

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR John Yuronka		ADDRESS 120-C Central Bldg., Midland, Texas 79701			
LEASE NAME State JC"T"	WELL NO. 1	FIELD Langlie-Mattix		COUNTY Lea	
LOCATION UNIT LETTER B ; WELL IS LOCATED 660' FEET FROM THE North LINE AND 660' FEET FROM THE West LINE, SECTION 16 TOWNSHIP 23-S RANGE 36-E NMPN.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8 OD	295	250	Circulated	
INTERMEDIATE					
LONG STRING	5-1/2"	3700	600	2470'	Temperature Survey
TUBING	2" EJE	3850	NAME, MODEL AND DEPTH OF TUBING PACKER Halliburton R-4 @ Approx. 3690		
NAME OF PROPOSED INJECTION FORMATION Queen Dolomite		TOP OF FORMATION 3655		BOTTOM OF FORMATION 3975 Estimated	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open hole	PROPOSED INTERVAL(S) OF INJECTION 3800 to 3875		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Originally drilled by Amerada as an oil well			HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH Please see attached discussion of well history and conversion procedure					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 180'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 3634		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 5200 Estimated	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 80	MINIMUM 230	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Initially by gravity	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Initially by gravity	APPROX. PRESSURE (PSIG) —
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE — yes		WATER TO BE DISPOSED OF yes		NATURAL WATER IN DISPOSAL ZONE yes	
ARE WATER ANALYSES ATTACHED? Presently produced waters					
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Ross Robinson - Lessee 908 19th Street, Eunice N. M.					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Texas Pacific Oil Co. 1509 West Wall, Midland, Texas 79701					
Texaco, Inc., Midland Savings Bldg., Midland, Texas 79701					
Shell Oil Co., Petroleum Bldg., Midland, Texas 79701					
Maralo Inc., Midland Tower, Midland, Texas 79701					
Continental Oil Co., Midland Savings Bldg., Midland, Texas 79701					
Cleary Petroleum Corp., Gihls Tower West, Midland, Texas 79701					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes (Lessee)		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes	ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

John Yuronka
(Signature)

John Yuronka, Authorized Agent
(Title)

1-27-76
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

John Yuronka (Amerada) State JC"T" #1
C/NW/4, NE/4, Sec. 16, Twp 23-S, R-36-E

Well history, present mechanical condition
and proposed procedure for converting to
water disposal.

The captioned well was completed in January, 1949, by Amerada Petroleum Corp. flowing oil from a dolomite phase of the Queen formation in the Langlie-Mattix Field.

Subsequently the oil bearing zone became non-commercial and the well was converted in January, 1957, to gas production from the Yates Formation. By November, 1962, the Yates had been sufficiently depleted and water production had increased to the extent that State JC"T" #1 was no longer capable of commercial production. The well was T. A.'d until January, 1973, when a pumping unit was installed and productivity tests conducted for one month. Even at current gas prices State JCT #1 proved incapable of commercial gas production and has remained idle since that latest test.

Therefore it is now proposed to convert the State JCT #1 to salt water disposal for service to other wells on the same lease.

Following are pertinent details of the history and physical and mechanical conditions now existing in State JCT #1, and a proposed conversion program.

Derrick floor elevation 3469'. Original Total Depth 3800'(-331). 5 1/2" O.D. casing cemented at 3700'(-231). Available files, including those of the N. M. C. C., do not contain a record of productivity tests of the open hole section from 3700' to 3800' subsequent to cementing 5 1/2" csg. However, a drill stem test from 3687' to 3800' prior to running 5 1/2" csg. had gas to surface 20 minutes and a head of drilling mud in 55 minutes. Obtained 1880' of slightly gas cut formation water in 4 hours. There was no oil and gas was estimated at 5000 cu. ft./day.

After running 5 ½" casing, a drillable cement retainer was set at 3690' and the open hole squeezed with 50 sacks cement.

Casing was perforated from 3635' to 3680' and treated with 500 gal. Acid. Flowed 100% formation water. Set cement retainer at 3620' and squeezed perforations 3635' to 3680' with 50 sacks cement. Perforated casing 3585' to 3605' and treated w/1000 gal. acid in two stages. Flowed 288.20 bbls. oil, 11.01 bbls. water in 23 hrs. through 40/64" tbg. choke on initial potential test. Gas at rate of 617 MCF/day. Completed January 23, 1949.

By August 1949, well could no longer flow unassisted because of increasing water production. To secure gas for lift purposes the Yates Sand was perforated from 3280' to 3300' and 3330' to 3355'. The gas sand was treated with 2000 gal. acid.

State JCT #1 was produced by gas lift until January, 1951, when water had increased to the degree it was unprofitable to continue operations. The erstwhile oil bearing zone was abandoned by setting a cement retainer at 3400' and squeezing perforation 3585' to 3605' with 200 sacks cement.

State JCT #1 was then converted to a gas well by perforating from 3150' to 3210' and treating the new perforation with 2000 gal. Acid. Well was recompleted as a Yates gas well producing from perforation 3150' to 3210', 3280' to 3300', and 3330' to 3355'. It was potentialled on Feb. 20, 1951, flowing 1,640,000 cu. ft. gas and 55 bbls. water per day. Gas sales to Permian Basin Pipeline Co. began on December 24, 1953.

By August, 1956, well was producing an average of 200 bbls. water/day and persisted in loading with water and dying. In December, 1956, State JCT #1 was reworked by squeezing off all open perforations w/150 sacks cement and then drilling out to 3312. Casing was re-perforated 3150' to 3210' and 3280' to 3300'. Perforated section

was then fractured with 10,000 gal. oil and 10,000# sd. On initial test after fracturing well flowed 13.80 bbls. oil and fed 920 MCF gas into the 500 PSIG line in 24 hours.

Within two months water production averaged 20 to 30 bbls. per day. The oil was exhausted and gas production varied between 500 and 700 MCF/d. The well had begun to load with water and a compressor was required to feed gas into the transmission line.

Periodic swabbing was required to keep well on production.

In May, 1961, a cement retainer was set at 3229' and perforations from 3280' to 3300' squeezed with 50 sacks cement. The perforations 3150' to 3210' were refractured with 20,000 gal. crude oil and 40,000# sd. Casing was additionally perforated from 3090' to 3100', treated with 500 gal Acid and fractured with 10,000 gal crude oil and 10,000# sd.

Following reworking well averaged 100 bbls. water and 293 MCF/day. Well feeding through a compressor into a 100 PSIG line.

By November, 1962, State JCT #1 could no longer be operated profitably. The N. M. C. C. gave permission to temporarily abandon the well and disconnect from the pipe line. It has remained inactive since, except for the testing period in 1973 noted above.

To convert the State JCT #1 to water disposal the following program is proposed:

- (1) Set cement retainer at 3060' and squeeze perforations from 3090' to 3100' and 3150' to 3210' with approximately 300 sacks cement.
- (2) Drill out cement to top of retainer at 3229 and pressure test for "shut off." If satisfactory, proceed with program. If not, resqueeze.
- (3) Drill out cement plugs from 3229' to top of retainer at 3400'. Test

squeezed perforations from 3280' to 3300' and 3330' to 3355' for shut off. If satisfactory, proceed with program. If not, resqueeze.

(4) Drill out plugs from 3400' to 3690' and test squeezed perforations from 3585' to 3605' and 3635' to 3680' for shut off. If satisfactory, proceed with program. If not, resqueeze.

(5) Drill out cement plug in squeezed open hole from 3700' to O. T. D. at 3800' and deepen well an additional 70' to 75'.

(6) Run tubing and packer and treat new hole with 2500 gal. 15% Acid.

(7) Swab back acid water and test new formation for injectivity. If not satisfactory, retreat. If satisfactory, initiate water injection in the newly opened hole section below the packer.

The State JCT #1 is a structurally high well and the water will be introduced into a zone that is below the established original water level in the Langlie-Mattix Field in any well within the prescribed radius of two miles.