

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF-1696
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> Conv. SWD SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Federal
7. NAME OF OPERATOR Petro-Lewis Corporation		7. UNIT AGREEMENT NAME
3. ADDRESS OF OPERATOR P.O. Box 509, Levelland, Texas 79336		8. FARM OR LEASE NAME Boling Federal
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At surface 400' FNL & 1980' FWL At proposed prod. zone 2894'-3375'		9. WELL NO. 5
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 13 miles SW of Cuba, New Mexico		10. FIELD AND POOL, OR WILDCAT Entrada
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 22, T19N, R3W
16. NO. OF ACRES IN LEASE		12. COUNTY OR PARISH Sandoval
17. NO. OF ACRES ASSIGNED TO THIS WELL 160		13. STATE N.M.
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.		20. ROTARY OR CABLE TOOLS 0-5450
19. PROPOSED DEPTH 5450		22. APPROX. DATE WORK WILL START* 1-5-79
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6896' GR, 6910' KB, 6897' csg. head		

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13-3/8"	10-3/4"	32.74#	241'	150 sx. Cl. "C" Surface
8-5/8"	7"	20 & 23#	5436'	450 sx. Cl. "C" - 3020'

5-8-78 - Petro-Lewis Corporation proposes to recomplete the Gallup formation as a Salt Water Disposal, pursuant to the Entrada Plug Back. N.M.O.C.D. Order # SWD-207, authorized to inject under Rule 701 (C). This conversion to SWD will be performed in the following manner:

- 3020' existing TOC, perf. & squeeze above TOC & bring cement top to est. 2000'.
- GIH & clean out, pressure test squeeze perfs, & run CBL from TD to new TOC +100'.
- 2894'-3375', perforate Gallup & break down formation w/1500 gal. 15% HCL, acid if required.
- 2800', run 2-7/8" plastic coated injection tubing, w/Uni-Packer-1 and set. Place well on injection.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give flowout preventer program, if any.

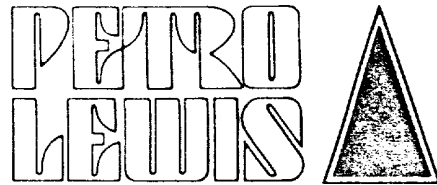
24. SIGNED Ronald L. Impley TITLE Dist. Drlg. Foreman DATE 12/12/78
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

DEC 14 1978



P.O. Box 509
905 15th Street

Levelland, Texas 79336
(806) 894-~~4994~~ 7374

Petro-Lewis Corporation
Oil and Gas Producers

December 12, 1978

United States Department
of the Interior
Federal Building
701 Camino del Rio
Durango, Colorado 81301

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U. S. GEOLOGICAL SURVEY

Re: Boling Federal #5
Unit C, Sec. 22, T19, R3W
Sandoval Co., N.M.

Gentlemen,

On February 2, 1978, Petro-Lewis Corporation received approval from the USGS, Durango, Colorado to plug back the Entrada formation, on the above captioned well with intentions to recomplete as a Gallup Salt Water Disposal.

On the 25th day of May, 1978, the New Mexico Oil Conservation Division gave approval on Order No. SWD-207, to inject salt water for disposal purposes into the Gallup formation at approximately 2900 feet to approximately 3400 feet, through 2-7/8 inch plastic lined tubing set in a packer located at approximately 2800 feet, under the provisions of Rule 701 (C).

Thereby, this NTL-2B is submitted with the desire that the described work can be started at the very earliest possible date.

1. Boling Federal #5
400' FNSL & 1980' FWSL
Federal Lease #SF-1696
2. Estimated 5000 BWPD to be injected from the
Entrada formation.
3. Gallup formation at 2900' to 3400'.
4. See Analysis Report.
5. See Analysis Report.



- | 6. | Hole Size | Csg. Size | Wt/Ft | Depth | Sx. Cmt. | Est. Top |
|----|-----------|-----------|----------|-------|----------------|----------|
| | 13-3/8" | 10-3/4" | 32.74# | 241' | 150 sx. C1 "C" | Surface |
| | 8-5/8" | 7" | 20 & 23# | 5436' | 450 sx. C1 "C" | 3020' |
7. TD - 5450'
PBSD - 3800'
8. (1) 3020' existing TOC. Perf and squeeze above TOC and bring cement top to est. 2000'.
- (2) GIH and clean out, pressure test squeeze perfs and run CBL from TD to new TOC +100'.
- (3) 2894-3375' perforate Gallup and break down formation w/1500 gal., 15% HCL, acid if required.
- (4) 2800', run 2-7/8" plastic lined injection tubing w/Uni-Packer-I, displace backside w/10% SP-181 bacterial side, and set packer. Place well on injection.
9. The injection pressures will be monitored by installing 5000# oil-field pressure gauges, and a two inch gate valve will be installed on the flowline side of the well.

Respectfully submitted,



R.L. Tarpley
Levelland Dist. Drilling Foreman

RLT/lt

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WASHINGTON, D.C.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

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

May 25, 1978

Petro-Lewis Corporation
Box 509
Levelland, Texas 79336

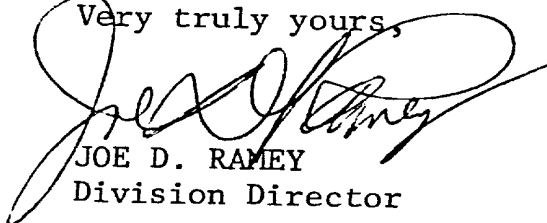
Re: Administrative Order No. SWD-207

Gentlemen:

Enclosed herewith please find Administrative
Order No. SWD-207 for the following described well:

Fluid Power Pump Well No. 5
located in Unit C of
Section 22, Township 19
South, Range 3 West,
Sandoval County, N. Mex.

Very truly yours,



JOE D. RAMEY
Division Director

JDR/CU/og

cc: Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico

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U.S. CIVIL SERVICE

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MAY 30 1978

SUBJECT: SALT WATER DISPOSAL WELL

ORDER NO. SWD-207

THE APPLICATION OF PETRO-LEWIS
CORPORATION FOR A SALT WATER DISPOSAL
WELL.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701 (C), Petro-Lewis Corporation made application to the New Mexico Oil Conservation Division on May 10, 1978, for permission to complete for salt water disposal its Fluid Power Pump Well No. 5 located in Unit C of Section 22, Township 19 South, Range 3 West, Sandoval County, New Mexico.

The Division Director finds:

- (1) That application has been duly filed under the provisions of Rule 701 (C) of the Division Rules and Regulations;
- (2) That satisfactory information has been provided that all offset operators and surface owners have been duly notified; and
- (3) That the applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 (C) will be met.
- (4) That no objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, Petro-Lewis Corporation, is hereby authorized to complete its Fluid Power Pump Well No. 5 located in Unit C of Section 22, Township 19th South, Range 3 West, Sandoval County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the Gallup formation at approximately 2900 feet to approximately 3400 feet through 2 7/8 inch plastic lined tubing set in a packer located at approximately 2800 feet.

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface of left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That injection pressure shall not exceed 580 pounds per square inch as measured at the surface.

That the operator shall notify the supervisor of the

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H. R. CONSERVATION DIVISION

Division's Aztec District Office before injection is commenced through said well;

That the operator shall immediately notify the Supervisor of the Division Aztec District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

PROVIDED FURTHER: That jurisdiction of the cause is hereby retained by the Division for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after notice and hearing, the Division may terminate the authority hereby granted in the interest of conservation. That applicant shall submit monthly reports of the disposal operations in accordance with Rule 704 and 1120 of the Division's Rules and Regulations.

APPROVED at Santa Fe, New Mexico, on this 25th day of May, 1978.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Division Director

S E A L

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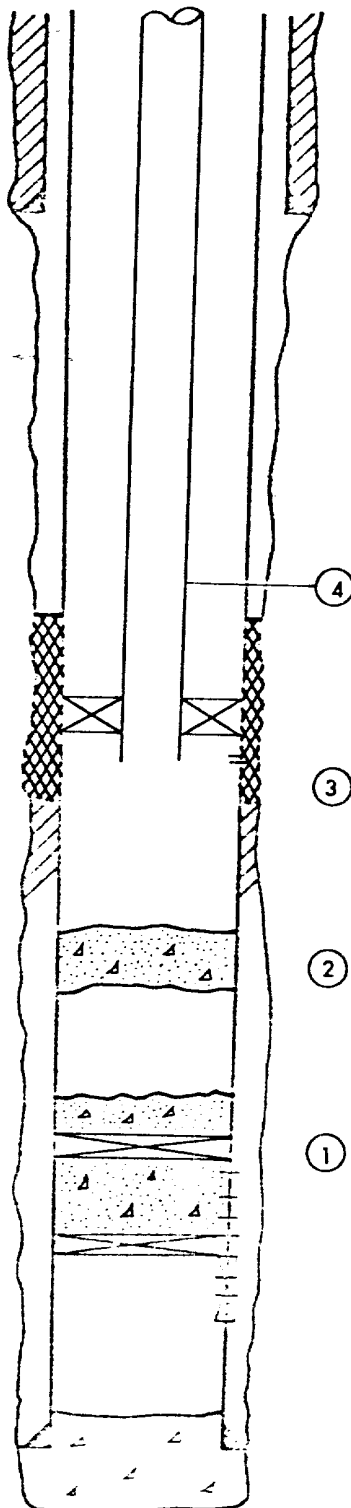
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SANTA FE, N. M.

BOLING FEDERAL #5 SCHEMATIC DIAGRAM

10 3/4" 22.75"
241' (180 Sx-A")
C.to Surf.

T.C. ± 2950'

7" 20 & 23"
5436' (350 Sx POE +,
100 Sx "G")



PROPOSED WORK

- ① Set CICR ± 5300' Squeeze perfs 5346'-5360' Spot 100' cmt. on CICR.
- ② Spot cement plug 3800'-4300'.
- ③ Shoot holes and squeeze above top of existing cement. Clean out, test & log. Perforate Gallup approximately 2894' to 3375'. Stimulate w/acid if required.
- ④ Run 2 7/8" tubing, set packer approximately 2800' and place on injection.

Perfs 5346'-5360'

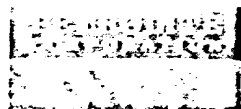
CICR 5360'

PSTD 5394'

TD 5450'

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U. S. GEOLOGICAL SURVEY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Petro-Lewis ADDRESS Cuba, T.L. DATE: 2/28/78

SOURCE Radio Water Station DATE SAMPLED 2/27/78 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7.5
2. H₂S (Qualitative) 0
3. Specific Gravity 1.000
4. Dissolved Solids _____
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) 600
7. Methyl Orange Alkalinity (CaCO₃) 71
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) 750
14. Total Iron (Fe) .3
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>732</u>	÷ 61	<u>12</u>	HCO ₃
Cl	<u>1400</u>	÷ 35.5	<u>39</u>	Cl
SO ₄	<u>230</u>	÷ 48	<u>5</u>	SO ₄
Ca	<u>750</u>	÷ 20	<u>38</u>	Ca
Mg	<u>0</u>	÷ 12.2	<u>0</u>	Mg

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

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Ca	←	HCO ₃	12
Mg	←	SO ₄	5
Na	←	Cl	39

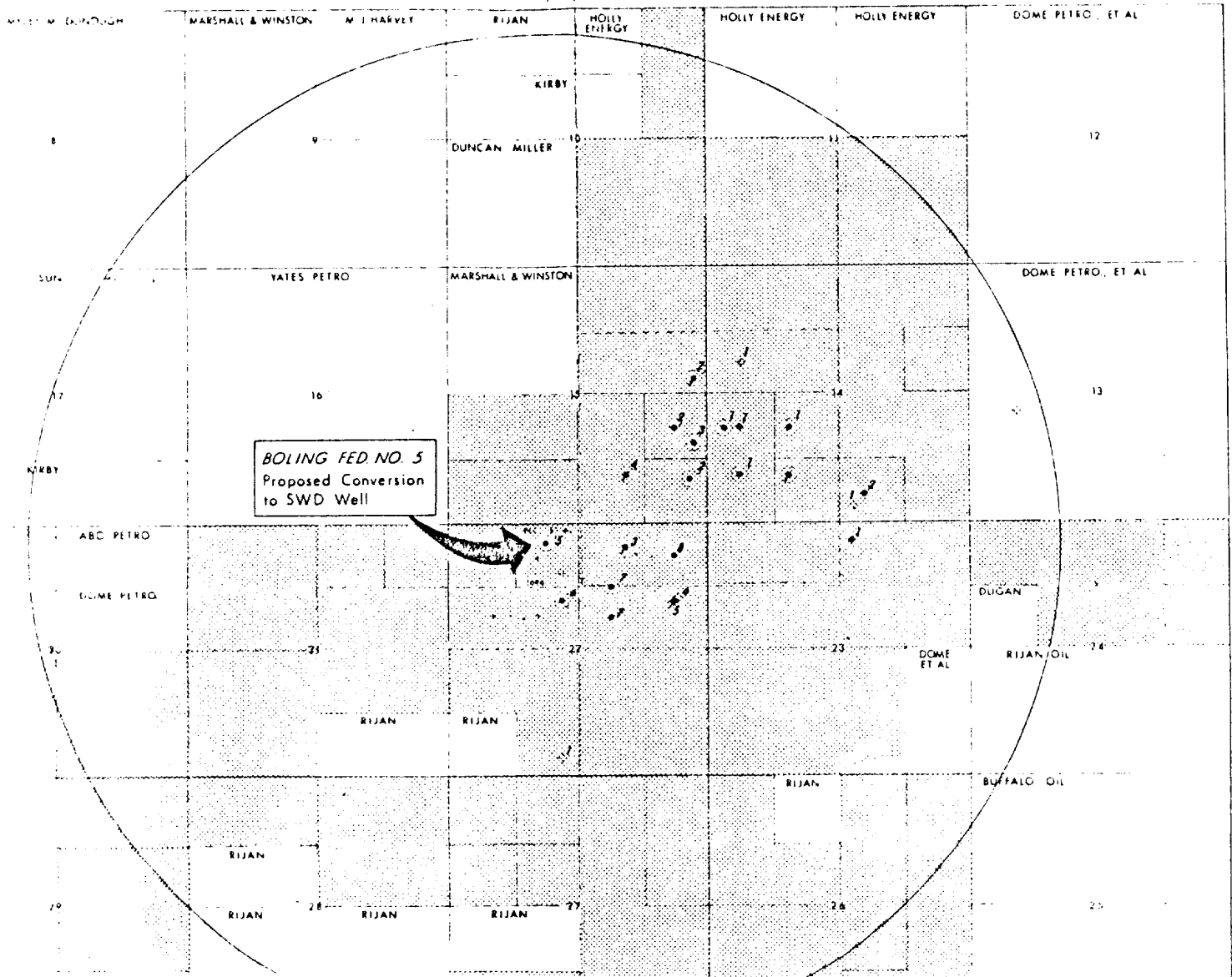
Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>12</u>		<u>972</u>
Ca SO ₄	68.07		<u>5</u>		<u>340</u>
Ca Cl ₂	55.50		<u>39</u>		<u>2165</u>
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00				
Na ₂ SO ₄	71.03				
Na Cl	58.46		<u>39</u>		<u>2280</u>

REMARKS 1. is water has CaCl₂ and CaSO₄ in it.

Respectfully submitted
TRETOLITE COMPANY

R3W



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