UIC- I - _008-1_

WDW-2

ANNUAL REPORTS

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, July 01, 2011 8:48 AM
To: 'Lackey, Johnny'; 'Moore, Darrell'
Cc: Sanchez, Daniel J., EMNRD; Dade, Randy, EMNRD
Subject: FW: UICI-8 MIT Explanation Due
Attachments: UICI-8 MIT Explanation Due

Johnny and Darrell:

Good morning. The OCD has not received a response to its request for a signed PE opinion on the anomalous differential annulus pressures occurring in WDWs 1, 2 and 3. At the /31 meeting in Santa Fe OCD requested this information by COB on 6/10. Was this sent? If not, when can Navajo Refining Company have its down hole PE Expert provide an opinion for OCD review?

Also, OCD requested a response to the annual Fall-Off Test (FOT) performed in 2010 related to your request for a reduced FOT schedule for the aforementioned WDWs. The response was expected by 6/30 or early July 2011 (5/31 Mtg. in Santa Fe). When can OCD expect to receive this?

Please contact me if you have questions. Thank you.

File: OCD Online WDWs "Annual Report" and "FOT" Thumbnails

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
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"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at:
http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental)

Chavez, Carl J, EMNRD

Subject: UICI-8 MIT Explanation Due
Location: Office

Start: Fri 6/10/2011 4:00 PM
End: Fri 6/10/2011 4:30 PM

Recurrence: (none)

Organizer: Chavez, Carl J, EMNRD

OCD requested PE explanation for variation in annulus pressure in WDWs 1, 2 & 3 due by today that would explain why OCD should not consider wells failing MIT.

Mr. Carl Chavez
NM Oil Conservation Division
Environmental Bureau
1220 S. St. Francis
Santa Fe, NM 87505-5472

505-476-3490

ANNUAL CLASS 1 WELL REPORT
NAVAJO REFINING COMPANY, LLC
Permit Numbers UICCL1-008, UICCLI-008-0, UICCL1-008-1
API No. 30-015-27592 (008), 30-015-20894 (008-0) and 30-015-26575 (008-01)

January 31, 2011

Darrell Moore
Environmental Manager for Water and Waste

Navajo Refining Company, LLC

EXECUTIVE SUMMARY

Navajo Refining Company, LLC (Navajo) operates three class 1 wells in Eddy County NM. These wells are used to dispose wastewater from our refinery in Artesia, NM. Daily, Navajo sends approximately 16,000 bbls total of wastewater down these three wells with the volume to each well determined by its ability to take water. During 2010, there was no major work on any of the wells. We did perform fall-off tests on each well along with the annual MIT's which will both be discussed later in this report. There has been an issue with the WAMS (Water Annulus Measuring System) unit on WDW-3 in that there seems to be a very small leak of ethylene glycol from this unit somewhere downhole. However, there has been no loss of fluid during the last two quarters of 2010. Navajo has worked with OCD to come up with a plan for monitoring this leak. That plan will be discussed later in this report. We also have had several leaks on the pipeline that takes the effluent to the wells. Navajo is laying a new fiberglas pipeline to the wells so that the current line can be taken out of service.

VOLUMES

During 2010, a total of 5,734,166 bbls of wastewater were pumped down the three wells total. This is broken down as follows: WDW-1 1,625,608 bbls, WDW-2 1,747,643 bbls, and WDW-3 2,360,915 bbls.

WDW-1 and WDW-2 were put into operation in 1998. Since that time, a total of 29,272,663 bbls have been injected into WDW-1 and a total of 15,872,314 bbls have been injected into WDW-2. WDW-3 was put online in 2007. In that time, a total of 6,920,236 bbls have been injected into this well.

Total fluids injected into all three wells at the end of 2010 is 52,065,213 bbls. I have attached a spreadsheet (Fig 1) that shows all values for all three wells.

The **average injection pressure** into WDW-1 for 2010 was 597 psi., for WDW-2 it was 605 psi., and for WDW-3 it was 614 psi. The pressures have steadily increased, making it harder to inject into the wells. We have scheduled an acid job on each well that will start on February 7, 2011. This should alleviate the pressures on each well.

The **maximum injection pressure** into WDW-1 for 2010 was 688 psi, for WDW-2 was 625 psi., and for WDW-3 it was 637 psi. All of these pressures are well below the maximum permitted pressure for each well.

CHEMICAL ANALYSIS

FIGURE 1
2010 SUMMARY OF QUARTERLY MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

		Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
	WDW-1													Previous Year	27,647,056
1st qtr	Jan-10	597	688	569	149	274	131	169	268	46	5,108	9,401	4,478	158,333	27,805,389
	Feb-10	582	627	429	134	145	109	206	407	99	4,578	4,971	3,737	128,195	27,933,584
	Mar-10	605	636	582	131	135	125	414	528	271	4,492	4,638	4,286	139,254	28,072,838
2nd qtr	Apr-10	605	653	517	127	135	112	343	535	203	4,364	4,611	3,846	135,279	28,208,117
	May-10	548	659	366	130	139	111	462	592	245	4,472	4,749	3,792	138,633	28,346,751
	Jun-10	532	622	297	131	136	126	315	456	214	4,493	4,661	4,303	134,777	28,481,528
3rd qtr	Jul-10	615	765	367	129	136	98	349	585	182	4,412	4,668	3,348	136,768	28,618,296
	Aug-10	644	766	352	130	133	125	313	376	255	4,442	4,554	4,293	137,695	28,755,991
	Sep-10	691	691	691	130	130	130	425	425	425	4,460	4,460	4,460	133,791	28,889,783
4th qtr	Oct-10	684	777	628	128	142	124	242	366	77	4,385	4,865	4,263	135,942	29,025,724
	Nov-10	641	693	280	121	129	76	137	256	15	4,140	4,430	2,616	124,193	29,149,917
	Dec-10	634	748	283	115	140	71	420	650	209	3,960	4,814	2,431	122,746	29,272,663
	All 2009	**615**	**777**	**280**	**130**	**274**	**71**	**316**	**650**	**15**	**4,442**	**9,401**	**2,431**	**1,625,608**	**29,272,663**
	WDW-2													Previous Year	14,124,671
1st qtr	Jan-10	605	625	560	149	153	142	210	346	128	5,122	5,252	4,882	158,777	14,283,448
	Feb-10	568	625	442	145	149	130	346	530	257	4,963	5,097	4,465	138,969	14,422,416
	Mar-10	625	650	598	145	153	142	499	616	360	4,988	5,240	4,857	154,635	14,577,051
2nd qtr	Apr-10	624	672	502	142	145	128	442	652	251	4,854	4,988	4,404	150,481	14,727,532
	May-10	660	926	523	135	142	123	396	551	252	4,630	4,866	4,227	143,524	14,871,056
	Jun-10	648	668	583	138	143	135	322	537	124	4,735	4,889	4,625	142,053	15,013,110
3rd qtr	Jul-10	647	679	401	138	143	116	570	744	159	4,719	4,886	3,960	146,279	15,159,388
	Aug-10	688	709	661	140	141	138	387	608	182	4,785	4,824	4,736	148,339	15,307,727
	Sep-10	684	795	469	139	150	118	349	727	197	4,753	5,153	4,060	142,588	15,450,315
4th qtr	Oct-10	639	713	150	136	141	98	482	780	175	4,650	4,843	3,368	144,147	15,594,462
	Nov-10	628	707	279	133	138	96	291	576	130	4,565	4,733	3,300	136,954	15,731,416
	Dec-10	591	683	293	133	142	105	503	728	267	4,545	4,852	3,601	140,898	15,872,314
	All 2009	**634**	**926**	**150**	**139**	**153**	**96**	**400**	**780**	**124**	**4,776**	**5,252**	**3,300**	**1,747,643**	**15,872,314**
	WDW-3													Previous Year	4,559,320
1st qtr	Jan-10	614	637	572	199	208	183	262	357	223	6,828	7,120	6,275	211,672	4,770,992
	Feb-10	587	639	422	200	212	170	320	403	251	6,871	7,275	5,834	192,376	4,963,368
	Mar-10	633	657	570	209	217	187	379	529	236	7,171	7,446	6,406	222,303	5,185,671
2nd qtr	Apr-10	635	668	507	204	217	184	371	538	263	7,004	7,452	6,314	217,122	5,402,793
	May-10	620	688	460	169	195	128	324	448	253	5,807	6,678	4,374	180,017	5,582,809
	Jun-10	655	679	596	179	187	154	338	435	251	6,139	6,402	5,287	184,185	5,766,994
3rd qtr	Jul-10	657	705	366	179	189	159	323	460	104	6,126	6,490	5,464	189,917	5,956,911
	Aug-10	694	712	678	179	182	174	304	412	194	6,144	6,253	5,953	190,453	6,147,365
	Sep-10	663	727	279	179	189	168	284	427	9	6,154	6,497	5,764	184,619	6,331,983
4th qtr	Oct-10	687	790	275	189	211	161	258	424	10	6,490	7,248	5,516	201,178	6,533,161
	Nov-10	666	724	284	186	193	180	227	356	137	6,363	6,627	6,167	190,880	6,724,041
	Dec-10	630	696	285	185	194	146	338	624	197	6,329	6,660	4,997	196,195	6,920,236
	All 2009	**645**	**790**	**275**	**188**	**217**	**128**	**311**	**624**	**9**	**6,452**	**7,452**	**4,374**	**2,360,915**	**6,920,236**
														Total Injected fluids:	52,065,213

Included in this report are the analysis from the four quarterly sampling events that we do every year. (Attachment 1) There are no results in this years samples that would raise a concern. The TDS results show a steady rise throughout the year but then drop dramatically in the last quarter due to improved waste water management.

MECHANICAL INTEGRITY TESTS

Navajo performed Mechanical Integrity Tests (MIT's) on all three of our wells during 2010. Since we had some issues with WDW-3 concerning the WAMS unit, OCD requested that we run an MIT on the well in June, 2010. That was done on June 30, 2010 and showed the well had good integrity. There were no leaks. We also did a bradenhead test on the same date, June 30, 2010, and found no pressure on any of the bradenheads. The quarterly bradenheads were done on September 14, 2010 and December 16, 2010. These also showed no pressure buildup on either bradenhead. Those test sheets are included in this report. On August 12, 2010 we ran MIT's on the other two wells and found no issues with either one. OCD was notified of these tests but no representative attended. A hot oil unit from O K Hot Oil pressured the wells up and provided a calibrated chart. In all three instances, the wells were pressured up for 30 minutes at about 500 psi. All three wells were well within OCD's guidelines of 10% loss/gain during the 30 minute duration of the test.

There has been an issue with the WAMS unit on WDW-3. On August 19, 2009, Navajo officially notified OCD that there was a failure in the WAMS unit. A very small amount of annulus fluid had leaked out. There were no above ground leaks so it was assumed that the leak had to be underground. The problem is that the leak is so small, identifying it is almost impossible. For reference, the well passed the annual MIT. On December 4, 2009, OCD issued its "path forward" for this well. This included: 1)Quarterly Bradenhead monitoring to coincide with the annual MIT, 2) Continued WAMS fluid monitoring. The OCD then wrote a "minor modification" to Section 22(E) of the Discharge Permit for WDW-3 to require that "Bradenhead test(s) shall be performed quarterly to coincide with the annual casing-tubing annulus test." The quarterly bradenheads were done on June 30, 2010, September 14, 2010 and December 16, 2010. These also showed no pressure buildup on either bradenhead. Those test sheets are included in this report.

The 2010 Quarterly Weekly WAMS Level Table is also included in Attachment 2. This spreadsheet shows the volume of liquid in gallons in the tanks on each well's WAMS unit. It also shows when any fluid has been added to any tank.. For the Third and Fourth Quarters, WDW-3 has held constant with regards to the fluid in the WAMS tank. Although fluid was added on 12/28/10, this was NOT in response to any significant loss of fluid. Just a routine maintenance procedure.

FALL OFF TESTS AND AREA OF REVIEW

In 2010, we also performed Fall Off tests on each well. The falloff testing was done according to a test plan that was submitted to and approved by OCD. The falloff testing results show that all three wells are in communication with each other and the permit parameters for the three wells remain conservative. It is recommended that because the wells are in communication, that in future years Navajo be allowed to perform falloff tests on each well every third year instead of all three wells annually. Testing all three wells annually is unnecessary. Further, when testing a well, once radial flow is reached, the test should be considered complete. Monitoring a well that has "flatlined" adds unnecessary "noise" to any set of data without giving anything that is useful.

In conjunction with our falloff testing, an area of review (AOR) was done to document well changes within a one-mile radius of the three wells. This current update includes all existing wells within the AOR and any changes that have occurred to these wells since 2009.

No new fresh water wells were reported within the search area. There were five new wells drilled in the AOR of which none penetrated any injection zone of Navajo's three wells. The owner had changed on six (6) wells. Thirteen (13) wells had been plugged and abandoned. Three (3) wells had been placed into temporary abandoned classification. Three (3) wells were found that had been recompleted in an upper interval. All plugged and abandoned wells were successfully isolated form Navajo's injection interval according to current OCD records.

FACILITY TRAINING

Annual training for the operation of the injection wells is done by the environmental department of Navajo. The annual training was done on December 13, 2010. Attached, (Attachment 3) is the sign in sheet along with an outline of the subjects covered during the training.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant

penalties for submitting false information including the possibility of fine or imprisonment.

Michael Whatley, Vice President and Refinery Manager

ATTACHMENT 1
CHEMICAL ANALYSIS

ATTACHMENT 1
CHEMICAL ANALYSIS

ALS Laboratory Group

Date: *09-Mar-10*

Client: Holly Energy Partners
Project: Injection Well Quarterly
Work Order: 1002802
Sample ID: Inj Well
Lab ID: 1002802-01
Collection Date: 2/25/2010 09:37 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			**SW7470**		Prep Date: **3/2/2010**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	3/2/2010 02:48 PM
METALS			**SW6020**		Prep Date: **3/1/2010**	Analyst: **ALR**
Aluminum	**0.587**		**0.0100**	**mg/L**	1	3/2/2010 01:44 PM
Arsenic	**0.0502**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Barium	**0.0243**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Beryllium	ND		0.00200	mg/L	1	3/2/2010 01:44 PM
Boron	**0.159**		**0.0200**	**mg/L**	1	3/2/2010 01:44 PM
Cadmium	ND		0.00200	mg/L	1	3/1/2010 10:20 PM
Calcium	**151**		**0.500**	**mg/L**	1	3/1/2010 10:20 PM
Chromium	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Cobalt	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Copper	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Iron	**0.658**		**0.200**	**mg/L**	1	3/1/2010 10:20 PM
Lead	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Magnesium	**36.4**		**0.200**	**mg/L**	1	3/1/2010 10:20 PM
Manganese	**0.285**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Molybdenum	**0.143**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Nickel	**0.0109**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Potassium	**80.5**		**0.200**	**mg/L**	1	3/1/2010 10:20 PM
Selenium	**0.189**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
Silver	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Sodium	**970**		**10.0**	**mg/L**	50	3/2/2010 01:39 PM
Vanadium	ND		0.00500	mg/L	1	3/1/2010 10:20 PM
Zinc	**1.60**		**0.00500**	**mg/L**	1	3/1/2010 10:20 PM
SEMIVOLATILES			**SW8270**		Prep Date: **3/2/2010**	Analyst: **ACN**
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Methylphenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
2-Nitrophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
3-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
4-Nitroaniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
4-Nitrophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Acenaphthene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Acenaphthylene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Holly Energy Partners
Project: Injection Well Quarterly **Work Order:** 1002802
Sample ID: Inj Well **Lab ID:** 1002802-01
Collection Date: 2/25/2010 09:37 AM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Anthracene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Benzidine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Hexachloroethane	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Isophorone	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Naphthalene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Nitrobenzene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Pentachlorophenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Phenanthrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Phenol	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Pyrene	ND		0.0050	mg/L	1	3/3/2010 06:15 PM
Surr: 2,4,6-Tribromophenol	*85.8*		*42-124*	*%REC*	1	3/3/2010 06:15 PM
Surr: 2-Fluorobiphenyl	*97.5*		*48-120*	*%REC*	1	3/3/2010 06:15 PM
Surr: 2-Fluorophenol	*86.0*		*20-120*	*%REC*	1	3/3/2010 06:15 PM
Surr: 4-Terphenyl-d14	*81.2*		*51-135*	*%REC*	1	3/3/2010 06:15 PM
Surr: Nitrobenzene-d5	*74.6*		*41-120*	*%REC*	1	3/3/2010 06:15 PM
Surr: Phenol-d6	*80.9*		*20-120*	*%REC*	1	3/3/2010 06:15 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
2-Butanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	3/1/2010 01:48 PM
2-Hexanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Acetone	**0.015**		**0.010**	**mg/L**	1	3/1/2010 01:48 PM
Benzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromodichloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromoform	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Bromomethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Carbon disulfide	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	3/1/2010 01:48 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *09-Mar-10*

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloroethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloroform	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Chloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Dibromochloromethane	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Ethylbenzene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
m,p-Xylene	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Methylene chloride	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Styrene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Tetrachloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Toluene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Trichloroethene	ND		0.0050	mg/L	1	3/1/2010 01:48 PM
Vinyl acetate	ND		0.010	mg/L	1	3/1/2010 01:48 PM
Vinyl chloride	ND		0.0020	mg/L	1	3/1/2010 01:48 PM
Xylenes, Total	ND		0.015	mg/L	1	3/1/2010 01:48 PM
Surr: 1,2-Dichloroethane-d4	*95.7*		*70-125*	*%REC*	1	3/1/2010 01:48 PM
Surr: 4-Bromofluorobenzene	*93.7*		*72-125*	*%REC*	1	3/1/2010 01:48 PM
Surr: Dibromofluoromethane	*99.6*		*71-125*	*%REC*	1	3/1/2010 01:48 PM
Surr: Toluene-d8	*93.7*		*75-125*	*%REC*	1	3/1/2010 01:48 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	3/2/2010
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	3/2/2010
ANIONS			**E300**			Analyst: **JBA**
Chloride	**327**		**25.0**	**mg/L**	50	2/28/2010 07:52 PM
Fluoride	**15.2**		***0.100***	***mg/L***	1	2/28/2010 04:24 AM
Sulfate	**2,470**		**25.0**	**mg/L**	50	2/28/2010 07:52 PM
Surr: Selenate (surr)	*87.3*		*85-115*	*%REC*	50	2/28/2010 07:52 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	1	2/28/2010 04:24 AM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**56.7**		**5.00**	**mg/L**	1	3/4/2010 12:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	3/4/2010 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	3/4/2010 12:00 PM
Alkalinity, Total (As CaCO3)	**56.7**		**5.00**	**mg/L**	1	3/4/2010 12:00 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **TDW**
Specific Conductivity	**6,050**		**1.00**	**µmhos/cm**	1	3/8/2010 02:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *09-Mar-10*

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 2/25/2010 09:37 AM

Work Order: 1002802
Lab ID: 1002802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
IGNITIBILITY			**SW1010**			Analyst: **JLC**
Ignitability	*>212*		50.0	°F	1	3/1/2010
PH			**SM4500H+ B**			Analyst: **JLC**
pH	**7.15**	H	**0.100**	**pH units**	1	3/1/2010
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**4,200**		**10.0**	**mg/L**	1	3/2/2010 05:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *03-Mar-10*

Client: ALS Laboratory Group
Project: 1002802
Work Order: 1003056
Sample ID: 1002802-01F
Lab ID: 1003056-01
Collection Date: 2/25/2010 09:37 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**SW7.3.3.2**			Analyst: EE
Cyanide, Reactive	ND		40.0	mg/Kg	1	3/2/2010
SULFIDE, REACTIVE			**SW7.3.4.2**			Analyst: EE
Sulfide, Reactive	ND		40.0	mg/Kg	1	3/2/2010

Note: See Qualifiers page for a list of qualifiers and their definitions.

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Chain of Custody Form

Page 1 of 1

ALS Laboratory Group
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Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 1002802

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	PO Box 159	Address	PO Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	(575) 746-3311	Phone	(575) 746-3311	H	Conductivity
Fax	(575) 746-5421	Fax	(575) 746-5421	I	TDS
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj Well	2/25/10	0937	L	Y	9	X	X	X	X	X	X	X	X	X		
2	Temp Blank																
3	Trip Blank																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ✓ Std 10 WK Days | 5 WK Days | 3 WK Days | 2 WK Days | 1 WK Days | Other

Results Due Date:

Relinquished by: Aaron Strange | Date: 2/25/10 | Time: 1615 | Received by:

Relinquished by: | Date: | Time: | Received by (Laboratory): BK 2/26/10 8:50

Notes: TO ONLY TAL

Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory):

Cooler ID | Cooler Temp.

QC Package: (Check One Box Below)
- Level II Std QC
- Level II Std QC/Raw Data
- Level IV SW846/CLP
- Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_3$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Laboratory Group

Date: *07-Jun-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			**SW7470**		Prep Date: **5/28/2010**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	5/28/2010 02:09 PM
METALS			**SW6020**		Prep Date: **6/3/2010**	Analyst: **ALR**
Aluminum	**0.132**		**0.0200**	**mg/L**	2	6/5/2010 02:42 PM
Arsenic	**0.0700**		**0.00500**	**mg/L**	1	6/5/2010 02:31 AM
Barium	**0.0235**		**0.0100**	**mg/L**	2	6/5/2010 02:42 PM
Beryllium	ND		0.00200	mg/L	1	6/5/2010 02:31 AM
Boron	**0.164**		**0.0400**	**mg/L**	2	6/7/2010 02:38 PM
Cadmium	ND		0.00400	mg/L	2	6/5/2010 02:42 PM
Calcium	**175**		**10.0**	**mg/L**	20	6/5/2010 02:25 AM
Chromium	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Cobalt	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Copper	ND		0.00500	mg/L	1	6/5/2010 02:31 AM
Iron	**0.545**		**0.400**	**mg/L**	2	6/5/2010 02:42 PM
Lead	ND		0.0100	mg/L	2	6/5/2010 02:42 PM
Magnesium	**53.6**		**4.00**	**mg/L**	20	6/5/2010 02:25 AM
Manganese	**0.0446**		**0.00500**	**mg/L**	1	6/5/2010 02:31 AM
Molybdenum	**0.114**		**0.0100**	**mg/L**	2	6/5/2010 02:42 PM
Nickel	**0.0136**		**0.0100**	**mg/L**	2	6/5/2010 02:42 PM
Potassium	**9.45**		**0.400**	**mg/L**	2	6/5/2010 02:42 PM
Selenium	**0.407**		**0.00500**	**mg/L**	1	6/5/2010 02:31 AM
Silver	ND		0.0100	mg/L	2	6/5/2010 02:42 PM
Sodium	**1,210**		**4.00**	**mg/L**	20	6/5/2010 02:25 AM
Vanadium	**0.0196**		**0.00500**	**mg/L**	1	6/5/2010 02:31 AM
Zinc	**1.92**		**0.100**	**mg/L**	20	6/5/2010 02:25 AM
SEMIVOLATILES			**SW8270**		Prep Date: **5/24/2010**	Analyst: **ACN**
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Methylphenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
2-Nitrophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
3-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
4-Nitroaniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
4-Nitrophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Acenaphthene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Acenaphthylene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Anthracene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Benzidine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Hexachloroethane	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Isophorone	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Naphthalene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Nitrobenzene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Pentachlorophenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Phenanthrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Phenol	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Pyrene	ND		0.0050	mg/L	1	6/3/2010 09:50 PM
Surr: 2,4,6-Tribromophenol	*81.7*		*42-124*	*%REC*	1	6/3/2010 09:50 PM
Surr: 2-Fluorobiphenyl	*77.6*		*48-120*	*%REC*	1	6/3/2010 09:50 PM
Surr: 2-Fluorophenol	*63.6*		*20-120*	*%REC*	1	6/3/2010 09:50 PM
Surr: 4-Terphenyl-d14	*77.8*		*51-135*	*%REC*	1	6/3/2010 09:50 PM
Surr: Nitrobenzene-d5	*65.7*		*41-120*	*%REC*	1	6/3/2010 09:50 PM
Surr: Phenol-d6	*61.1*		*20-120*	*%REC*	1	6/3/2010 09:50 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
2-Butanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	5/29/2010 04:39 PM
2-Hexanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Acetone	**0.031**		**0.010**	**mg/L**	1	5/29/2010 04:39 PM
Benzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromodichloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromoform	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Bromomethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Carbon disulfide	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	5/29/2010 04:39 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloroethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloroform	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Chloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Dibromochloromethane	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Ethylbenzene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
m,p-Xylene	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Methylene chloride	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Styrene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Tetrachloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Toluene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Trichloroethene	ND		0.0050	mg/L	1	5/29/2010 04:39 PM
Vinyl acetate	ND		0.010	mg/L	1	5/29/2010 04:39 PM
Vinyl chloride	ND		0.0020	mg/L	1	5/29/2010 04:39 PM
Xylenes, Total	ND		0.015	mg/L	1	5/29/2010 04:39 PM
Surr: 1,2-Dichloroethane-d4	*82.5*		*70-125*	*%REC*	1	5/29/2010 04:39 PM
Surr: 4-Bromofluorobenzene	*86.0*		*72-125*	*%REC*	1	5/29/2010 04:39 PM
Surr: Dibromofluoromethane	*89.7*		*71-125*	*%REC*	1	5/29/2010 04:39 PM
Surr: Toluene-d8	*91.7*		*75-125*	*%REC*	1	5/29/2010 04:39 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	5/27/2010
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	5/27/2010
ANIONS			**E300**			Analyst: **IGF**
Chloride	**308**		**25.0**	**mg/L**	50	6/2/2010 10:16 AM
Sulfate	**3,510**		**25.0**	**mg/L**	50	6/2/2010 10:16 AM
Surr: Selenate (surr)	*87.0*		*85-115*	*%REC*	50	6/2/2010 10:16 AM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**312**		**5.00**	**mg/L**	1	5/24/2010 06:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	5/24/2010 06:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	5/24/2010 06:00 PM
Alkalinity, Total (As CaCO3)	**312**		**5.00**	**mg/L**	1	5/24/2010 06:00 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **IGF**
Specific Conductivity	**7,240**		**1.00**	**µmhos/cm**	1	6/2/2010 06:40 PM
IGNITIBILITY			**SW1010**			Analyst: **JLC**

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *07-Jun-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/19/2010 08:16 AM

Work Order: 1005694
Lab ID: 1005694-01
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ignitability	*> 212*		50.0	°F	1	5/26/2010 11:00 AM
PH			**SM4500H+ B**			Analyst: **JLC**
pH	**7.29**	H	**0.100**	**pH units**	1	5/21/2010
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	**5,900**		**10.0**	**mg/L**	1	5/25/2010 05:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *01-Jun-10*

Client: ALS Laboratory Group
Project: 1005694
Work Order: 1005516
Sample ID: 1005694-01F
Lab ID: 1005516-01
Collection Date: 5/19/2010 08:16 AM
Matrix: LIQUID

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**SW7.3.3.2**			Analyst: **EE**
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/27/2010
SULFIDE, REACTIVE			**SW7.3.4.2**			Analyst: **EE**
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/27/2010

Note: See Qualifiers page for a list of qualifiers and their definitions.

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Chain of Custody Form

Page 1 of 1

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Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 1105624

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	PO Box 159	Address	PO Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	(575) 748-~~6733~~ 3311	Phone	(575) 748-6733	H	Conductivity
Fax	(575) 746-~~5421~~ 5451	Fax	(575) 746-5421	I	TDS
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj Well	5-19-10	0816	L	Y	9	X	X	X	X	X	X	X	X	X		
2	Trip Blank																
3	Temp. Blank																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ Other ☑ Std 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Aaron Strange | Date: 5-19-10 | Time: 1615 | Received by:

Relinquished by: | Date: | Time: | Received by (Laboratory): 5/20/10 10:00

Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory):

Notes: 10 Day TAT.

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☑ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Environmental

Date: 25-Aug-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 8/11/2010 12:40 PM

Work Order: 1008405
Lab ID: 1008405-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			SW7470		Prep Date: 8/19/2010	Analyst: JCJ
Mercury	ND		0.000200	mg/L	1	8/19/2010 03:13 PM
METALS			SW6020		Prep Date: 8/13/2010	Analyst: ALR
Aluminum	0.158		0.0500	mg/L	5	8/14/2010 11:59 AM
Arsenic	0.0393		0.00500	mg/L	1	8/14/2010 05:12 AM
Barium	0.0218		0.00500	mg/L	1	8/14/2010 05:12 AM
Beryllium	ND		0.00200	mg/L	1	8/14/2010 05:12 AM
Boron	0.145		0.0200	mg/L	1	8/14/2010 05:12 AM
Cadmium	ND		0.00200	mg/L	1	8/14/2010 05:12 AM
Calcium	127		0.500	mg/L	1	8/14/2010 05:12 AM
Chromium	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Cobalt	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Copper	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Iron	0.387		0.200	mg/L	1	8/14/2010 05:12 AM
Lead	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Magnesium	39.0		0.200	mg/L	1	8/14/2010 05:12 AM
Manganese	0.0706		0.00500	mg/L	1	8/14/2010 05:12 AM
Molybdenum	0.120		0.00500	mg/L	1	8/14/2010 05:12 AM
Nickel	0.0106		0.00500	mg/L	1	8/14/2010 05:12 AM
Potassium	50.7		0.200	mg/L	1	8/14/2010 05:12 AM
Selenium	0.292		0.00500	mg/L	1	8/14/2010 05:12 AM
Silver	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Sodium	683		1.00	mg/L	5	8/14/2010 11:59 AM
Vanadium	ND		0.00500	mg/L	1	8/14/2010 05:12 AM
Zinc	1.30		0.00500	mg/L	1	8/14/2010 05:12 AM
SEMIVOLATILES			SW8270		Prep Date: 8/13/2010	Analyst: KMB
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2-Methylphenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2-Nitroaniline	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
2-Nitrophenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
3-Nitroaniline	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
4-Nitroaniline	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
4-Nitrophenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Acenaphthene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Acenaphthylene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 25-Aug-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 8/11/2010 12:40 PM

Work Order: 1008405
Lab ID: 1008405-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Anthracene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Benzidine	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Hexachloroethane	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Isophorone	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Naphthalene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Nitrobenzene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Pentachlorophenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Phenanthrene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Phenol	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Pyrene	ND		0.0050	mg/L	1	8/16/2010 03:00 PM
Surr: 2,4,6-Tribromophenol	*75.6*		*42-124*	*%REC*	1	8/16/2010 03:00 PM
Surr: 2-Fluorobiphenyl	*69.7*		*48-120*	*%REC*	1	8/16/2010 03:00 PM
Surr: 2-Fluorophenol	*53.7*		*20-120*	*%REC*	1	8/16/2010 03:00 PM
Surr: 4-Terphenyl-d14	*63.3*		*51-135*	*%REC*	1	8/16/2010 03:00 PM
Surr: Nitrobenzene-d5	*66.8*		*41-120*	*%REC*	1	8/16/2010 03:00 PM
Surr: Phenol-d6	*54.8*		*20-120*	*%REC*	1	8/16/2010 03:00 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
2-Butanone	ND		0.010	mg/L	1	8/22/2010 02:58 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	8/22/2010 02:58 PM
2-Hexanone	ND		0.010	mg/L	1	8/22/2010 02:58 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/22/2010 02:58 PM
Acetone	**0.016**		**0.010**	**mg/L**	1	8/22/2010 02:58 PM
Benzene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Bromoform	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Bromomethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Carbon disulfide	ND		0.010	mg/L	1	8/22/2010 02:58 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/22/2010 02:58 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 25-Aug-10

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 8/11/2010 12:40 PM

Work Order: 1008405
Lab ID: 1008405-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Chloroethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Chloroform	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Chloromethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
m,p-Xylene	**0.011**		**0.010**	**mg/L**	1	8/22/2010 02:58 PM
Methylene chloride	ND		0.010	mg/L	1	8/22/2010 02:58 PM
Styrene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Toluene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Trichloroethene	ND		0.0050	mg/L	1	8/22/2010 02:58 PM
Vinyl acetate	ND		0.010	mg/L	1	8/22/2010 02:58 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/22/2010 02:58 PM
Xylenes, Total	ND		0.015	mg/L	1	8/22/2010 02:58 PM
Surr: 1,2-Dichloroethane-d4	*105*		*70-125*	*%REC*	1	8/22/2010 02:58 PM
Surr: 4-Bromofluorobenzene	*104*		*72-125*	*%REC*	1	8/22/2010 02:58 PM
Surr: Dibromofluoromethane	*106*		*71-125*	*%REC*	1	8/22/2010 02:58 PM
Surr: Toluene-d8	*112*		*75-125*	*%REC*	1	8/22/2010 02:58 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	Neg		40.0	mg/Kg	1	8/19/2010 12:30 PM
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	Neg		40.0	mg/Kg	1	8/19/2010 12:30 PM
ANIONS			**E300**			Analyst: **DM**
Chloride	**195**		**5.00**	**mg/L**	10	8/18/2010 04:42 PM
Sulfate	**1,580**		**50.0**	**mg/L**	100	8/18/2010 04:57 PM
Surr: Selenate (surr)	*104*		*85-115*	*%REC*	1	8/12/2010 06:26 PM
Surr: Selenate (surr)	*93.9*		*85-115*	*%REC*	100	8/18/2010 04:57 PM
Surr: Selenate (surr)	*98.2*		*85-115*	*%REC*	10	8/18/2010 04:42 PM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**219**		**5.00**	**mg/L**	1	8/24/2010 02:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	8/24/2010 02:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	8/24/2010 02:00 PM
Alkalinity, Total (As CaCO3)	**219**		**5.00**	**mg/L**	1	8/24/2010 02:00 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **TDW**
Specific Conductivity	**3,860**		**1.00**	**µmhos/cm**	1	8/19/2010 01:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *25-Aug-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj Well
Collection Date: 8/11/2010 12:40 PM

Work Order: 1008405
Lab ID: 1008405-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PH			SM4500H+ B			Analyst: JLC
pH	7.12	H	0.100	pH units	1	8/12/2010
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: JLC
Total Dissolved Solids (Residue, Filterable)	7,080		10.0	mg/L	1	8/12/2010

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Chain of Custody Form

Page 1 of 1

☐ ALS Laboratory Group
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ALS Project Manager: | ALS Work Order #: 1008465

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Involce Attn	Aaron Strange	D	RCI Profile
Address	PO Box 159	Address	PO Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	(575) ~~746-3522~~ 748-3311	Phone	(575) 746-~~3522~~ 3311	H	Conductivity
Fax	(575) 746-~~5421~~ 5451	Fax	(575) 746-~~5421~~ 5451	I	TDS
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj Well	8-11-10	1240	L	Yes	9	X	X	X	X	X	X	X	X	X		
2	Trip Blank																
3	Temp Blank																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange | Shipment Method: Fed Ex | Required Turnaround Time: (Check Box) ✓ 10 Day TAT | Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Aaron Strange	8-11-10	1615		10 Day TAT
Relinquished by:	Date:	Time:	Received by (Laboratory): 5/12/10 08:16	Cooler ID / Cooler Temp. / QC Package: (Check One Box Below)
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
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ALS Environmental

Date: *25-Aug-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1008405
Sample ID: Inj Well
Lab ID: 1008405-01
Collection Date: 8/11/2010 12:40 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PH			**SM4500H+ B**			Analyst: **JLC**
pH	**7.12**	H	**0.100**	**pH units**	1	8/12/2010
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JLC**
Total Dissolved Solids (Residue, Filterable)	**7,080**		**10.0**	**mg/L**	1	8/12/2010

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client:	Navajo Refining Company
Project:	Injection Well Quarterly
Work Order:	1008405

Case Narrative

The RCI profile consists of Reactive Sulfide, Reactive Cyanide, pH (corrositivity) and Ignitability. All parameters were analyzied for except for Ignitability which was due to an oversight on our part. Ignitability could not be analyzed due to the disposal of the sample prior to the time incident was found.

Reactive Cyanide and Reactive Sulfide was originally reported as ND (non-detect). Per request the result was changed to reflect a 'Neg' (Negative) result.

ALS Environmental

Date: *23-Aug-10*

Client: ALS Laboratory Group
Project: 1008405
Work Order: 1008331
Sample ID: 1008405-01E
Lab ID: 1008331-01
Collection Date: 8/11/2010 12:40 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**SW7.3.3.2**			Analyst: EE
Cyanide, Reactive	ND		40.0	mg/Kg	1	8/19/2010 12:30 PM
SULFIDE, REACTIVE			**SW7.3.4.2**			Analyst: EE
Sulfide, Reactive	ND		40.0	mg/Kg	1	8/19/2010 12:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

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Chain of Custody Form

Page ____ of ____

☐ ALS Laboratory Group
3352 128th Ave.
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ALS Project Manager: | ALS Work Order #: 1088416

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	CHEMCARE - HS	Project Name		A	VAPOR PRESSURE
Work Order	CHEVRON - CEDAR BAYOU	Project Number		B	IGNITABLE
Company Name	UNIVAR USA INC	Bill To Company	UNIVAR USA INC.	C	FLORIDE
Send Report To	KATHRYN HORTON	Invoice Attn	MANDY DAVIS	D	AMMONIA
Address	777 BRISBANE ST	Address	PO BOX 84889	E	N BUTHYL ALCOHOL
				F	TOC
City/State/Zip	HOUSTON, TX, 77061	City/State/Zip	SEATTLE, WA 98124	G	
Phone	713-641-9445	Phone	713-644-1601	H	
Fax	713-641-5423	Fax	713-641-5423	I	
e-Mail Address	KATHRYN.HORTON@UNIVARUSA.COM	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	1592 LOADING RACK CP-191	08-09-10	0830	LIQUID	NEAT	4	X										24HR T/A
2	PAO SPILL CP-192	08-09-10	1000	LIQUID	NEAT	1		X	X	X	X	X					24HR T/A
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHNATHAN TYLER

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ____ ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 8-11-10	Time: 1000	Received by:	Notes: 1000 8-11-10	
Relinquished by:	Date: 8-11-10	Time: 1105	Received by (Laboratory): 8/11/10 1105	Cooler ID	Cooler Temp
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other ____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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ALS Environmental

Date: *10-Nov-10*

Client:	Navajo Refining Company		
Project:	Injection Well Quarterly	**Work Order:**	1011354
Sample ID:	Injection Well	**Lab ID:**	1011354-01
Collection Date:	11/9/2010 03:10 PM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
IGNITIBILITY			**SW1010**			Analyst: **JLC**
Ignitability	*> 212*		50.0	°F	1	11/10/2010 11:00 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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☐ ALS Laboratory Group
3352 128th Ave.
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ALS Project Manager: | ALS Work Order #: 1011354

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	Ignitability
Work Order		Project Number		B	
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	
Address	P.O. Box 159	Address	P.O. Box 159	E	
				F	
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	
Phone	575 748-3311	Phone	748-3311	H	
Fax	575 746-5451	Fax		I	
e-Mail Address	dghoyer@SESI-NM.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj. Well	11-9-10	1510	L	No	1	X										
2	Temp Blank																
3	Trip Blank																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange | Shipment Method: Fed Ex | Required Turnaround Time: (Check Box) ☑ ASAP | Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Aaron Strange	11-9-10	16:15		
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID / Cooler Temp.
			11/10/10 09:00	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	QC Package: (Check One Box Below)

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
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ALS Environmental

Date: *09-Dec-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1011768
Sample ID: Effluent
Lab ID: 1011768-01
Collection Date: 11/18/2010 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			**SW7470**		Prep Date: **12/1/2010**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	12/1/2010 06:01 PM
METALS			**SW6020**		Prep Date: **11/29/2010**	Analyst: **ALR**
Aluminum	**1.57**		**0.0100**	**mg/L**	1	12/1/2010 05:56 AM
Arsenic	**0.0365**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Barium	**0.0456**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Beryllium	ND		0.00200	mg/L	1	12/1/2010 05:56 AM
Boron	**0.248**		**0.0200**	**mg/L**	1	12/1/2010 05:56 AM
Cadmium	ND		0.00200	mg/L	1	12/1/2010 05:56 AM
Calcium	**136**		**0.500**	**mg/L**	1	12/1/2010 05:56 AM
Chromium	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Cobalt	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Copper	**0.00568**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Iron	**0.605**		**0.200**	**mg/L**	1	12/1/2010 05:56 AM
Lead	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Magnesium	**41.3**		**0.200**	**mg/L**	1	12/1/2010 05:56 AM
Manganese	**0.0250**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Molybdenum	**0.110**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Nickel	**0.00531**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Potassium	**20.6**		**0.200**	**mg/L**	1	12/1/2010 05:56 AM
Selenium	**0.645**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Silver	ND		0.00500	mg/L	1	12/1/2010 05:56 AM
Sodium	**965**		**20.0**	**mg/L**	100	12/1/2010 08:47 PM
Vanadium	**0.00639**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
Zinc	**1.51**		**0.00500**	**mg/L**	1	12/1/2010 05:56 AM
SEMIVOLATILES			**SW8270**		Prep Date: **11/23/2010**	Analyst: **ACN**
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Methylnaphthalene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Methylphenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
2-Nitrophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
3&4-Methylphenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
3-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
4-Nitroaniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
4-Nitrophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Acenaphthene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Acenaphthylene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *09-Dec-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Work Order: 1011768
Sample ID: Effluent
Lab ID: 1011768-01
Collection Date: 11/18/2010 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Anthracene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Benz(a)anthracene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Benzidine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Hexachloroethane	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Isophorone	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Naphthalene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Nitrobenzene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Pentachlorophenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Phenanthrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Phenol	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Pyrene	ND		0.0050	mg/L	1	11/30/2010 12:13 AM
Surr: 2,4,6-Tribromophenol	*75.8*		*42-124*	*%REC*	1	11/30/2010 12:13 AM
Surr: 2-Fluorobiphenyl	*49.1*		*48-120*	*%REC*	1	11/30/2010 12:13 AM
Surr: 2-Fluorophenol	*28.9*		*20-120*	*%REC*	1	11/30/2010 12:13 AM
Surr: 4-Terphenyl-d14	*72.8*		*51-135*	*%REC*	1	11/30/2010 12:13 AM
Surr: Nitrobenzene-d5	*43.4*		*41-120*	*%REC*	1	11/30/2010 12:13 AM
Surr: Phenol-d6	*41.0*		*20-120*	*%REC*	1	11/30/2010 12:13 AM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2,4-Trimethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dibromoethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,2-Dichloropropane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
1,3,5-Trimethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
2-Butanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
2-Hexanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
4-Isopropyltoluene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Acetone	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Benzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Bromodichloromethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *09-Dec-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Effluent
Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768
Lab ID: 1011768-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Bromoform	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Bromomethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Carbon disulfide	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chlorobenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloroethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloroform	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Chloromethane	*ND*		*0.0050*	*mg/L*	1	*11/19/2010 11:06 PM*
cis-1,2-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Dibromochloromethane	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Ethylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Isopropylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
m,p-Xylene	ND		0.010	mg/L	1	11/19/2010 11:06 PM
Methyl tert-butyl ether	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Methylene chloride	ND		0.010	mg/L	1	11/19/2010 11:06 PM
n-Butylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
n-Propylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Naphthalene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
o-Xylene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
sec-Butylbenzene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Styrene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Tetrachloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Toluene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
trans-1,2-Dichloroethene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/19/2010 11:06 PM
Trichloroethene	*ND*		*0.0050*	*mg/L*	1	*11/19/2010 11:06 PM*
Vinyl chloride	ND		0.0020	mg/L	1	11/19/2010 11:06 PM
Xylenes, Total	ND		0.015	mg/L	1	11/19/2010 11:06 PM
Surr: 1,2-Dichloroethane-d4	*115*		*70-125*	*%REC*	1	11/19/2010 11:06 PM
Surr: 4-Bromofluorobenzene	*90.3*		*72-125*	*%REC*	1	11/19/2010 11:06 PM
Surr: Dibromofluoromethane	*104*		*71-125*	*%REC*	1	11/19/2010 11:06 PM
Surr: Toluene-d8	*89.4*		*75-125*	*%REC*	1	11/19/2010 11:06 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM
ANIONS			**E300**			Analyst: **DM**
Chloride	**315**		**5.00**	**mg/L**	10	12/2/2010 06:05 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *09-Dec-10*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Effluent
Collection Date: 11/18/2010 01:45 PM

Work Order: 1011768
Lab ID: 1011768-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Sulfate	**1,870**		**50.0**	**mg/L**	100	12/2/2010 06:26 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	10	12/2/2010 06:05 PM
Surr: Selenate (surr)	*108*		*85-115*	*%REC*	100	12/2/2010 06:26 PM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**209**		**5.00**	**mg/L**	1	12/1/2010 12:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	12/1/2010 12:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	12/1/2010 12:00 PM
Alkalinity, Total (As CaCO3)	**209**		**5.00**	**mg/L**	1	12/1/2010 12:00 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **TDW**
Specific Conductivity	**4,270**		**1.00**	**µmhos/cm**	1	12/8/2010 05:00 PM
IGNITIBILITY			**SW1010**			Analyst: **JLC**
Ignitability	*> 212*		50.0	°F	1	12/2/2010 10:00 AM
PH			**SW9040**			Analyst: **JLC**
pH	**6.86**	H	**0.100**	**pH units**	1	12/2/2010 10:00 AM
TOTAL DISSOLVED SOLIDS			**M2540C**			Analyst: **JLC**
Total Dissolved Solids (Residue, Filterable)	**3,220**		**10.0**	**mg/L**	1	11/22/2010 10:00 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Group USA, Corp

Date: *03-Dec-10*

Client: ALS Environmental
Project: 1011768
Sample ID: 1011768-01D
Collection Date: 11/18/2010 01:45 PM

Work Order: 1011690
Lab ID: 1011690-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**SW7.3.3.2**			Analyst: EE
Cyanide, Reactive	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM
SULFIDE, REACTIVE			**SW7.3.4.2**			Analyst: EE
Sulfide, Reactive	ND		40.0	mg/Kg	1	12/2/2010 12:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

☑ ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 1011768

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	PO Box 159	Address	PO Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	(575) 748-~~6733~~ 3311	Phone	(575) 748-~~6733~~ 3311	H	Conductivity
Fax	(575) 748-~~6421~~ 5451	Fax	(575) 748-~~6421~~ 5451	I	TDS
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~MW~~ Effluent	11-18-10	1345	L	Y	9	X	X	X	X	X	X	X	X	X		
2	Temp Blank																
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date: 11-18-10	Time: 1615	Received by:	Notes: 10 Day TAT.	
Relinquished by:	Date: 11/19/10	Time: 0910	Received by (Laboratory): BM ALS	Cooler ID	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		

QC Package: (Check One Box Below)
☑ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other / EDD _____

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ATTACHMENT 2
MECHANICAL INTEGRITY TESTS and
BRADENHEAD TESTS

6 P.M.
7
8
9
10
11
MIDNIGHT
5
4
3
2
1
NOON
11
10
9
8
7
6 A.M.
5
4
100
200
300
400
500
600
700
800
900
Navajo Refining
WDW-1
31-178-28E
API # 30-015-24592
8/12/10
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
BR 222

Navajo Refining
WDW - 2
12-18s-27e
API # 30-015-20894
6/12/10
Daniel Moore
BARTON CONTROLS CORPORATION
BUFFALO, NEW YORK
BR 2221
6 A.M.
7
8
10
11
NOON
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6 P.M.
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MIDNIGHT
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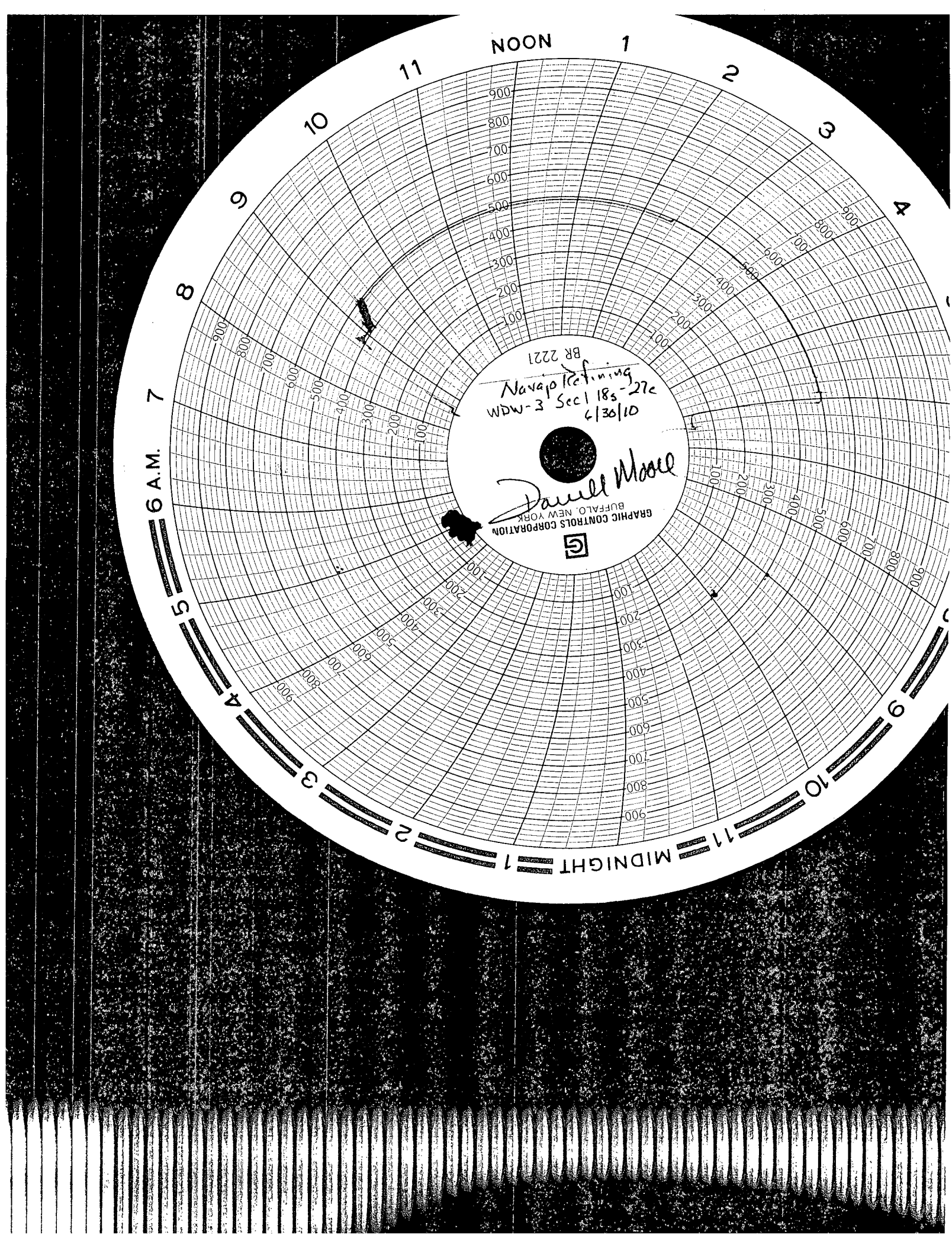
800
900


NOON
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6 A.M.
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11
MIDNIGHT
BR 2221
Navajo Refining
WDW-3 Sec 1 18s-27e
6/30/10
GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

Oil Conservation Division, Environmental Bureau
C/O: Carl Chavez
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

Date of Test December 16, 2010 Operator Navajo Refining API #30-015-26575

Property Name WDW Well No 3 Location: Unit O Section 1 Township 18S Range 27E

Well Status (Shut-In or Producing) Tubing____ Intermediate____ Casing____ Bradenhead____

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

TIME	PRESSURES: BRADENHEAD	INTERMEDIATE	CASING
5 minutes	0	0	
10 minutes	NA	NA	
15 minutes	NA	NA	
20 minutes	NA	NA	
25 minutes	NA	NA	
30 minutes	NA	NA	

	BRADENHEAD FLOWED	INTERMEDIATE FLOWED
Steady Flow	NA	NA
Surges	NA	NA
Down to Nothing	Immediately	Immediately
Nothing	X	X
Gas	NA	NA
Gas & Water	NA	NA
Water	NA	NA

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR_____ FRESH_____ SALTY_____ SULFUR_____ BLACK_____

5 MINUTE SHUT-IN BRADENHEAD 0 INTERMEDIATE 0

REMARKS:

We opened the surface and intermediate bradenheads one at a time. There was a puff of air out of each but that quickly went to nothing.There was no flow. No sustained pressure.

By Darrell Moore  Witness

Env. Mgr. for Water and Waste Navajo Refining
(Position)

E-mail address Darrell.moore@hollycorp.com

Oil Conservation Division, Environmental Bureau
C/O: Carl Chavez
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

Date of Test September 14, 2010 Operator Navajo Refining API #30-015-26575

Property Name WDW Well No 3 Location: Unit O Section 1 Township 18S Range 27E

Well Status (Shut-In or Producing) Tubing____ Intermediate____ Casing____ Bradenhead____

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

TIME	PRESSURES: BRADENHEAD	INTERMEDIATE	CASING
5 minutes	0	0	
10 minutes	NA	NA	
15 minutes	NA	NA	
20 minutes	NA	NA	
25 minutes	NA	NA	
30 minutes	NA	NA	

	BRADENHEAD FLOWED	INTERMEDIATE FLOWED
Steady Flow	NA	NA
Surges	NA	NA
Down to Nothing	Immediately	Immediately
Nothing	X	X
Gas	NA	NA
Gas & Water	NA	NA
Water	NA	NA

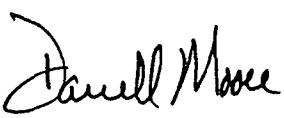
If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR_____ FRESH_____ SALTY_____ SULFUR_____ BLACK_____

5 MINUTE SHUT-IN BRADENHEAD 0 INTERMEDIATE 0

REMARKS:

Both the surface and intermediate bradenheads were opened. Each had a puff of air and then nothing.No flow. No Pressure.

By Darrell Moore  Witness

Env. Mgr. for Water and Waste Navajo Refining
(Position)

E-mail address Darrell.moore@hollycorp.com

Oil Conservation Division, Environmental Bureau
C/O: Carl Chavez
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

Date of Test June 30, 2010 Operator Navajo Refining API #30-0 15-26575

Property Name WDW Injecting Well No. 3 Location: Unit O Section 1 Township 18S Range 27E

Well Status ~~(Shut-In or Producing)~~ Tubing ____ Intermediate ____ Casing ____ Bradenhead ____

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

TIME	PRESSURES: BRADENHEAD	INTERMEDIATE	CASING
5 minutes	0	0	
10 minutes	N/A	N/A	
15 minutes	N/A	N/A	
20 minutes	N/A	N/A	
25 minutes	N/A	N/A	
30 minutes	N/A	N/A	

	BRADENHEAD FLOWED	INTERMEDIATE FLOWED
Steady Flow	N/A	N/A
Surges	N/A	N/A
Down to Nothing	immediately	immediately
Nothing	X	X
Gas	N/A	N/A
Gas & Water	N/A	N/A
Water	N/A	N/A

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR ____ FRESH ____ SALTY ____ SULFUR ____ BLACK ____

5 MINUTE SHUT-IN BRADENHEAD 0 INTERMEDIATE 0

REMARKS:

Both the surface and intermediate bradenheads were opened one at a time. Both had a puff of air upon opening the valve (from heat build-up) and then nothing. No flow. No pressure.

By Darrell Moore Darrell Moore Witness ____

Env. Mgr. for Water & Waste Navajo Refining
(Position)

E-mail address darrell.moore@hollycorp.com

2010 QUARTERY WEEKLY WAMS LEVEL TABLES

1st Quarter	1/7/10	1/11/10	1/20/10	1/27/10	2/1/10	2/8/10	2/16/10	2/22/10	3/1/10	3/8/10	3/15/10	3/22/10	3/29/10
WDW -1[1] (Mewbourne)	175	170	165	165	165	155	155	155	155	155	155	155	155
WDW-2[1] (Chucka)	125	125	125	125	125	185	185	185	185	185	185	185	185
WDW-3[1] (Gains)	165	155	150	150	155	145	145	145	145	145	145	145	145
Comments: **Added antifreeze to WDW-2 on 02/03/2010.**													

[1] Graduated tank gauged weekly in the field. Reading is in gallons.

2nd Quarter	4/5/10	4/12/10	4/20/10	4/26/10	5/3/10	5/10/10	5/17/10	5/25/10	6/1/10	6/7/10	6/14/10	6/21/10	6/28/10
WDW -1[1] (Mewbourne)	155	155	155	155	155	155	155	155	155	155	155	155	155
WDW-2[1] (Chucka)	185	185	185	185	185	185	185	180	170	170	165	165	155
WDW-3[1] (Gains)	145	145	165	165	165	160	160	155	155	155	155	155	155
Comments: **Added antifreeze to WDW-3 on 04/15/2010.**													

[1] Graduated tank gauged weekly in the field.

3rd Quarter	7/6/10	7/12/10	7/19/10	7/26/10	8/3/10	8/9/10	8/16/10	8/24/10	8/30/10	9/7/10	9/13/10	9/20/10	9/27/10
WDW -1[1] (Mewbourne)	155	155	155	155	155	155	155	155	155	155	155	155	155
WDW-2[1] (Chucka)	155	155	155	155	155	155	155	155	155	155	155	155	155
WDW-3[1] (Gains)	150	150	150	150	150	150	150	150	150	150	150	150	150
Comments: **No antifreeze added for 3rd Quarter.**													

[1] Graduated tank gauged weekly in the field. Reading is in gallons.

4th Quarter	10/4/10	10/14/10	10/18/10	10/28/10	11/1/10	11/8/10	11/15/10	11/22/10	11/29/10	12/7/10	12/13/10	12/21/10	12/27/10
WDW -1[1] (Mewbourne)	155	155	155	155	155	155	155	155	155	155	155	150	150
WDW-2[1] (Chucka)	150	155	155	155	155	155	150	150	150	150	150	150	150
WDW-3[1] (Gains)	150	150	150	150	150	150	150	150	150	150	150	150	150
Comments: **Added antifreeze to WDW-1 and to WDW-3 on 12/28/2010. WDW-1 was brought up to 190 gallons and WDW-3 was brought up to 180 gallons.**													

[1] Graduated tank gauged weekly in the field. Reading is in gallons.

ATTACHMENT 3
ANNUAL TRAINING

Annual Inj. Well Training

Name	Signature	Company	Date
Darrell Moore	Darrell Moore	Navajo	12/13/10
Aaron Strange	Aaron Strange	NRC	12/13/10
Robert Ushreck	Robert Ushreck	Giles	12-13-10
William Smith	William Smith	Giles	12-13-10
Mark Merrifield	Mark Merrifield	Giles	12-13-10
Sergio Chavez	Sergio Chavez	Giles	12-13-10
Mark Mackenzie	MARK CABEZUELA	GILES	12-13-10
Scott Azuni	Scott Azuni	Giles	12-13-10
James Brashear	James Brashear	Giles	12-13-10
Domingo Torres	Domingo Torres	Giles	12-13-10
Justin Hodges	Justin Hodges	Giles	12-13-10
Billie Roach	Billie Roach	Giles	12-13-10
John Perez	John Perez	Giles	12-13-10
Mike Dutton	Mike Dutton	Giles	12-13-10
Jason Talerico	Jason Talerico	Giles	12-13-10
Mike Perez	Mike Perez	"	"
Steve Perez	Steve Perez	Giles	"
Kenny Williams	Kenny Williams	Giles	"
Mike Moreno	Mike Moreno	Giles	12-13-10
Hector Ochoa	Hector Ochoa	Giles	12-13-10
Nicolas Salayandia	Nicolas Salayandia	NRC	12-13-10

INJECTION WELL TRAINING

This training is being done to satisfy Navajo Refining Company's Discharge Permits UIC-CLI-008 (I-008), UIC–CLI-008 (I-008-1) and UIC-CLI-008 (I-008-2). In all three permits, section 23 states that "All personnel associated with operations at the Navajo Class I disposal wells shall have appropriate training in accepting, processing, and disposing of Class I non-exempt non-hazardous refinery waste to insure proper disposal".

Definitions The injection wells at our refinery are classified as Class I Non-Hazardous Non-exempt Injection Wells. This means that the water we send to the wells has to be non-hazardous. The Class I designation means that in all three strings of casing, the cement is circulated back to the surface to protect groundwater. It also means that we have to monitor the annulus between the tubing and the casing to insure there are no leaks. This is what the WAMS unit does.

WAMS **W**ell **A**nnulus **M**onitoring **S**ystem

Permit Conditions:

Well Head Pressure Limits	The well head pressure limits shall be 1510 lbs on the Chukka well, 1580 lbs on the Mewbourne well, and 1550 lbs on the Gaines well.
Annulus Pressure	The annulus pressure shall be at a minimum of 100 lbs
Benzene Levels	No water shall be injected into the wells above .5 parts per million (ppm) or 500 parts per billion (ppb) benzene.
Leaks	Any leaks that are identified (loss/gain of fluid in WAMS unit) shall be reported within 24 hours of discovery to OCD. Weekly monitoring of fluids in the tank at each well coupled with documented additions/removals of fluids into or out of the tank are required.

Containment	All three wells have cement containment underneath the valves and filter pots. This containment must be kept empty. If there is fluid in the containment, it must be vacuumed out and the water taken back to the refinery to be disposed into the wastewater system.
Filters	The filters at the wells have been determined to be hazardous waste by testing because of FeS (Iron Sulfide). They have been profiled to be disposed at Gulf Chemical near Houston, TX. The used filters are to be placed into the roll-off boxes at the well site. When the box gets full, an empty box will be swapped and the full box taken to Gulf Chemical for disposal. The boxes MUST be closed when they are not being filled.
Adding to WAMS Unit	If it becomes necessary to add fluids to the WAMS unit, the environmental department must be notified and the added fluid must be documented. Any spills during this process must be reported to the environmental department. Spills must be cleaned up immediately. The dirt removed can be put into the onsite roll-off boxes with the filters. Any fluid that dribbles down the side of the WAMS must be wiped off.

If there are any questions, do not hesitate to call the Environmental on-call phone at **575-365-8365**

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, December 07, 2010 7:52 AM
To: 'Gibson, Dan'; Moore, Darrell; 'Lackey, Johnny'; Schmaltz, Randy; McDaniel, Vic
Cc: Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; VonGonten, Glenn, EMNRD
Subject: UIC Class I Disposal Well 2011 Annual Report Reminder

Gentlemen:

Good morning.

This is a reminder of your OCD discharge permit reporting obligations for your Underground Injection Control (UIC) disposal well(s).

Please plan on meeting the Annual Report submittal dates in January of 2011 as failure to submit the report will constitute a violation under the Federal UIC Program and reporting to the United States Environmental Protection Agency, which could result in the shut-in and/or plug and abandonment of your Class I disposal well(s), etc.

Please contact me if you have questions. Thank you in advance for your cooperation.

File: OCD Online "Annual Report" thumbnail

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

NAVAJO REFINING COMPANY, LLC

FAX
(575) 746-5283 DIV. ORDERS
(575) 746-5481 TRUCKING
(575) 746-5458 PERSONNEL

501 EAST MAIN STREET • P. O. BOX 159
ARTESIA, NEW MEXICO 88211-0159
TELEPHONE (575) 748-3311

FAX
(575) 746-5419 ACCOUNTING
(575) 746-5451 ENV/PURCH/MKTG
(575) 746-5421 ENGINEERING

January 29, 2010

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RE: ANNUAL CLASS 1 WELL REPORT
PERMIT NUMBERS UICCL1-008, UILCL1-008-0, AND UICCL1-008-1
NAVAJO REFINING COMPANY,LLC

Dear Carl,

Enclosed, please find the annual class 1 report for our three wells with the permit numbers referenced above. There is some confusion on our part, and also on OCD's apparently about the permit numbers for the wells. Our correspondence with OCD shows differing permit numbers for the wells and when we look onsite at OCD online, there are different numbers for the permit numbers there as well. For this report, UICCL1-008 is WDW-1, UICCL!-008-0 is WDW-2, and UICCL1-008-01 is WDW-3.

If there are any questions concerning this report, please call me at 575-746-5281. Thank you for your attention to this matter.

Sincerely,
NAVAJO REFINING COMPANY, LLC

Darrell Moore
Environmental Manager for Water and Waste

Encl:

ANNUAL CLASS 1 WELL REPORT
NAVAJO REFINING COMPANY, LLC
Permit Numbers UICCL1-008, UICCLI-008-0, UICCL1-008-1
API No. 30-015-27592 (008), 30-015-20894 (008-0) and 30-015-26575 (008-01)

January 31, 2010

Darrell Moore
Environmental Manager for Water and Waste

Navajo Refining Company, LLC

EXECUTIVE SUMMARY

Navajo Refining Company, LLC (Navajo) operates three class 1 wells in Eddy County NM. These wells are used to dispose wastewater from our refinery in Artesia, NM. Daily, Navajo sends approximately 16,000 bbls total of wastewater down these three wells with the volume to each well determined by its ability to take water. During 2009, there was no major work on any of the wells. We did perform fall-off tests on each well along with the annual MIT's which will both be discussed later in this report. There has been an issue with the WAMS (Well Annulus Measurement System) unit on WDW-3. There seems to be a very small leak of ethylene glycol from this unit somewhere down hole. Navajo has worked with OCD to come up with a plan for monitoring this leak. That plan will be discussed later in this report.

VOLUMES

During 2009, a total of 4,935,618 bbls of wastewater were pumped down the three wells total. This is broken down as follows: WDW-1 1,314,037 bbls, WDW-2 1,236,573 bbls, and WDW-3 2,385,008 bbls.

WDW-1 and WDW-2 were put into operation in 1998. Since that time, a total of 27,647,056 bbls have been injected into WDW-1 and a total of 14,124,671 bbls have been injected into WDW-2. WDW-3 was put online in 2007. In that time, a total of 4,559,320 bbls have been injected into this well.

Total fluids injected into all three wells at the end of 2009 are 46,331,047 bbls. I have attached a spreadsheet (Fig 1) that shows all values for all three wells.

The **average injection pressure** into WDW-1 for 2009 was 264 psi, for WDW-2 it was 310 psi, and for WDW-3 it was 570 psi.

The **maximum injection pressure** into WDW-1 for 2009 was 901 psi, for WDW-2 it was 884 psi, and for WDW-3 it was 832 psi. All of these pressures are well below the maximum permitted pressure for each well.

CHEMICAL ANALYSIS

Included in this report are the analyses from the four quarterly sampling events that we do every year. (Attachment 1) There are no results in these years' samples that would raise a concern. The TDS results have shown a steady rise throughout the year but historically, they are still within our normal operating range.

MECHANICAL INTEGRITY TESTS

Navajo performed Mechanical Integrity Tests (MIT's) on all three of our wells on August 14, 2008. These tests were witnessed by representatives of OCD along with Navajo personnel. A hot oil unit from O K Hot Oil pressured the wells up and provided a

calibrated chart. On all three tests, an OCD representative took the chart and promised to forward a copy to Navajo. To our knowledge, we have never received a copy of those charts. Therefore, we have no copy to provide in this report. However, we have included various photos and statements from OCD (Attachment2) that are proof that the wells passed the MIT's. In all three instances, the wells were pressured up for 30 minutes at about 500 psi. All three wells were well within OCD's guidelines of 10% loss/gain during the 30 minute duration of the test.

There has been an issue with the WAMS unit on WDW-3. On August 19, 2009, Navajo officially notified OCD that there was a failure in the WAMS unit. A very small amount of annulus fluid had leaked out. There were no above ground leaks so it was assumed that the leak had to be underground. The problem is that the leak is so small, identifying it is almost impossible. For reference, the well passed the annual MIT. On December 4, 2009, OCD issued its "path forward" for this well. This included: 1) Quarterly Bradenhead monitoring to coincide with the annual MIT, 2) Continued WAMS fluid monitoring. The OCD then wrote a "minor modification" to Section 22(E) of the Discharge Permit for WDW-3 to require that "Bradenhead test(s) shall be performed quarterly to coincide with the annual casing-tubing annulus test." In February, 2009, Navajo will perform the first quarterly Bradenhead test. OCD will be notified when that test is finalized so that they may witness the test.

The 2009 Quarterly Weekly WAMS Level Table is also included in Attachment 2. This spreadsheet shows the volume of liquid in gallons in the tanks on each well's WAMS unit. It also shows when any fluid has been added to any tank. On 6/25/09 and on 8/19/09, 110 gallons each were added to WDW-3. On 11/20/09, 110 gallons were added to WDW-1. The loss of fluid from WDW-1 is a new development; however, there has been no further loss since that addition on November 20, 2009.

AREA OF REVIEW

In conjunction with our falloff testing, an area of review (AOR) was done to document well changes within a one-mile radius of the three wells. This current update includes all existing wells within the AOR and any changes that have occurred to these wells since 2008.

No new fresh water wells were reported within the search area. There were twenty one new wells in the AOR of which only one penetrated any injection zone of Navajo's three wells. The well was completed in the ABO Formation by isolating the Wolfcamp (Navajo's uppermost injection interval) with a cast iron bridge plug. The well is identified as follows:

Mack Energy Corporation
State H #2
API# 30-015-35814
Unit H Sec. 2 18S 27E
2063 FNL and 441 FEL

FACILITY TRAINING

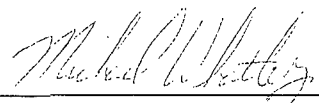
Annual training for the operation of the injection wells is done by the environmental department of Navajo. The annual training was done on October 15, 2009. Attached, (Attachment 3) is the sign in sheet along with an outline of the subjects covered during the training.

SUMMARY

During 2009, a total of 4,935,618 bbls of wastewater were injected down the three wells. There were no operational upsets of the wells and no "workovers". We performed an MIT on all three wells with no loss of pressure. There has been an issue with the WAMS unit on WDW-3. On August 19, 2009, Navajo officially notified OCD that there was a failure in the WAMS unit. A very small amount of annulus fluid had leaked out. There were no above ground leaks so it was assumed that the leak had to be underground. The problem is that the leak is so small, identifying it is almost impossible. For reference, the well passed the annual MIT. On December 4, 2009, OCD issued its "path forward" for this well. This included: 1) Quarterly Bradenhead monitoring to coincide with the annual MIT, 2) Continued WAMS fluid monitoring. The OCD then wrote a "minor modification" to Section 22(E) of the Discharge Permit for WDW-3 to require that "Bradenhead test(s) shall be performed quarterly to coincide with the annual casing-tubing annulus test." In February, 2009, Navajo will perform the first quarterly Bradenhead test. OCD will be notified when that test is finalized so that may witness.

In 2009, we also performed Fall Off tests on each well. The falloff testing was done according to a test plan that was submitted to and approved by OCD. The falloff test results show that all three wells are in communication with each other and the permit parameters for the three wells remain conservative. It is recommended that because the wells are in communication, that in future years Navajo be allowed to perform falloff tests on each well every third year instead of all three wells annually. Testing all three wells annually is unnecessary. Further, when testing a well, once radial flow is reached, the test should be considered complete. Monitoring a well that has "flatlined" adds unnecessary "noise" to any set of data without giving anything that is useful.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.



Michael Whatley, Vice President and Refinery Manager

Navajo Refining Company, L.L.C.

2009 SUMMARY OF QUARTERLY MONTHLY INJECTION PRESSURES, RATES, AND VOLUMES

		Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maximum Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	TOTAL CUMMULATIVE Volume (barrels)
	WDW-1														
														Previous Year	**26,333,018**
1st qtr	Jan-09	187	195	130	88	92	69	81	90	61	3,019	3,157	2,360	93,601	26,426,619
	Feb-09	155	185	92	76	86	54	101	165	54	2,599	2,962	1,862	72,761	26,499,380
	Mar-09	188	199	169	88	94	83	151	166	132	3,006	3,223	2,862	93,190	26,592,570
2nd qtr	Apr-09	195	202	177	87	95	83	148	169	127	2,985	3,264	2,837	89,552	26,682,122
	May-09	155	216	1	85	87	84	99	162	64	2,927	2,982	2,876	90,739	26,772,861
	Jun-09	14	74	1	101	113	83	132	224	59	3,451	3,864	2,861	103,520	26,876,380
3rd qtr	Jul-09	9	69	1	99	105	82	86	154	58	3,378	3,586	2,806	104,706	26,981,086
	Aug-09	333	610	0	85	99	50	87	140	56	2,903	3,390	1,711	89,987	27,071,073
	Sep-09	431	486	153	125	138	115	356	755	32	4,288	4,727	3,939	128,647	27,199,719
4th qtr	Oct-09	445	901	149	142	244	115	390	605	25	4,873	8,366	3,938	151,065	27,350,784
	Nov-09	498	544	444	126	136	110	482	1,000	149	4,331	4,653	3,786	129,935	27,480,719
	Dec-09	557	665	309	156	333	108	412	621	221	5,366	11,426	3,704	166,336	27,647,056
	All 2009	**264**	**901**	**0**	**105**	**333**	**50**	**210**	**1,000**	**25**	**3,594**	**11,426**	**1,711**	**1,314,037**	**27,647,056**
	WDW-2														
														Previous Year	**12,888,098**
1st qtr	Jan-09	191	212	134	86	89	68	118	137	86	2,939	3,067	2,328	91,105	12,979,202
	Feb-09	160	189	95	74	84	54	146	237	79	2,544	2,884	1,846	71,245	13,050,447
	Mar-09	193	203	175	82	84	78	97	112	77	2,808	2,883	2,683	87,037	13,137,484
2nd qtr	Apr-09	201	208	182	81	83	77	101	119	79	2,761	2,855	2,628	82,825	13,220,310
	May-09	207	214	195	79	81	75	97	111	81	2,705	2,792	2,587	83,861	13,304,171
	Jun-09	152	213	127	92	98	75	116	225	87	3,169	3,366	2,573	95,082	13,399,252
3rd qtr	Jul-09	150	159	127	99	113	89	144	228	93	3,395	3,869	3,068	105,260	13,504,512
	Aug-09	419	616	160	84	124	49	145	213	79	2,885	4,264	1,697	89,440	13,593,952
	Sep-09	531	802	468	120	180	99	647	919	206	4,121	6,164	3,380	123,634	13,717,586
4th qtr	Oct-09	408	565	171	113	120	103	551	918	119	3,865	4,116	3,533	119,817	13,837,403
	Nov-09	510	604	434	111	161	76	579	894	347	3,790	5,528	2,589	113,692	13,951,095
	Dec-09	594	884	513	163	342	138	320	557	109	5,599	11,739	4,746	173,576	14,124,671
	All 2009	**310**	**884**	**95**	**99**	**342**	**49**	**255**	**919**	**77**	**3,382**	**11,739**	**1,697**	**1,236,573**	**14,124,671**
	WDW-3														
														Previous Year	**2,174,313**
1st qtr	Jan-09	689	750	380	190	204	163	446	503	347	6,501	6,979	5,579	201,539	2,375,852
	Feb-09	528	670	213	142	185	89	374	594	236	4,866	6,354	3,067	136,238	2,512,090
	Mar-09	686	748	594	182	204	149	428	499	369	6,239	6,986	5,105	193,408	2,705,498
2nd qtr	Apr-09	749	771	721	189	199	176	446	485	420	6,475	6,828	6,040	194,242	2,899,740
	May-09	764	788	694	191	198	175	449	508	388	6,556	6,802	6,017	203,231	3,102,972
	Jun-09	504	797	378	185	206	105	286	559	206	6,326	7,074	3,615	189,784	3,292,755
3rd qtr	Jul-09	485	531	381	192	215	160	283	368	227	6,576	7,357	5,501	203,871	3,496,626
	Aug-09	484	832	162	199	305	156	204	307	19	6,819	10,441	5,332	211,401	3,708,027
	Sep-09	440	519	177	198	209	187	332	404	236	6,804	7,150	6,414	204,114	3,912,141
4th qtr	Oct-09	386	529	10	201	217	188	310	549	206	6,903	7,442	6,449	213,990	4,126,131
	Nov-09	540	651	479	206	250	172	312	533	241	7,067	8,577	5,895	212,016	4,338,147
	Dec-09	587	625	551	208	219	184	335	500	234	7,135	7,511	6,320	221,173	4,559,320
	All 2009	**570**	**832**	**10**	**190**	**305**	**89**	**351**	**594**	**19**	**6,522**	**10,441**	**3,067**	**2,385,008**	**4,559,320**
														Total Injected fluids:	**46,331,047**

ATTACHMENT 1
CHEMICAL ANALYSIS

ALS Laboratory Group

Date: *23-Feb-09*

Client: ALS Laboratory Group
Project: 0902372
Work Order: 0902323
Sample ID: 0902372-01F
Lab ID: 0902323-01
Collection Date: 2/13/2009 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2			Analyst: DB
Cyanide, Reactive	ND		40.0	mg/Kg	1	2/19/2009
SULFIDE, REACTIVE			SW7.3.4.2		Prep Date: 2/19/2009	Analyst: DB
Sulfide, Reactive	ND		40.0	mg/Kg	1	2/19/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: 26-Feb-09

Client: Navajo Refining Company
Project: Injection Well Qrtly
Work Order: 0902372
Sample ID: Injection Well
Lab ID: 0902372-01
Collection Date: 2/13/2009 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			SW7470		Prep Date: 2/20/2009	Analyst: JCJ
Mercury	ND		0.000200	mg/L	1	2/20/2009 05:30 PM
METALS			SW6020		Prep Date: 2/20/2009	Analyst: ALR
Aluminum	0.150		0.0100	mg/L	1	2/21/2009 03:12 AM
Arsenic	0.119		0.00500	mg/L	1	2/21/2009 03:12 AM
Barium	0.00941		0.00500	mg/L	1	2/21/2009 03:12 AM
Beryllium	ND		0.00200	mg/L	1	2/21/2009 03:12 AM
Boron	0.142		0.0200	mg/L	1	2/21/2009 03:12 AM
Cadmium	ND		0.00200	mg/L	1	2/21/2009 03:12 AM
Calcium	46.3		0.500	mg/L	1	2/21/2009 03:12 AM
Chromium	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Cobalt	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Copper	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Iron	0.325		0.200	mg/L	1	2/21/2009 03:12 AM
Lead	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Magnesium	15.5		0.200	mg/L	1	2/21/2009 03:12 AM
Manganese	0.120		0.00500	mg/L	1	2/21/2009 03:12 AM
Molybdenum	0.278		0.00500	mg/L	1	2/21/2009 03:12 AM
Nickel	0.0198		0.00500	mg/L	1	2/21/2009 03:12 AM
Potassium	8.66		0.200	mg/L	1	2/21/2009 03:12 AM
Selenium	0.0443		0.00500	mg/L	1	2/21/2009 03:12 AM
Silver	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Sodium	385		20.0	mg/L	100	2/23/2009 01:09 PM
Vanadium	ND		0.00500	mg/L	1	2/21/2009 03:12 AM
Zinc	0.0208		0.00500	mg/L	1	2/21/2009 03:12 AM
SEMIVOLATILES			SW8270		Prep Date: 2/16/2009	Analyst: ACN
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2-Methylphenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2-Nitroaniline	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
2-Nitrophenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
3-Nitroaniline	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
4-Nitroaniline	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
4-Nitrophenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Acenaphthene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Acenaphthylene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: 26-Feb-09

Client: Navajo Refining Company
Project: Injection Well Qrtly
Sample ID: Injection Well
Collection Date: 2/13/2009 01:45 PM

Work Order: 0902372
Lab ID: 0902372-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	*ND*		*0.0050*	*mg/L*	1	2/23/2009 12:58 PM
Anthracene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Benzidine	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Hexachloroethane	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Isophorone	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Naphthalene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Nitrobenzene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Pentachlorophenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Phenanthrene	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Phenol	ND		0.0050	mg/L	1	2/23/2009 12:58 PM
Pyrene	*ND*		*0.0050*	*mg/L*	1	2/23/2009 12:58 PM
Surr: 2,4,6-Tribromophenol	*79.8*		*42-124*	*%REC*	1	2/23/2009 12:58 PM
Surr: 2-Fluorobiphenyl	*65.4*		*48-120*	*%REC*	1	2/23/2009 12:58 PM
Surr: 2-Fluorophenol	*58.2*		*20-120*	*%REC*	1	2/23/2009 12:58 PM
Surr: 4-Terphenyl-d14	*66.5*		*51-135*	*%REC*	1	2/23/2009 12:58 PM
Surr: Nitrobenzene-d5	*63.5*		*41-120*	*%REC*	1	2/23/2009 12:58 PM
Surr: Phenol-d6	*66.0*		*20-120*	*%REC*	1	2/23/2009 12:58 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
2-Butanone	ND		0.010	mg/L	1	2/19/2009 06:09 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	2/19/2009 06:09 PM
2-Hexanone	ND		0.010	mg/L	1	2/19/2009 06:09 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Acetone	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Benzene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Bromodichloromethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Bromoform	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Bromomethane	*ND*		*0.0050*	*mg/L*	1	2/19/2009 06:09 PM
Carbon disulfide	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	2/19/2009 06:09 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: 26-Feb-09

Client: Navajo Refining Company
Project: Injection Well Qrtly
Work Order: 0902372
Sample ID: Injection Well
Lab ID: 0902372-01
Collection Date: 2/13/2009 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Chloroethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Chloroform	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Chloromethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Dibromochloromethane	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Ethylbenzene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
m,p-Xylene	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Methylene chloride	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Styrene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Tetrachloroethene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Toluene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Trichloroethene	ND		0.0050	mg/L	1	2/19/2009 06:09 PM
Vinyl acetate	ND		0.010	mg/L	1	2/19/2009 06:09 PM
Vinyl chloride	ND		0.0020	mg/L	1	2/19/2009 06:09 PM
Xylenes, Total	ND		0.015	mg/L	1	2/19/2009 06:09 PM
Surr: 1,2-Dichloroethane-d4	*98.6*		*70-125*	*%REC*	1	2/19/2009 06:09 PM
Surr: 4-Bromofluorobenzene	*107*		*72-125*	*%REC*	1	2/19/2009 06:09 PM
Surr: Dibromofluoromethane	*99.7*		*71-125*	*%REC*	1	2/19/2009 06:09 PM
Surr: Toluene-d8	*106*		*75-125*	*%REC*	1	2/19/2009 06:09 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	2/19/2009
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	2/19/2009
ANIONS			**E300**			Analyst: **RPM**
Chloride	**279**		**5.00**	**mg/L**	10	2/21/2009 06:19 PM
Sulfate	**360**		**5.00**	**mg/L**	10	2/21/2009 06:19 PM
Surr: Selenate (surr)	*102*		*85-115*	*%REC*	10	2/21/2009 06:19 PM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**515**		**5.00**	**mg/L**	1	2/23/2009 11:00 AM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	2/23/2009 11:00 AM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	2/23/2009 11:00 AM
Alkalinity, Total (As CaCO3)	**515**		**5.00**	**mg/L**	1	2/23/2009 11:00 AM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **RPM**
Specific Conductivity	**2,270**		**1.00**	**µmhos/cm**	1	2/14/2009 11:45 AM
IGNITIBILITY			**SW1010**			Analyst: **JBA**

Qualifiers:

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P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *26-Feb-09*

Client: Navajo Refining Company
Project: Injection Well Qrtly
Work Order: 0902372
Sample ID: Injection Well
Lab ID: 0902372-01
Collection Date: 2/13/2009 01:45 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ignitability	> 160		50.0	°F	1	2/25/2009
PH			SM4500H+ B			Analyst: RPM
pH	7.74	H	0.100	pH units	1	2/14/2009 11:30 AM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: TDW
Total Dissolved Solids (Residue, Filterable)	1,410		10.0	mg/L	1	2/18/2009 02:00 PM

Qualifiers:

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P - Dual Column results percent difference > 40%
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Chain of Custody Form

Page __ of __

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: [illegible]

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Qrtly	A	. VOC (8260) Select
Work Order		Project Number		B	. SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	• Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	P.O. Box 159	Address	P.O. Box 159	E	• Anions (300) Cl, SO4
				F	• Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	. pH
Phone	575 (505) 748-3311	Phone	(505) 748-3311	H	. Conductivity
Fax	575 (505) 746-5421	Fax	(505) 746-5421	I	. TDS
e-Mail Address	dgboyer@SESI-NM.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Injection Well	2/13/09	1345	L	Y	9	X	X	X	X	X	X	X	X	X		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes: 10 Work Days TAT.
	2/13/09	1615		
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID: / Cooler Temp: / QC Package: (Check One Box Below)
	2/14/09	09:45		☑ Level II Std QC ☐ TRRP CheckList
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	☐ Level III Std QC/Raw Data ☐ TRRP Level IV
				☐ Level IV SW846/CLP
				☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Laboratory Group

Date: *14-May-09*

Client: ALS Laboratory Group
Project: 0905157
Sample ID: 0905157-01F
Collection Date: 5/7/2009 01:15 PM

Work Order: 0905193
Lab ID: 0905193-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2		Prep Date: **5/13/2009**	Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	5/13/2009
SULFIDE, REACTIVE			SW7.3.4.2		Prep Date: **5/13/2009**	Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	5/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank
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a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *26-May-09*

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/7/2009 01:15 PM

Work Order: 0905157
Lab ID: 0905157-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			**SW7470**		Prep Date: **5/12/2009**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	5/12/2009 02:47 PM
METALS			**SW6020**		Prep Date: **5/13/2009**	Analyst: **ALR**
Aluminum	0.484		0.0100	mg/L	1	5/15/2009 05:43 PM
Arsenic	0.140		0.00500	mg/L	1	5/15/2009 05:43 PM
Barium	0.0282		0.00500	mg/L	1	5/15/2009 05:43 PM
Beryllium	ND		0.00200	mg/L	1	5/15/2009 05:43 PM
Boron	0.152		0.0200	mg/L	1	5/15/2009 05:43 PM
Cadmium	ND		0.00200	mg/L	1	5/15/2009 05:43 PM
Calcium	126		0.500	mg/L	1	5/15/2009 05:43 PM
Chromium	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Cobalt	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Copper	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Iron	0.474		0.200	mg/L	1	5/15/2009 05:43 PM
Lead	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Magnesium	46.4		0.200	mg/L	1	5/15/2009 05:43 PM
Manganese	0.0900		0.00500	mg/L	1	5/15/2009 05:43 PM
Molybdenum	0.118		0.00500	mg/L	1	5/15/2009 05:43 PM
Nickel	0.0256		0.00500	mg/L	1	5/15/2009 05:43 PM
Potassium	108		0.200	mg/L	1	5/15/2009 05:43 PM
Selenium	0.653		0.00500	mg/L	1	5/15/2009 05:43 PM
Silver	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Sodium	462		20.0	mg/L	100	5/15/2009 05:30 PM
Vanadium	ND		0.00500	mg/L	1	5/15/2009 05:43 PM
Zinc	0.201		0.00500	mg/L	1	5/15/2009 05:43 PM
SEMIVOLATILES			**SW8270**		Prep Date: **5/14/2009**	Analyst: **ACN**
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2-Methylphenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2-Nitroaniline	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
2-Nitrophenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
3-Nitroaniline	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
4-Nitroaniline	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
4-Nitrophenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Acenaphthene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Acenaphthylene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/7/2009 01:15 PM

Work Order: 0905157
Lab ID: 0905157-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Anthracene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Benzidine	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Hexachloroethane	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Isophorone	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Naphthalene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Nitrobenzene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Pentachlorophenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Phenanthrene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Phenol	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Pyrene	ND		0.0050	mg/L	1	5/14/2009 05:13 PM
Surr: 2,4,6-Tribromophenol	*72.0*		*42-124*	*%REC*	1	5/14/2009 05:13 PM
Surr: 2-Fluorobiphenyl	*77.6*		*48-120*	*%REC*	1	5/14/2009 05:13 PM
Surr: 2-Fluorophenol	*61.0*		*20-120*	*%REC*	1	5/14/2009 05:13 PM
Surr: 4-Terphenyl-d14	*68.3*		*51-135*	*%REC*	1	5/14/2009 05:13 PM
Surr: Nitrobenzene-d5	*84.1*		*41-120*	*%REC*	1	5/14/2009 05:13 PM
Surr: Phenol-d6	*67.6*		*20-120*	*%REC*	1	5/14/2009 05:13 PM
VOLATILES			**SW8260**			Analyst: PC
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
2-Butanone	ND		0.010	mg/L	1	5/13/2009 05:20 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	5/13/2009 05:20 PM
2-Hexanone	ND		0.010	mg/L	1	5/13/2009 05:20 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	5/13/2009 05:20 PM
Acetone	**0.089**		**0.010**	**mg/L**	1	5/13/2009 05:20 PM
Benzene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Bromodichloromethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Bromoform	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Bromomethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Carbon disulfide	ND		0.010	mg/L	1	5/13/2009 05:20 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	5/13/2009 05:20 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: 26-May-09

Client: Navajo Refining Company
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 5/7/2009 01:15 PM

Work Order: 0905157
Lab ID: 0905157-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Chloroethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Chloroform	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Chloromethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Dibromochloromethane	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Ethylbenzene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
m,p-Xylene	ND		0.010	mg/L	1	5/13/2009 05:20 PM
Methylene chloride	ND		0.010	mg/L	1	5/13/2009 05:20 PM
Styrene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Tetrachloroethene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Toluene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Trichloroethene	ND		0.0050	mg/L	1	5/13/2009 05:20 PM
Vinyl acetate	ND		0.010	mg/L	1	5/13/2009 05:20 PM
Vinyl chloride	ND		0.0020	mg/L	1	5/13/2009 05:20 PM
Xylenes, Total	ND		0.015	mg/L	1	5/13/2009 05:20 PM
Surr: 1,2-Dichloroethane-d4	*102*		*70-125*	*%REC*	1	5/13/2009 05:20 PM
Surr: 4-Bromofluorobenzene	*102*		*72-125*	*%REC*	1	5/13/2009 05:20 PM
Surr: Dibromofluoromethane	*112*		*71-125*	*%REC*	1	5/13/2009 05:20 PM
Surr: Toluene-d8	*105*		*75-125*	*%REC*	1	5/13/2009 05:20 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	5/13/2009
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	5/13/2009
ANIONS			**E300**			Analyst: **IGF**
Chloride	**189**		**10.0**	**mg/L**	20	5/8/2009 01:07 PM
Sulfate	**1,340**		**25.0**	**mg/L**	50	5/8/2009 04:13 PM
Surr: Selenate (surr)	*100*		*85-115*	*%REC*	20	5/8/2009 01:07 PM
Surr: Selenate (surr)	*99.3*		*85-115*	*%REC*	50	5/8/2009 04:13 PM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**294**		**5.00**	**mg/L**	1	5/14/2009 02:30 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	5/14/2009 02:30 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	5/14/2009 02:30 PM
Alkalinity, Total (As CaCO3)	**294**		**5.00**	**mg/L**	1	5/14/2009 02:30 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **TDW**
Specific Conductivity	**4,370**		**1.00**	**µmhos/cm**	1	5/8/2009 04:30 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *26-May-09*

Client:	Navajo Refining Company		
Project:	Injection Well Quarterly	**Work Order:**	0905157
Sample ID:	Inj. Well	**Lab ID:**	0905157-01
Collection Date:	5/7/2009 01:15 PM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
IGNITIBILITY			SW1010			Analyst: **KKP**
Ignitability	> 160		50.0	°F	1	5/8/2009 06:30 PM
PH			SM4500H+ B			Analyst: **TDW**
pH	7.52	H	0.100	pH units	1	5/8/2009 03:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: **TDW**
Total Dissolved Solids (Residue, Filterable)	2,740		10.0	mg/L	1	5/8/2009 03:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Chain of Custody Form

Page ___ of ___

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Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 0905157

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	P.O. Box 159	Address	P.O. Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	~~(505)~~ 575 748-3311	Phone	(505) 748-3311	H	Conductivity
Fax	~~(505)~~ 575 746-5421	Fax	(505) 746-5421	I	TDS
e-Mail Address	~~dgboyer@SESI-NM.com~~	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj. Well	5/7/09	1315	L	Y	9	X	X	X	X	X	X	X	X	X		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date:

Relinquished by: Aaron Strange Date: 5/7/09 Time: 1615

Received by:

Relinquished by: Date: 5/8/09 Time: 09:20

Received by (Laboratory):

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: 10 Work Days TAT.

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☑ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other _____
☐ TRRP CheckList
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

ALS Laboratory Group

Date: 18-Aug-09

Client:	ALS Laboratory Group		
Project:	0908302	**Work Order:**	0908263
Sample ID:	0908302-01F	**Lab ID:**	0908263-01
Collection Date:	8/12/2009 08:10 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			**SW7.3.3.2**		Prep Date: **8/17/2009**	Analyst: **DB**
Cyanide, Reactive	ND		40.0	mg/Kg	1	8/17/2009
SULFIDE, REACTIVE			**SW7.3.4.2**		Prep Date: **8/17/2009**	Analyst: **DB**
Sulfide, Reactive	ND		40.0	mg/Kg	1	8/17/2009

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Laboratory Group

Date: 21-Aug-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Work Order: 0908302
Sample ID: Inj. Well
Lab ID: 0908302-01
Collection Date: 8/12/2009 08:10 AM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			SW7470		Prep Date: 8/19/2009	Analyst: JCJ
Mercury	ND		0.000200	mg/L	1	8/19/2009 03:18 PM
METALS			SW6020		Prep Date: 8/14/2009	Analyst: JBA
Aluminum	**0.133**		**0.0500**	**mg/L**	5	8/17/2009 05:53 PM
Arsenic	**0.124**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Barium	**0.0226**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Beryllium	ND		0.00200	mg/L	1	8/15/2009 03:32 AM
Boron	**0.166**		**0.0200**	**mg/L**	1	8/15/2009 03:32 AM
Cadmium	ND		0.00200	mg/L	1	8/15/2009 03:32 AM
Calcium	**125**		**0.500**	**mg/L**	1	8/15/2009 03:32 AM
Chromium	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Cobalt	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Copper	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Iron	**0.666**		**0.200**	**mg/L**	1	8/15/2009 03:32 AM
Lead	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Magnesium	**38.1**		**0.200**	**mg/L**	1	8/15/2009 03:32 AM
Manganese	**0.0734**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Molybdenum	**0.187**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Nickel	**0.00665**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Potassium	**44.4**		**0.200**	**mg/L**	1	8/15/2009 03:32 AM
Selenium	**0.492**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
Silver	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Sodium	**666**		**1.00**	**mg/L**	5	8/17/2009 05:53 PM
Vanadium	ND		0.00500	mg/L	1	8/15/2009 03:32 AM
Zinc	**0.0237**		**0.00500**	**mg/L**	1	8/15/2009 03:32 AM
SEMIVOLATILES			SW8270		Prep Date: 8/18/2009	Analyst: ACN
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2-Methylphenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2-Nitroaniline	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
2-Nitrophenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
3-Nitroaniline	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
4-Nitroaniline	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
4-Nitrophenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Acenaphthene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Acenaphthylene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: 21-Aug-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 8/12/2009 08:10 AM

Work Order: 0908302
Lab ID: 0908302-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Anthracene	*ND*		*0.0050*	*mg/L*	1	8/19/2009 03:27 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Benzidine	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Hexachloroethane	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Isophorone	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Naphthalene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Nitrobenzene	*ND*		*0.0050*	*mg/L*	1	8/19/2009 03:27 PM
Pentachlorophenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Phenanthrene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Phenol	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Pyrene	ND		0.0050	mg/L	1	8/19/2009 03:27 PM
Surr: 2,4,6-Tribromophenol	*106*		*42-124*	*%REC*	1	8/19/2009 03:27 PM
Surr: 2-Fluorobiphenyl	*59.0*		*48-120*	*%REC*	1	8/19/2009 03:27 PM
Surr: 2-Fluorophenol	*49.2*		*20-120*	*%REC*	1	8/19/2009 03:27 PM
Surr: 4-Terphenyl-d14	*73.9*		*51-135*	*%REC*	1	8/19/2009 03:27 PM
Surr: Nitrobenzene-d5	*61.6*		*41-120*	*%REC*	1	8/19/2009 03:27 PM
Surr: Phenol-d6	*56.0*		*20-120*	*%REC*	1	8/19/2009 03:27 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
1,1-Dichloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
1,1-Dichloroethene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
1,2-Dichloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
2-Butanone	ND		0.010	mg/L	1	8/14/2009 08:23 PM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	8/14/2009 08:23 PM
2-Hexanone	ND		0.010	mg/L	1	8/14/2009 08:23 PM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	8/14/2009 08:23 PM
Acetone	**0.048**		**0.010**	**mg/L**	1	8/14/2009 08:23 PM
Benzene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Bromodichloromethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Bromoform	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Bromomethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Carbon disulfide	ND		0.010	mg/L	1	8/14/2009 08:23 PM
Carbon tetrachloride	ND		0.0050	mg/L	1	8/14/2009 08:23 PM

Note: *See Qualifiers Page for a list of qualifiers and their explanation.*

ALS Laboratory Group

Date: 21-Aug-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Inj. Well
Collection Date: 8/12/2009 08:10 AM

Work Order: 0908302
Lab ID: 0908302-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Chloroethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Chloroform	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Chloromethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
cis-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Dibromochloromethane	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Ethylbenzene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
m,p-Xylene	ND		0.010	mg/L	1	8/14/2009 08:23 PM
Methylene chloride	ND		0.010	mg/L	1	8/14/2009 08:23 PM
Styrene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Tetrachloroethene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Toluene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Trichloroethene	ND		0.0050	mg/L	1	8/14/2009 08:23 PM
Vinyl acetate	ND		0.010	mg/L	1	8/14/2009 08:23 PM
Vinyl chloride	ND		0.0020	mg/L	1	8/14/2009 08:23 PM
Xylenes, Total	ND		0.015	mg/L	1	8/14/2009 08:23 PM
Surr: 1,2-Dichloroethane-d4	*92.9*		*70-125*	*%REC*	1	8/14/2009 08:23 PM
Surr: 4-Bromofluorobenzene	*96.0*		*72-125*	*%REC*	1	8/14/2009 08:23 PM
Surr: Dibromofluoromethane	*98.5*		*71-125*	*%REC*	1	8/14/2009 08:23 PM
Surr: Toluene-d8	*102*		*75-125*	*%REC*	1	8/14/2009 08:23 PM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	8/17/2009
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	8/17/2009
ANIONS			**E300**			Analyst: **IGF**
Chloride	**402**		**10.0**	**mg/L**	20	8/14/2009 08:10 PM
Sulfate	**1,730**		**25.0**	**mg/L**	50	8/14/2009 08:34 PM
Surr: Selenate (surr)	*98.7*		*85-115*	*%REC*	50	8/14/2009 08:34 PM
Surr: Selenate (surr)	*99.6*		*85-115*	*%REC*	20	8/14/2009 08:10 PM
ALKALINITY			**SM2320B**			Analyst: **RPM**
Alkalinity, Bicarbonate (As CaCO3)	**220**		**5.00**	**mg/L**	1	8/21/2009 07:00 AM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	8/21/2009 07:00 AM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	8/21/2009 07:00 AM
Alkalinity, Total (As CaCO3)	**220**		**5.00**	**mg/L**	1	8/21/2009 07:00 AM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **IGF**
Specific Conductivity	**4,640**		**1.00**	**µmhos/cm**	1	8/18/2009 02:50 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: 21-Aug-09

Client:	Holly Energy Partners		
Project:	Injection Well Quarterly	**Work Order:**	0908302
Sample ID:	Inj. Well	**Lab ID:**	0908302-01
Collection Date:	8/12/2009 08:10 AM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
IGNITIBILITY			SW1010			Analyst: KKP
Ignitability	> 160		50.0	°F	1	8/18/2009 01:00 PM
PH			SM4500H+ B			Analyst: IGF
pH	7.81	H	0.100	pH units	1	8/13/2009 04:30 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: KKP
Total Dissolved Solids (Residue, Filterable)	3,160		10.0	mg/L	1	8/14/2009 05:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Chain of Custody Form

Page 1 of 1

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Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 0908302

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	P.O. Box 159	Address	P.O. Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	575 748-3311	Phone	575 748-3311	H	Conductivity
Fax	575 746-5421	Fax	575 746-5421	I	TDS
e-Mail Address	[redacted]	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Inj. Well	8-12-09	0810	L	Y	9	X	X	X	X	X	X	X	X	X		
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☑ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Aaron Strange Date: 8-12-09 Time: 1615 Received by:

Relinquished by: Date: 8/13/09 Time: 09:15 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: 10 Work Days TAT.

Cooler ID | Cooler Temp:

QC Package: (Check One Box Below)
☑ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☐ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

ALS Laboratory Group

Date: *25-Nov-09*

Client: ALS Laboratory Group
Project: 0911524
Sample ID: 0911524-01F
Collection Date: 11/19/2009 01:58 PM
Work Order: 0911500
Lab ID: 0911500-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, REACTIVE			SW7.3.3.2			Analyst: **AJK**
Cyanide, Reactive	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
SULFIDE, REACTIVE			SW7.3.4.2			Analyst: **AJK**
Sulfide, Reactive	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Laboratory Group

Date: 08-Dec-09

Client:	Holly Energy Partners		
Project:	Injection Well Quarterly	**Work Order:**	0911524
Sample ID:	Injection Well	**Lab ID:**	0911524-01
Collection Date:	11/19/2009 01:58 PM	**Matrix:**	WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY			**SW7470**		Prep Date: **11/25/2009**	Analyst: **JCJ**
Mercury	ND		0.000200	mg/L	1	11/25/2009 03:14 PM
METALS			**SW6020**		Prep Date: **11/25/2009**	Analyst: **ALR**
Aluminum	**0.329**		**0.0100**	**mg/L**	1	11/25/2009 08:09 PM
Arsenic	**0.111**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
Barium	**0.0198**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
Beryllium	ND		0.00200	mg/L	1	11/25/2009 08:09 PM
Boron	**0.258**		**0.0200**	**mg/L**	1	11/25/2009 08:09 PM
Cadmium	ND		0.00200	mg/L	1	11/25/2009 08:09 PM
Calcium	**147**		**0.500**	**mg/L**	1	11/25/2009 08:09 PM
Chromium	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Cobalt	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Copper	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Iron	ND		0.200	mg/L	1	11/25/2009 08:09 PM
Lead	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Magnesium	**46.6**		**0.200**	**mg/L**	1	11/25/2009 08:09 PM
Manganese	**0.0634**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
Molybdenum	**0.155**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
Nickel	**0.00618**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
Potassium	**16.4**		**0.200**	**mg/L**	1	11/25/2009 08:09 PM
Selenium	**0.428**		**0.0500**	**mg/L**	10	11/30/2009 05:14 PM
Silver	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Sodium	**1,060**		**40.0**	**mg/L**	200	11/30/2009 07:41 PM
Vanadium	ND		0.00500	mg/L	1	11/25/2009 08:09 PM
Zinc	**0.0382**		**0.00500**	**mg/L**	1	11/25/2009 08:09 PM
SEMIVOLATILES			**SW8270**		Prep Date: **11/24/2009**	Analyst: **ACN**
1,2,4-Trichlorobenzene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2,4,5-Trichlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2,4,6-Trichlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Methylnaphthalene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Methylphenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
2-Nitrophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
3&4-Methylphenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
3-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
4-Nitroaniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
4-Nitrophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Acenaphthene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Acenaphthylene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Holly Energy Partners
Project: Injection Well Quarterly **Work Order:** 0911524
Sample ID: Injection Well **Lab ID:** 0911524-01
Collection Date: 11/19/2009 01:58 PM **Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Aniline	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Anthracene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Benz(a)anthracene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Benzidine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Hexachloroethane	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Indeno(1,2,3-cd)pyrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Isophorone	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodi-n-propylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodimethylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
N-Nitrosodiphenylamine	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Naphthalene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Nitrobenzene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Pentachlorophenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Phenanthrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Phenol	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Pyrene	ND		0.0050	mg/L	1	12/3/2009 07:19 PM
Surr: 2,4,6-Tribromophenol	*79.3*		*42-124*	*%REC*	1	12/3/2009 07:19 PM
Surr: 2-Fluorobiphenyl	*70.6*		*48-120*	*%REC*	1	12/3/2009 07:19 PM
Surr: 2-Fluorophenol	*63.0*		*20-120*	*%REC*	1	12/3/2009 07:19 PM
Surr: 4-Terphenyl-d14	*66.4*		*51-135*	*%REC*	1	12/3/2009 07:19 PM
Surr: Nitrobenzene-d5	*69.2*		*41-120*	*%REC*	1	12/3/2009 07:19 PM
Surr: Phenol-d6	*63.3*		*20-120*	*%REC*	1	12/3/2009 07:19 PM
VOLATILES			**SW8260**			Analyst: **PC**
1,1,1-Trichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1,2,2-Tetrachloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1,2-Trichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1-Dichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,1-Dichloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
1,2-Dichloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
2-Butanone	**0.010**		**0.010**	**mg/L**	1	11/26/2009 12:50 AM
2-Chloroethyl vinyl ether	ND		0.010	mg/L	1	11/26/2009 12:50 AM
2-Hexanone	ND		0.010	mg/L	1	11/26/2009 12:50 AM
4-Methyl-2-pentanone	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Acetone	**0.043**		**0.010**	**mg/L**	1	11/26/2009 12:50 AM
Benzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromodichloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromoform	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Bromomethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Carbon disulfide	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Carbon tetrachloride	ND		0.0050	mg/L	1	11/26/2009 12:50 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: 08-Dec-09

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Chlorobenzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloroethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloroform	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Chloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
cis-1,3-Dichloropropene	*ND*		*0.0050*	*mg/L*	1	11/26/2009 12:50 AM
Dibromochloromethane	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Ethylbenzene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
m,p-Xylene	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Methylene chloride	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Styrene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Tetrachloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Toluene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
trans-1,3-Dichloropropene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Trichloroethene	ND		0.0050	mg/L	1	11/26/2009 12:50 AM
Vinyl acetate	ND		0.010	mg/L	1	11/26/2009 12:50 AM
Vinyl chloride	ND		0.0020	mg/L	1	11/26/2009 12:50 AM
Xylenes, Total	ND		0.015	mg/L	1	11/26/2009 12:50 AM
Surr: 1,2-Dichloroethane-d4	*105*		*70-125*	*%REC*	1	11/26/2009 12:50 AM
Surr: 4-Bromofluorobenzene	*99.3*		*72-125*	*%REC*	1	11/26/2009 12:50 AM
Surr: Dibromofluoromethane	*84.1*		*71-125*	*%REC*	1	11/26/2009 12:50 AM
Surr: Toluene-d8	*98.9*		*75-125*	*%REC*	1	11/26/2009 12:50 AM
REACTIVE CYANIDE			**SW-846**			Analyst: **HN**
Reactive Cyanide	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
REACTIVE SULFIDE			**SW-846**			Analyst: **HN**
Reactive Sulfide	ND		40.0	mg/Kg	1	11/24/2009 10:15 AM
ANIONS			**E300**			Analyst: **IGF**
Chloride	**735**		**25.0**	**mg/L**	50	11/23/2009 07:41 PM
Sulfate	**1,900**		**25.0**	**mg/L**	50	11/23/2009 07:41 PM
Surr: Selenate (surr)	*107*		*85-115*	*%REC*	50	11/23/2009 07:41 PM
ALKALINITY			**SM2320B**			Analyst: **TDW**
Alkalinity, Bicarbonate (As CaCO3)	**131**		**5.00**	**mg/L**	1	11/21/2009 01:00 PM
Alkalinity, Carbonate (As CaCO3)	ND		5.00	mg/L	1	11/21/2009 01:00 PM
Alkalinity, Hydroxide (As CaCO3)	ND		5.00	mg/L	1	11/21/2009 01:00 PM
Alkalinity, Total (As CaCO3)	**131**		**5.00**	**mg/L**	1	11/21/2009 01:00 PM
SPECIFIC CONDUCTIVITY			**M2510 B**			Analyst: **TDW**
Specific Conductivity	**5,970**		**1.00**	**µmhos/cm**	1	12/1/2009 04:00 PM
IGNITIBILITY			**SW1010**			Analyst: **RPM**

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Laboratory Group

Date: *08-Dec-09*

Client: Holly Energy Partners
Project: Injection Well Quarterly
Sample ID: Injection Well
Collection Date: 11/19/2009 01:58 PM

Work Order: 0911524
Lab ID: 0911524-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Ignitability	> 160		50.0	°F	1	12/4/2009 01:30 PM
PH			SM4500H+ B			Analyst: TDW
pH	7.00	H	0.100	pH units	1	11/20/2009 07:00 PM
TOTAL DISSOLVED SOLIDS			M2540C			Analyst: TDW
Total Dissolved Solids (Residue, Filterable)	4,010		10.0	mg/L	1	11/21/2009 12:00 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

☑ ALS Laboratory Group
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Chain of Custody Form

Page 1 of 1

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 911524

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Injection Well Quarterly	A	VOC (8260) Select
Work Order		Project Number		B	SVOC (8270) Select
Company Name	Navajo Refining Company	Bill To Company	Navajo Refining Company	C	Total Metals (6020/7000) Select
Send Report To	Aaron Strange	Invoice Attn	Aaron Strange	D	RCI Profile
Address	P.O. Box 159	Address	P.O. Box 159	E	Anions (300) Cl, SO4
				F	Alkalinity
City/State/Zip	Artesia, NM 88211	City/State/Zip	Artesia, NM 88211	G	pH
Phone	575 748-3311	Phone	575 748-3311	H	Conductivity
Fax	575 746-5421	Fax	575 746-5421	I	TDS
e-Mail Address	[redacted]	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Injection Well	11-19-09	1358	L	Y	9	X	X	X	X	X	X	X	X			
2	Trip blank																
3	Temp. Blank																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Aaron Strange

Shipment Method: Fed Ex

Required Turnaround Time: (Check Box) ☐ 24HR ☐ 48HR ☑ Std 10 WK Days ☐ 15 WK Days ☐ 2 WK Days ☐ 1 WK Days

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Aaron Strange	11-19-09	16:15		10 Work Days TAT
Relinquished by:	Date:	Time:	Received by (Laboratory):	11/20/09 09:20

Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler ID	Cooler Temp

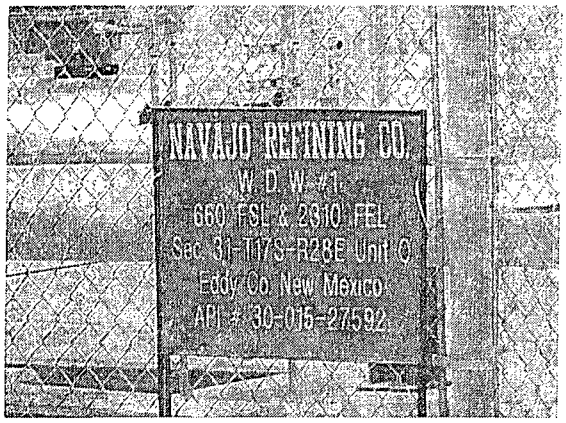
QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

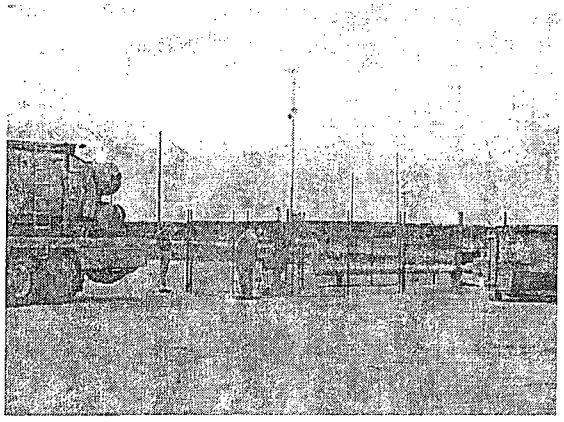
Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

ATTACHMENT 2
MECHANICAL INTEGRITY TESTS

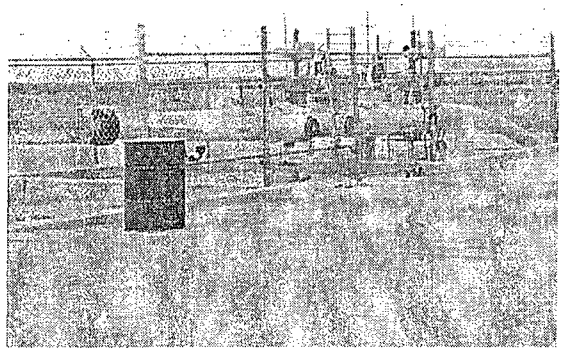
WDW-1 Inspection & MIT (8/14/2009)



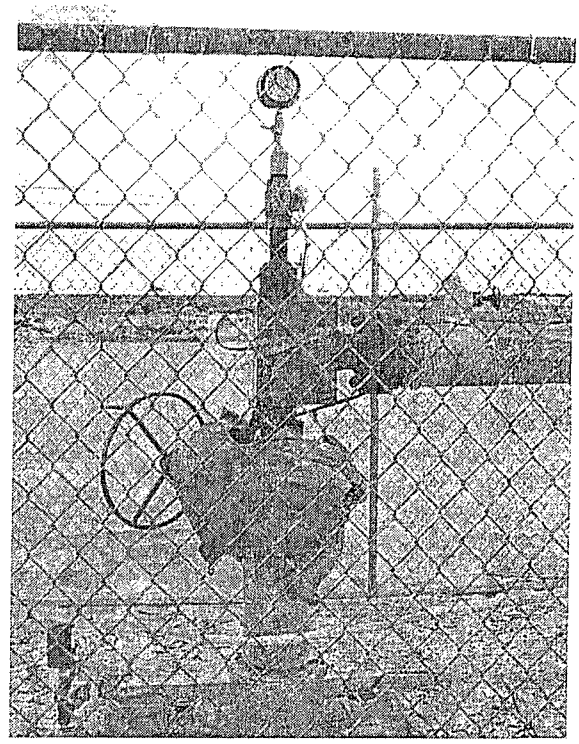
WDW-1 Sign w/ Fenced & Lighted Facility 24/7



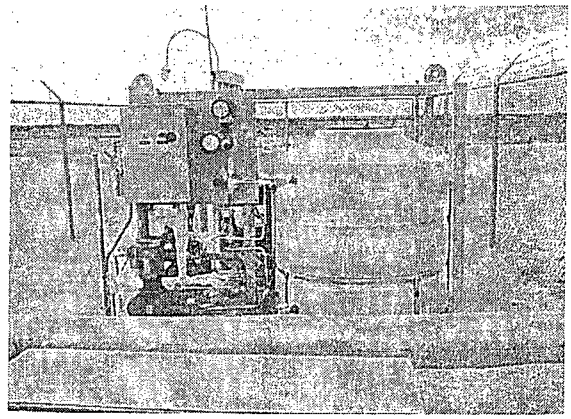
Hot Oil MIT contractor setup for standard annulus pressure test MIT



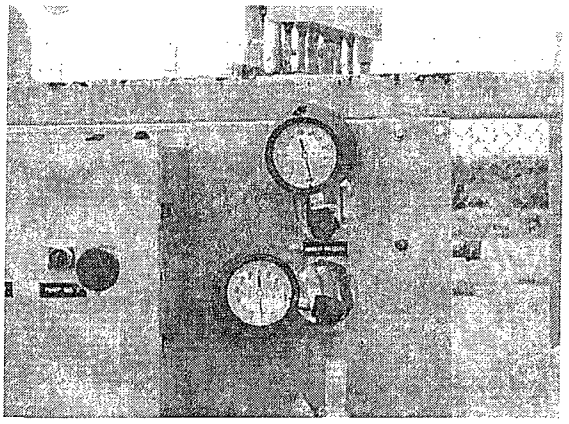
Looking W-SW at fenced pipeline pig station for ~12 mile WDW-1 back to refinery



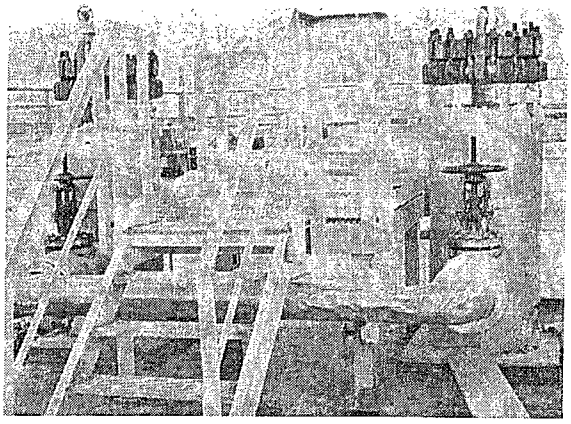
Wellhead



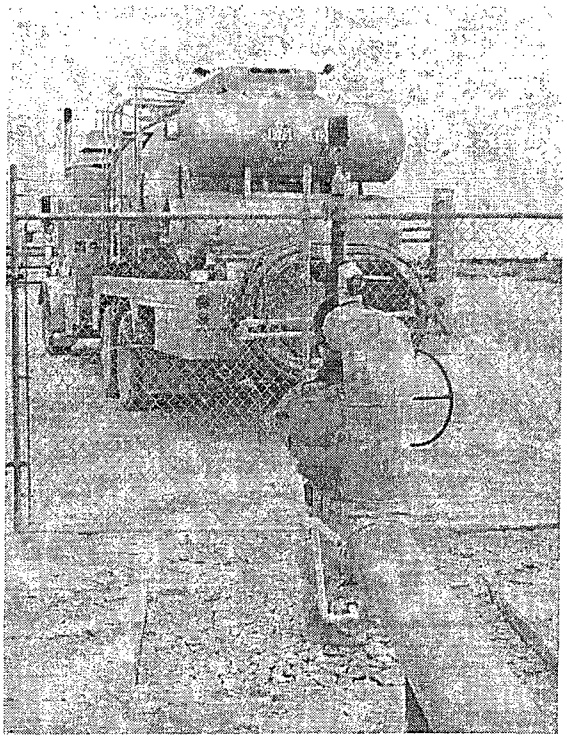
WAMs Unit



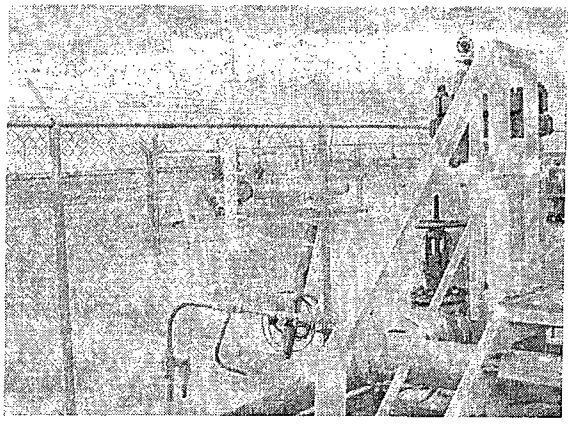
Injection pressure station



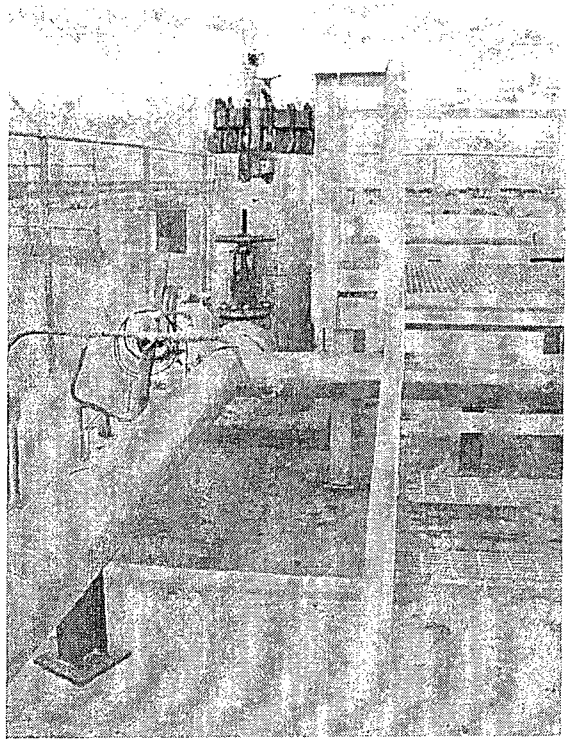
Dual filtration system before injection



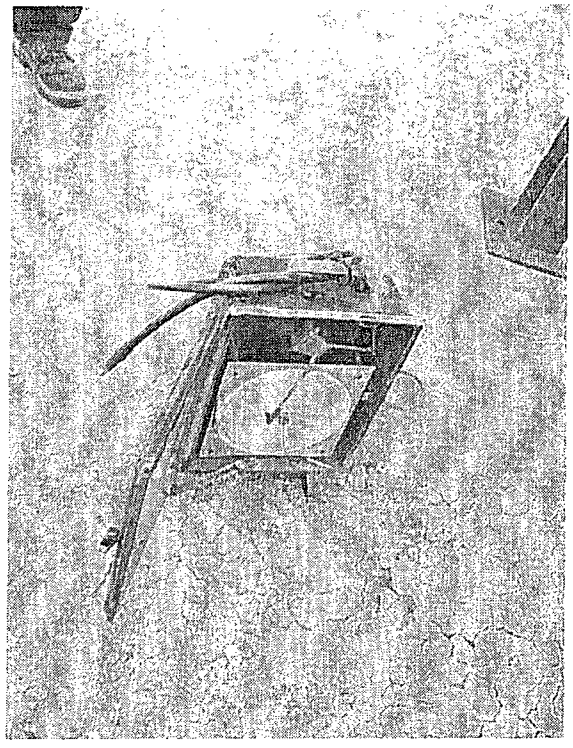
Hot Oil Truck fluid pressure up on annulus



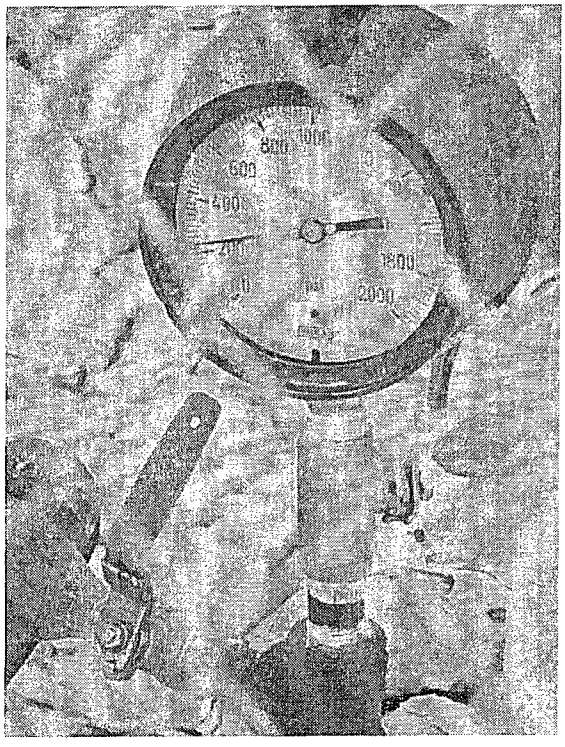
Looking S-SW at pipeline pig station in background



Filtration system

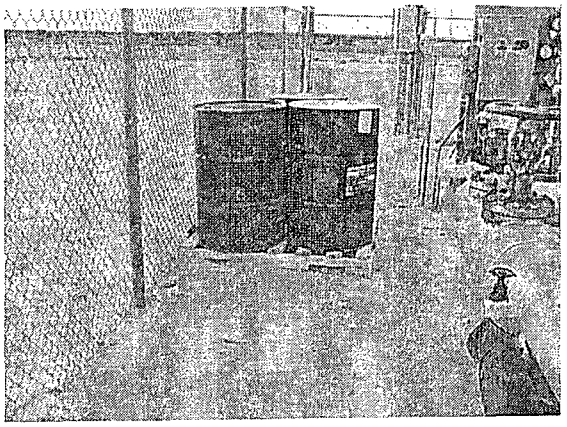


Calibrated chart recorder

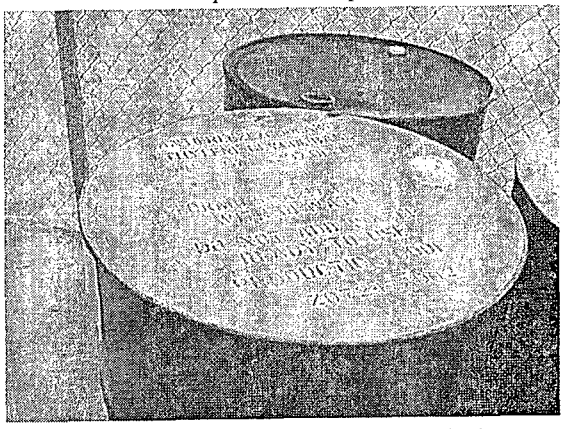


Pre-MIT annulus pressure at ~220 psig

Recommended AFE to replace ½ inch dia. pipe with 1 inch or greater.



Drums of ethylene glycol stored on ground need to be on impermeable pad



Ethylene glycol drums w/ rusty trash drum close-up

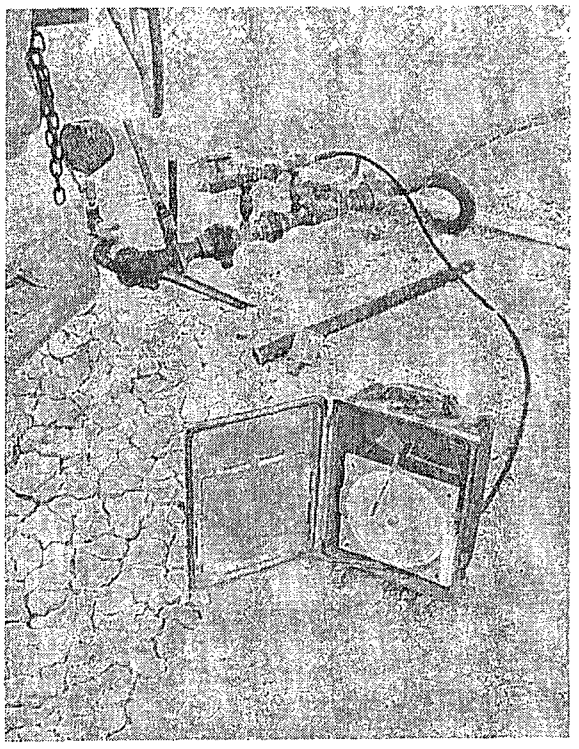
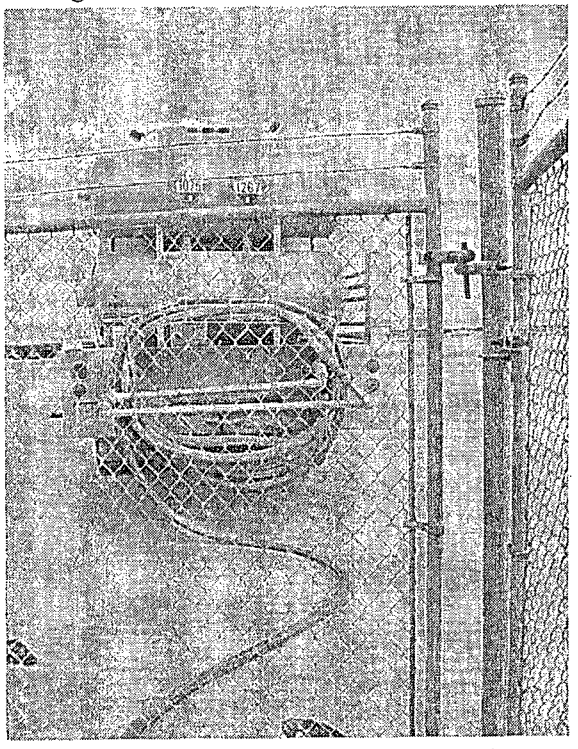


Chart recorder setup w/ valve arrangement during MIT



Hot Oil truck in background connected to annulus during fluid pressure up.

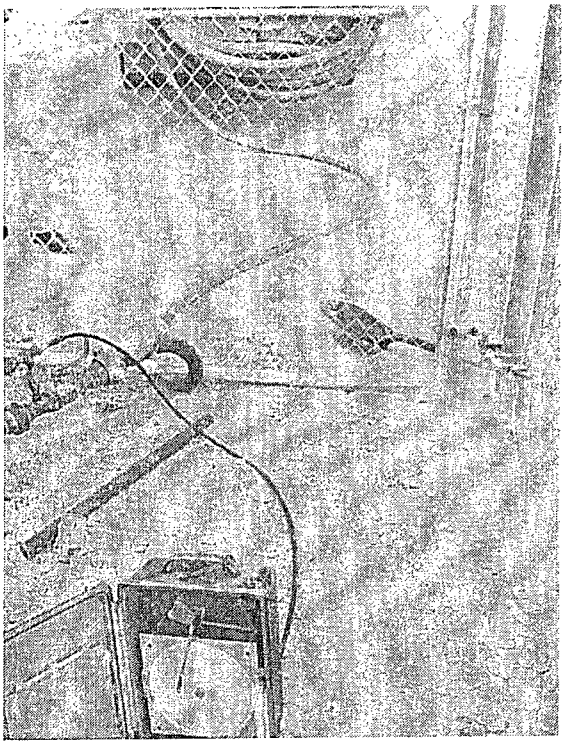


Chart recorder in action

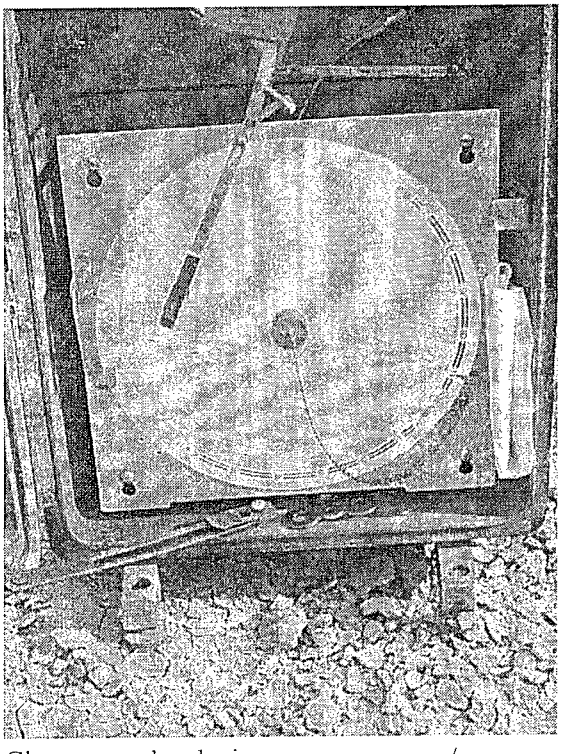
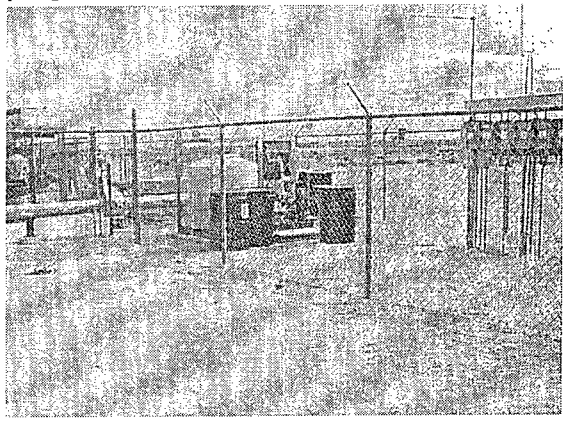
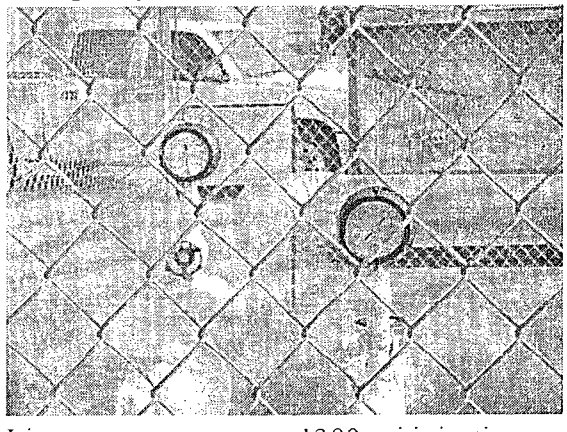


Chart recorder during pressure up w/ calibration sheet

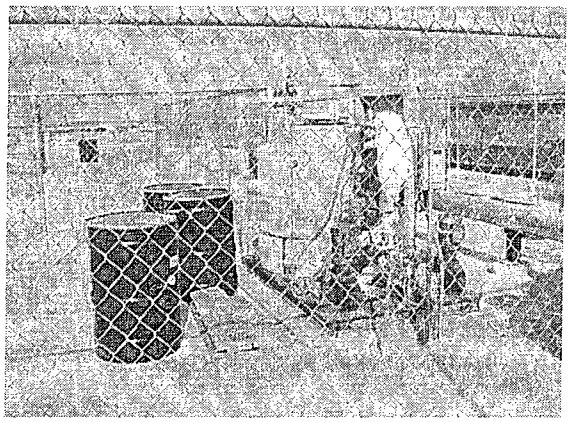
Noticed either new or well workover in progress NW of disposal well



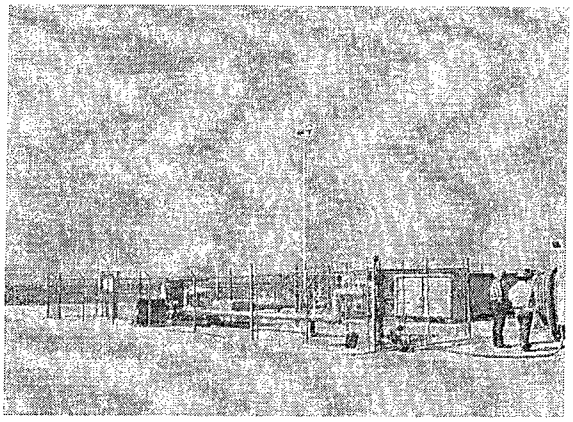
WAMs Unit w/ ethylene glycol drums sitting on ground



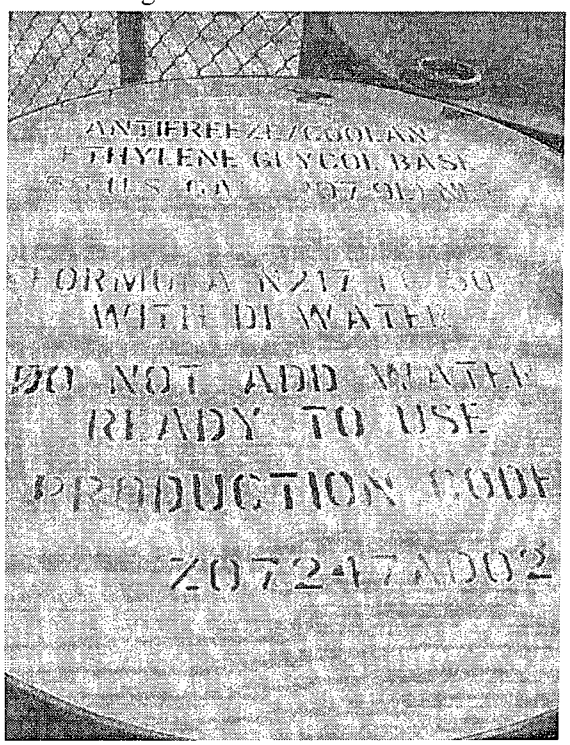
Line pressure gauges ~ 1300 psi injection pressure during MIT



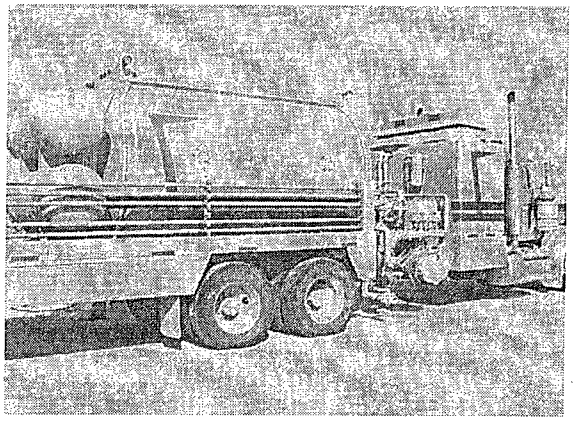
Drums on ground near WAMs Unit



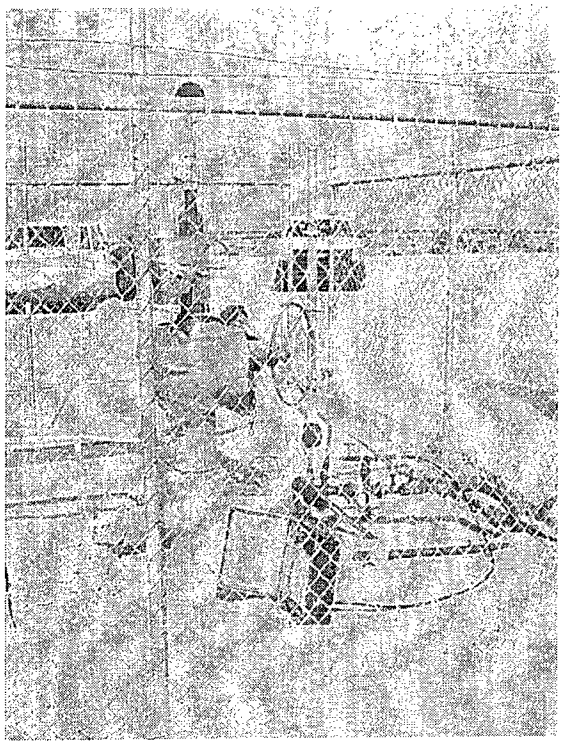
Fenced facility w/ lighting 24/7



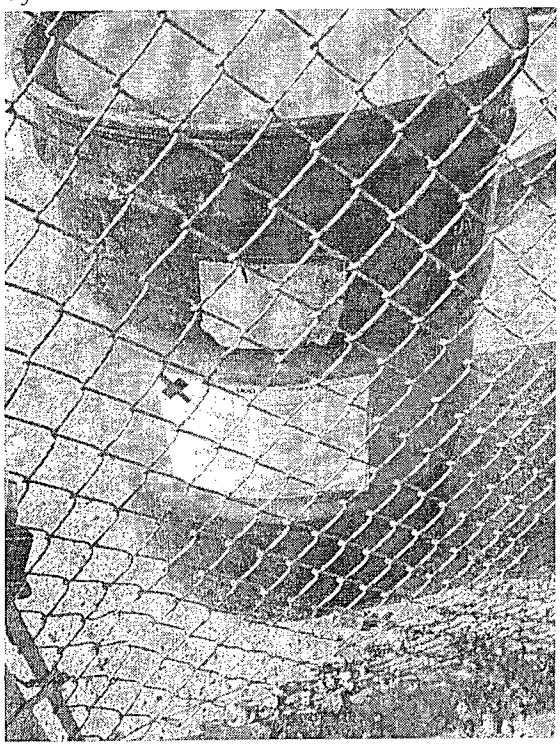
Close-up ethylene glycol drum



Hot Oil Truck



Standard annulus pressure test MIT under dynamic condition



Trash drum

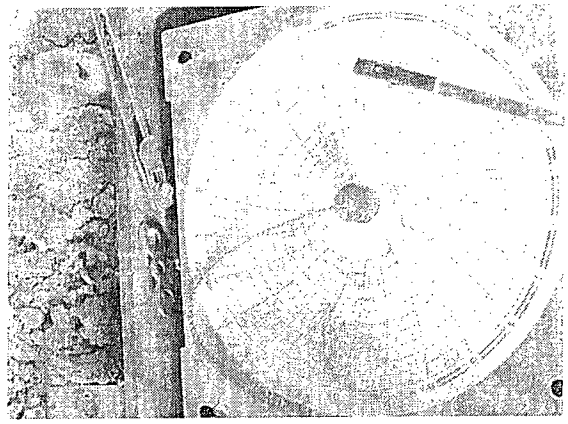


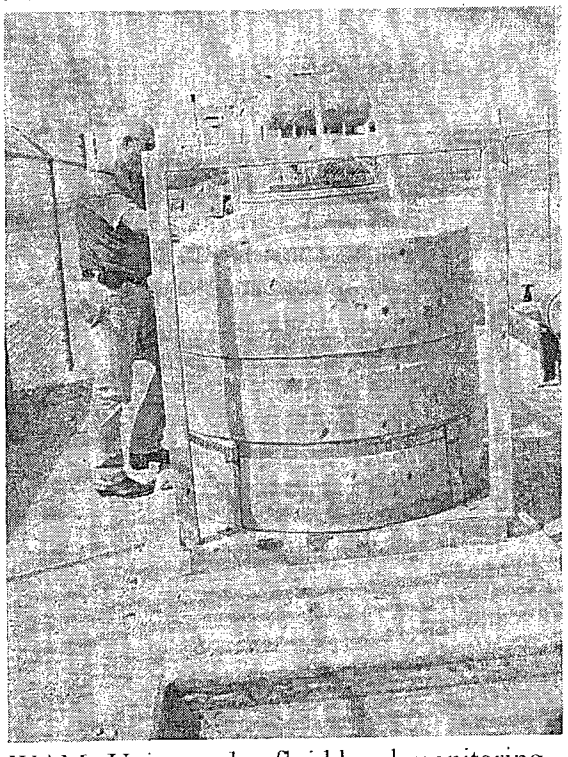
Chart recorder at end of MIT

Notes:

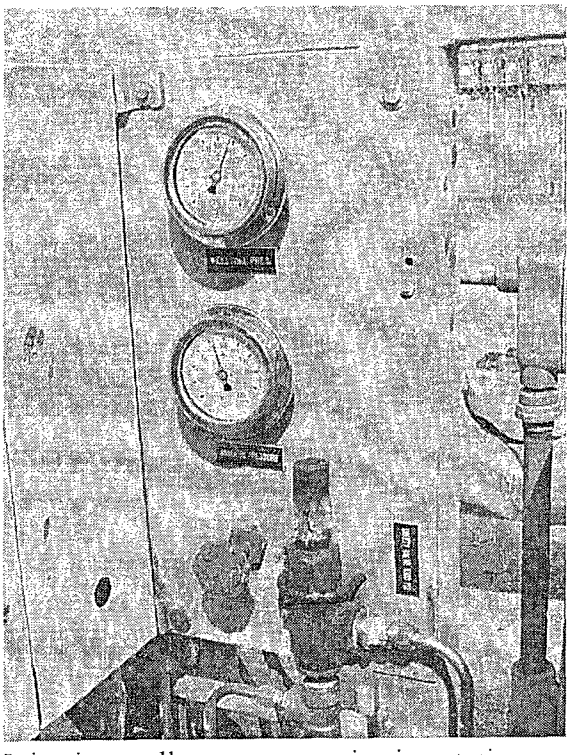
1) Passed standard annulus pressure MIT (Start @ 575 psig & End @ 580 psig) over 30 minutes.
2) AFE submitted to replace ½ inch dia. piping w/ 1 inch or greater- safety and breakage concerns.
3) Operator indicated WAMs fluid level ok (no loss or addition of ethylene glycol).
4) Drums containing chemicals need to be stored in impermeable pad area or removed from facility.

WDW-2 Inspection & MIT (8/14/2009)

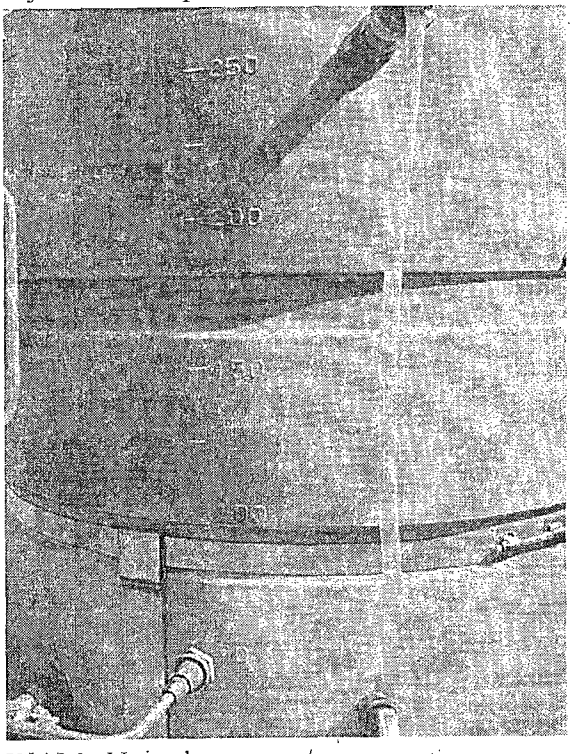
Well sign w/ security fence and lighting 24/7



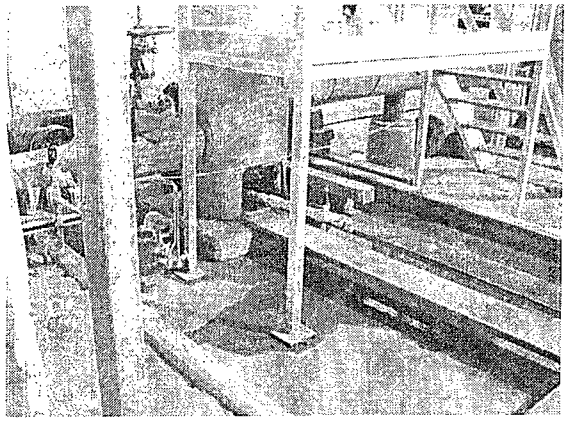
WAMs Unit annulus fluid level monitoring device for OCD UIC Class I Wells



Injection well pressure monitoring station

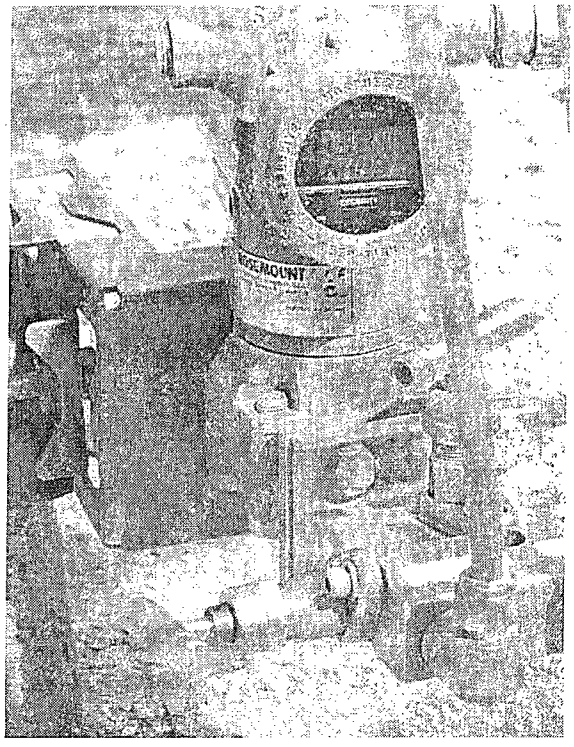


WAMs Unit close-up w/ manometer

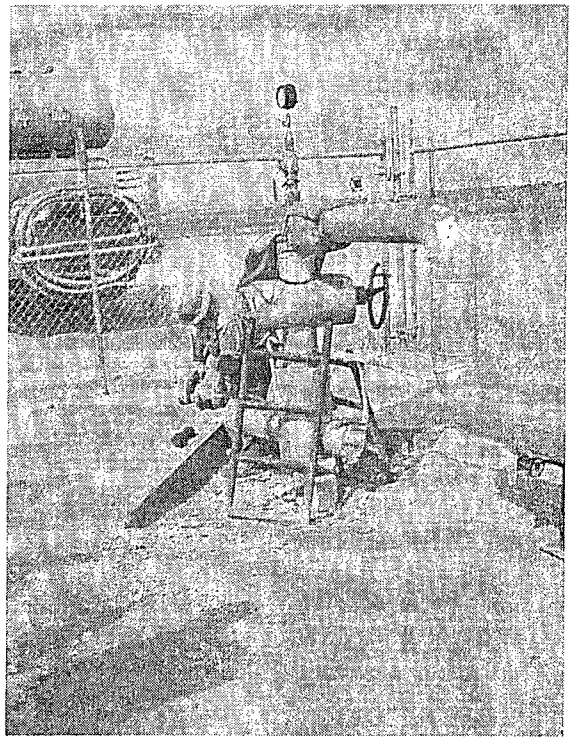


Impermeable curb in process area

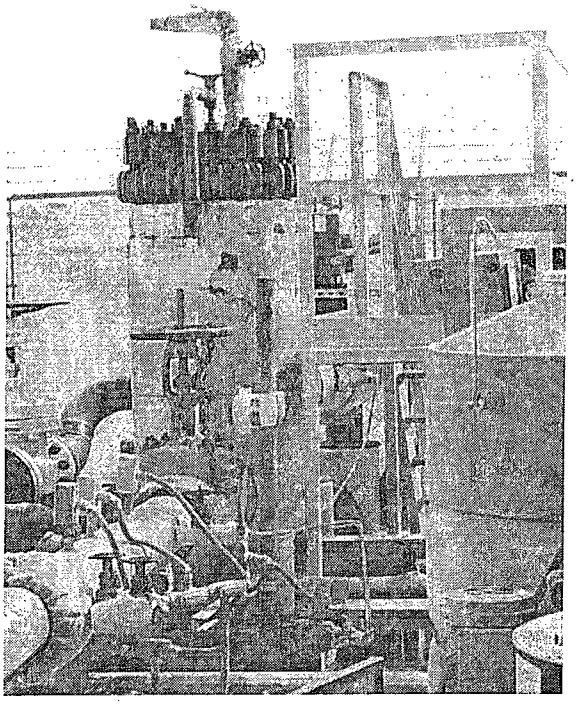
Ethylene glycol fluid needs to be stored on impermeable pad area



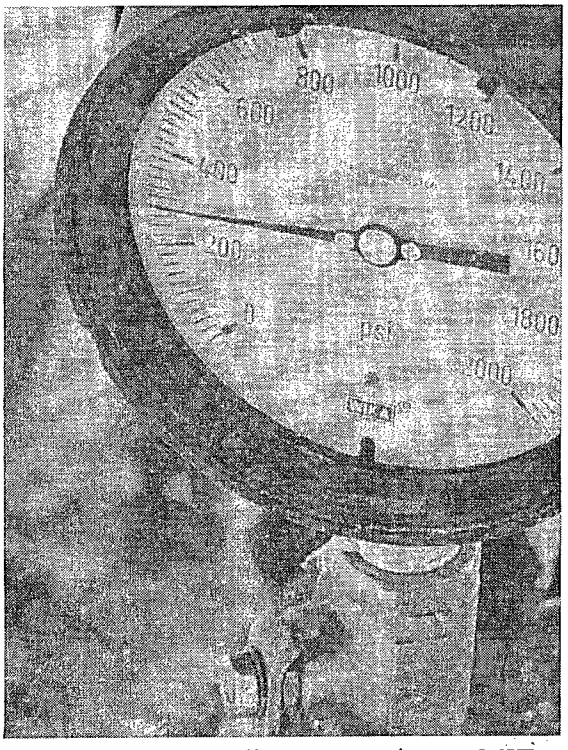
Electronic in-line flow rate monitor gauge



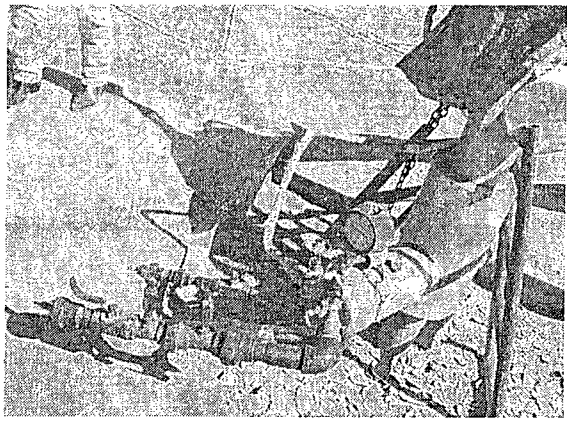
Wellhead w/ Hot Oil Operator preparing to install chart recorder for MIT



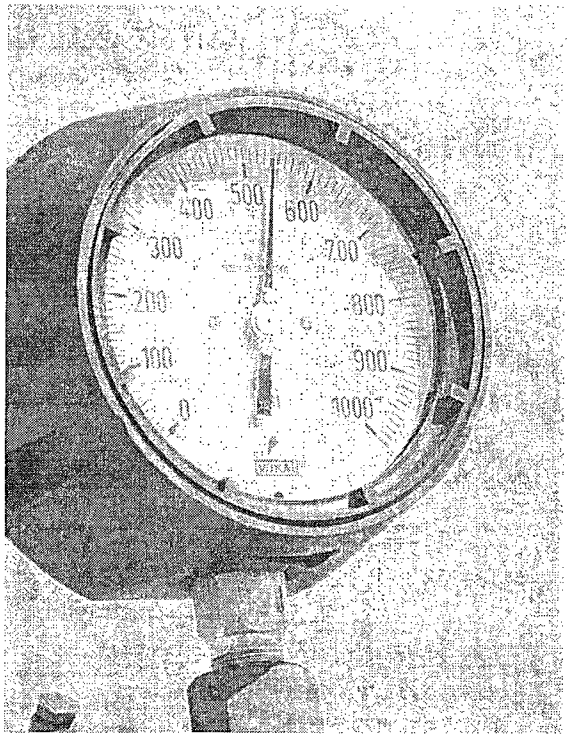
Filtration system before injection w/ boxes for O&M by workers



Pressure gauge reading ~300 psig pre-MIT



Connection to annulus through small ½ inch dia. fitting



Annulus pressure gauge reading ~ 535 psig during MIT

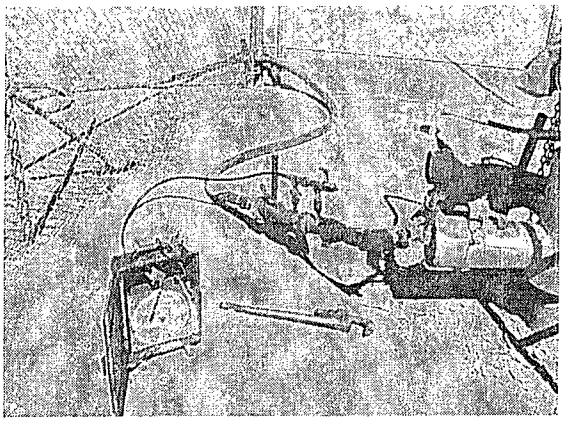
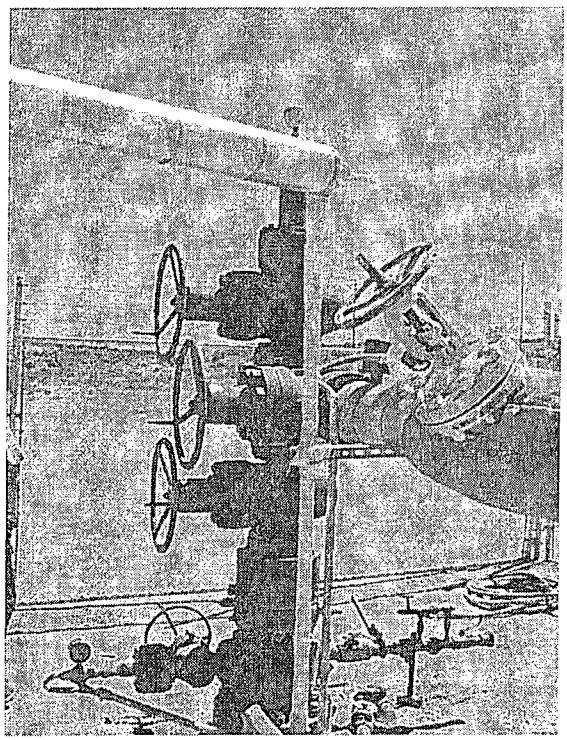
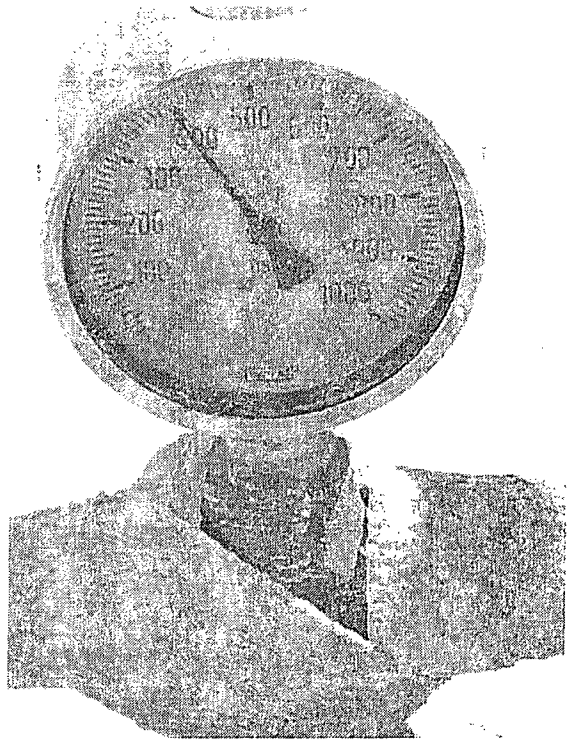


Chart recorder set-up w/ valve arrangement. Operator wants to replace ½ inch line with 1 inch or greater diameter size due to pressure on small line and breakage concerns during MITs.



Wellhead w/ blow-out preventers



Another in-line pressure gauge reading during pressure up pre-MIT

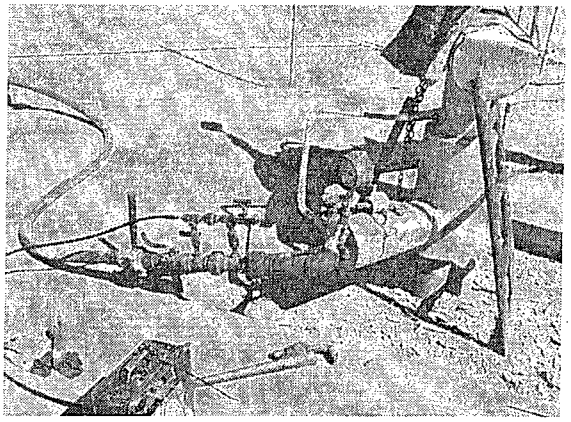
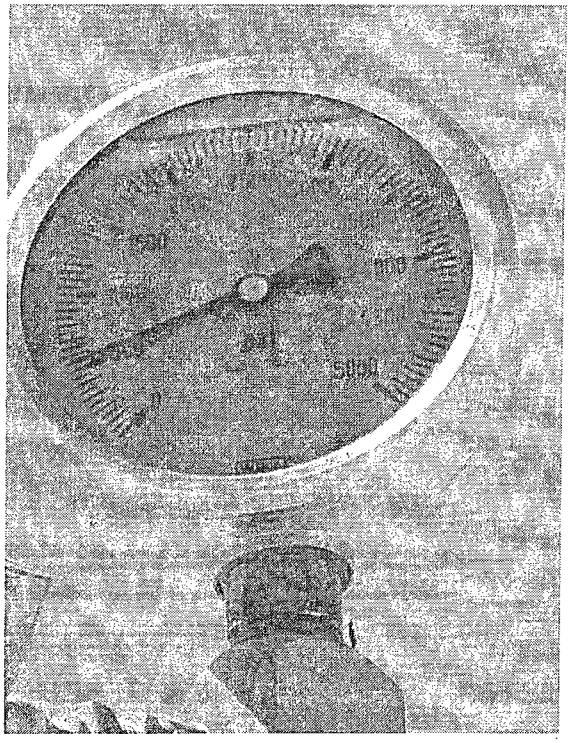


Chart recorder setup w/ valve arrangement

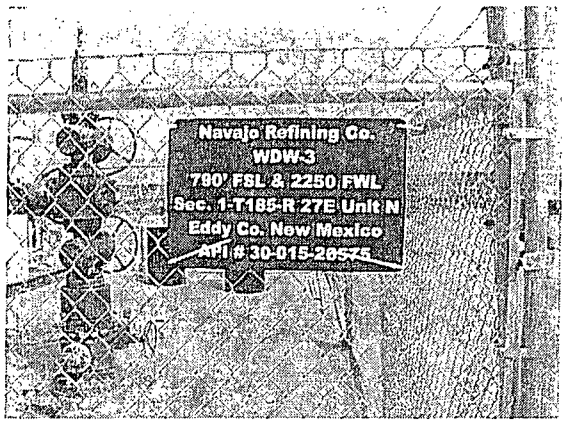


Annulus pressure increasing during pressure up on annulus pre-MIT

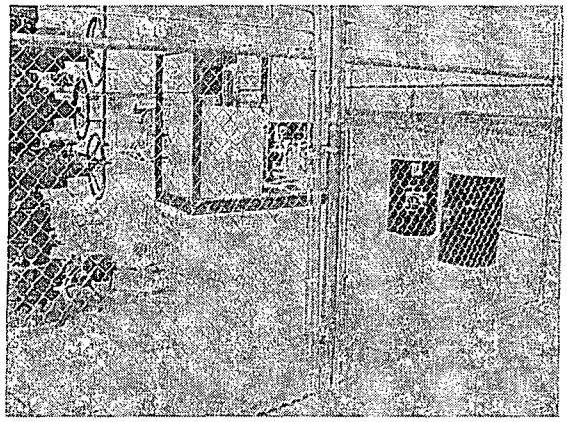
1) Passed standard annulus pressure MIT (Start @ 525 psig & End @ 520 psig) over 30 minutes.
2) Operator indicated WAMs fluid level ok (no loss or addition of ethylene glycol).
3) Drums containing chemicals need to be stored in impermeable pad area or removed from facility.

Notes:

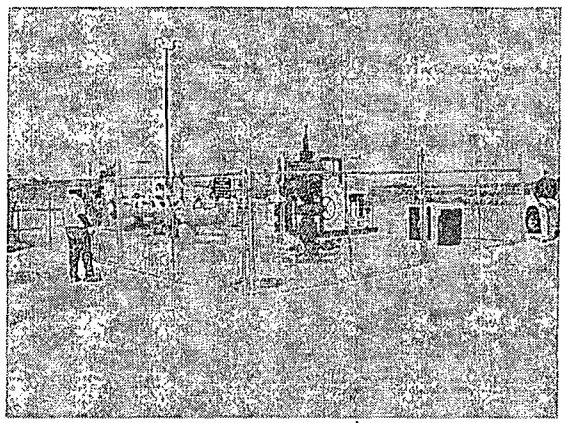
WDW-3 Inspection & MIT (8/14/2009)



UIC Class I Well WDW-3 sign w/ security fence and lighting 24/7.

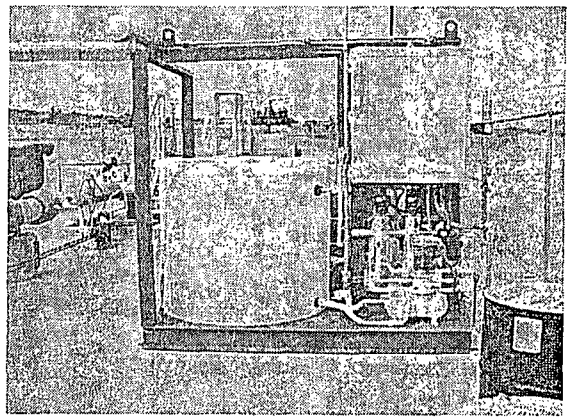


WAMs Unit near wellhead w/ drums of ethylene glycol not stored in impermeable area

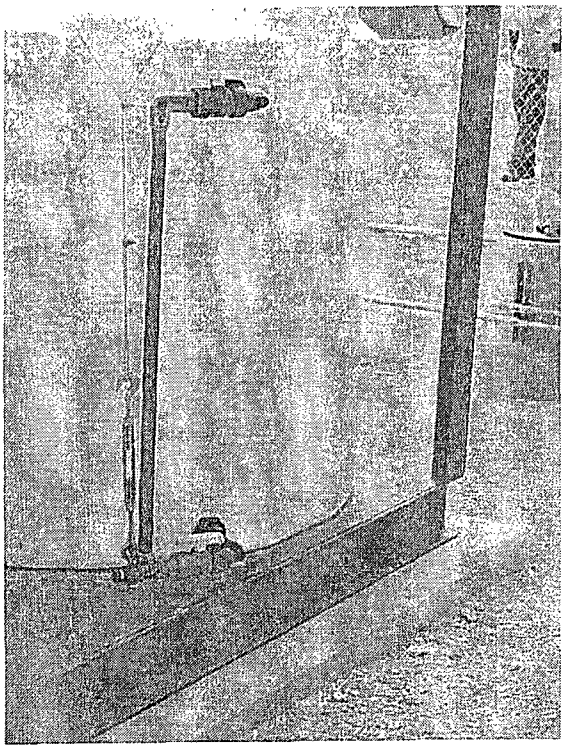


Wellhead from a distance looking SE

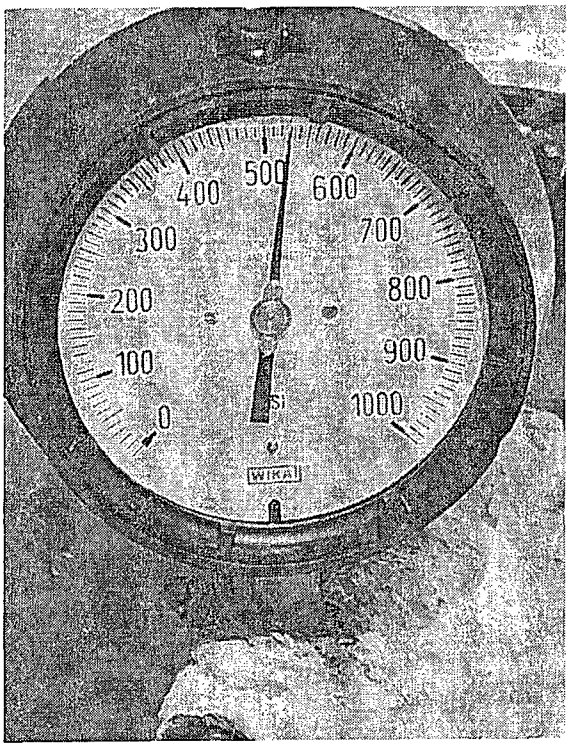
Annulus pressure gauge at top of well casing reading ~ 500 psig during pressure up on annulus



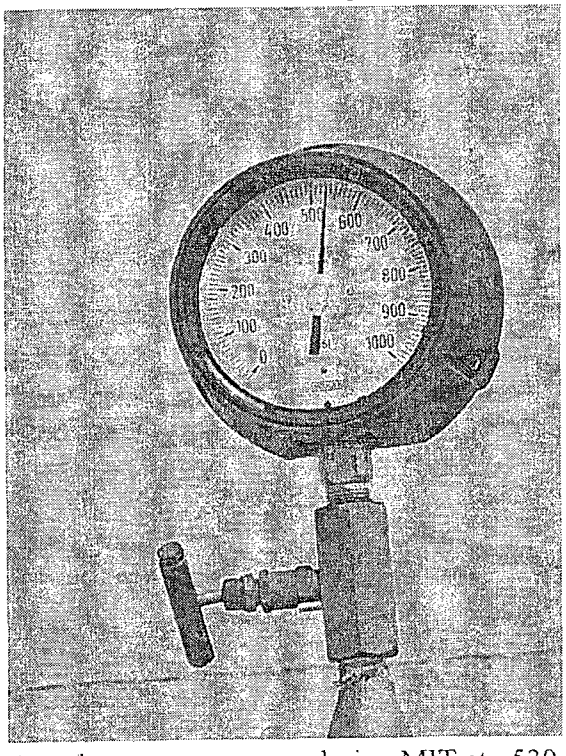
WAMs unit w/ overhead piping to wellhead looking E



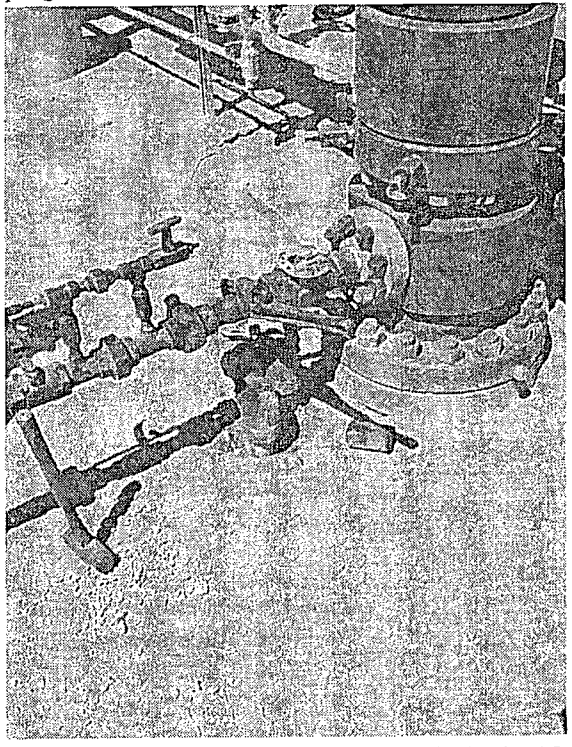
WAMs Unit fluid loss ~ 10gal/mo.



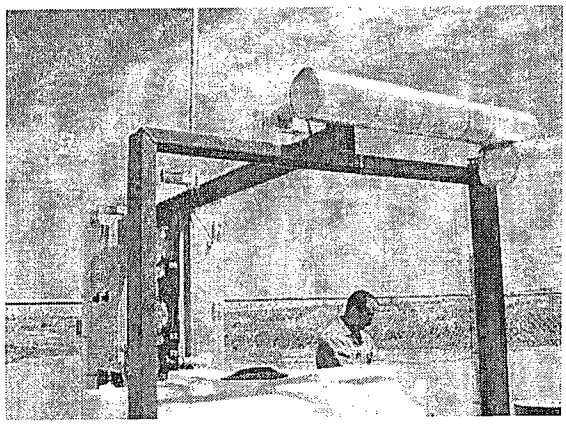
Another pressure gauge during MIT at ~ 530 psig



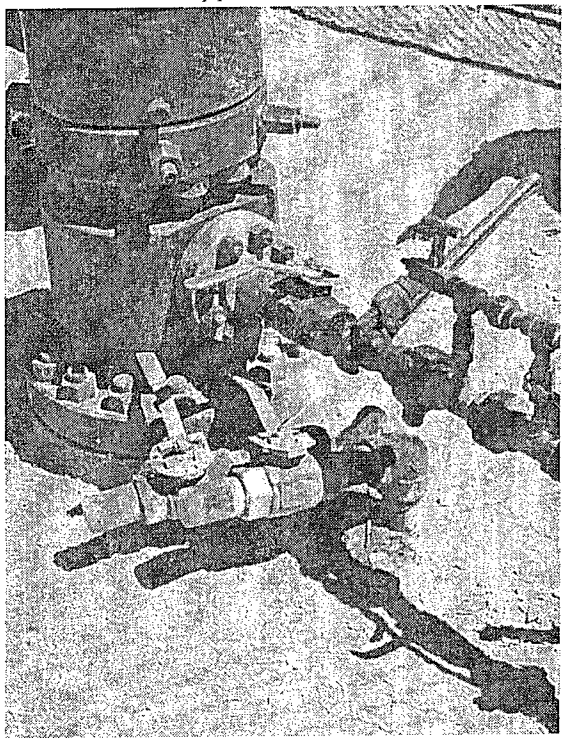
Annulus pressure gauge during MIT at ~530 psig



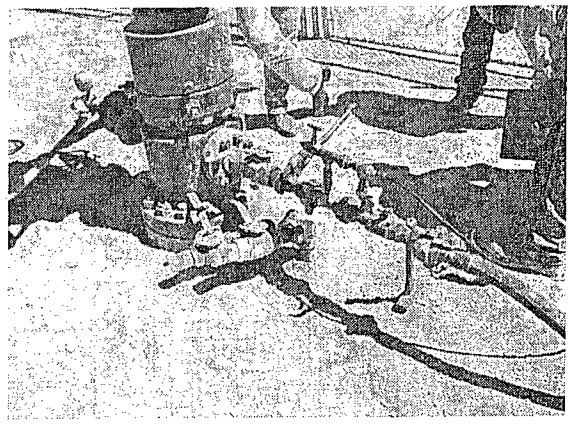
Rusty fittings near wellhead pinhole leak(s)?



WAMs Unit overhead piping into wellhead annulus w/ no apparent leakage observed



Operator wants to replace ½ inch nipple w/ at least 1 inch over breakage concerns and high pressure on small diameter pipe during the MITs, etc.



Hot Oil fluid pressure up on annulus w/ valve configuration during MIT

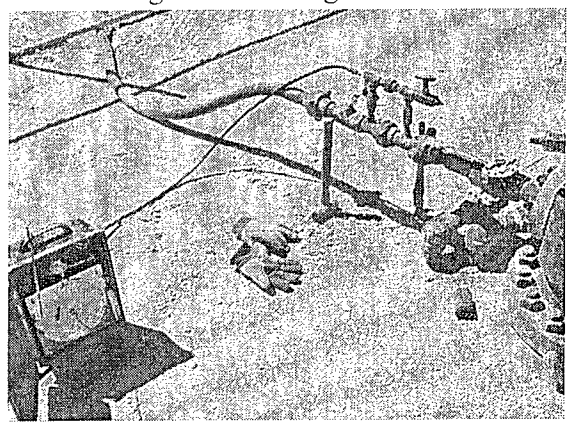
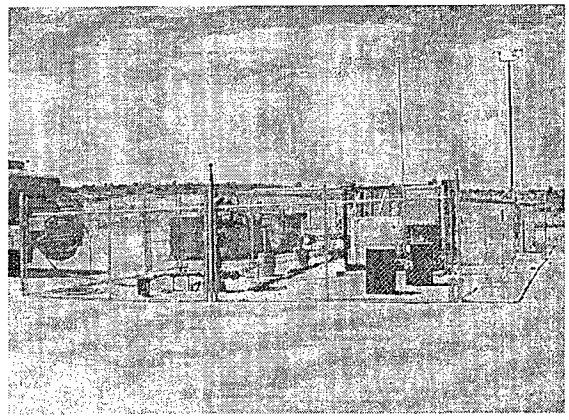
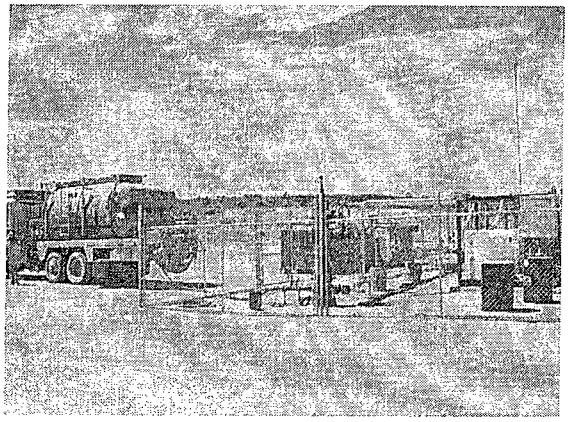


Chart recorder setup for test



Looking E across fenced and lighted facility w/ ethylene glycol drums stored on ground.



Hot Oil truck setup for MIT

Notes:

1) MIT passed (Start @ 560 psig w/ End @ 540 psig) on 8/14/2009.
2) MIT system integrity concerns about WAMs Unit & ethylene glycol leakage somewhere in the system. No discernable stains, leaks have been observed at surface. Company called "300 PSI" performed (~ 2006) a proprietary sealant leak application from surface to 1000 ft. and from ~ 7000 ft. to near top of perforated interval.
3) Need to test all surface lines, valves, etc. for pinhole leakage and proceed into well if leak not found in surface piping.
4) Drums need to be stored in the impermeable pad area.

2009 QUARTERY WEEKLY WAMS LEVEL TABLES

1st Quarter	1/2/09	1/8/09	1/15/09	1/22/09	1/29/09	2/5/09	2/12/09	2/17/09	2/23/09	3/4/09	3/13/09	3/20/09	3/27/09
WDW -1[1] (Mewborne)	150	150	150	150	150	150	145	140	135	135	135	135	135
WDW-2[1] (Chucka)	175	175	175	175	175	175	165	155	150	150	150	150	150
WDW-3[2] (Gains)	58%	58%	58%	58%	58%	58%	56%	56%	56%	56%	56%	56%	56%
	205	205	205	205	205	205	200	200	200	200	200	200	200
Comments: No antifreeze was added.													

[1] Graduated tank gauged weekly in the field.
[2] Reading measured directly, and reported as percentage capacity.

2nd Quarter	4/3/09	4/9/09	4/16/09	4/23/09	4/30/09	5/6/09	5/13/09	5/20/09	5/29/09	6/4/09	6/11/09	6/18/09	6/25/09
WDW -1[1] (Mewborne)	135	135	135	135	135	135	135	135	135	130	130	130	130
WDW-2[1] (Chucka)	150	150	150	150	150	150	150	150	150	150	150	150	150
WDW-3[2] (Gains)	56%	56%	56%	56%	56%	56%	56%	56%	56%	53%	39%	30%	64%
	200	200	200	200	200	200	200	200	180	165	150	130	240
Comments: Added 110 gallons of antifreeze to WDW-3 on 6/25/09.													

[1] Graduated tank gauged weekly in the field.
[2] Reading measured directly, and reported as percentage capacity.

3rd Quarter	7/2/09	7/9/09	7/14/09	7/20/09	7/27/09	8/4/09	8/12/09	8/19/09	8/26/09	9/2/09	9/9/09	9/18/09	9/24/09
WDW -1[1] (Mewborne)	135	135	135	135	135	135	135	135	135	135	135	135	130
WDW-2[1] (Chucka)	150	150	150	150	150	150	150	150	150	150	150	150	150
WDW-3[1] (Gains)	235	225	215	200	185	170	155	140	245	240	230	225	220
Comments: Added 110 gallons of antifreeze to WDW-3 on 8/19/09.													

[1] Graduated tank gauged weekly in the field. Reading is in gallons.

4th Quarter	10/2/09	10/9/09	10/16/09	10/23/09	10/30/09	11/6/09	11/13/09	11/20/09	11/25/09	12/6/09	12/15/09	12/22/09
WDW -1[1] (Mewborne)	130	130	115	100	75	75	65	175	175	175	175	175
WDW-2[1] (Chucka)	145	145	140	135	135	130	130	130	125	125	125	125
WDW-3[1] (Gains)	215	215	215	210	205	205	200	200	175	175	170	165
Comments: Added 110 gallons of antifreeze to WDW-1 on 11/20/09.												

[1] Graduated tank gauged weekly in the field. Reading is in gallons.

ATTACHMENT 3
ANNUAL TRAINING

Injection Well Training Sign In Sheet
Oct. 15, 2009

Print Name	Sign Name	Company
Pete Lopez		Champion
Nicolas Sakayandia		NRC
Richard Valverde		Champion
Michael Avitia		Champion
Jacob Aguila		Champion
Robert G Valverde		CHAMPION
Robert L Boam		Navajo

INJECTION WELL TRAINING

This training is being done to satisfy Navajo Refining Company's Discharge Permits UIC-CLI-008 (I-008), UIC–CLI-008 (I-008-1) and UIC-CLI-008 (I-008-2). In all three permits, section 23 states that "All personnel associated with operations at the Navajo Class I disposal wells shall have appropriate training in accepting, processing, and disposing of Class I non-exempt non-hazardous refinery waste to insure proper disposal".

Definitions The injection wells at our refinery are classified as Class I Non-Hazardous Non-exempt Injection Wells. This means that the water we send to the wells has to be non-hazardous. The Class I designation means that in all three strings of casing, the cement is circulated back to the surface to protect groundwater. It also means that we have to monitor the annulus between the tubing and the casing to insure there are no leaks. This is what the WAMS unit does.

WAMS Well Annulus Monitoring System

Permit Conditions:

Well Head Pressure Limits	The well head pressure limits shall be 1510 lbs on the Chukka well, 1580 lbs on the Mewbourne well, and 1550 lbs on the Gaines well.
Annulus Pressure	The annulus pressure shall be at a minimum of 100 lbs
Benzene Levels	No water shall be injected into the wells above .5 parts per million (ppm) or 500 parts per billion (ppb) benzene.
Leaks	Any leaks that are identified (loss/gain of fluid in WAMS unit) shall be reported within 24 hours of discovery to OCD. Weekly monitoring of fluids in the tank at each well coupled with documented additions/removals of fluids into or out of the tank are required.

Containment	All three wells have cement containment underneath the valves and filter pots. This containment must be kept empty. If there is fluid in the containment, it must be vacuumed out and the water taken back to the refinery to be disposed into the wastewater system.
Filters	The filters at the wells have been determined to be non-hazardous waste by testing. They have been profiled to be disposed at CRI and ONLY at CRI. The used filters are to be placed into the roll-off boxes at the well site. When the box gets full, an empty box will be swapped and the full box taken to CRI for disposal.
Adding to WAMS Unit	If it becomes necessary to add fluids to the WAMS unit, the environmental department must be notified and the added fluid must be documented. Any spills during this process must be reported to the environmental department. Spills must be cleaned up immediately. The dirt removed can be put into the onsite roll-off boxes with the filters. Any fluid that dribbles down the side of the WAMS must be wiped off.

If there are any questions, do not hesitate to call the Environmental on-call phone at **575-365-8365**

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, November 19, 2009 7:45 AM
To: 'Bob Patterson'; 'Dan Gibson'; 'Schmaltz, Randy'; 'Moore, Darrell'; 'Lackey, Johnny'
Cc: Sanchez, Daniel J., EMNRD; VonGonten, Glenn, EMNRD; Griswold, Jim, EMNRD
Subject: UIC Class I Disposal Well Annual Report Schedule for Submittal & Content REMINDER- 2010
Attachments: Class I Disposal Well Annual Report Tracking 2010.xls; 19.15.11 NMAC.doc

Gentlemen:

Good morning. You may recall an e-mail message from me this past Summer alerting you to the reporting provision of your current discharge permit (permit) and how the New Mexico Oil Conservation Division (OCD) is stepping up its efforts to track reporting under issued permits.

Please find attached a spreadsheet listing the dates that OCD expects to receive your Annual Reports and/or any reporting requirements from your permit. If you are an operator with limited reporting requirements based on your permit, you are welcome to follow the format and content required from more recent permit renewals issued by the OCD, which are more comprehensive and constitute a report, Any renewed permits will likely require similar content anyway.

You will notice that a Hydrogen Sulfide Contingency Plan (CP) (see attached 19.15.11 NMAC Regulations) has been written into a couple of new Navajo Refining Company permits. This regulation became effective on December 1, 2008 and applies to any facility or well where the hydrogen sulfide concentration is at or greater than 100 ppm. Consequently, if your facilities meet or exceed this concentration, you are required to have an H2S CP for your facility regardless of whether the OCD has required it in your permit. The OCD believes that all UIC Class I Disposal Well Facilities require an H2S CP; therefore, the OCD is requesting your H2S CP(s) by Wednesday, March 31, 2010, unless a different date for submittal is specified in your permit. Also, if you are an operator with multiple wells, you may develop one CP, but you must address each well location with site specific details in that one CP.

Please plan on meeting the Annual Report submittal dates in January of 2010 as failure to submit the report will constitute a violation under the Federal Underground Injection Control (UIC) Program and reporting to the United States Environmental Protection Agency, which could result in the shut-in and/or plug and abandonment of your Class I disposal well. Failure to meet the H2S CP requirement may also result in the shut-in of your well operations; consequently, the OCD is hopeful you will satisfy the regulations pertaining to this deadly gas.

Please contact me if you have questions. Thank you in advance for your cooperation in this matter.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us
Website: http://www.emnrd.state.nm.us/ocd/index.htm
(Pollution Prevention Guidance is under "Publications")

CC: UIC Class I Well File "Annual Reporting" and "H2S Contingency Plan"

Permit ID	Operator	Annual Report Due Date	Submitted	Annual Report Contents
UICI-8-0 WDW-2	Navajo Refining Company	01/31/10		20. B. Hydrogen Sulfide (H2S) Contingency Plan: If concentrations of H2S at the facility may exceed 100 ppm as specified in 19.15.11.12 et seq. NMAC, a H2S Contingency Plan per 19.15.11.9 et seq. NMAC shall be submitted within 3 months of permit issuance. 21. G. Injection Record Volumes and Pressures: The owner/operator shall submit quarterly reports of its disposal, operation and well workovers p:rovided herein. The minimum, maximum, average flow waste injection volumes (including total volumes) and annular pressures of waste (oil field exempt/non-exempt non-hazardous waste) injected will be recorded monthly and submitted to the OCD Santa Fe Office on a quarterly basis. The casing-tubing annulus shall contain fluid and be equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. Due to pressure fluctuations observed at Navajo's other two nearby Class I Injection Wells, WDW-2 shall be equipped with an expansion tank under constant 100 psig pressure connected to the casing-annulus and maintained under constant pressure. The expansion tank shall initially be filled half-full (250 gallon expansion tank) with an approved fluid to establish an equilibrium volume and fluid level. Weekly monitoring of fluid levels in the expansion tank coupled with documented additions/ removals of fluids into or out of the expansion tank is required to maintain the equilibrium volume. Any loss or gain of fluids in the expansion tank shall be recorded, and if significant, reported to the OCD within 24 hours of discovery. The owner/operator shall provide the following information on a quarterly basis: weekly expansion tank volume readings shall be provided in a table in the cover letter of each quarterly report. Navajo shall monitor, record and note any fluid volume additions or removals from the expansion tank on a quarterly basis. In addition, any well activity (i.e., plugging, changing injection intervals, etc.) shall be conducted in accordance with all applicable New Mexico Oil Conservation Division regulations. Analysis of Injected Waste: Provide an analytical data or test results summary of the injection waste water with each annual report. The analytical testing shall be conducted on a quarterly basis with any exceedence reported to the OCD within 24 hours after having knowledge of an exceedence(s). Records shall be maintained at Navajo for the life of the well. The required analytical test methods are: a. Aromatic and halogenated volatile hydrocarbon s.can by EPA Method 8260C GC/MS. Semi-volatile Organics GC/MS EPA Method 827GB including 1 and 2-methylnaphthalene. b. General water chemistry (Method 40 CFR 136.3) to include calcium, potassium, magnesium, sodium, bicarbonate, carbonate, chloride,

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Friday, September 25, 2009 3:05 PM
To: 'Bob Patterson'; 'lmolleur@keyenergy.com'; 'Schmaltz, Randy'; DARRELL MOORE; Lackey, Johnny
Cc: Sanchez, Daniel J., EMNRD; Jones, William V., EMNRD; VonGonten, Glenn, EMNRD
Subject: New Mexico Oil Conservation Division Class I (non-hazardous) Disposal Well Operator Notice--QUARTERLY & ANNUAL REPORTING

Gentlemen:

Re: UIC Class I Disposal Well **Quarterly and Annual Reporting**

You are receiving this message because you are currently operating a Underground Injection Control (UIC) Class I (non-hazardous) Disposal Well in New Mexico under an Oil Conservation Division (OCD) Discharge Permit. You may be aware of the most recent events related to OCD Class III Wells in New Mexico and can find out more by visiting the OCD's Brine Well Webpage at http://www.emnrd.state.nm.us/OCD/brinewells.htm and OCD Brine Well Work Group Website at http://ocdimage.emnrd.state.nm.us/imaging/AEOrderFileView.aspx?appNo=pCJC0906359521.

The OCD is writing to inform you that it will be monitoring more closely the receipt of your "Quarterly Reports" and "Annual Reports" required under the applicable section(s) of your OCD Discharge Permit. After reexamining our UIC Program subsequent to the UIC Class III Solution Mining Wells that collapsed in July and November of 2008, the OCD identified that it has been deficient in tracking reporting obligations in the past; however, the OCD has recently upgraded its online electronic system to better track operators who are not meeting the reporting requirements as specified in their OCD Discharge Permits. Please plan on submitting reports with required information by the date specified in your discharge permit. Operators undergoing permit renewal will notice changes to the OCD's discharge permit, which will include "Annual Reports" in addition to the Quarterly Reporting requirement(s).

To access your OCD Discharge Permit Online for the date of submittal and required contents of the report(s), please go to OCD Online at http://ocdimage.emnrd.state.nm.us/imaging/AEOrderCriteria.aspx (enter "Order Type" as UICI and your "Order Number"). The OCD has placed a "Quarterly Reporting" and "Annual Reports" thumbnails into each of your online well files and will be scanning all received reports into them upon receipt from now on.

If you have been delinquent in submitting your Quarterly (more recent permits require Annual Reports), a historical review of your production or disposal records will be required in order to provide cumulative injection or disposal information in this year's report.

Please contact me if you have questions or need assistance.

Thank you in advance for your cooperation in this matter.

Copy: Class I (non-hazardous) Disposal Well Files UICI- 5, 9, 8, 8-1 & 8-0 (Quarterly Reporting & Annual Reports)

Carl J. Chavez, CHMM
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(Pollution Prevention Guidance is under "Publications")