#### Bratcher, Mike, EMNRD

From:

Dale Littlejohn [dale.littlejohn@suddenlink.net]

Sent:

Thursday, September 10, 2009 9:14 AM

To:

Bratcher, Mike, EMNRD

Cc:

qwelborn@valornet.com; 'Randall Hicks'

Subject: Attachments:

Mark and Garner Loco Hills Sites OCD 2RP-304-310

M & G Loco Hills 9-10-09 Response to OCD.pdf

Mike,

Please find the attached Report for the above referenced sites. I will also send you a hard copy. Please call me if you have any questions or need any additional information.

Thanks,

**Dale T Littlejohn, PG** (432) 528-3878 (432) 689-4578 (fax)

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#### R. T. HICKS CONSULTANTS, LTD.

PO Box 7624 ▲ Midland, TX 79708 ▲ 432.528-3878 ▲ Fax: 432.689-4578

September 10, 2009

Mr. Mike Bratcher New Mexico Oil and Conservation Division District II - Artesia Field Office 1301 West Grand Avenue Artesia, NM 88210

#### VIA EMAIL AND USPS

RE: Seven Produced Fluid Releases at sites operated by Marks and Garner Production Ltd, Company in Eddy County, NM as follows:

Site Name (type)	Location (T-R-SecUnit)	OCD Reference No.
Levers Fed. No. 7 (battery)	T-16-S, R-29-E, Sec 33 (J)	2RP-304
Levers No. 3Y (well)	T-16-S, R-29-E, Sec 33 (N)	2RP-305
Red 12 Fed. No. 1 (battery)	T-16-S, R-29-E, Sec 33 (O)	2RP-306
Cave State No. 4 (well)	T-17-S, R-29-E, Sec 4 (F)	2RP-307
Red 12 State No. 2 (battery)	T-17-S, R-29-E, Sec 4 (H)	2RP-308
Red 12 State No. 3 (battery)	T-17-S, R-29-E, Sec 5 (J)	2RP-309
Red 12 State No. 4 (battery)	T-17-S, R-29-E, Sec 5 (O)	2RP-310

#### Dear Mr. Bratcher:

R.T. Hicks Consultants is pleased to submit this response to your August 19, 2009 directive letter concerning the characterization activities on the behalf of Marks and Garner Production Ltd. Because this letter proposes collection of additional data, we request that NMOCD consider this letter an interim response. Plate 1a shows the location of the sites.

#### Determination of Remediation Action Levels Ranking Score

The ranking criteria of each site is presented below in accordance with the NMOCD August 13, 1993 *Guidance for Remediation of Leaks, Spills and Releases*.

#### Depth to Ground Water and Ground Water Quality

Plate 1b shows the location of the Marks & Garner sites (red circles) that are the subject of investigations in support of gaining compliance with Part 29 of the NMOCD Rules. Also shown on Plate 1b are:

- The geology of the area from the on-line geologic map of New Mexico (NM Bureau of Mines and Mineral Resources)
- The Loco Hills Gas Storage Facility (south blue circle), which provides information about the nature of ground water in and around Bear Grass Draw (see Appendix A)

- A stock well (RA-8233) completed within the alluvium of Bear Grass Draw (Office of the State Engineer Database)
- A domestic well located in the older alluvium (RA 9342) from the OSE database
- Three sample locations from the PTTC database
- A well identified on the USGS topographic map in Section 10 (north blue circle)

The geologic map shows that Quaternary Alluvium fills the valley of Bear Grass Draw. Quaternary eolian and pediment deposits dominate the southern portion of the area shown in Plate 1b and Quaternary Older Alluvium comprises the majority of the northern portion.

Data obtained from drilling several monitoring wells at the Loco Hills Gas Storage Facility (Appendix A) provide the following data:

- 1. The alluvium in and adjacent to Bear Creek, which is composed of clay, sand and caliche deposits; is less than 15 feet thick.
- 2. Underlying the alluvium in Bear Grass Draw are claystone, sandstone and limestone of the Triassic Dockam Group
- 3. Ground water beneath Bear Grass Draw occurs in permeable units associated with the Dockum Group that are about 80 feet deep.
- 4. Ground water in these units is confined and exhibit 10-20 feet of artesian head

Although no driller's log is available data for RA-8233, records from the OSE in Appendix B show:

- A. Total depth of well RA-9342 is 220 feet with a depth to water upon completion of 110 feet. The driller's log indicates that the top of the redbeds are at 90 feet and the water bearing strata is from 143 to 204 feet. These data suggest the well is completed below the alluvium and within one of the confined aquifers (Chinle or Rustler)
- B. Total depth of well RA-8233 is 87 feet with a reported depth to water of 80 feet. The depth of this well is similar to those at the Loco Hills Gas Storage Facility where artesian conditions exist. We measured a depth to water of about 60 feet during our investigation of the gas storage facility.

Although the sample #7992 from the PTTC database plots due east of the Loco Hills Gas Storage Facility, careful examination of the database shows that this plotted point consists of eight samples from three wells. Two of these three wells are at the same location as well RA 8233 from the OSE database —and we field verified that two wells exist at this location. The PTTC database describes one well of these wells at RA 8233 as an alluvial well and the other as a Triassic Santa Rosa well. The third well in the PTTC database is a supply well for the Loco Hills Gas Facility. The PTTC data from the RA 8233 location show relatively high quality water in the Santa Rosa and alluvium (less than 50 ppm chloride). At the Loco Hills Gas Storage Facility supply well, chloride concentration exceeds 50,000 ppm. As described in Appendix A; evidence suggests that leakage from a storage pit migrated through a water well bore into the underlying aquifer.

R.T. Hicks Consultants, Ltd 9/10/2009

From these data we can conclude that the quality of ground water beneath Bear Grass Draw in the area of the Marks & Garner sites is probably similar to that observed at RA 8233. No evidence from the PTTC data suggests that ground water in the area of the Marks & Garner sites is not confined.

Plate 1b shows two other wells from the PTTC database south of the Loco Hills Gas Storage Facility. According to the PTTC database, both of these wells are screened below the alluvial cover in the Triassic Dockham group or the Rustler. These two aquifers are confined in this area.

Because all evidence shows that ground water in the area is confined, we have assigned a "Depth to Ground Water" ranking score of zero (0).

#### **Wellhead Protection Area**

Since nearest published water well is located approximately 2 miles northwest of the most northwest site, we have assigned a "Wellhead Protection Area" ranking score of zero (0).

#### **Distance to Surface Water Body**

The 1993 guidance document defines surface water as being a perennial river, stream, creek irrigation canal (ditch), lake, pond, or playa. Two of the sites (Levers 3Y and Red-12 Federal No. 1) are located adjacent to Bear Grass Draw, but it is not a perennial stream. No other qualifying surface water is present within 1,000 feet; therefore we have assigned a "Distance to Nearest Surface Water Body" ranking score of zero (0).

Application of these criteria to all of the Marks and Garner Loco Hills sites is demonstrated below resulting in RRALs of 10 ppm benzene, 50 ppm BTEX, and 5,000 ppm TPH.

General Site Characteristics	Ranking Score
Depth to ground water not relevant (confined aquifer)	0
Wellhead greater than 1,000 feet from water source	0
Distance to down gradient surface water greater than 1,000 feet	0
Total Ranking Score	0

#### Horizontal Delineation of Chlorides

Following receipt of the NMOCD August 19, 2009 directive letter, laboratory analysis of chloride was performed on the deepest samples recovered from each site during the June 2009 investigation. This information provided confirmation that all of the sites contain chloride concentrations that exceed the remediation levels defined in the NMOCD May 28, 2004, *Interim Pit and Below-Grade Tank Guidelines*.

On August 27 and 28, 2009, RT Hicks Consultants returned to the Loco Hills sites in order to recover near surface soil samples used to delineate the horizontal extent of the chloride-impacted soil and provide guidance for future vertical delineation.

#### Analysis of Field and Laboratory Soil Samples

The following tables have been prepared as a summary of the hydrocarbon and chloride results from the soil samples recovered to date. Bold text indicates those samples that exceed NMOCD guideline RRALs. Field chloride verification and nutrient evaluation samples have been shipped to an agricultural laboratory for analyses. These results will be included in the tables with the final report.

In addition to the tables below, site maps for each site (Plate 2A - 2G) have been prepared to indicate the location of the soil samples recovered; the depth and chloride concentrations of the samples; and the proposed location of vertical delineation soil borings.

Marks & Garner - Levers Federal No. 7 Site Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab CI (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>6-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Center Oil Spill	05	6/23/09		-	10	<0.0011	< 0 0022	0 0015	<0 0011	<0 006	<16 4	461	61 6
	10	6/23/09		- :	0	-	-	_			-		_
	30	6/23/09		3,520	0	<0.0011	< 0 0022	< 0 0011	<0 0011	< 0 006	<16.7	209	<167
10-Ft North	2-3	8/27/09	1,802		0		_	-		-		_	_
20-Ft North	2-3	8/27/09	1,428		0		_						
10-Ft South	2-3	8/27/09	948		0		_						
20-Ft South	2-3	8/27/09	964	-	0		_	_					
30-Ft South	2-3	8/27/09	3,971		0			-			_		-
10-Ft East	2-3	8/27/09	2,907	-	0		_	-					_
20-Ft East	2	8/27/09	202	_	0			_					
50-Ft Northeast	0-1	8/28/09	176		0						-	_	
70-Ft Southeast	0-1	8/28/09	161		0								
100-Ft Southeast	0-1	8/28/09	404		0			-	**				
											<del></del>		
NMOCD 1993 Gu	deline R	RALs	25	50*		10				50		5,000	

<sup>\*</sup> Chloride RRAL is based on the NMOCD May 28, 2004 Interim Pit and Below-Grade Tank Guidelines

Marks & Garner - Levers No. 3Y Site Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab CI (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>6-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Center Oil Spill	Surf	6/22/09			85	0 013	0.537	1 3850	3.5	5 47	1,340	44,500	3,150
	20	6/22/09			39			_		-			
	30	6/22/09			64			_		_		_	
	40	6/22/09			127			_		_		_	
	50	6/22/09			210	_		_					
	60	6/22/09		6,820	334	<0.0107	0 212	0 6995	6 553	7 47	1.690	6,640 0	581
15-Ft East	2-3	8/27/09	455		0								-
20-Ft West	2-3	8/27/09	897		0								
25-Ft North	2	8/27/09	1,114		0		-						
NMOCD 1993 Gu	ideline R	RALs	25	i0*		10				50		5,000	

<sup>\*</sup> Chlonde RRAL is based on the NMOCD May 28, 2004 Interim Pit and Below-Grade Tank Guidelines

Marks & Garner - Red-12 Federal No. 1 Site Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab Cl (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>6-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Oil Spill Area	0.5	6/23/09		1	0	<0.0011	< 0 0022	<0.0011	<0 0011	<0 006	<335	23,600	2,280
	10	6/23/09		-	0	- 1				-			-
	30	6/23/09	-	3,030	0	< 0 0011	< 0 0022	< 0 0011	< 0 0011	< 0 006	<16 9	613	<16 9
25-Ft WSW	2-3	8/27/09	6,712	-	0		-	_		_		-	
35-Ft W\$W	2-3	8/27/09	7,615	-	0			_					
45-Ft WSW	2-3	8/27/09	8,192		0	_	-	_			_		_
20-Ft NNW	2-3	8/27/09	1,388		0		_						
45-Ft SSE	2-3	8/27/09	1,332		0		_						
120-Ft Southeast	0-1	8/28/09	392		0			-	_				
50-Ft Northeast	0-1	8/28/09	179		0								
NMOCD 1993 Gu	ideline R	RALs	2	50*		10				50	1	5.000	

<sup>\*</sup> Chlonde RRAL is based on the NMOCD May 28, 2004 Interim Pit and Below-Grade Tank Guidelines

#### Marks & Garner - Cave State No. 4 Site

Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab CI (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>6-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Stockpile Soil		6/22/09			185	0 0519	1 22	4 45	9 284	150	2,050	38,400	2,820
Oil Spill Area	20	6/22/09			0				-		-		
•	40	6/22/09		1,460	0	<0 0012	< 0 0024	< 0 0012	< 0 0024	<0 008	<17 8	18 7	<178
55-Ft Southeast	2-3	8/28/09	469		0				_				
85-Ft Northeast	2-3	8/28/09	800		0				-				
75-Ft Southwest	2-3	8/28/09	66		0			-					
NMOCD 1993 Gu	ıdeline R	RALs	25	i0*		10			~	50		5,000	

#### Marks & Garner - Red-12 State No. 2 Site

Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab Cl (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>8-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Center Oil Spill	0.5	6/23/09			10	<0 0011	<0 0023	0 0099	0 0186	0 032	340	20,500	1,360
	10	6/23/09			6	i	_		-			_	~
	3 0	6/23/09		10,300	0	<0 0011	< 0 0022	<0 0011	< 0.0011	<0 006	<16 2	58.6	<162
10-Ft West	2-3	8/27/09	2,518		0			-			-	-	
20-Ft West	2-3	8/27/09	5,846		0				-	l –			
30-FT West	2-3	8/27/09	2,358	~	0					-		_	-
20-Ft North	2-3	8/27/09	2,784		0					-			-
40-Ft South	2-3	8/27/09	6,500		0							_	-
100-Ft South	0-1	8/28/09	221	-	0					-			
100-Ft North	2-3	8/28/09	2,760		0	_			-				-
160-Ft North	0-1	8/28/09	526		0			_				-	
70-Ft West	0-2	8/28/09	817		0	_			_				
160-Ft West	0-1	8/28/09	229		0	-				l		-	**
						*							
NMOCD 1993 GL	ııdeline R	RALs	25	i0*	-	10				50		5,000	

<sup>\*</sup> Chloride RRAL is based on the NMOCD May 28, 2004 Interim Pit and Below-Grade Tank Guidelines

#### Marks & Garner - Red-12 State No. 3 Site

Field and Laboratory Data - Soil Samples

Sample Location	Depth (feet)	Sample Date	Field Cl (mg/kg)	Lab CI (mg/kg)	PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	BTEX (mg/kg)	C <sub>6-12</sub> (mg/kg)	C <sub>12-28</sub> (mg/kg)	C <sub>28-35</sub> (mg/kg)
Composite	Surf	6/22/09	8,068		0	0 0016	< 0 0022	0 0015	0 0054	0 011	1,780	57,000	5,510
Oil Spill West	10	6/22/09	2,408		0	<0 0011	<0 0022	< 0 0011	<0 0022	<0 007	<16 7	247	<16 7
Oil Spill East	20	6/22/09	2,887	2,600	0	<0 0011	< 0 0023	<0 0011	< 0 0011	<0.006	<16 9	358	<16 9
CI Spill East	20	8/27/09	4,156		0		-		-		-	_	-
Cl Spill Center	20	8/27/09	4,805		0	l -			_			-	_
CI Spill West	10	8/27/09	6,514		0						-	-	
60-Ft North	0-1	8/28/09	175		0							_	-
35-Ft West	0-1	8/28/09	137	-	0		_				-		
100-Ft Southeast	0-1	8/28/09	857		0					-		-	

<sup>\*</sup> Chlonde RRAL is based on the NMOCD May 28, 2004 Interim Pit and Below-Grade Tank Guidelines

#### Marks & Garner - Red-12 State No. 4 Site

Field and Laboratory Data - Soil Samples

Sample	Depth	Sample	Field Cl	Lab CI	PID	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	C 6-12	C <sub>12-28</sub>	C <sub>28-35</sub>
Location	(feet)	Date	(mg/kg)	(mg/kg)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Composite	Şurf	6/22/09	8,068		10	0 0024	0 0040	0 0153	0 0411	0 060	<308	18,400	3,030
180-Ft South	10	6/22/09		193	0	-	-		-	_			
L	30	6/22/09		257	0								
440-Ft Southwest	0.5	6/22/09		19,200	0	-				-			
180-Ft North	10	6/22/09	6,085	5,340	0			-					=
	3	6/22/09	6,227	5,830	0				-				
NMOCD 1993 Gui	deline R	RALs	25	50*		10				50		5,000	

MMOCD 1993 Guideline RRALs 250 -- Liv \*Chlonde RRAL is based on the NMOCD May 28, 2004 Interim Pit and Bellow-Grade Tank Guidelines

R.T. Hicks Consultants, Ltd 9/10/2009

#### Recommendations for Additional Corrective Actions

In mid to late August 2009 a roust-a-bout contractor was hired by Marks and Garner to remove the visible oil-stained soil and backfill the areas with clean soil and gravel. All of the hydrocarbon-impacted soil was disposed of off-site. Photographic documentation of the site clean-up results and waste soil manifests will be provided with the final report.

Hicks Consultants recommends that a hollow-stem auger be used to complete the vertical delineation of hydrocarbon- and chloride-impacted soil at each site according to the attached plates. We anticipate that a drilling rig will be available in mid to late October 2009 and a final report for each site, including recommendations for remedial actions, will be submitted to the NMOCD by the end of 2009. In the final report we will provide remediation action levels for soil and underlying sediment based upon criteria in NMOCD Rules, science-based evaluation of the sampling data and physical setting.

Please contact me if you have any questions, comments or require additional information prior to completion of the final report.

Sincerely,

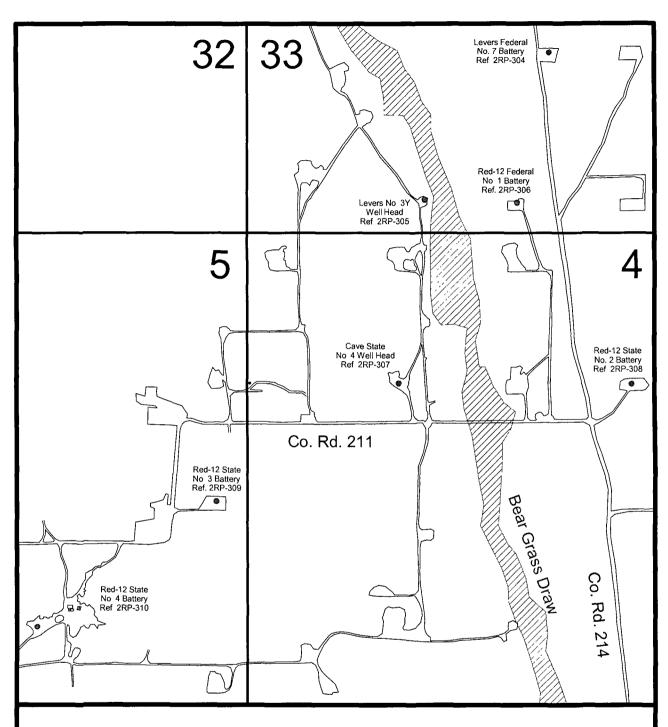
R.T. Hicks Consultants, Ltd.

Dale T. Letterson

Dale T. Littlejohn Project Manager

(432) 528-3878

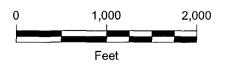
Copy: Quinton Welborn, Marks and Garner Production Ltd, Co.

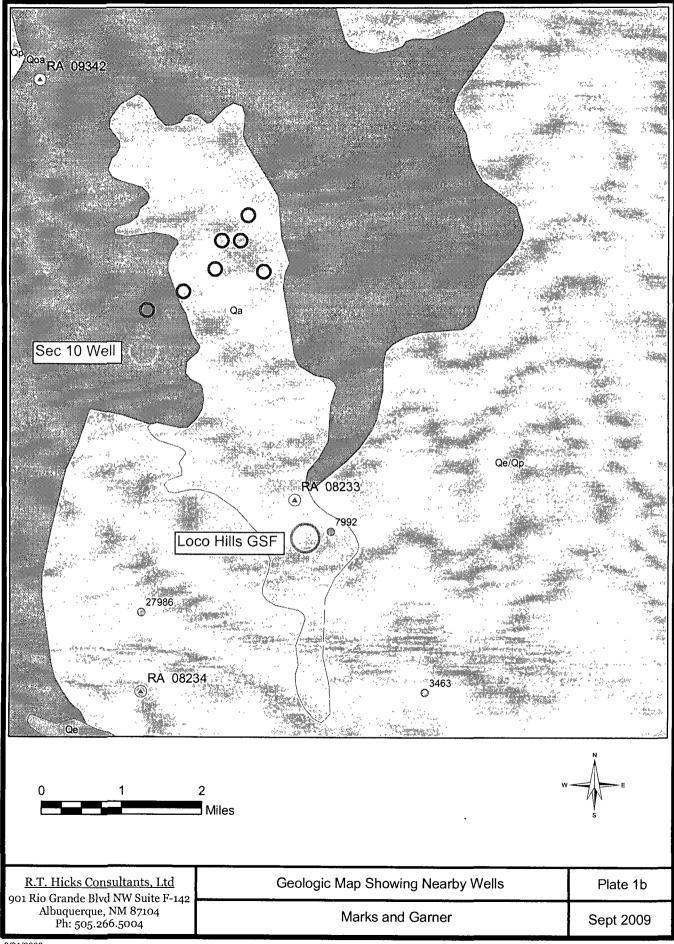


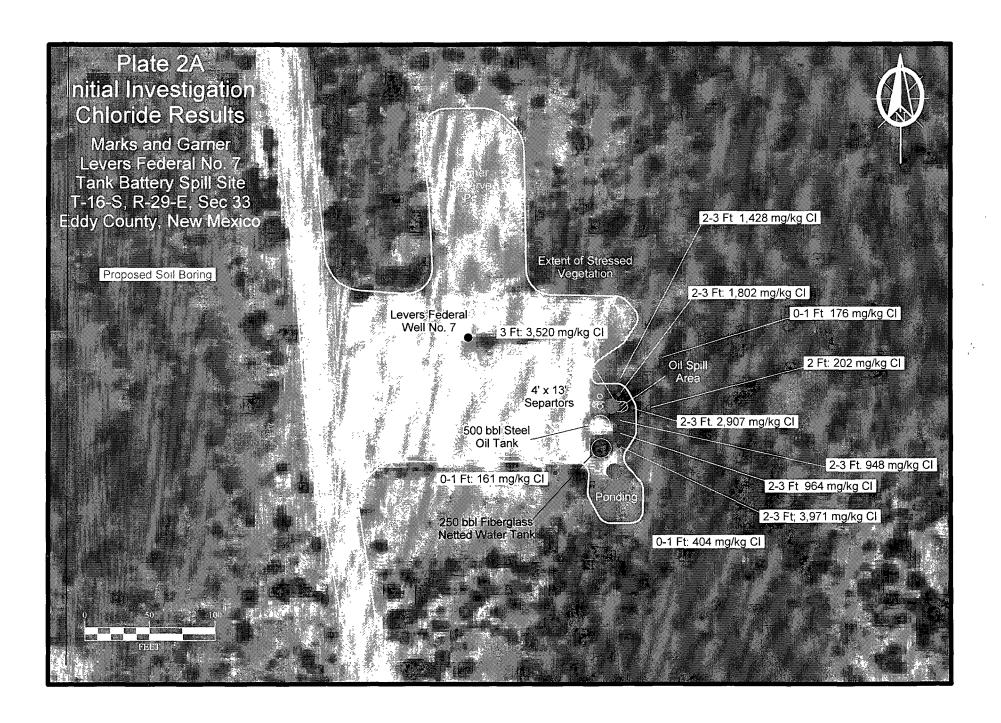
## Marks and Garner Production Ltd Co.

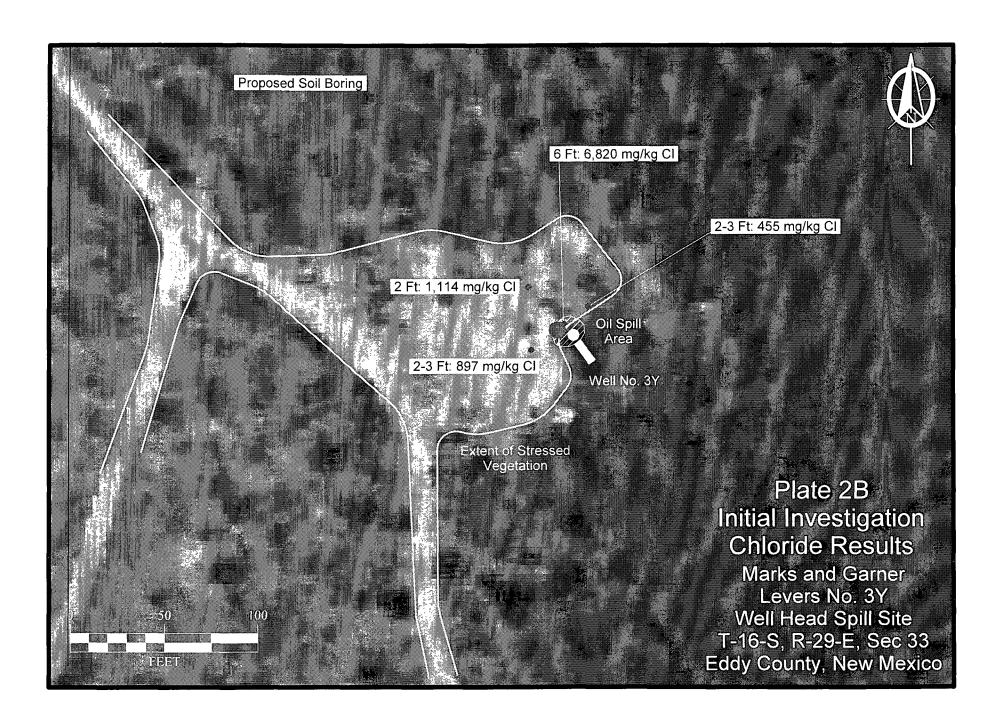
T-16-S, R-29-E, Section 33 T-17-S, R-29-E, Sec. 4 &5 Eddy County, New Mexico

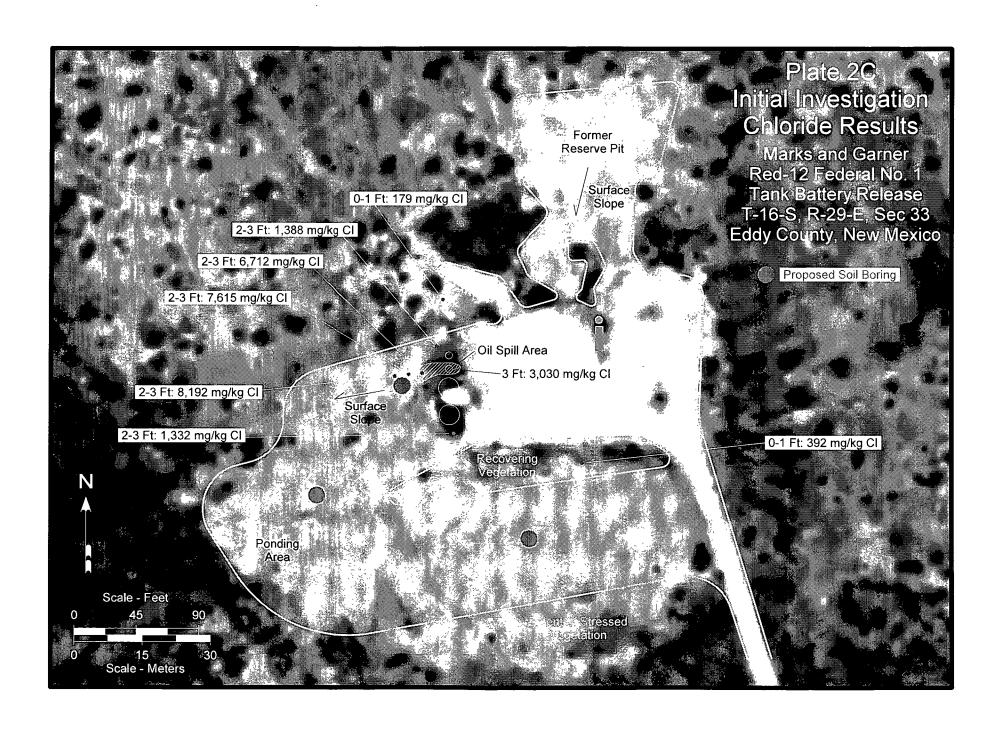
## Plate 1a Site VicinityMap

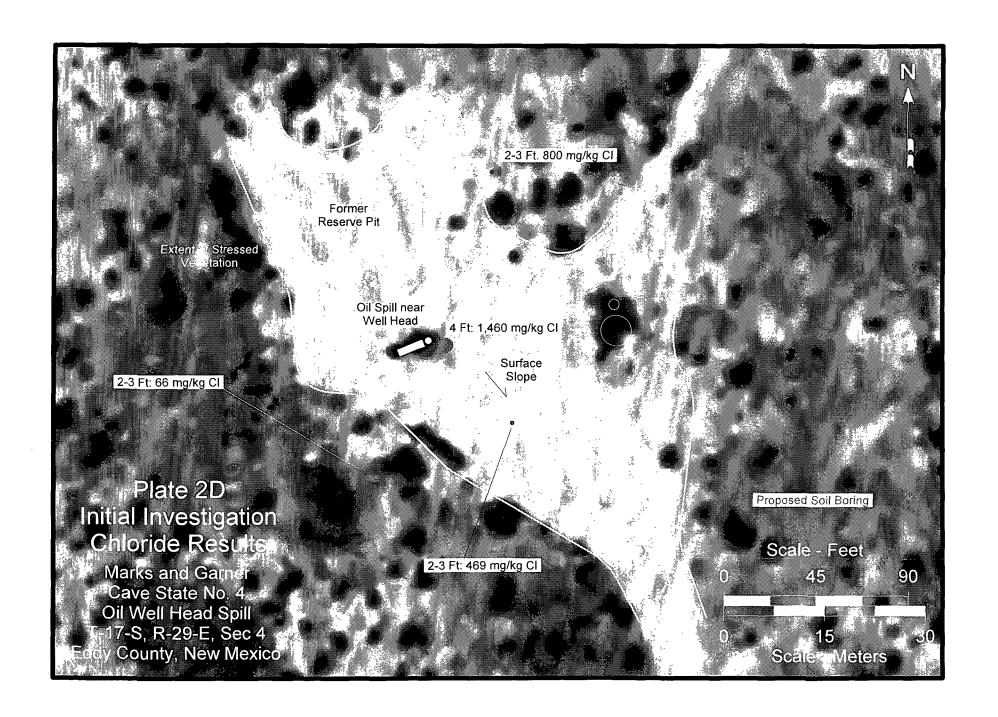


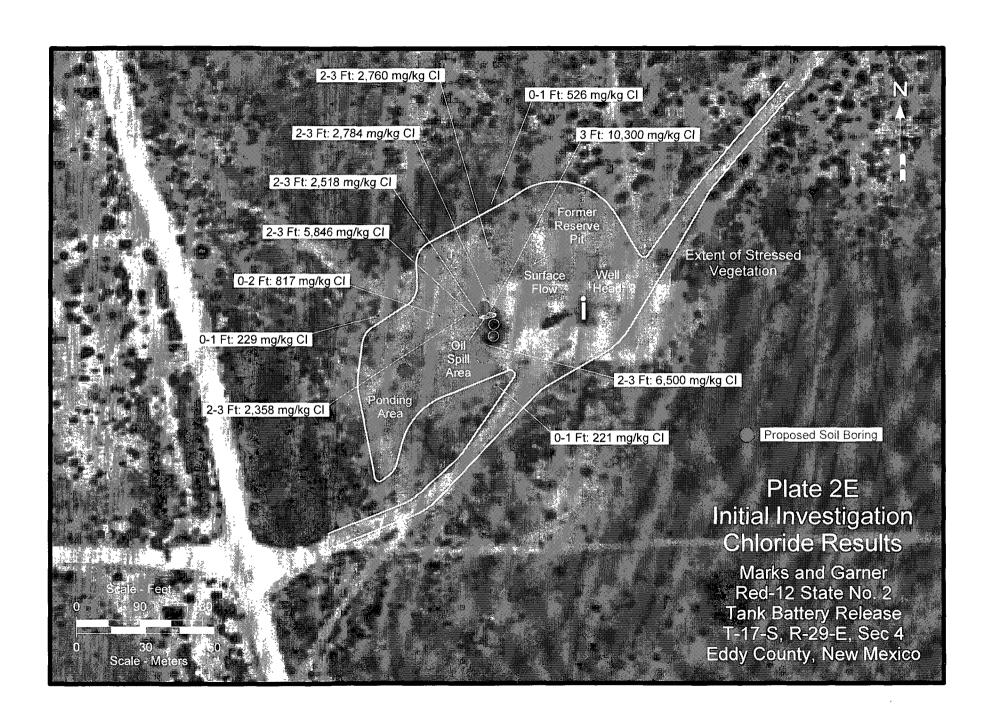


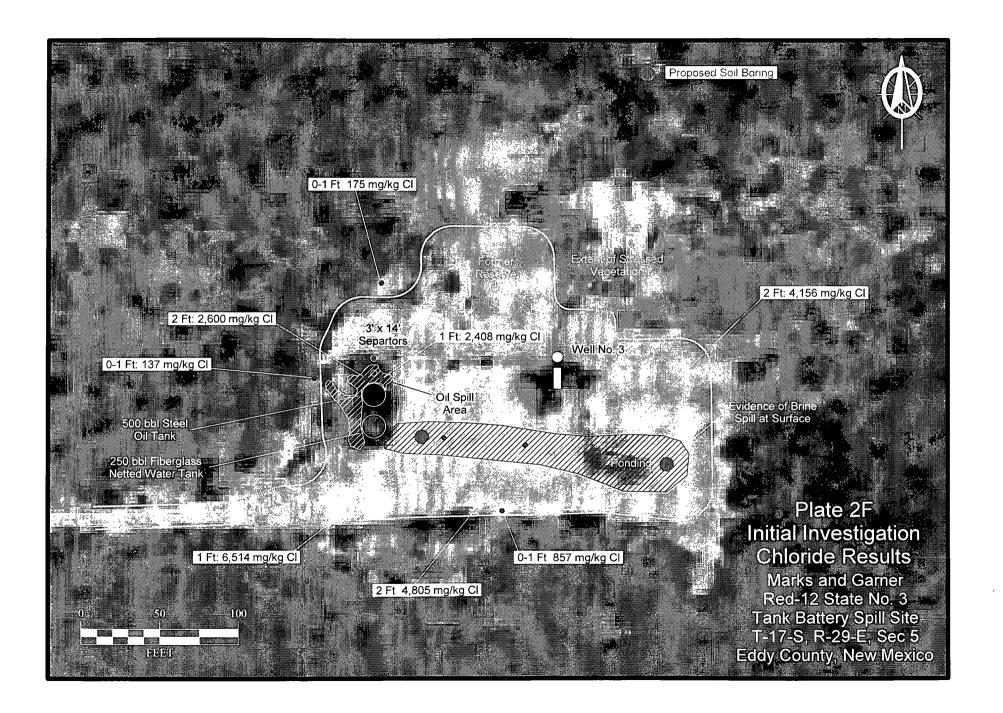


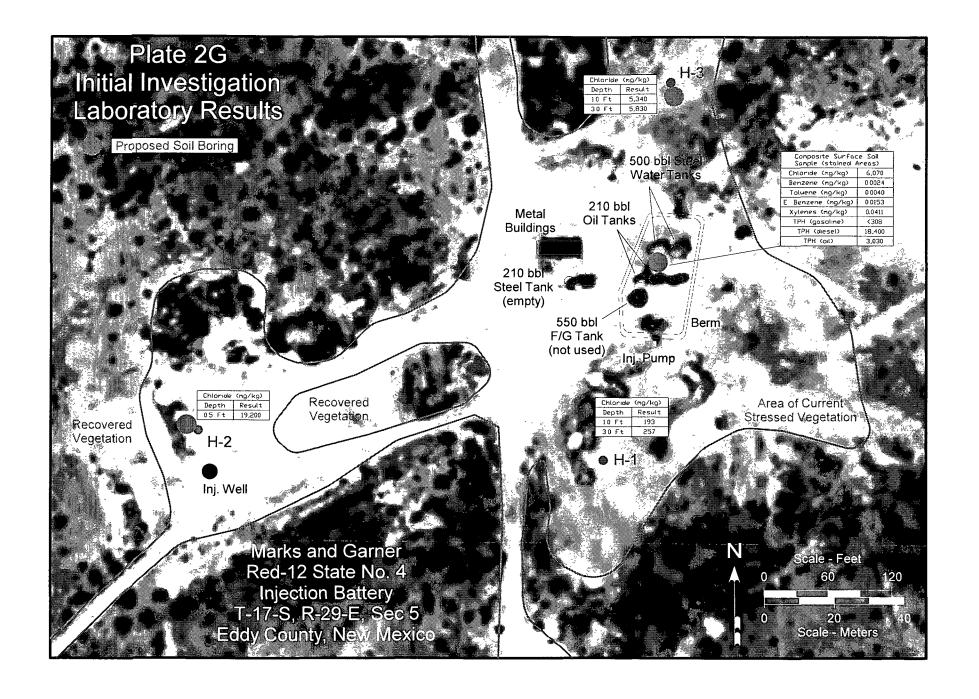












### **APPENDIX A**

Hydrogeological Study of the Loco Hills Gas Storage Facility

#### **TABLES**

Table 1.	History of Loco Hills GSF Facility
Table 2.	Depth to Water and Elevation of Potentiometric Surface
Table 3.	Chloride Concentrations in Wells

PLATES	
Plate 1.	Map Showing Land Acquisition
Plate 2.	Surface Geologic Map
Plate 3.	Structure Contour Map
Plate 4.	Hydrogeologic Cross Section
Plate 5.	Potentiometric Surface Map (Static)
Plate 6.	Potentiometric Surface Map Using Data After Pumping SW-2
Plate 7.	Chloride Cuttings Graph
Plate 8.	Chloride in Ground Water
Plate 9.	Maximum Extent of Ground Water Impairment

#### **APPENDICES**

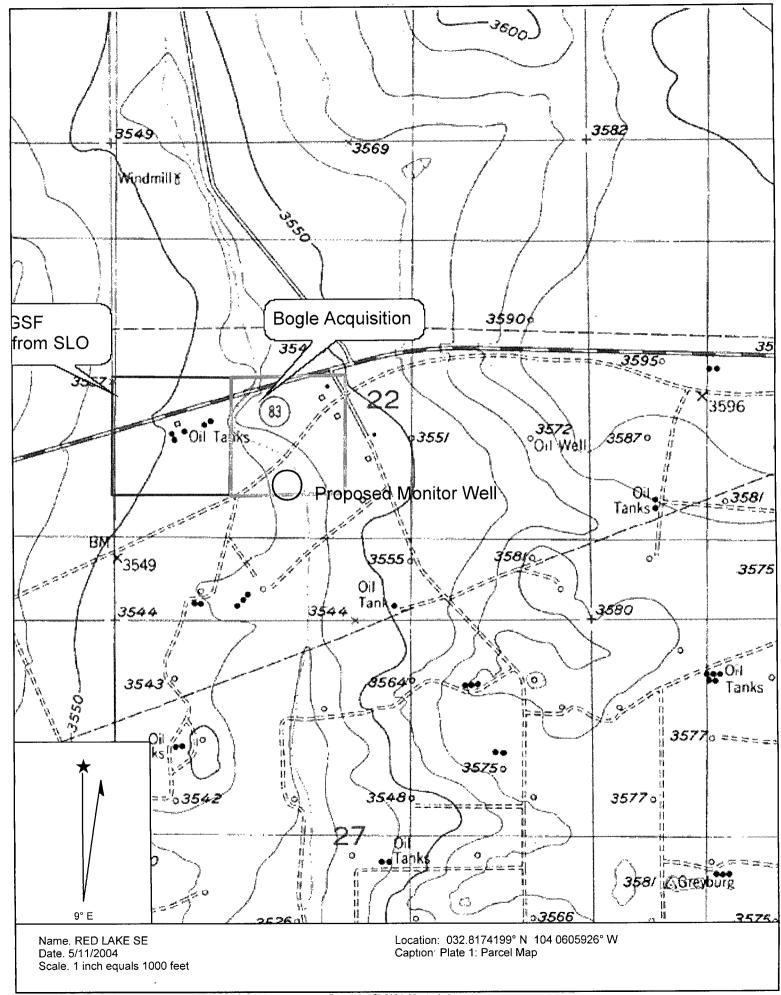
Appendix A. Well Logs

## ABATEMENT PLAN TABLE 1

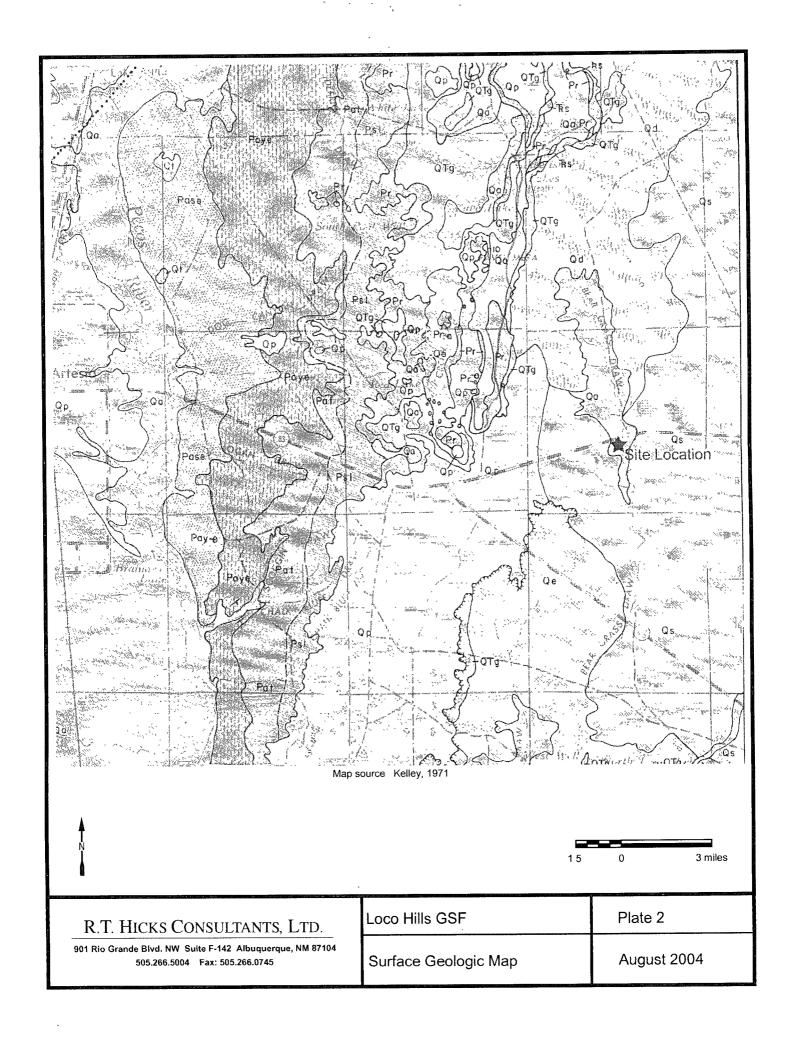
**Table 1. Loco Hills Historicity** 

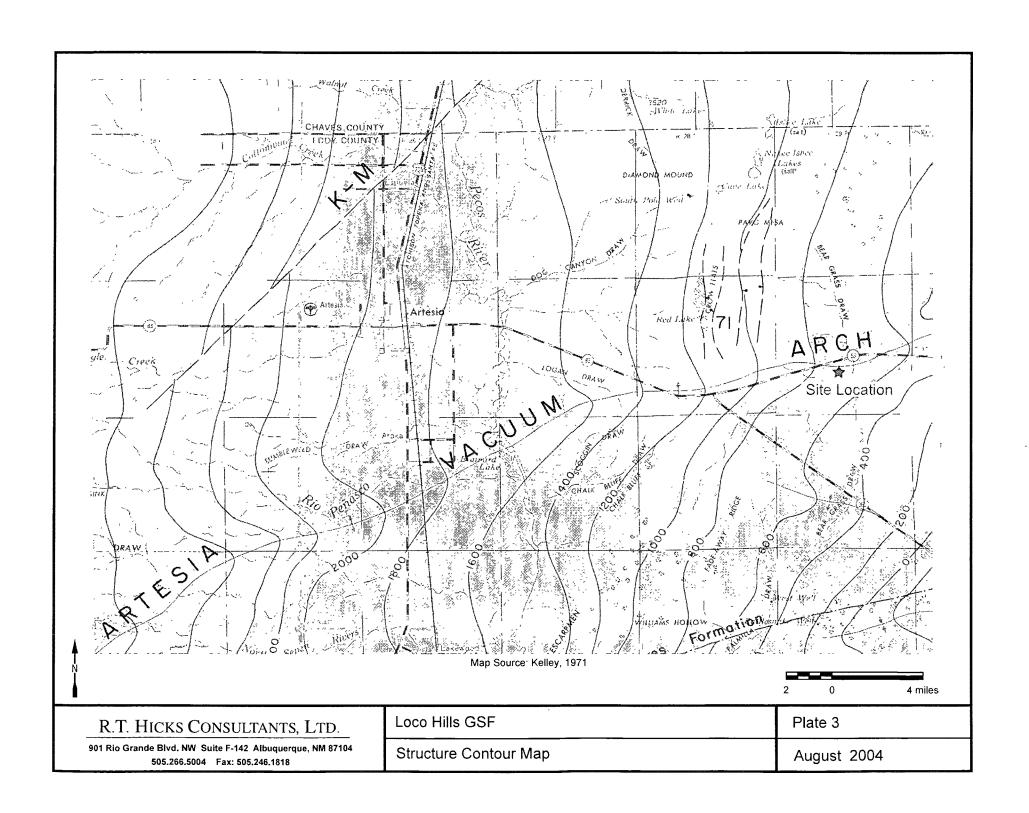
	Loco Hills Historicity
Date	Event
1952	The salt caverns and water supply wells now used by Loco Hills GSF, Ltd. were created by Sacra Brothers, a propane distributor. Sacra Brothers probably employed an unlined seepage pit to dispose of more than 30,000,000 gallons of brine generated during the construction of the caverns
1959	Ownership changed from Sacra Brothers to Arrow Gas Company, presumably due to the acquisition of Sacra Brothers Propane by Arrow Gas Company.
1981	Arrow Gas reported to NMOCD that ground water quality below facility was at least 60,680 ppm, presumably due to facility operation actions.
1995	Arrow Gas sold to National Propane and the facility changed hands.
2000	Ownership changed from National Propane to Columbia Propane, and the facility changed hands
2001	Operator Name Change from Columbia Propane to AmeriGas Eagle Propane
Jul-04	AmeriGas sold property to current owners Loco Hills GSF, Ltd.
Apr-04	Loco Hills GSF, Ltd. begins process to install a new storage pond at the facility
Jul-04	NMOCD issues a Public Notice of the proposed Discharge Permit as required by the WQCC Regulations
Aug-04	NMOCD approves the WQCC Discharge Permit of Loco Hills GSF
Oct-04	Loco Hills GSF proposes to modify their approved WQCC Discharge Plan by adding a ground water quality restoration program and proposing a clay lined pond after soil samples suggest that a clay lined pond could be approved under WQCC Regulations.
Nov-04	The new clay lined pond was completed and tested for compaction.
Dec-04	NMOCD and Loco Hills agree that a clay liner with a demonstrated low permeability should be sufficient to meet WQCC requirements, but NMOCD notes that Loco Hills GSF does not own the land. The WQCC Regulations would prohibit a clay-lined pond in the absence of surface ownership of the site.
Jan-04	Loco Hills GSF, Ltd. takes action to acquire land from Bogle Farms and the State of New Mexico.
Jun-04	In a meeting with NMOCD, Loco Hills GSF, Ltd. was notified that the facility would no longer be governed by WQCC Regulations, but would be under NMOCD Rule 50. Loco Hills GSF, Ltd. was notified that this facility would fall under the new Rule 50, which does not allow for a single lined pond without an exemption petition. Rule 50 allowed "grandfathering" of certain single-lined ponds if the operator petitioned NMOCD for continued use before May 2004.
Aug-04	Loco Hills GSF, Ltd. submits Stage I & II Abatement Plan and a Best Management Practices Plan for approval to NMOCD, requesting exemption from Rule 50 and outlining how facility operation is meeting NMOCD goals of preventing ground water impact, and protecting human health and the environment with the current facility design.

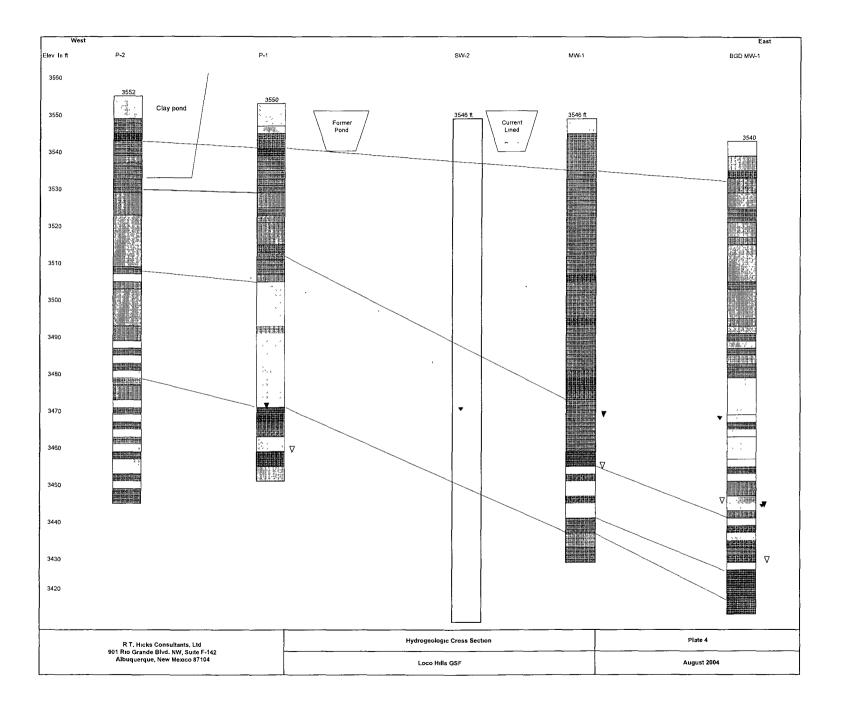


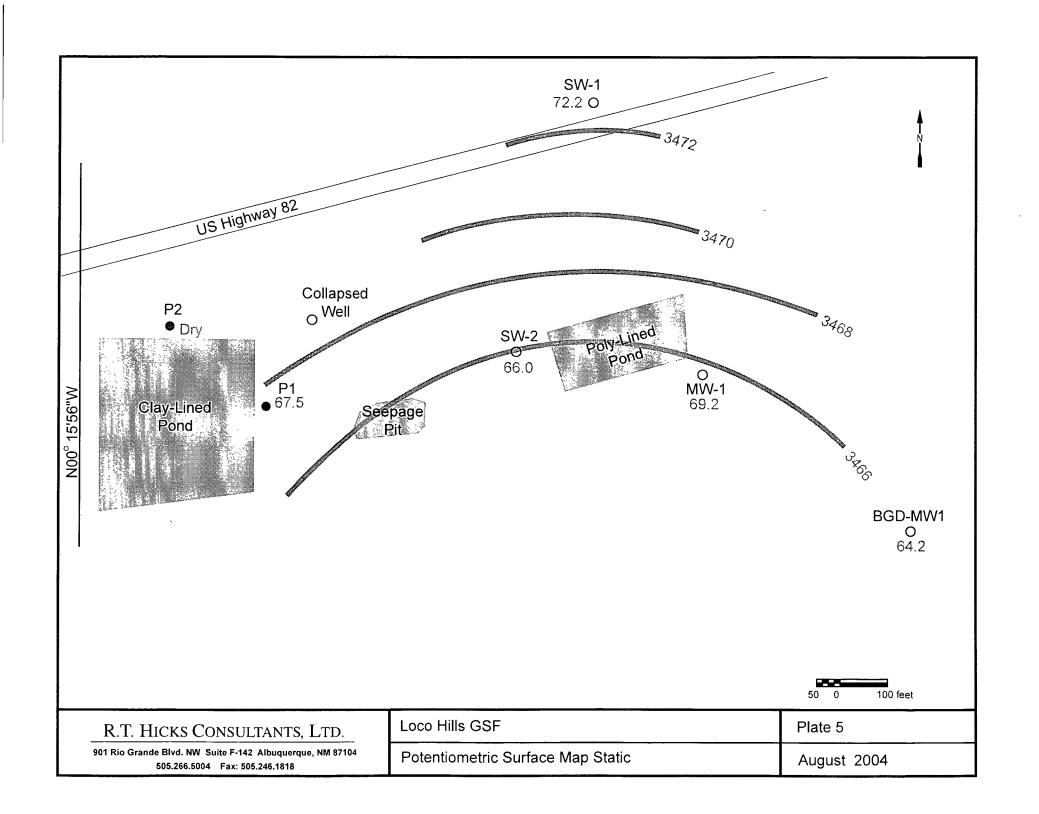


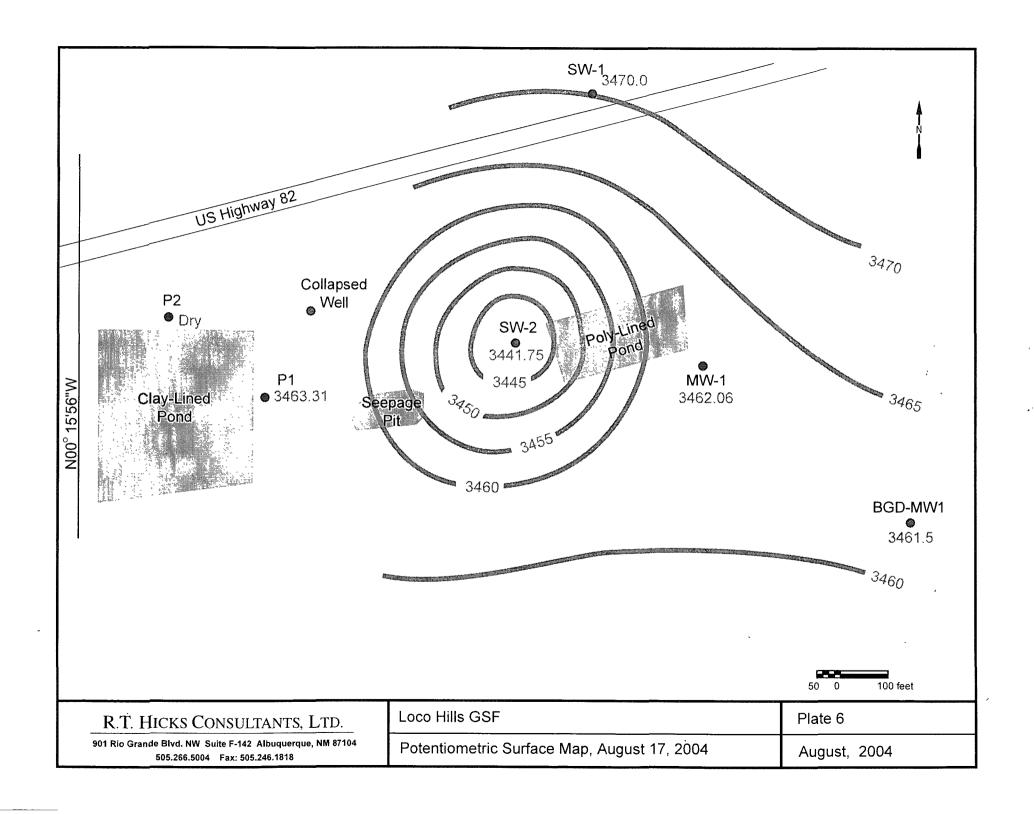
-7

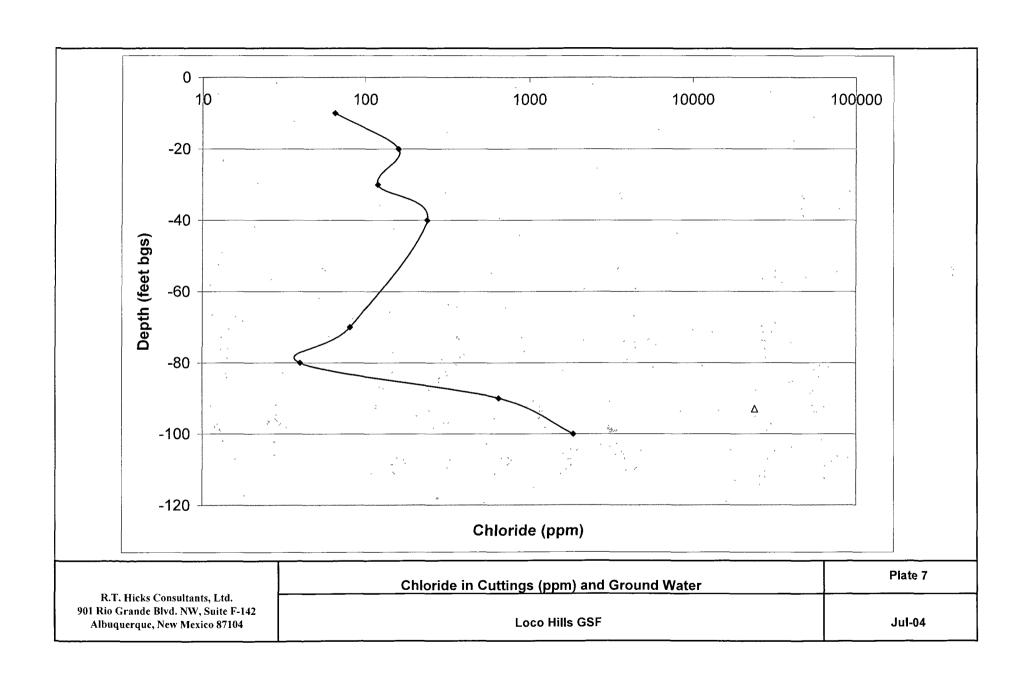


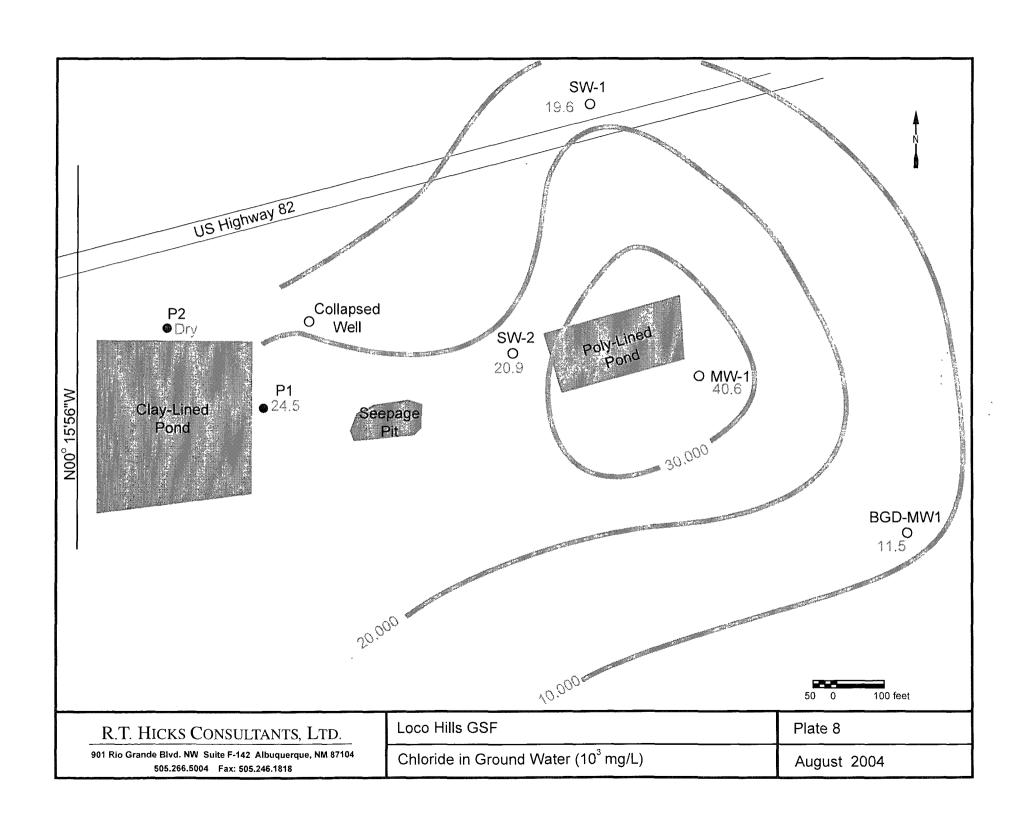


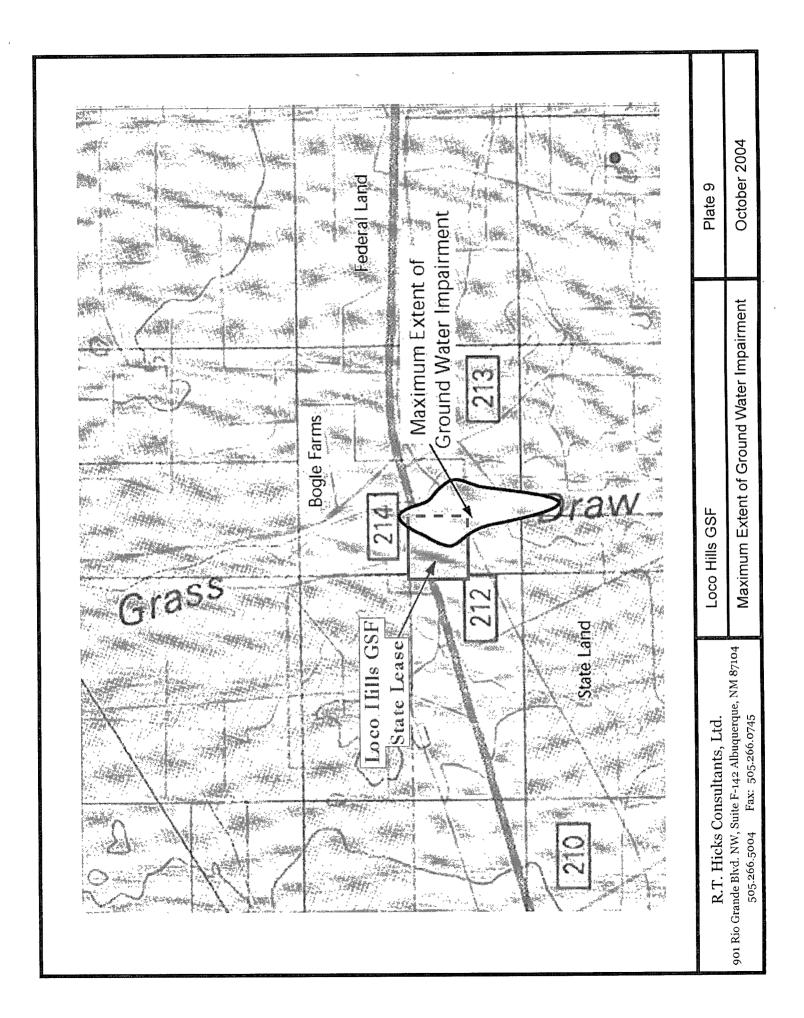












# ABATEMENT PLAN APPENDIX A WELL LOGS

Logger:	David Hamilton	Client:	Well ID:		
Driller:	Dubose Drilling	LHGSF			
Drilling Method:		Project Name:			
Start Date:	6/17/2004				
End Date:	6/18/2004	Location:	P-1		
Notes:		Loco Hills	_		
			_		
Depth	The state of the s				
(feet)	Description	Lithology	Piezometer Construction		
00					
20	Surface, sand, some gypsum, some clay, red, 0-				
40	710	'	Cement		
6.0	Sand, light red, dry, 7-9 ft				
8.0	Caliche, sand, 9-12 ft				
10.0			Bentonite		
12 0	Clay, caliche, red, dry, 12-14 ft				
14 0	Clay, red, dry, 14-17 ft				
16 0			Bentonite		
18 0	Clay, some sand, minor caliche, red, dry, 17-22 ft.		and		
20.0 22.0	Clay, some sand, red, dry, 22-25 ft		Cuttings		
24.0					
26.0	Sand, clay, red, dry, 25-27 ft.				
28.0	Clay, red, dry, 27-28 ft				
30.0	Sand, some clay, light red, dry, 28-32 ft		Bentonite		
32 0					
34 0	Sand, silt, clay, light red, dry, 32-39 ft.				
36 0			Sand S		
38 0	Limestone, light grey, dry, 39-41 ft				
40 0	Sand, limestone, 41-42 ft		Bentonite		
42.0	Clay, red, soft, 42-46 ft	2000	Dentorine		
44 0		85325.005303303			
46.0	Clay, sand and caliche, 46-48 ft				
48 0					
50 0	<u> </u>				
52.0 54 0	Gypsum, white, dry, 48-61ft		Bentonite		
56 0			and		
58.0			Cuttings		
60 0	Gypsum, hard, white, 61-63 ft				
62.0		"""			
64.0					
66.0					
68 0					
70.0	Gypsum, white, dry, 63-82 ft				
72 0	Sypousit, writte, dry, 00-02 it				
74 0					
76 0	<del> </del>				
78 0	<b>—</b>				
80.0 82.0	Clay, red, moist, 82-84 ft		Bentonite V		
84 0	Clay, red, most, 62-64 ft Clay, red, gypsum, 84-87 ft	000000000000000000000000000000000000000			
86.0	Clay, gypsum, hard, 87-88 ft		Sand		
88 0	Sand, clay, limestone, 88-91 ft	- <b>937937937999</b>			
90.0			Bentania		
92.0	Gypsum, clay, tan, dry, 91-93 ft		Bentonite		
94.0	Gravel wet 93 97 ft and 4.3 column		<u> </u>		
96.0	Gravel, wet, 93-97 ft , est 1-2 gal /min				
98 0	Sand, clay, tan, 97-101ft		Sand		
100 0	Janu, day, tan, 97-10111	A CONTROL OF THE CONT			
		1			
	R.T. Hicks Consultants, Ltd	Loco Hills GSF	Plate D-1		
901 F	Rio Grande Blvd NW Suite F-142		Plate D-1		
	Albuquerque, NM 87104 505-266-5004		July 2004		
	JUJ-200-JUU4		<u> </u>		

1	Logger.		David Hamilton	Client:	Well ID <sup>-</sup>
	Driller:		Dubose Drilling	LHGSF	{
Dr	Iling Method: Start Date:		Air Rotary 6/17/2004	Project Name:	$\dashv$
-	End Date:		6/18/2004	Location:	BGD MW-1
Not		1		Loco Hills	
1					
Dept	h				Well and Piezometer
(fee		Τ	Description	Lithology	Construction
0.0			Surface, 0-5 ft		
2.0		-			
4 0 6 0			Sand, clay, grey, 5-9 ft		Cement
80			Sand, caliche, tan, 9-11 ft		
10 (			Clay, sand, red, 11-14 ft		Bentonite
12 (				province:	
14 (		-	Sand, clay, red, 14-19 ft		
18 (			01		
20 (			Clay, red, little sand, 19-22 ft		
22 (		ļ	Sand, clay, red, 22-26 ft		
24 (			Clay, sand, red, 26-29 ft		
28 (		<b>†</b>	5/67, 30/10, 100, 20°23 II	HARRIE PARTIE	
30 (	)				
32 (		<u> </u>	Sand, clay, red, dry, 29-39 ft		
34 (		-			Bentonite and
38 (			Clay, red, 39-41 ft		cuttings
40 (					
42 (			Sand, clay, red, 41-48 ft		
44 (		ļ	54.14, 514, 104, 117, 157,		
46 (			Clay, sand, 48-49 ft		
50 (			Sand, clay, 49-51 ft		
52 (	)		Clay, red, soft, some sand, 51-54ft		
54 (		$\vdash$	Sand, tan, 54-55 ft	\$775555	
56 (		<del> </del>			
58 (		+	Clay, red, some sand and gypsum, 55-62 ft		
62 (					
64 (	)				
66 (		1	Gypsum, white, dry, 62-74 ft		
68 G		-	Gypsum, wille, dry, 62-74 it		
72 (					
74 (	)			V	▼ 1
76 (			Gypsum, clay, soft, 74-80 ft		
78 ( 80 (		+			
		1	Gypsum, white, dry, 80-87 ft	1 1 1	
82 (			gypsum, winte, dry, 60-67 it	]   1	
84 (	)		Gypsuni, white, dry, 60-67 it		Bentonite
84 ( 86 (	)				Bentonite
84 ( 86 ( 88 (	) )		Clay, gypsum, moist, 87-93 ft		Bentonite Bentonite
84 ( 86 (	0		Clay, gypsum, moist, 87-93 ft		Bentonite
84 ( 86 ( 88 ( 90 ( 92 ( 94 (					Bentonite Sand
84   86   88   90   92   94   96			Clay, gypsum, moist, 87-93 ft		Denomice 3
84   86   88   90   92   94   96   98			Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft		Denomice 3
84   86   88   90   92   94   96   98   100	0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft		Denomice 3
84 9 86 88 9 90 92 94 94 96 98 1 100 102 104	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft		Denomice 3
84 98 88 99 99 92 94 96 98 100 102 104 106	000000000000000000000000000000000000000		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft		Denomice 3
84 98 98 98 100 104 106 108	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft		Denomice 3
84 9 86 88 9 90 9 92 9 94 9 96 9 98 9 100 102 104 106 108 110 108 110 108 110 108 110 108 110 108 110 108 110 108 110 108 110 108 110 110	000000000000000000000000000000000000000		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft		Denomice 3
84 98 98 98 100 102 104 106 108	000000000000000000000000000000000000000		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft		Denomice 3
84   86   88   86   88   90   92   94   96   98   100   102   104   106   108   110   112   114   116	0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft		Sand
84   86   88   86   88   90   92   94   96   98   100   104   106   108   110   112   114   116   118	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft		Sand
84 9 86 88 90 90 92 94 94 96 98 91 92 94 96 98 91 92 94 94 96 98 98 98 98 98 98 98 98 98 98 98 98 98	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft		Sand
84 9 86 6 88 9 90 92 94 94 96 98 90 100 102 104 106 110 112 114 116 118 120 122	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft  Clay, red, 117-125 ft		Sand
84 9 86 6 88 90 90 92 94 94 96 98 91 90 92 94 94 96 98 91 90 90 90 90 90 90 90 90 90 90 90 90 90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft		Sand
84 9 86 6 88 6 900 92 9 94 96 98 6 100 102 104 116 118 120 122 124 126 128	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft  Clay, red, 117-125 ft		Sand
84 ( 86 ( 88 ( 90 ( 92 ( 94 ( 96 ( 100 ( 102 ( 104 ( 106 ( 108 ( 110 ( 112 ( 114 ( 116 ( 118 ( 120 ( 122 ( 124 ( 126 ( 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft  Clay, red, 117-125 ft		Sand
84 9 86 88 88 90 92 94 94 96 98 98 98 98 98 98 98 98 98 98 98 98 98	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	R.T. Hi	Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft  Clay, red, 117-125 ft  Clay, grey-blue, 125-129 ft		Sand  Bentonite  Sand
84 9 86 88 88 90 92 94 94 96 98 98 98 98 98 98 98 98 98 98 98 98 98	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Clay, gypsum, moist, 87-93 ft  Clay, sand, red, moist, 93-97 ft  Clay, gypsum, sand, 97-100 ft  Clay, sand, red, 100-102 ft  Gypsum, 102-105 ft  Limestone, gypsum, 105-109 ft  Clay, limestone, gypsum, 109-114 ft  Gypsum, 114-117 ft  Clay, red, 117-125 ft		Sand

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			r -				
	Logger:	David Hamilton	Client:	Well ID:	Well ID:		
	Driller:	Dubose Drilling	LHGSF				
Drillin	g Method:	Air Rotary	Project Name:				
	Start Date:	6/23/2004					
	End Date:	6/24/2004	Location:	P-	2		
Notes:			Loco Hills				
				<b></b>			
		200000000000000000000000000000000000000					
Depth							
(feet)		Description	Lithology	Well and Piezome	ter Construction		
0.0			1 1 1				
20		Surface, 0-6 ft					
4 0 6 0				Cement			
80		Clay, red, dry, 6-10 ft					
10 0		Clay, red, dry, little caliche 10-1:	2 ft	Bentonite			
12 0		Clay, red, dry, 12-16 ft			<b>2 2 2 2</b> 2		
14 0					0 W W W		
16 0		Clay, red, dry, little sand, 16-18	π		<b>8 8 8 8</b>		
18 0 20 0					<b>8 8 8 8</b>		
22 0	<b></b>	Clay, red, dry, 18-27 ft			<b>%                                    </b>		
24 0					0 W W W		
26 0				Bentonite	8 8 W W		
28 0		Clay, sand, red, dry, 27-33 ft		and	0 W W W		
30 0 32 0				cuttings	8 W W W		
34 0	+				8 M M M		
36 0					8 8 8 8 8		
38 0		Sand, clay, red, dry, 33-47 ft			8 W W W		
40 0					<b>2                                    </b>		
42 0	ļ	<u> </u>			# # # # # # # # # # # # # # # # # # #		
44 0 46 0	-				0 W W W		
48 0		Clay, red, gypsum, 45-50 ft			8 W W W		
50 0		Clay, sand, red, slightly soft, 50-	53 ft		8 W W W		
52 0				Bentonite			
54 0		0 1 1 50 00 6					
56 0 58 0		Sand, clay, red, 53-63 ft		Sand			
60 0				Saliu	리 (3) [요투 .		
62 0			67.4	Bentonite			
64 0		Clay, sand, red, some gypsum, 63	46.06.06.06.06.06.06.06.06.06.06.06.06.06				
66 0		Gypsum, white, dry, 67-69 ft			0 W W////		
68 0	<del>  </del>	Clay sad suppum 60.75 ft		Bentonite			
70 0 72 0	-	Clay, red, gypsum, 69-75 ft	***************************************	and cuttings	0 W W/////		
74 0	<del> </del>			Cuttings	0		
76 0		Gypsum, clay, red, some blue, 75	-/8π	Bentonite			
78 0		Clay, red, gypsum, some sand, 78	-83 ft				
80 0	-			Sand			
82 0 84 0	<del>  -</del>	Gypsum, clay, grey and red, 83-	88 ft	Bentonite			
86 0		Ojpodni, slay, grey and red, 60-		Bentonite			
88 0	]						
90 0				Bentonite			
92 0	4	Clay, grey and red, some gypsum,	38-99 ft	and			
94 0	1			cuttings			
96 0 98 0	1						
100 0	]	Gypsum, white, dry, 99-1031		Bentonite			
102 0	]	Clay, red, some silt and gypsum, soft	. 103-105				
104 0	1	ft					
106 0	-	Clay, red, dry, 105-110 ft		Sand			
108 0	-						
110 0	1	l	1		os in the second		
	R.	T. Hicks Consultants, Ltd	1 100 - 00-	P	- D 2		
901 Rio Grande Blvd NW Suite F-142			Loco Hills GSF	Plate	Plate D-3		
		Albuquerque, NM 87104		vlul,	2004		
		505-266-5004		L			

	Logger:			Client:	Well ID:
D-9**	Driller:			LHGSF	
Drilling Method: Start Date:			5/1/2003	Project Name:	
End Date:			5/1/2003	Location:	MW-1
				Loco Hills	
Depth (feet)	Т.		Description	Lithology	
0.0				Littlology	
20			Surface, very fine grained sand, red, 0-5 ft		
4 0					
60					
80			Caliche, sand, clay, 5-14 ft	100001101112	
10 0 12 0					
14 0				indiken daga d	
16 0					
18 0					
20 0			Clay, red, very sandy, 14-30 ft		
22.0			• • • • • • •		
24 0 26 0					
28 0					
30 0					
32 0					
34 0					
36 0 38 0			1		
40 0					
42 0					
44 0				***************************************	
46 0					
48 0		_	Clay, some fine gravel, 30-67 ft		
50 0					
52 0				000000000000000000000000000000000000000	
54 0 56 0				***************************************	
58 0					
60 0				**************************************	
62 0				**************************************	
64 0					
66 0 68 0					
70 0			Conglomerate, limestone, grey to dark grey, 67-	2000025200000	
72 0			77 ft	350850656688	
74 0					
76 0					
78 0					
80 0 82 0			Clay, red, 77-88 ft		
84 0		_	Sidy, 160, 17-00 ft		1
86 0					
88 0					
90 0			Clay, red, very sticky, 88-93 ft		
92 0					
94 0 96 0					
98 0					
100 0			Limestone, gypsum, white to light grey, some fractured, 93-109 ft		
102 0					
104 0					
106 0 108 0					
110 0			Clay, red, 109-113 ft		
112 0			0		
114 0			Clay, blue grey, 113-116 ft		]
116 0			Clay, red, silty, 116-120 ft		
118 0			5.63, 160, 5110-120 It		
120 0			I		i
		T LI:	cks Consultants, Ltd		<del></del>
			ena vandannamia, tam		
			nde Blvd NW Suite F-142	Loco Hills GSF	Plate D-4

#### Well Log Legend

Anhydrites, white, yellow, and limey

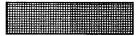
Gravels

Sands, coarse to fine grained

man distribution of the second of the second

Silts, tan, brown, red and grey

Limestone, light grey, grey



Clays, dry, wet, red to dark red



Hydrocarbon impacted lithology



APPENDIX B
Water Well Driller's Logs

## Declaration of Owner of Underground Water Right

Declaration No. 105-13 RASS trans are level July 10, 1991  1. Name of Declarant Bogle Farms  Stiffing Address PO Drawer 460 Dexter, NN 88230  County of Chaves  2. Some of water within Shallow valety (consent with the water application of the consent of the water application of the consent of the consent of the water application of the consent of the			ddy County	· · · · · · · · · · · · · · · · · · ·
Started Declaration   Bogle Farms   Nation Address   PO Drawer 460   Dexter, NM 88230   County of   Chaves   Source of water withly   Shallow water   Shallow water of the look of the little water with the water of the look of the little water with the water of the look of the little water with the water of the look of the little water with the water of the look of the little water with the water of the look of the little water with the little water of the little water w	Declaration No.	100-19 RAB23"	S Bare received	Tu-Jur 10 1001
Name of Declaran  Politics Address PO Draver 450, Dexter, NM 88230  Commy of Chaves Some of water spirity Shallov water (provided to the continuous)  NM W W W No. Sec. 22				
Palific Address PO Draver 460 Dexter, NM 88230 Consty of Chaves  2. Some of water quicky Shallow water (greated we shallow water applied)  3. Describe with international order of the informacy wheelsheet water shallow water applied.  3. W. W. W. W. W. W. W. See, 22 100, 178 Rec. 29E NO. M. Eddy  NM W. W. W. W. W. W. See See, 22 100, 178 Rec. 29E NO. M. Eddy  1. Eddy Control of the Control of t	1. Vers at Deslesses		\$1A - CMCHT	
Conserved water spirity Shallow water species of water spirity Shallow water spirity spirity water spirity water spirity water spirity water spirity spirity water spi	Valling Address	DO Dravor 46	O Doyter MM	88230
2. Secure of water spirely Shallow vater (conscious or shallow water spirely)  3. December well have too make more of the indices are shallowed as 22. Pap. 175. Rec. 298. NOTE, W. R. W. W. W. W. See, 22. Pap. 175. Rec. 298. NOTE, W. Eddy Committee and the Committee and Committee				
NEX. 10 Stuart Bodies and will not arrive exhibited met by these and plat on recesses and a secondary respected to beneficially used.				
NY NN N No No. 22 free 175 fee, 29E N.M.M.  Riddy  Riddy  North Manager  North Ma				iler
b. Level No. — or May No. — cert. N. — cert.	. NW % N	W		'S Ree. 29E NWP,M.
On load ouncil by BOGLE PATOS.  4. Pescription of well, date dealled Prior 1915 driller, unknown depth 87 feet curvid, drunter of creating 5 inches, one and expanse 32 path per mine; precent deports, 32 gall, per mine; promping left 80 feet; state water level 80 feet (above) (below) land surfaces make and type of pump. Windmill. 10.1 Dempster  reaks type, here power, are, of pumer plant  Profitional or percentage interest elumed in well. 100%.  Constituted or percentage interest elumed in well. 100%.  Constituted or water appropriated and bareficially used. 1.54  (note feet per neve) (note feet per neve)  for Liveskork & Wildlife. (ore feet per neve) (note feet per neve)  Acres.  Subdivision See. Twp. (Rengs irrigated of barefield only irrigated	b Trict So	of Map No.		
4. Description of well, three bolled Prior 1915 diffile, unknown depth 87 feet emodels downers of energy 5 inches, organal exposury 33 pate promise; present depth 3, 30 feet; state water level 80 feet (above) (below) land surfaces water and type of pump. Windmill 10. Dempster  make and type of pump. Windmill 10. Dempster  make type, horse power, ate, of power plant  Practitional or percentage interest clustered in well 100%  5. Quantity of water appropriated and beneficially used 1-54  for Livestock 8. Wildlife (see for each stable of described as follows (describe only leads seried), research of described as follows (describe only leads seried), research  5. Adverge actually respected to beneficial in a math the series of the above described as follows  5. There was first applied to beneficial in a math the series described lands or for the above described as follows  5. There was first applied to beneficial in a math the series described lands or for the above described as follows.  6. Additional statements or explanation.  7. Series and each describe and the following commission of the residence of a cold and adoption of the explanation of a consider of a cold adoption of the explanation of a consider of a cold and adoption of the explanation of a consider of a cold adoption of the explanation of the expla	in the			
enesiti, di uncter of energy 5 inches, very mal capacity 32 just, per nine; promping lift 80 feet; state water level 80 feet (above) (below) lond surfaces made and type of pump	On land owned by	Bogle Farms		· · · · · · · · · · · · · · · · · · ·
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	to commission objects. D	uly 11, 1991	anta XI	Dagne

### STATE ENGINEER OFFICE WELL RECORD

#### Section | GENERAL INFORMATION

(A) Owner of Street or	Post Office A	ty + Jo.	Dian	a Cur	en ive	Owner'	's Well No. 🕹	7A-9343
Well was drulle	d under Permi	t No. 12.4	934	<u>)</u>	_ and is located			
b. Tract	No	of Map No.		of the				
		of Block No _	-				1	
d. X= _ the _		feet, Y=		feet, N	M. Coordinate	System		Zone in Grant
(B) Drilling	Contractor 🕰	iartin k	Vater	Well Di	olg Co.	License No _ <u>r1</u> /	12-100	4.4
Address 97	75 H	epe Hw	·y	Artesia	, New	Mexico	<u> </u>	10-
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						_ ft. Total depth o		
Completed wel	ll ís 🛭 s					upon completion o	of well/	<u>Oft.</u>
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From	То	in Feet		······································	Water-Bearing F	ormation		er minute)
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(inches)	per foot	per in.	Тор	Bottom	(feet)	Type of Shoe	Fron	To
55	PVC	B = 11	0	230	220		140	2 220
		7	n 4 RECOR	RD OF MUDDI	ING AND CEM	ENTING		
Depth From	To	Hole Diameter	Sack of Mu		Cement	Method	of Placemen	ı
<u> </u>								
Plugging Contra	ictor			1 5. PLUGGIN	G RECORD			
Address					No.	Depth in Fo		Cubic Feet of Cement
Date Well Plugg	ed					Top I	Bottom	Of Cement
Plugging approv	eu by				2	<u> </u>		
		State Engir	icer Represe	ntative	4			
Date Received	5/18/	98	FOR USE	OF STATE EN	IGINEER ONL	ď		
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File No	2A 93	14A		_ Use <u>DO</u>	<u>n)</u>	Location NollS	STE.	1.3449/

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The undersigned hareby certifies that, to the best of his knowledge and delief, the foregoing is a true and correct record of the above described hole.

Defford Martin