1R - 275

GENERAL CORRESPONDENCE

YEAR(S):

1994

Unocal Corporation
Oil and Gas Operations
1004 North Big Spring, Suite 300
P.O. Box 3100
Midland, Texas 79702
Telephone (915) 685-7600

UNOCAL 76

November 1, 1994

Central U.S. Business Unit

Mr. Roger Anderson
NMOCD
P. O. Box 2088
Santa Fe, NM 87504-2088

Re: Third Quarter 1994 Report
Groundwater Containment and Brine Evaporation Pit Remediation Program
Dollarhide Unit, Andrews County, Texas

Dear Mr. Anderson:

This third quarter 1994 report is to inform you of the progress accomplished to date with respect to the containment of groundwater impacted by the historic disposal of produced oilfield brines into surface evaporation pits at the Dollarhide Unit operated by Union Oil Company of California, dba Unocal, in western Andrews County, Texas. It also addresses the evaluation of the former brine evaporation pit sites for possible future remedial action. The background and approach for the Dollarhide Unit program was presented to you on June 27, 1994, by representatives of Unocal and their environmental consultant, Geraghty & Miller, Inc., of Midland, Texas.

As you may recall, Unocal has made an evaluation of the groundwater beneath the Dollarhide Unit and has determined that past brine water surface disposal practices may have impacted the shallow fresh groundwater beneath the unit. The study determined that chloride concentrations have become elevated in some Dollarhide Unit water wells and Unocal has initiated a groundwater containment program to deter downgradient migration of the impacted water. Unocal has also undertaken a contaminant source identification program to evaluate whether former brine pit locations are continuing sources for leaching of chlorides from the soil down to the underlying groundwater.

Since the June 27, 1994, presentation to you , Unocal has installed 14 groundwater exploration wells along the western boundary of the Dollarhide Unit to assess the groundwater quality downgradient of past and current operations.

These wells are in addition to the 10 wells installed in the initial evaluation conducted prior to the presentation of the corrective action program. The new wells have been developed and sampled, and Unocal is currently awaiting the final analytical results. The locations of all 24 water wells constructed by Unocal to date are noted on the attached figure.

The groundwater containment program will be initiated when the 24 wells are equipped with pumps and flowlines are installed. As discussed in the presentation, produced water will be used to augment injection water in the Dollarhide Waterfloods. It is expected that the wells will yield from 5 to 25 gallons per minute.

Prior to the initiation of containment pumping, static water levels will be obtained from the new wells and from the other existing Dollarhide Unit water wells. A revised water table map will be constructed to document groundwater conditions prior to the initiation of pumpage along the western Dollarhide Unit boundary. Chloride concentration data will also be summarized and plotted. This baseline information will be presented in Unocal's next quarterly report.

Unocal has also been actively assessing the occurrence of chlorides in soils beneath former brine disposal pits. A drilling program to sample subsurface soils was initiated in September, 1994. Eighty-two former pit sites have been cored to date, and subsurface soil samples have been field evaluated for conductivity. Based on the field evaluations, selected soil samples were submitted to an analytical laboratory for chloride testing. Unocal is currently awaiting the results of the laboratory tests.

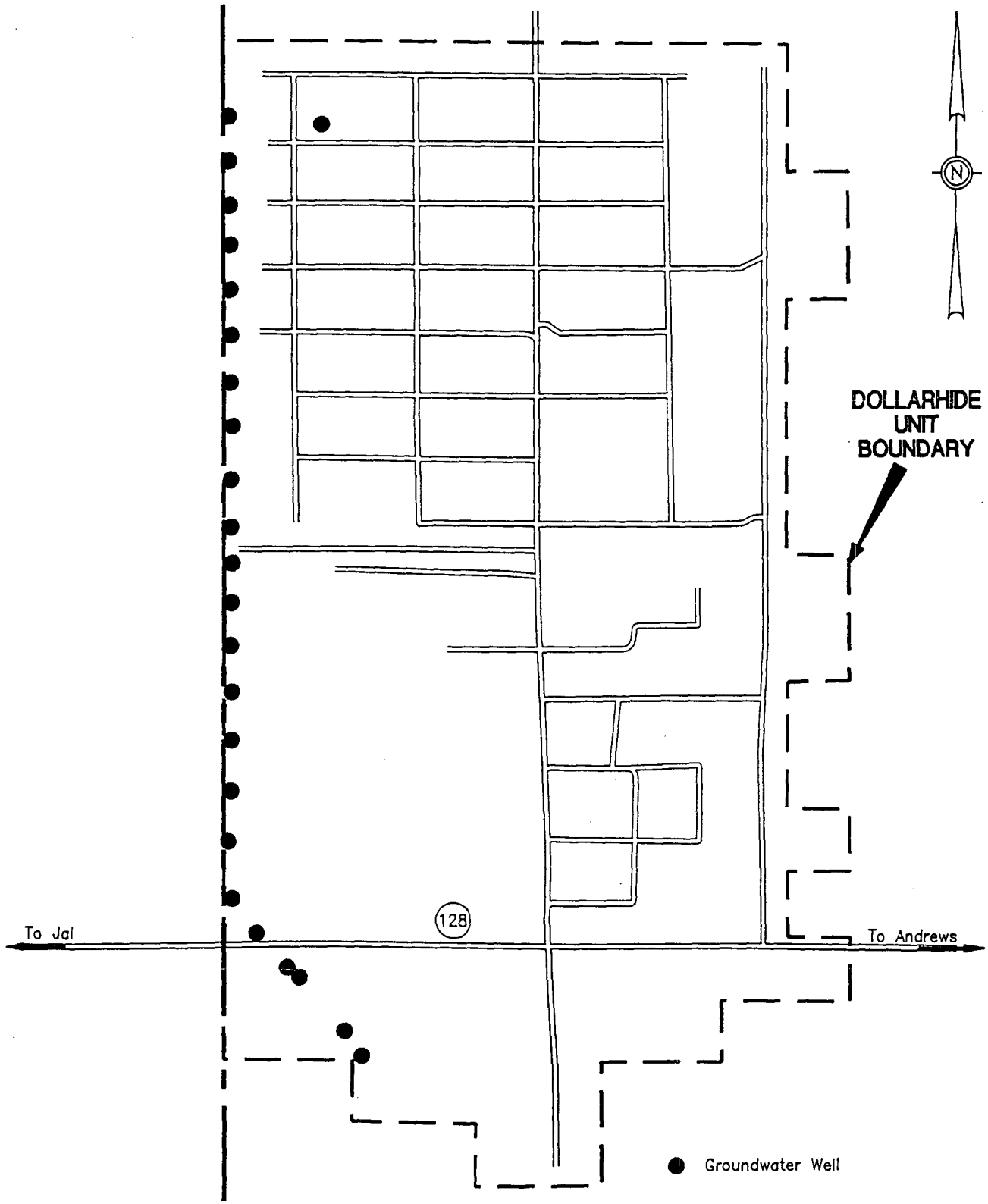
Former brine disposal pits which contain impacted soil at depth and which may be a continuing source of chloride contamination to the shallow groundwater will be remediated by the end of the first quarter of next year. The remedial approach will be to clay cap the former pits to prevent leaching of chlorides by rainfall infiltration. A local source of clay is currently being evaluated with respect to suitability for use in the capping program.

Unocal will continue to keep the you informed of goundwater containment operations and former brine pit remedial actions. Please contact us if you have any questions or comments.

Very truly yours.
Union Oil Company of California, dba Unocal

Jay Waldrop

Jay Waldrop
Project Manager



DRAFTER: H. CLARDY | APPROVED: A. SCHMIDT | CHECKED: A. SCHMIDT | DRAWING: MT33801A.DWG | FILE: UNOCAL | PRJCT NO.: MT0338.001 | DWG DATE: 28OCT94

GERAGHTY & MILLER, INC.
Environmental Services

0 3,000 Feet

UNOCAL NORTH AMERICAN OIL & GAS DIVISION
DOLLARHIDE UNIT

WELL LOCATION MAP

ANDREWS COUNTY, TEXAS

FIGURE

6/26/94 Unocal/OCD Meeting on Roller Hydro Unit

Attendees - Bill Olson, Roger Anderson } OCD
Bill Carr - Campbell, Carr, Berge & Sheridan
Bob Tedor, Jim Waldrop, Craig Van Horn } Unocal
Joseph Reed - Geraghty & Miller

GW contamination on Texas side of border migrating into NM
Related to "Mrs. Smith Water Contamination Problem"
2/26/88 prelim report by OCD

shallow gradient background approx 150 ppm TDS
10-12 MW's on border - up to 7800 ppm TDS on border

No BTEX run on samples