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

Suspended Solids 98 4.0 91.90 0 107 83.89 119.7

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
- PQL Practical Quanitative Limit
- S % Recovery outside of standard limits. If undiluted results may be estimated.
- B Analyte detected in the associated Method Blank
- E Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

Page 20 of 20



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Client Name:	Navajo Refining	Work Order Num	ber: 2209H25		RcptNo: 1
Received By:	Juan Rojas	9/30/2022 7:30:00	AM	Hansy	
Completed By:	Sean Livingston	9/30/2022 10:19:20	AM	Guaray	-/
Reviewed By:	sn9/30/22	-		5-01	Jon
Chain of Cus	stody				
1. Is Chain of C	Custody complete?		Yes 🔽	No 🗌	Not Present
2. How was the	sample delivered?		Courier		
Log In			_		0.7
3. Was an atter	mpt made to cool the samp	oles?	Yes 🔽	No 🗌	NA 🗌
4. Were all sam	ples received at a tempera	ature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA 🗆
5. Sample(s) in	proper container(s)?		Yes 🔽	No 🗌	
6. Sufficient san	nple volume for indicated to	est(s)?	Yes 🔽	No 🗆	
7. Are samples	(except VOA and ONG) pr	operly preserved?	Yes 🔽	No 🗌	
8. Was preserva	ative added to bottles?		Yes 🗹	No 🗌	NA 🗆
9. Received at le	east 1 vial with headspace	<1/4" for AQ VQA?	Yes 🗸	No 🗆	HNO3 NA 🗀
	mple containers received t		Yes	No 🗹	# of preserved
	ork match bottle labels? ancies on chain of custody	')	Yes 🔽	No 🗆	bottles checked for pH:
2. Are matrices	correctly identified on Cha	in of Custody?	Yes 🔽	No 🗆	Adjusted? US
3. Is it clear wha	at analyses were requested	1?	Yes 🗹	No 🗆	, 0
	ing times able to be met? customer for authorization.)		Yes 🔽	No 🗆	Checked by: KPC 9
pecial Hand	ling (if applicable)				
15. Was client no	otified of all discrepancies	with this order?	Yes 🗌	No 🗆	NA 🗹
Person	Notified;	Date:			
By Wh		Via:	eMail	Phone Fax	☐ In Person
Regard	1				
	nstructions:				10. 00. 15
16. Additional re Filtered	Adu	ed 0.5mlof HNO3 for dissolved metals	ALU 3 s analysis, check	to Sam	ple 00 1 F. <2- KPG 9-30-22
17. Cooler Info			2		
Cooler No		Seal Intact Seal No	Seal Date	Signed By	FilherLot# FJ48
1	0.5 Good				THULL TT + 198

Client: Nav			stody Record	Turn-Around	Time		1	-,,	1 -	9	н	AL	L	EN	/IR	ON	M	ENT	FA	L
Ollent. Nav	ajo izeni	ing ou.		Standard X	Rush			-										AT		
				Project Name	2:			-17	- 3	8		ww	w.hal	lenviro	onmen	tal.com	73			
Mailing Add	dress: P.	O. Box 15	59	Quarterly WF	W-1, 2, 3 &4 I	ni Well			49	91 H	awki					e, NM				
Artesia, NN	/ 88211-	0159		Project #: P.0		TIJ VVCII					5-34					345-4				
Phone #: 5							100			, OC	00	0.00			Requ				e e	
email or Fa	x#: 575-	746-5451		Project Mana	ger.															
QA/QC Paci			□ Level 4 (Full Validation)	Randy Dade			Balance		8	w			8	S		1				
☐ Other				Sampler:	Brady Hubbar	rd	A B		pun	nuq			nun	pun						
□ EDD (T)				On Ice:	☐ Yes	□ No	CA		npa	Compounds			upo	odu		1				
				Sample Tem	perature: 3 7	1.2205	a vive	000	S	S		stals	Col	Co						
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 2209 H25	Specific Gravity,	OKP, pH,	8260 TCLP Compounds	8270 TCLP	RCI	RCRA 8 Metals	8081 TCLP Compounds	8151 TCLP Compounds						
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	**	**	001	x													
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	3-40ml VOA	HCL				х					1						
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	none					x										
9/28/22	23.18	Liquid	WDW-1, 2, 3 & 4 Effluent	***	***						X									
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	1-250ml P	HNO3							X.								
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	попе								X							
9/28/22	23:18	Liquid	WDW-1, 2, 3 & 4 Effluent	1-1L Amber	лопе	1								х		1				
																+		+		
													-		1	1	1			
Date: 9.39.22 Daje:	Time: 0 6:00	Relinquish B9 Relinquish	rady Hubbard	Received by:	my	Quality Time	1-5	rese	erved	d pla	stic,	1-12 1 pla	5ml H	12504	4 plast	ic, 1-1	25ml (1-500r -INO3 -500ml	plast	C. **
9/29/22	HOD	ace	submitted to Hall Environmental may be su	13) rourse		130		0	211	0	f:	Her	ed.	fra	M (unp	con the	d	24

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. **Santa Fe, NM 87505**

COMMENTS

Action 202258

COMMENTS

Operator:	OGRID:
HF Sinclair Navajo Refining LLC	15694
ATTN: GENERAL COUNSEL	Action Number:
Dallas, TX 75201	202258
	Action Type:
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)

COMMENTS

Created E	y Comment	Comment Date
cchave	Annual Report 2022 Submittal	11/22/2023

District I
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State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. **Santa Fe, NM 87505**

CONDITIONS

Action 202258

CONDITIONS

Operator:	OGRID:
HF Sinclair Navajo Refining LLC	15694
ATTN: GENERAL COUNSEL Dallas, TX 75201	Action Number:
	202258
	Action Type:
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

L	Created By	Condition	Condition Date
	cchavez	Conditions of Approval: 1. OCD Regulations require MIT Chart Recorder measurement during MITs; therefore, effective FY2024, use of pressure gauge measurements to satisfy OCD UIC Program MIT requirements is prohibited until further notice.	11/22/2023