

1R - 428-44

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**  
2008

# R. T. HICKS CONSULTANTS, LTD.

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August 14, 2008

Edward Hansen  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

RECEIVED

AUG 14 2008  
Environmental Bureau  
Oil Conservation Division

**RE: F-29-1a Vent Section 29, T18S, R38E**  
**NMOCD Case # 1R0428-44**

Dear Mr. Hansen:

On behalf of Rice Operating Company (ROC), we would like to re-cap the history of the F-29-1a Vent site to ease review of the file and hopefully expedite NMOCD closure in writing.

## Timeline of Events

### November 2004

- Field activities at site include a borehole to 104 feet below ground surface (bgs). Chloride concentrations in the boring do not exceed 203 mg/kg and are below 125 mg/kg from 16 feet bgs to the base of the boring.
- PID readings for the boring exceeded 1,000 ppm from 11-31 feet bgs, laboratory analysis did not detect regulated hydrocarbon constituents.
- Given known regional ground water impairment in the area, a well cluster with a deep and shallow well was installed at the site. The shallow well is screened from 50-70 feet bgs (depth to water noted at 59 feet bgs), the deep well is screened from about 90 to 100 feet bgs.

### November 2005

- RT Hicks Consultants submits a Corrective Action Plan on behalf of Rice Operating Company. The CAP concludes:
  - HYDRUS-1D modeling of observed conditions in the vadose zone would cause residual chloride to migrate slowly to ground water and cause a peak chloride concentration in ground water less than 120 mg/L, just 20 mg/L above background concentrations.
  - No evidence suggests produced water releases at the site have yet migrated to ground water, but rather that any released chloride from possible intermittent produced water releases was removed during junction box closure
  - Surface restoration and re-vegetation will allow the site to meet criteria for closure.

### February 2006

- NMOCD approves ROC request for OCD to withdraw its requirement for an abatement plan for the F-29-1a Vent site. Rescinding the requirement for an abatement plan was granted on tow conditions:
  - The onsite monitoring well shall remain active for future monitoring in the F-29 area

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- ROC shall submit a CAP within 30 days
- RT Hicks Consultants requests NMOCD accept our November 12, 2005 CAP as our final submittal.
- NMOCD approves the CAP with the following conditions:
  - Notify the OCD Santa Fe office and the OCD District office at least 48 hours in advance of all scheduled activities
  - Submit a final closure request with photo documentation upon completion of remedial work.

March 2008

Final Closure Report submitted documenting:

- Eight quarters of ground water monitoring in the shallow well at F-29-1a show chloride concentrations in ground water are below 250mg/L.
- Eight quarters of monitoring show TDS concentrations below 1,000 mg/L with the exception of 1,040 mg/L in May of 2006, something we believe is an anomaly reflective of natural fluctuation and laboratory uncertainty.
- Water quality in the deep monitoring well at the site is above WQCC Standards due to regional (up gradient) sources not associated with the F-29-1a site.
- RT Hicks Consultants conclusion that declines in TDS and chloride in the shallow well at the site are due to: cessation of minor releases of produced water with the abandonment of the site in 2002, installation of an effective vegetation cap at the site, natural dilution and dispersion in the aquifer.
- Re-vegetation at the site.

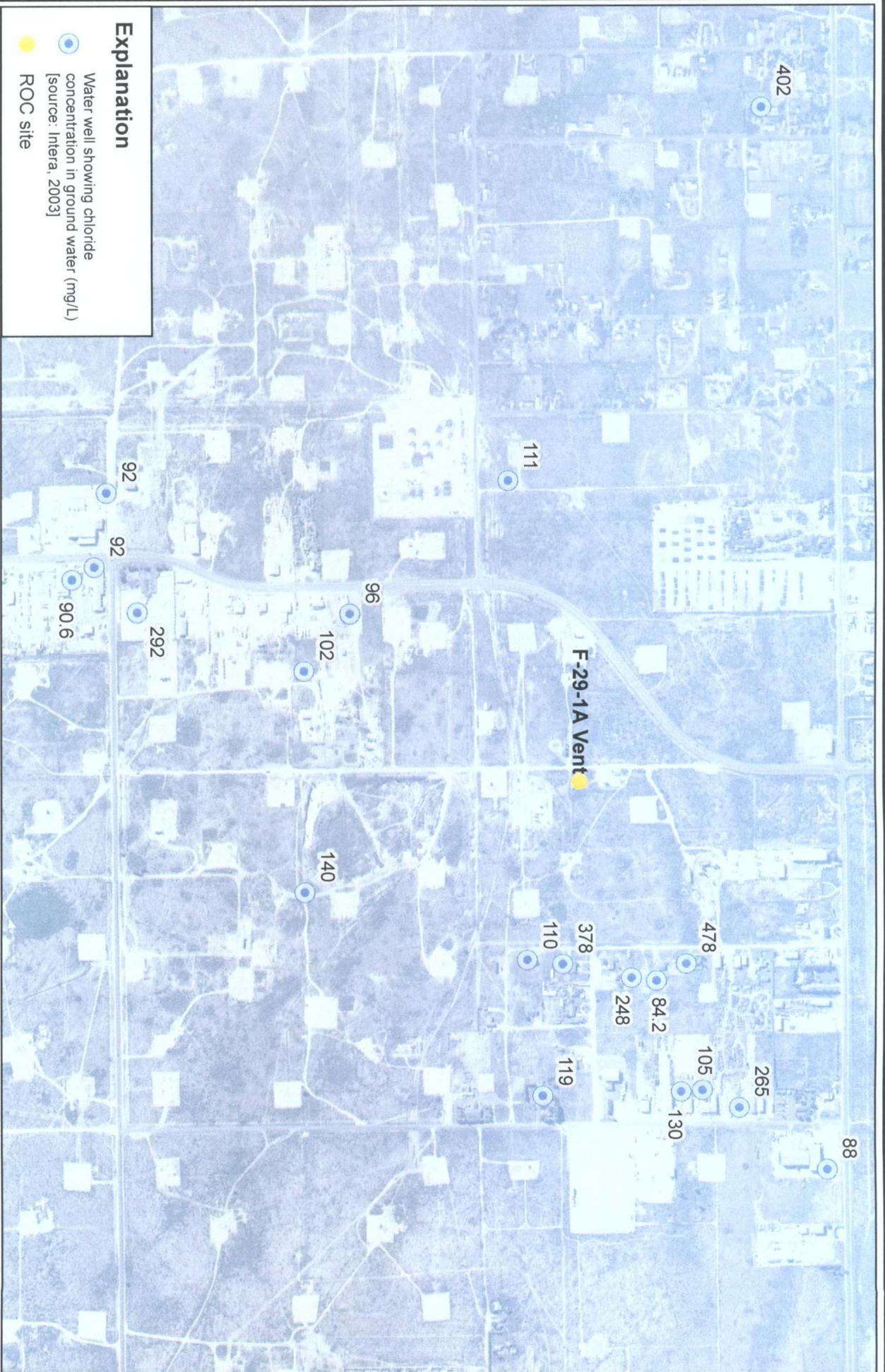
The attached tables and graphs show ground water data for F-29-1a from 2004-present day. Plate 1 shows regional chloride in ground water data near the site. As we have met the requirements for remedial work per NMOCD approval of our November 2006 CAP, we respectfully request closure of the F-29-1a site in writing.

Sincerely,  
R.T. Hicks Consultants, Ltd.



Katie Lee  
Project Scientist

Copy: Hack Conder, Rice Operating Company  
NMOCD, Hobbs



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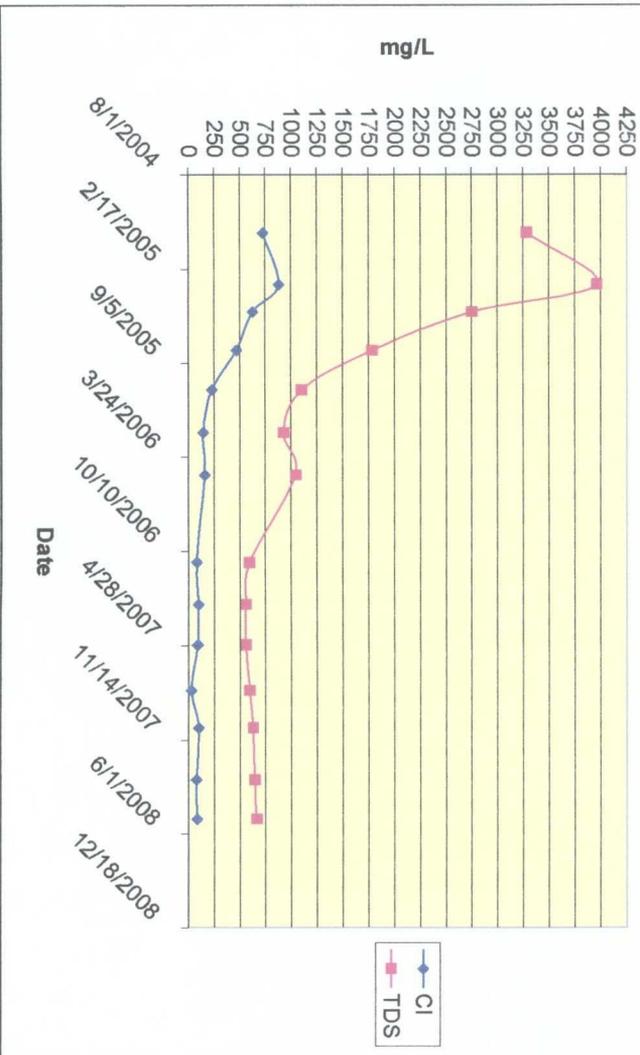
Regional Chloride Concentration in Ground Water  
 Rice Operating Company

Plate 1  
 August 2008



MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	60.64	74.8	2.27	6.8	12/2/2004	725	3280	<0.001	<0.001	<0.001	<0.001	*No Results	gray, no odor
2	60.08	74.8	2.36	7.07	3/22/2005	879	3960	<0.001	<0.001	<0.001	<0.001	1780	gray, no odor
2	60.04	74.8	2.36	7.08	5/19/2005	626	2750	<0.001	<0.001	<0.001	<0.001	788	
2	60.14	74.8	2.35	7	8/9/2005	470	1780	<0.001	<0.001	<0.001	<0.001	475	
2	60.34	74.8	2.3	8	11/1/2005	226	1100	<0.001	<0.001	<0.001	<0.001	218	Clear, no odor
2	60.42	74.8	2.3	10	1/31/2006	144	924	<0.001	<0.001	<0.001	<0.001	58.1	
2	60.5	74.8	2.3	10	5/2/2006	160	1040	<0.001	<0.001	<0.001	<0.001	153	
2 Shallow	60.69	74.8	2.3	10	11/3/2006	79.6	592	<0.001	<0.001	<0.001	<0.001	111	Clear no odor
2 Shallow	60.63	74.75	2.3	10	1/31/2007	98.2	556	<0.001	<0.001	<0.001	<0.001	125	Clear
2 Shallow	60.63	74.75	2.3	10	4/26/2007	89.4	556	<0.001	<0.001	<0.001	<0.001	107	clear no odor
2	60.98	74.75	2.2	10	8/1/2007	27.2	592	<0.001	<0.001	<0.001	<0.002	XXX	Clear No Odor
2 Shallow	60.98	74.75	2.2	10	10/19/2007	100	624	<0.001	<0.001	<0.001	<0.003	125	Clear No odor
1 Shallow	61.04	74.75	2.2	10	2/7/2008	76	641	<0.001	<0.001	<0.001	<0.003	196	Clear No odor
1 Shallow	61.18	74.75	2.2	10	5/1/2008	84	661	<0.002	<0.002	<0.002	<0.006	183	Clear No odor

F-29-1a Shallow Ground Water Data



ROC Hobbs F-29-1A Vent

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	60.74	102.57	6.69	20.1	12/2/2004	100	465	<0.001	<0.001	<0.001	<0.001	*No Results	clear: no odor
1	60.1	102.57	6.8	20.4	3/22/2005	613	930	<0.001	<0.001	<0.001	<0.001	154	gray: no odor
1	60.13	102.57	6.79	20.37	5/19/2005	332	1260	<0.001	<0.001	<0.001	<0.001	84.5	
1	60.22	102.57	6.78	20.3	8/9/2005	322	1080	<0.001	<0.001	<0.001	<0.001	75.7	
1	60.45	102.57	6.7	20	11/1/2005	300	986	<0.001	<0.0001	<0.001	<0.001	63.2	clear: no odor
1	60.54	102.57	6.7	25	1/31/2006	270	1000	<0.001	<0.001	<0.001	<0.001	58.1	clear: no odor
1	60.61	102.57	6.7	25	5/2/2006	298	996	<0.001	<0.001	<0.001	<0.001	62.9	
1 deep	60.79	102.57	6.7	25	11/3/2006	285	866	<0.001	<0.001	<0.001	<0.001	86.1	Clear no odor
1 Deep	60.75	102.48	6.7	25	1/31/2007	325	826	<0.001	<0.001	<0.001	<0.001	104	Clear/
1	60.83	102.48	6.7	25	4/26/2007	279	850	<0.001	<0.001	<0.001	<0.001	95.7	clear no odor
1 Deep	61.1	102.48	6.6	25	8/1/2007	263	1160	<0.001	<0.001	<0.001	<0.002	102	Clear No Odor
1 Deep	61.09	102.48	6.6	25	10/19/2007	292	1047	<0.001	<0.001	<0.001	<0.003	130	Clear No odor
1 Deep	61.14	102.48	6.6	25	2/7/2008	268	945	<0.001	<0.001	<0.001	<0.003	190	Clear No odor
1 Deep	61.27	102.48	6.6	25	5/1/2008	412	1450	<0.002	<0.002	<0.002	<0.006	262	Clear No odor

F-29-1a Deep Ground Water

