

EL PASO NATURAL GAS COMPANY
WATER ANALYSIS

Report date 1-30-80

Sample Location Jal #3 Blow Down Pit

Sample date _____

Sample source _____→					
CATIONS	Calcium (Ca)	as ppm CaCO_3	472		
	Magnesium (Mg)	as ppm CaCO_3	98		
	Sodium (Na)	as ppm CaCO_3	3974		
TOTAL CATIONS		as ppm CaCO_3	4544		
ANIONS	Bicarbonate (HCO_3)	as ppm CaCO_3	318		
	Carbonate (CO_3)	as ppm CaCO_3	180		
	Hydroxide (OH)	as ppm CaCO_3	0		
	Sulfate (SO_4)	as ppm CaCO_3	806		
	Chloride (Cl)	as ppm CaCO_3	3240		
TOTAL ANIONS		as ppm CaCO_3	4544		
TOTAL HARDNESS		as ppm CaCO_3	570		
ALKALINITY		as ppm CaCO_3			
	Phenolphthalein		90		
	Total		498		
IRON ppm Fe			1.02		
SILICA ppm Si			98		
TURBIDITY			54		
TOTAL DISSOLVED SOLIDS (Mmhos)			7500		
CAUSTICITY ppm (OH) as CaCO_3					
pH			8.5		
SULFITE (SO_3) ppm					
PHOSPHATES (PO_4) ppm					
	Para				
	Ortho				
CHROMATE as ppm Chromium			0		
Suspended Solids PPM			1012		
Zinc as PPM Zinc			2		

Tested by Ellen Martin

Remarks: Hydrogen sulfide present. Unable
to run dissolved oxygen.

cc: RTW
DT
WH
JK



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

El Paso Natural Gas
P. O. Box 1492
El Paso, Texas 79978

Re: Application for (SWD)(WFX)(PMX)
El Paso Natural Gas Co.

Woolworth Estate - SWD No. 1E

Sec. 33, T-24-S, R-37-E

Gentlemen:

We have reviewed the subject application dated October 10, 1980. We may not process the subject application until the required information checked below is submitted.

- ☐ A well plat must be submitted showing the location of the proposed injection well(s) and the location of all other wells within a radius of two miles from said proposed injection well(s) and the formation from which said wells are producing or have produced. The plat shall indicate the leases, if any, within said two-mile radius.
- ☒ Applications must include a tabular summary of all wells within one-half mile of the injection well(s) and which penetrate the injection zone showing all casing strings, setting depths, sacks of cement used, cement tops, total depth, producing interval, well identification, and location. Applications for expansion of projects need not include the tabulation if the same is on file and no additional wells are included. (Memo No. 3-77)
- ☒ Application must include a schematic of all plugged and abandoned wells within the one-half mile radius and which have penetrated the injection zone showing all information required under the above plus the size and location of all plugs and the date of abandonment. Applications for expansion of projects need not include the schematics if the same is on file and no additional wells are included. (Memo No. 3-77)
- ☐ The log of the proposed injection well(s) if same is available.
- ☐ A diagrammatic sketch of the proposed injection well(s) showing all casing strings, including diameters and setting depths, quantities used and tops of cement, perforated or open hole intervals, tubing strings, including diameters and setting depths, and the type and location of packers, if any.

☐ Other pertinent information including the name and depth of the zone or formation into which injection will be made, the kind of fluid to be injected, the anticipated volumes to be injected, and the source of said injection fluid.

☐ Notice that all offset operators have been notified by certified mail.

☒ Other: See below.

If there are any questions on this matter, please do not hesitate to call upon me.

Sincerely,



MIKE HOLLAND
Geologist

MH/dr

Due to the water study now being performed within the San Andres formation in this area, we must ask for a representative sample analysis of the formation water from within the zone in which injection will occur. We also ask that a water analysis of the water to be injected be submitted, with both analyses listing the total dissolved solids present.

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR El Paso Natural Gas Company		ADDRESS P. O. Box 1492, El Paso, Texas 79978			
LEASE NAME Woolworth Estate - SWD		WELL NO. 1	FIELD Langlie Mattix		COUNTY Lea
LOCATION UNIT LETTER E ; WELL IS LOCATED 1570 FEET FROM THE North LINE AND 800 FEET FROM THE West LINE, SECTION 33 TOWNSHIP 24-S RANGE 37-E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8"	350'	100 est.	Circulated	
INTERMEDIATE	None				
LONG STRING	4-1/2"	4900' Est.	600 Est.	Circulated	
TUBING	2-7/8"	NAME, MODEL AND DEPTH OF TUBING PACKER Baker @ 4700'			
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 4300		BOTTOM OF FORMATION 5100	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations	PROPOSED INTERVAL(S) OF INJECTION 4700' to 4800'		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? Yes	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? No				HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH N/A					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA Queen		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Glorieta	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 0	MINIMUM 0	MAXIMUM 750	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSIG) Hydrostatic
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? Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) El Paso Natural Gas Company, P. O. Box 1492, El Paso, Texas 79978					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Union Texas Petroleum Corp., 1300 Wilco Bldg., Midland, Texas 79701 Amerada Hess Corp., Drawer "D", Monument, New Mexico, 88265					
OCT 20 1980 C.L. CO.					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	SURFACE OWNER EPNG Co.		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes	PLAT OF AREA Yes		ELECTRICAL LOG No		DIAGRAMMATIC SKETCH OF WELL Yes

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

(Signature)

Senior Engineer

(Title)

(Date)

October 10, 1980

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.



Union Texas Petroleum Corporation

1300 Wilco Building
Midland, Texas 79701

September 26, 1980

El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas 79978

Attention: Mr. James B. Kelly

Gentlemen:

Union Texas Petroleum Corporation has been advised by El Paso Natural Gas Company of their intentions to drill a salt water disposal well in Unit "E", Section 22, T-24-S, R-37-E, Lea County, New Mexico. As an off-set operator, we hereby waive all objections regarding the drilling of this well and subsequent disposal into the San Andres formation; subject to the approval of the Oil Conservation Commission of the State of New Mexico.

Very truly yours,

UNION TEXAS PETROLEUM CORPORATION

A handwritten signature in cursive script that reads "Floyd S. Houdyshe11".

Floyd S. Houdyshe11
Production Analyst

FSH:hb

El Paso NATURAL GAS
COMPANY

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-543-2600

September 2, 1980

Mr. A. J. Troop
District Production Manager
Amerada Hess Corporation
Drawer "D"
Monument, New Mexico 88265

Dear Sir:

El Paso Natural Gas Company plans to drill a salt water disposal well in Unit E, Sec. 33, T-24-S, R-37-E, Lea County, New Mexico. You are the offset operator of El Paso's property. El Paso Natural Gas Company requests that you send us a waiver regarding this salt water disposal well subject to the approval of the Oil Conservation Commission of the State of New Mexico.

Enclosed is the proposed completion drawing with perforations in the most porous sections of the San Andres Formation.

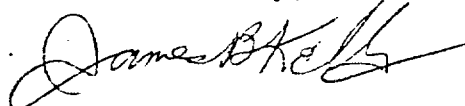
If you have any objections or questions regarding the proposed salt water disposal well, please contact me. If you have no objections, we would appreciate receiving a waiver from you as quickly as possible.

Yours truly,

No objections

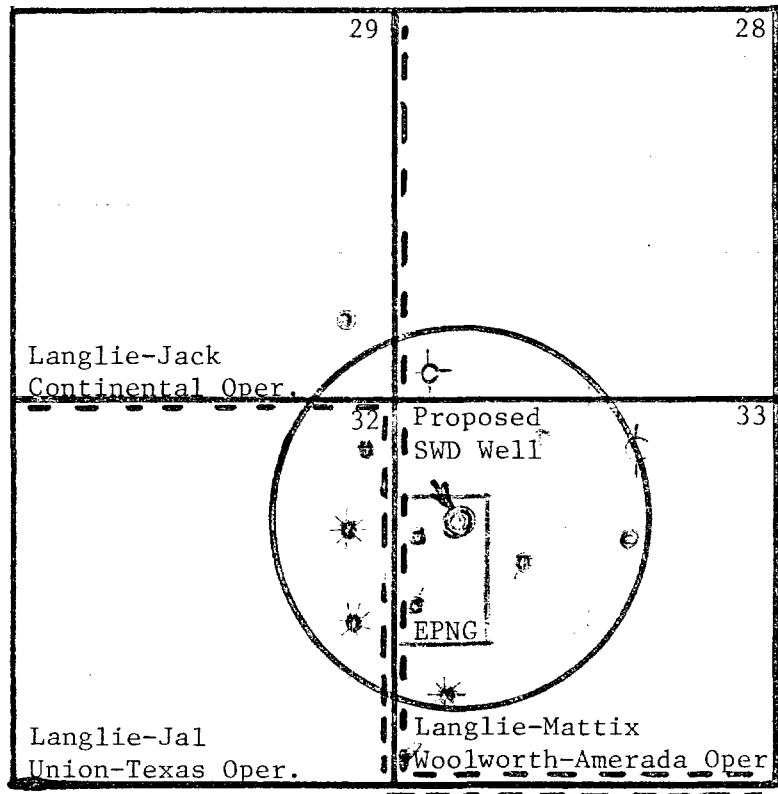
By: Arthur E. Miller

Date: 9-29-80



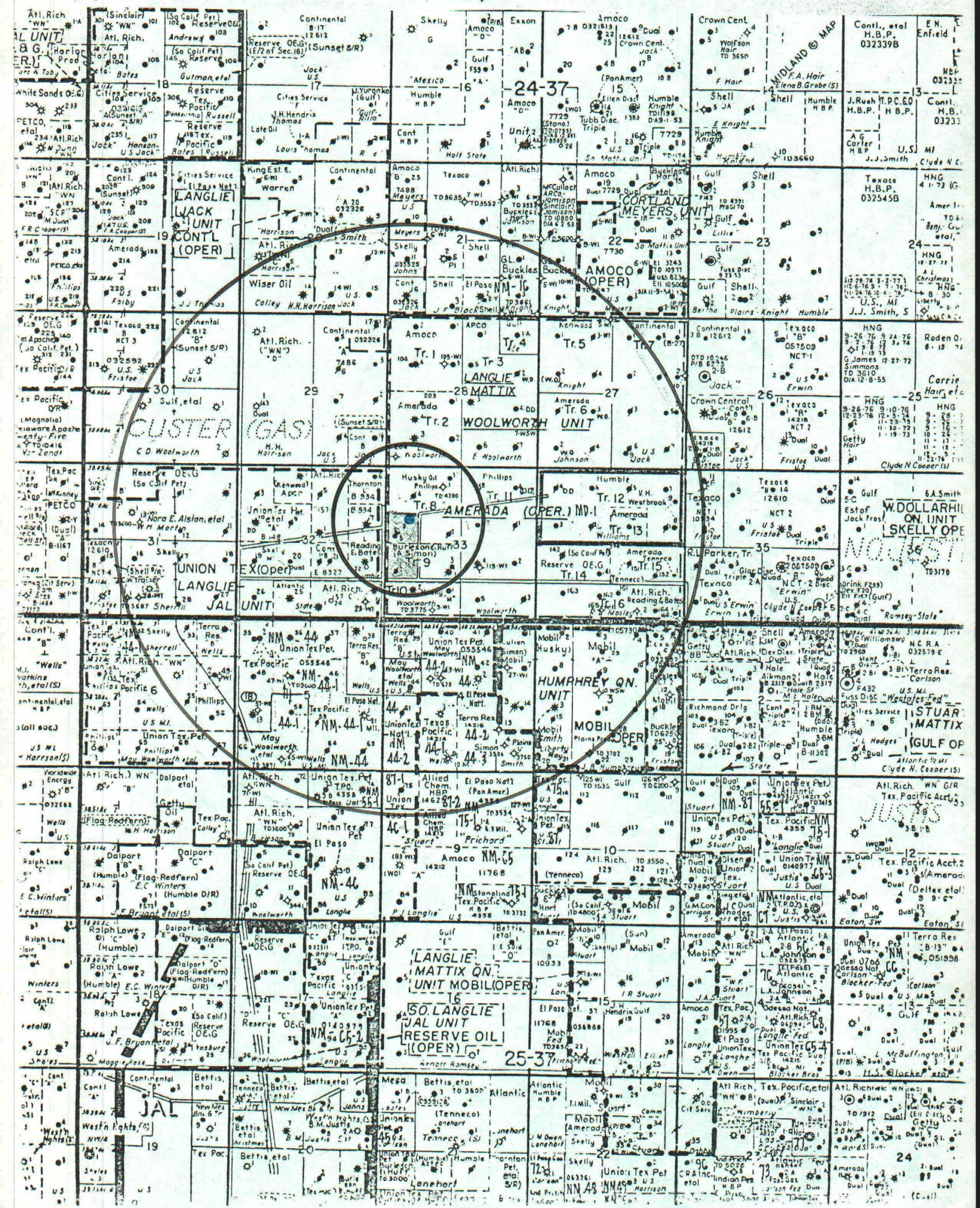
James B. Kelly
Senior Engineer
Water Resources &
Waste Disposal
Operations

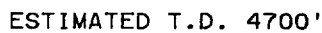
JBK:rh
Enclosure



Union Texas and Amerada are the operators within the $\frac{1}{2}$ mile radius of the proposed EPNG-SWD well in T-24-S, R-37-E, Lea County, New Mexico.

Unit E, Section 33, Township 24 South, Range 37 East, Lea County, New Mexico





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OIL CONSERVATION DIVISION
DISTRICT I

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 10/9/80

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL _____
Proposed NSP _____
Proposed SWD X _____
Proposed WFX _____
Proposed PMX _____

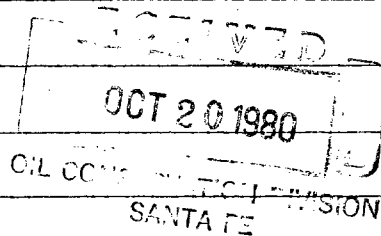
Gentlemen:

I have examined the application for the:

El Paso Natural Gas Co. Woolworth Estate-SWD No. 1-E 33-24-37
Operator _____ Lease and Well No. _____ Unit, S - T - R

and my recommendations are as follows:

O.K.--Did not check on wells within $\frac{1}{2}$ mile



Yours very truly,

/mc