NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

INJECTION PROFILE LOG ANALYSIS

Salt Water Disposal Wells Adjacent to WIPP

Devon Energy Corporation
Todd '26' Federal Well No.3, November 13, 1995

Witnessed by: Dan Talley, Devon Energy Corporation
David Catanach, New Mexico Oil Conservation Division
Ben Stone, New Mexico Oil Conservation Division
Ray Smith, New Mexico Oil Conservation Divison

Well Status: Injecting at normal rate and pressure of 1700 bpd @ 660 psi.
Injection through open hole interval: casing shoe - 4390', TD - 5508'.

Procedure & Conclusions: RIH with 1 3/8" profile string consisting of collar locator, isotope ejector, gamma ray detector, caliper and temperature tools. Ran injecting temperature followed by gamma ray correlation. Depth correction made. A caliper log was not run as the objective was to locate possible injection out of zone rather than exact flow rates in a given hole size. The objective could be met without hole size information. Tracer studies did not include tracer intensities (drag runs) for the same reason. Velocities began at 4829' (lowest possible depth with gamma ray detector). This shot indicated slight fluid movement below total depth, which is common in open-hole completions. After this, a series of upward channel checks were made, all of which indicated no channel up from the casing shoe. The well was shut-in and a 1 hour shut-in temperature was run. The anomoly from 4390' to approximately 4450' was cause to shoot some 'cross-flow' checks between 4300' and 4450' to further investigate. These checks indicated fluid to be static in the wellbore, leading to the conclusion that a 'washout' below the casing shoe caused anomoly due to a severe hole size change. Again, this is a common occurance in openhole completions. As no fluid was exiting or entering this interval during injection or shut-in, the decision was made to not investigate further. POH with logging tools.

OIL CONSERVATION DIVISION

OFFICE OF THE SECRETARY
ADMINISTRATIVE SERVICES DIVISION
ENERGY CONSERVATION AND MANAGEMENT DIVISION
FORESTRY AND RESOURCES CONSERVATION DIVISION
MINING AND MINERALS DIVISION
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PARKS AND RECREATION DIVISION

OIL CONSERVATION DIVISION

Yates Petroleum Corporation
105 S. Fourth Street
Artesia, New Mexico 88210

Attention: Mr. Randy Patterson

Re: David Ross "AIT" Federal
Well No. 1, Section 35,
T-22 South, R-31 East

Dear Mr. Patterson:

Division personnel recently attended a workshop held in Albuquerque, New Mexico, sponsored by the Environmental Evaluation Group (EEG) entitled the "Potential Effects of Oil and Gas Activities on WIPP". During the course of these proceedings, which was attended by representatives of EEG, Sandia Laboratory, NMED, DOE, BLM, NM Bureau of Mines, and EPA Region VI, it was brought to the attention of the Division that certain WIPP monitor wells completed in the Salado formation are exhibiting water level rises in the Culebra interval. This Culebra interval occurs at a depth of approximately 600-800 feet in this area. It was implied by some attendies that injection into the David Ross "AIT" Federal Well No. 1 may be responsible, or at least contributing, to such water level rises.

Ms. Ruby Williams, Multi-Media Planning & Permitting Division, and Mr. Ray Leissner, New Mexico UIC Program Manager, EPA Region VI, recently contacted the Division and requested that testing be required on the David Ross "AIT" Federal Well No. 1 in order to determine if this well is injecting out of zone and possibly contributing to the Culebra interval water level rises.

We have examined Division records which indicate that a mechanical integrity casing pressure test (MIT) was conducted on the David Ross "AIT" Federal Well No. 1 on August 16, 1995, and that the well passed the test.

After consultation with Division staff, we have determined that a radioactive tracer survey should demonstrate whether the injected fluid within the subject well is migrating upward through channels in the vicinity of the wellbore. In order to comply with EPA's request, the Division is hereby ordering that a radioactive tracer survey be conducted on the David Ross "AIT" Federal Well No. 1 within 60-days from the date of this letter.

Depending on the results of the tracer survey, additional tests may be required to be performed on the subject well.

Enclosed please find a recommended procedure to be utilized when conducting the survey. Please advise the supervisor of the Division's Artesia District Office of the date and time such survey will be conducted in order that the same may be witnessed.

For your information, on June 8, 1995, Mr. David Catanach sent a letter to Mr. Jim Brown, Yates Petroleum Corporation, in which he requested an updated list of all source water being injected into the David Ross "AIT" Federal Well No. 1. This request was in conjunction with certain other allegations that the composition of the water being injected into the well was considerably different than that stated in your original SWD application. Please be advised that the Division has yet to receive a response to this request. We would appreciate being furnished this information at your earliest convenience.

If you should have any questions, please contact Mr. David Catanach at (505) 827-8184.

Sincerely,

William J. LeMay
Director

xc: OCD-Artesia
Ms. Ruby Williams
Mr. Ray Leissner
(EPA Region VI)

OIL CONSERVATION DIVISION

Ms. Ruby Williams
USEPA, Multi-Media Planning &
Permitting Division
6 PDN
1445 Ross Avenue
Dallas, Texas 75202

Dear Ms. Williams:

As we have previously discussed, enclosed please find the following information regarding the Yates Petroleum Corporation David Ross "AIT" Federal Well No. 1 and the Devon Energy Corporation Todd "26" Federal Well No. 3:

a) Wellbore schematics for both the David Ross "AIT" Federal Well No. 1 and the Todd "26" Federal Well No. 3 showing all pertinent construction and completion details;

b) Copies of all information contained within the Division's well files. This includes all historic information on file with the Division on both of the subject wells;

c) Copy of Division Permit No. SWD-120 which authorized injection into the Todd "26" Federal Well No. 3 on June 17, 1971;

d) Copy of Division Permit No. SWD-419 which authorized injection into the David Ross "AIT" Federal Well No. 1 on May 22, 1991;

e) Map of the WIPP area showing the location of both the David Ross "AIT" Federal Well No. 1 and the Todd "26" Federal Well No. 3 relative to WIPP;

f) The results of a casing pressure test (MIT Test) conducted on the David Ross "AIT" Federal Well No. 1 on August 16, 1995. The results of the test indicate that the well has internal mechanical integrity.

We are still in the process of determining what additional tests will aid in the demonstration that these wells are not contributing to rising water levels in the Culebra formation. We will keep you advised of the status and the results of additional testing of these wells.

If you should have any questions, please contact me at (505) 827-8184.

Sincerely,

David Catanach

David Catanach
Engineer

CARDINAL SURVEYS COMPANY

INJECTION PROFILE

COMPANY YATES PETROLEUM CORPORATION

File No. 13,139

WELL DAVID ROSS "AIT" FED. NO. 1

FIELD LIVINGSTON RIDGE

COUNTY EDDY STATE NEW MEXICO

LOCATION: 1980' FNL & 660' FEL

SEC 35 TWP 22-S RGE 31-E

Permanent Datum G.L. Elev. 3463' KB 3482'

Log Measured From K.B. 19 Ft. Above Perm. Datum DF 3481'

Drilling Measured From K.B. GL 3463'

Date	11-20-95
Depth - Driller	8450'
Depth - Plug Back	8150'
Depth - Logger	6000' STOPPED
Bottom Logged Interval	6000'
Top Logged Interval	4000'
Recorded By	GRAY
Witnessed By	FANT
Base Location	HOBBS, NEW MEXICO
Unit No.	8724
Equip. Operator	CARREON

Size	Wgt.	From	To
Casing			
13 3/8"		SURFACE	697'
8 5/8"		SURFACE	4465'
5 1/2"	15.5 & 17#	SURFACE	8450'
Tubing			
3 1/2"	9.3 PC	SURFACE	4427'
Borehole			

Type of Well INJECTION

Status INJECTION

Type of Fluid WATER

Fluid Level FULL

Injection Rate 3154 BPD

Surface Pressure 840 PSI

Surface Temp. 72.7°

Bottom Hole Temp. 104.7°