1R - 415

WORKPLANS

DATE:

7-8-08

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

July 8, 2008

Mr. Ed Hansen
NMOCD
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
Via Email

IR415

RE: Rice Operating Company, Abo -1G
Proposed Characterization Plan and
Request for Access to ARAHO Wells (DP-37)

Dear Ed:

Rice Operating Company is working with several operators in the Lovington area to determine the source of the elevated chloride detected in the Abo-1G monitoring well. The plan for additional characterization is outlined below.

1. In July, we will drill monitoring well MW-2 (Plate 1), which is located about 300 feet up gradient from MW-1. In order to compare the data between MW-1 and MW-2, the design and construction of MW-2 will be the same as MW-1 (Plate 2), with a screened zone from 90-feet to 120-feet below ground surface.
2. In July, we will fully develop MW-2 by over pumping then collect a sample for analysis of major cations and anions as well as regulated hydrocarbons. At this same time, we will collect a sample from MW-1 for analysis of major cations and anions.
3. In August, twenty to forty days after the first sampling event, we will take a second sample from MW-2 to confirm the initial results.
4. If the sampling results from MW-2 show chloride concentrations significantly lower than those observed at MW-1, we will work with the participating operators to identify the source of chloride between MW-1 and MW-2 and prepare a report to NMOCD with a proposed path forward that may include additional characterization of ground water. We will submit this report in September.
5. If the sampling results from MW-2 show chloride concentrations equal to or higher than those observed at MW-1, we will drill MW-3 (Plate 1) in August or early September, which is located about 1000 feet up gradient from MW-1. MW-3 will use the same design and construction techniques as MW-1 and MW-2.
6. In September, we will fully develop MW-3 by over pumping then collect a sample for analysis of major cations and anions as well as regulated hydrocarbons.
7. In October, twenty to forty days after the first sampling event, we will take a second sample from MW-3 to confirm the initial results.
8. If the sampling results from MW-3 show chloride concentrations significantly lower than those observed at MW-1 and MW-2, we will work with the participating operators to identify the source of chloride between MW-1 and MW-3 and prepare a report to NMOCD with a proposed path forward that may include additional characterization of ground water. We will submit this report in November.
9. If the sampling results form MW-3 show chloride concentrations higher than or equal to those observed in MW-1 and MW-2, we will begin to work with other

operators in the area to examine past and present potential sources of chloride. We will develop a path forward to address this scenario and submit a report to NMOCD before February 1, 2009.

To aid us in the proposed characterization program outlined above, we request that NMOCD provide access to any of the technical information not currently on-line that is associated with the NMOCD-sponsored characterization program of the ARAHO site (DP-37, see Plate 3). This site is located about 2000 feet south-southeast of the Abo-1G site. Access to the three locked monitoring wells at the ARAHO site will allow us to obtain depth to water measurements and use these data to better define the local hydraulic gradient. Water level elevation data from the ARAHO site is not required prior to drilling MW-2, but these data will be useful if drilling MW-3 is anticipated.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall Hicks
Principal

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R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Proposed Monitoring Wells	Plate 1
	Rice Operating Company Abo G-1	June 2008

6/12/2008

Logger:	David Hamilton	**Client:**	**Well ID:**
Driller:	Eades Drilling	ROC	
Drilling Method:	Air Rotary	**Project Name:**	
Start Date:	11/5/2004	Abo Apache LA 1-G Release Site	**LA MW-1**
End Date:	11/6/2004	**Location:**	
		Section 1, 17S, 36E, Unit 1G	

Depth (feet)	Description	Lithology	Comments	Well Construction	Field data: Depth	Chloride mg/kg	PID
0.0	Surface, 0 - .5 feet		Hard drilling	Cement, 0-3 feet			
2.0	Frac. caliche, sand, clay, .5 - 3 feet, tan						
4.0	Sand and caliche, 3 - 5 feet, tan						
6.0	Very fine grained sand, silt, some caliche, 5 - 10 feet, tan				6.0	1245	6.3
8.0							
10.0	Very fine grained sand, silt, little caliche, 10 - 15 feet, tan				11.0	553	7.3
12.0							
14.0	Indurated caliche, 15 - 17 feet						
16.0	Very fine grained sand, silt, little caliche, 17 - 20 feet				16.0	1307	5.2
18.0							
20.0	Thin caliche layers in sand, 20 - 22 feet				21.0	905	8.2
22.0	Very fine grained sand, silt, 22 - 33 feet, tan with reddish tinge		Samples fell out of spoon, collected with shovel				
24.0							
26.0					26.0	741	1.1
28.0							
30.0					31.0	493	0.8
32.0							
34.0	Very fine grained sand, silt, caliche , 33 -44 feet, light tan. Well indurated caliche layer from 35 to 36 feet.						
36.0					36.0	566	0.8
38.0							
40.0					41.0	126	3.3
42.0							
44.0	Very fine grained sand, silt, 44 - 53 feet, tan			Hydrated bentonite, 3-87 feet			
46.0					46.0	83	2.0
48.0							
50.0					51.0	49	1.0
52.0	Very fine grained sand, silt, some caliche, 53 - 60 feet, tan						
54.0							
56.0							
58.0							
60.0	Very fine grained sand, silt, 60 - 67 feet, tan				61.0	59	2.4
62.0							
64.0							
66.0	Indurated sand, silt, 67 - 68 feet		Hard drilling				
68.0	Very fine grained sand, silt, 68 - 100 feet tan. Slightly redder below 83 feet.						
70.0					71.0	50	2.9
72.0							
74.0							
76.0							
78.0							
80.0					81.0	59	3.7
82.0							
84.0							
86.0							
88.0							
90.0					91.0	55	2.7
92.0							
94.0							
96.0			Soil moist at 100 feet				
98.0							
100.0	Very fine grained sand, silt, 100 - 122 feet			Sand, 87-122 feet			
102.0							
104.0							
106.0							
108.0							
110.0			Hole was drilled with water below 100 feet due to borehole collapse				
112.0							
114.0							
116.0							
118.0							
120.0							
122.0							

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ROC Lovington Abo 1-G Site

Monitoring Well Boring

Plate 2

August 2005

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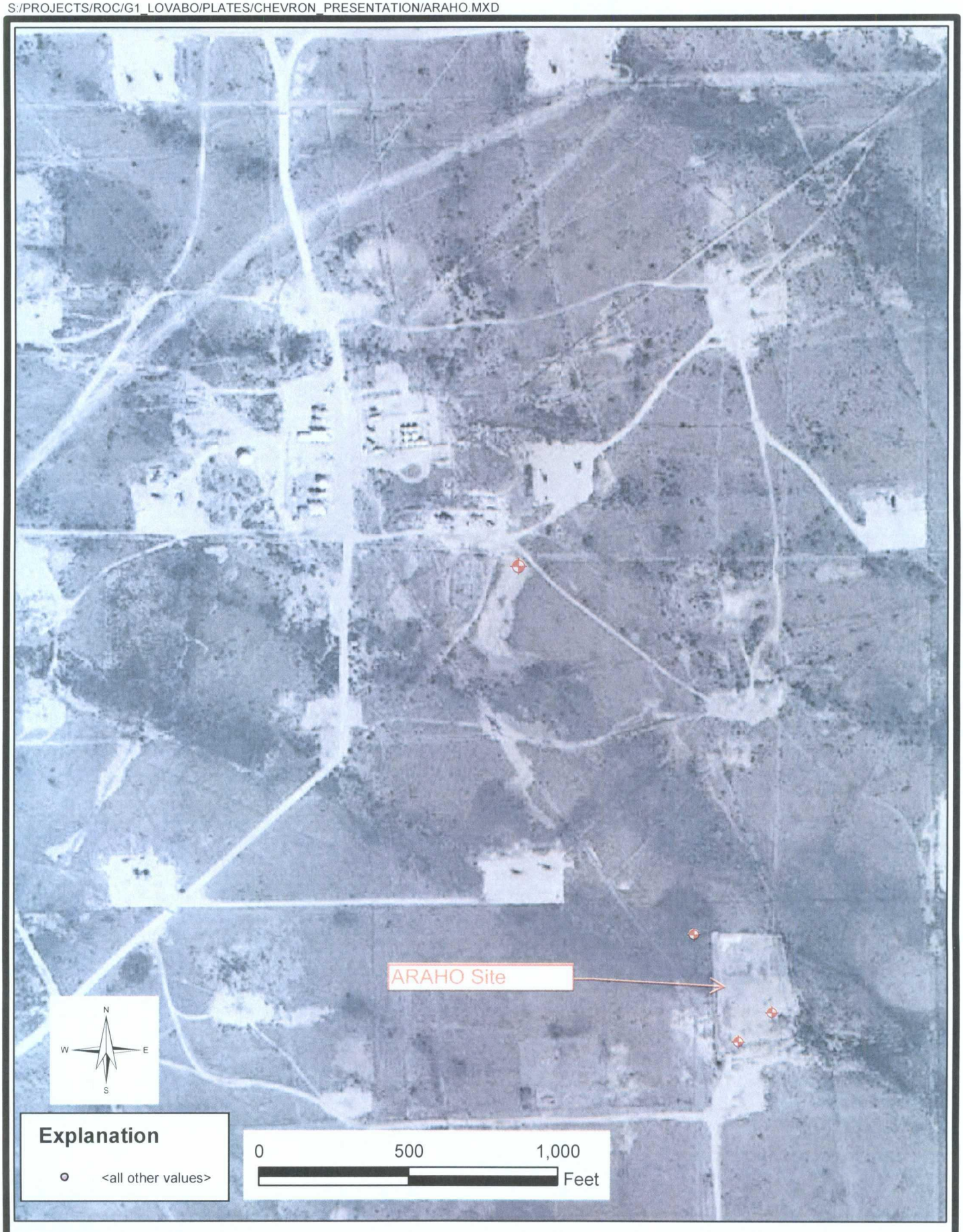

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Abo-1G and ARAHO Site	Plate 3
	Rice Operating Company Abo G-1	June 2008

6/12/2008