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REPORTS

DATE:

6/13/2003

Larson & Associates, Inc.
Environmental Consultants

June 13, 2003

Mr. William C. Olson, Hydrologist
Environmental Bureau
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Groundwater Investigation Work Plan, Texaco Exploration and Production Inc., G. L. Erwin Tank Battery, Unit Letter O (SW/4, SE/4), Section 35, Township 24 South, Range 37 East, Lea County, New Mexico

Dear Mr. Olson:

ChevronTexaco Exploration and Production Company (ChevronTexaco), as successor to Texaco Exploration and Production Inc. (Texaco), has retained Larson and Associates, Inc. (LA) to prepare a work plan for continuing the groundwater investigation at the G. L. Erwin "A&B" Federal NCT-2 Tank Battery (Site), located in Unit Letter O (SW/4, SE/4), Section 35, Township 24 South, Range 37 East, Lea County, New Mexico. Figure 1 presents a Site location and topographic map.

ChevronTexaco proposes to install four (4) monitoring wells at the Site, as discussed with the New Mexico Oil Conservation Division (NMOCD) by telephone on June 5, 2003, and in accordance with NMOCD correspondence dated April 16, 2003, in order to delineate the cross gradient and down gradient extent of chloride impact. The four (4) additional monitoring wells will be installed at approximate locations shown on Figure 2.

The monitoring wells will be drilled using a truck-mounted water rotary drilling rig. As groundwater is encountered at approximately 60 to 70 feet below ground surface (bgs), the borings will be advanced through the saturated thickness of the aquifer (generally three to four feet at the Site), and completed as monitoring wells at total depths of approximately 70 to 80 feet bgs. Soil cuttings will be observed during drilling for lithologic descriptions and possible laboratory analysis.

The monitoring wells will be constructed with 2-inch diameter screw coupled schedule 40 PVC casing and screen. Approximately 10 feet of well screen will be placed in the well, with approximately 5 feet of screen extending through the saturated thickness of the aquifer. Silica sand will be placed around the well screen to about two (2) feet above the screen. A layer of bentonite pellets, approximately two (2) feet thick, will be placed over the sand, and hydrated with potable water. The remainder of the annulus will be filled

with cement and bentonite grout, to about one (1) foot bgs. The wells will be secured with an above-grade locking steel cover anchored in a concrete pad measuring approximately 3 feet by 3 feet. A Professional Land Surveyor registered in the State of New Mexico will survey the monitoring wells. The wells will be surveyed for horizontal location, top-of-casing and ground elevations.

The wells will be bailed after installation to remove fine-grained sediment disturbed during drilling. Additional development will be performed by bailing with dedicated bailers, or using an electric submersible pump and dedicated polyethylene tubing. The purged water will be contained in a portable tank, until disposed of at an NMOCD permitted disposal facility. All equipment contacting groundwater (i.e., water level indicator, interface probe, submersible pump, etc.) will be thoroughly cleaned and rinsed between wells, using laboratory-grade detergent.

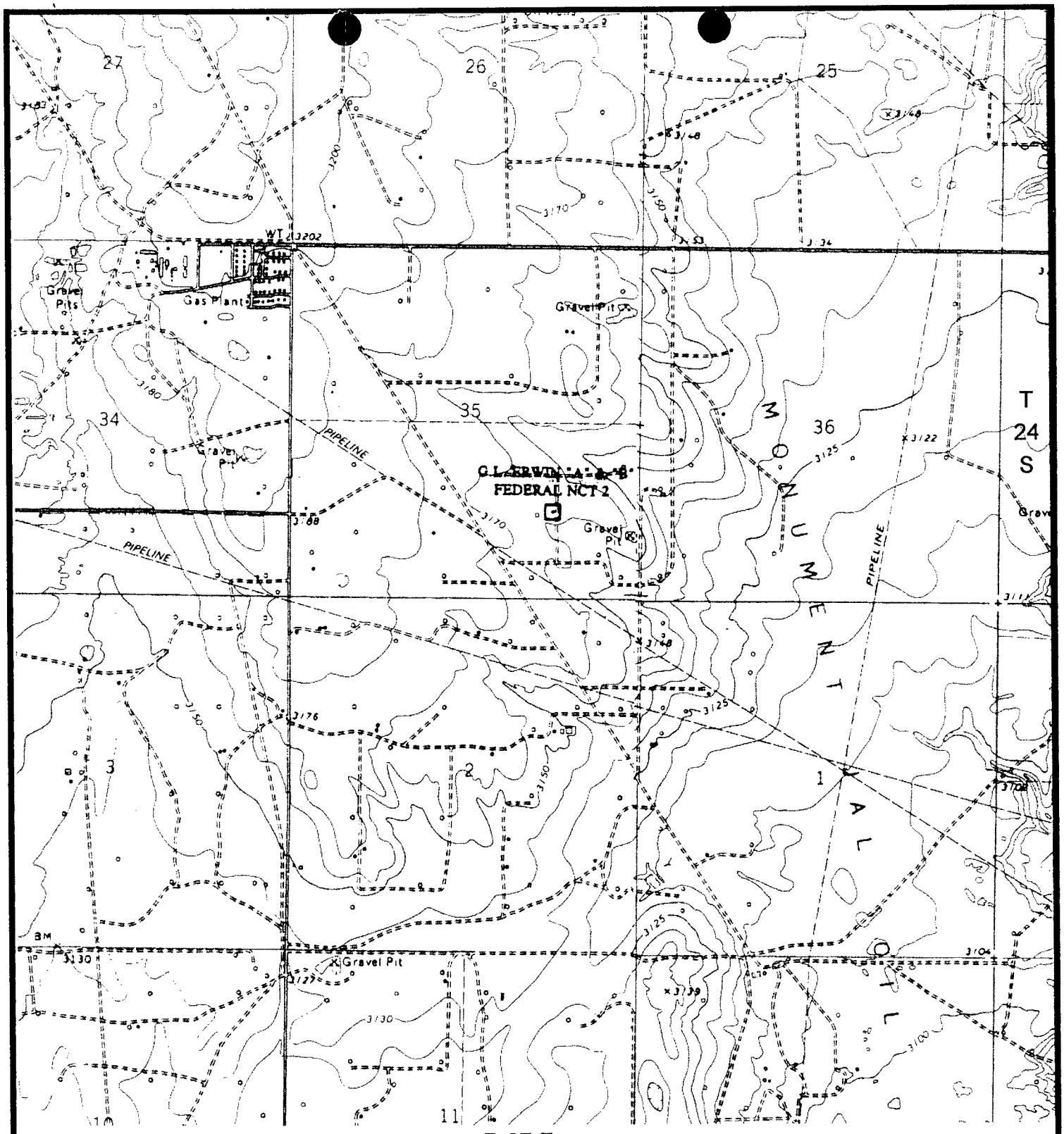
Groundwater samples will be collected from all monitoring wells at the Site, and analyzed for benzene, toluene, ethylbenzene and xylenes (collectively referred to as BTEX), anions, cations and total dissolved solids (TDS). Depth-to-groundwater will be measured in the monitoring wells prior to purging and sampling. Groundwater samples will be collected using dedicated disposable polyethylene bailers, and carefully poured into laboratory-prepared containers. The sample containers will be labeled, immediately chilled in an ice chest, and transferred under chain-of-custody control to the laboratory. A duplicate sample and trip blank will be collected for Quality Assurance/Quality Control (QA/QC). The field observations will be documented in a bound field notebook, and a construction diagram and geologic log will be prepared for each monitoring well.

The data will be submitted to the NMOCD in the annual groundwater monitoring report, and will include summaries of field and laboratory data, a groundwater flow diagram, and an isopleth map of chloride concentrations exhibited in groundwater at the Site. Please call Mr. Scott Toner at (915) 687-7318 or myself at (915) 687-0901 if you have any questions.

Sincerely,
Larson and Associates, Inc.

Cindy K. Crain
Geologist

cc: Scott Toner - Texaco
Chris Williams – NMOCD District I



TAKEN FROM U.S.G.S.
JAL NW and JAL NE, NM
7.5' QUADRANGLES

SCALE: 1"=2000'

FIGURE #1

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION AND PRODUCTION, INC.

G.L. ERWIN WATER STATION and TANK BATTERY

SECTION 35, T24S, R37E

TOPOGRAPHIC MAP

DATE: 2/06/03
NAME:
FILE: 00-0112

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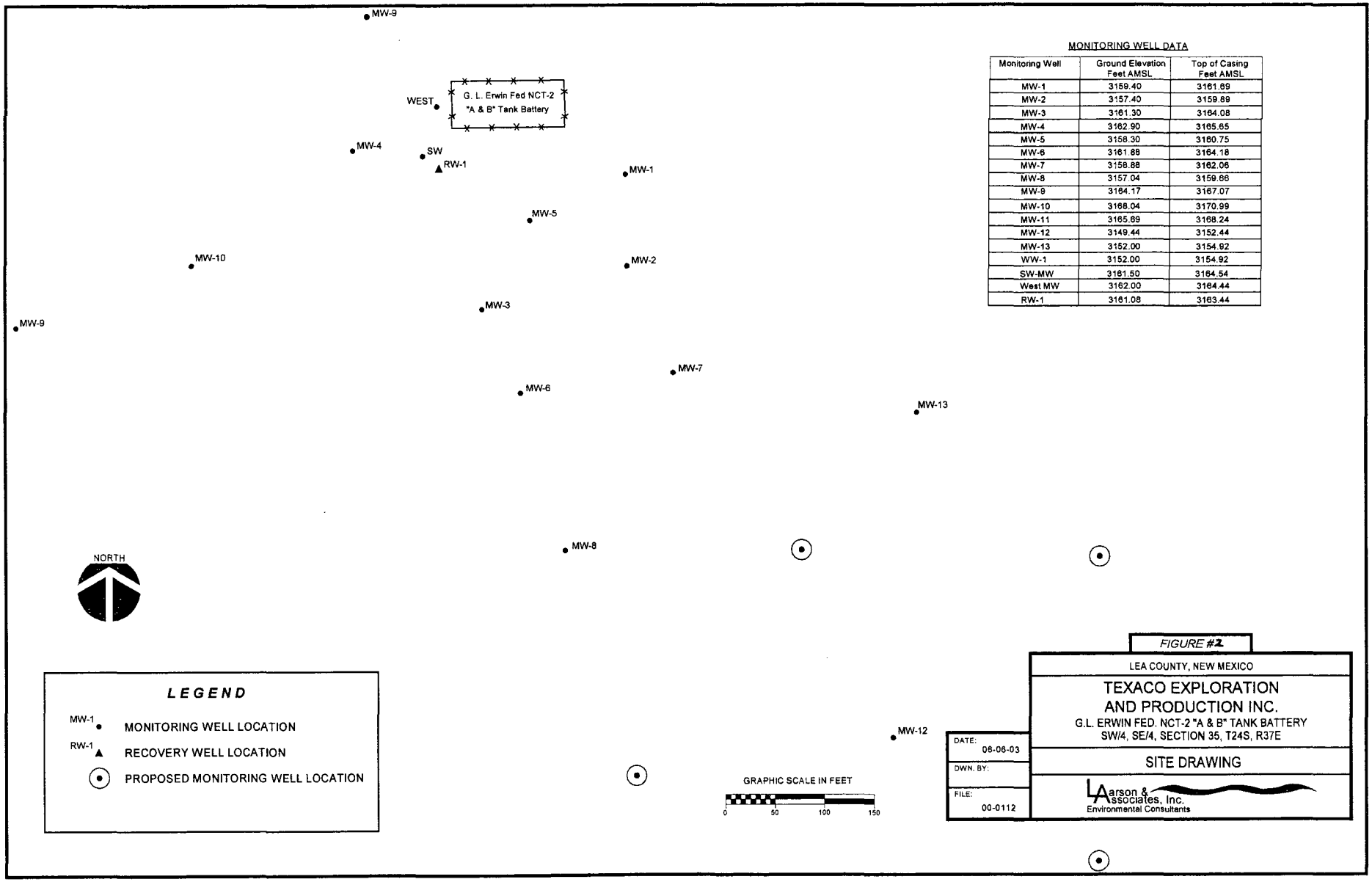

MONITORING WELL DATA

Monitoring Well	Ground Elevation Feet AMSL	Top of Casing Feet AMSL
MW-1	3159.40	3161.69
MW-2	3157.40	3159.89
MW-3	3161.30	3164.08
MW-4	3162.90	3165.65
MW-5	3158.30	3160.75
MW-6	3161.88	3164.18
MW-7	3158.88	3162.06
MW-8	3157.04	3159.86
MW-9	3164.17	3167.07
MW-10	3168.04	3170.99
MW-11	3165.89	3168.24
MW-12	3149.44	3152.44
MW-13	3152.00	3154.92
WW-1	3152.00	3154.92
SW-MW	3161.50	3164.54
West MW	3162.00	3164.44
RW-1	3161.08	3163.44

FIGURE #2

LEA COUNTY, NEW MEXICO

TEXACO EXPLORATION AND PRODUCTION INC.

G.L. ERWIN FED. NCT-2 "A & B" TANK BATTERY
SW/4, SE/4, SECTION 35, T24S, R37E

SITE DRAWING

DATE: 06-06-03
DWN. BY:
FILE: 00-0112

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