

Box 2208 Roswell, New Mexico 88202 (505) 625-8700



August 24, 1988

Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501

RE: Application for permit to convert to Salt Water Disposal New Mexico AP State No. 1 1980' FNL & 660' FWL, Section 36, T-15S, R-36E Lea County, New Mexico

Gentlemen:

Please find enclosed Hondo Oil & Gas Company's application for permit to convert the above captioned well into a salt water disposal.

Copies have been submitted to the surface owner and the offset operators.

If you should have any questions, please contact E. L. Buttross, Jr. at 505/625-8760.

Sincerely,

Lisa Bohannon

Engineering Technician

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Box 2208 Roswell, New Mexico 88202 (505) 625-8700



August 24, 1988

Offset Operators TO:

RE: Application for permit to convert to Salt Water Disposal

New Mexico AP State No. 1

1980' FNL & 660' FWL, Section 36, T-15S, R36E Lea County, New Mexico

Gentlemen:

According to the Oil Conservation Division Rule 701, a copy of any injection well permit application must be sent to the offset operators and surface owner. Enclosed is our application for administrative approval to convert the above captioned well to a salt water disposal.

If you should have any questions, please contact E. L. Buttross, Jr. at 505/625-8760.

Sincerely,

Lisa Bohannon

Engineering Technician

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Box 2208 Roswell, New Mexico 88202 (505) 625-8700



August 24, 1988

Jerry and Bob Dean P. O. Box 1285 Lovington, New Mexico 88260

RE: Application for permit to convert to Salt Water Disposal New Mexico AP State No. 1 1980' FNL & 660' FWL, Section 36, T-15S, R-36E Lea County, New Mexico

Gentlemen:

According to the Oil Conservation Division Rule 701, a copy of any injection well permit application must be sent to the offset operators and surface owner. Enclosed is a our application for administrative approval to convert the above captioned well to a salt water disposal.

If you should have any questions, please contact E. L. Buttross, Jr. at 505/625-8760.

Sincerely,

Lisa Bohannon

Engineering Technician

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OIL CONSERVATION DIVISION

FORM C-108 Revised 7-1-81

POST OFFICE BOX 2008 STATE LAND OFFICE MULDING SANTA FE, NEW MEXICO 87501

PPLIC	New Mexico AP State #1 ATION FOR AUTHORIZATION TO INJECT (E) Sec.36-T15S-R36E
ı.	Lea County, New Mexico Purpose: Secondary Recovery Pressure Maintenance X Disposal Storage Application qualifies for administrative approval? yes no
II.	Operator: Hondo Oil & Gas Company
	Address: P. O. Box 2208, Roswell, NM 88202
	Contact party: E. L. Buttross, Jr. Phone: (505)625-8760
111.	Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? yes no If yes, give the Division order number authorizing the project
٧.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
111.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
х.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
111.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification
	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief. Name: E. L. Buttross, Jr. Petroleum Engineer
•	Name: E. L. Buttross, Jr. Title Petroleum Engineer Signature: E. J. R. Illing J. Date: 8/24/88
	Signature: 2.4. Sullwork jn Date: 8/24/88
subm:	he information required under Sections VI, VIII, X, and XI above has been previously itted, it need not be duplicated and resubmitted. Please show the date and circumstance he earlier submittal.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT SUPPLEMENTAL INFORMATION NEW MEXICO AP STATE #1 LEA COUNTY, NEW MEXICO

ITEM:

III. Well Data

- A. (1) Well Name: New Mexico AP State #1
 1980' FNL & 660' FWL
 Section 36, T-155, R-36E
 Lea County, New Mexico
 - (2) Casing Data: (Also see Exhibit "B")

Surface Casing:
13 3/8" csg. set @ 340' in a 17 1/2" hole. Cemented w/350 sx. Circulated cement to surface.

Intermediate Casing: 8 5/8" csg. set @ 4950' in an 11" hole. Cemented with 2835 sx. Circulated cement to surface.

Production Casing:
5 1/2" csg. set @ 11,660' in a 7 7/8" hole. Cemented with 1125 sx. Temperature survey indicated TOC @ 3050'.

- (3) Injection Tubing:
 - 2 7/8" 6.5# 8rd EUE, internally plastic coated tbg., set @ approximately ±9800'.
- (4) Packer:

Packer set @ ±9800'.

- B. (1) Injection Formation: Permo-Penn
 - (2) Injection Interval:

Injection will be thru existing perfs. 9902-11,568'.

(3) Original Purpose of Well:

This well was drilled, completed and tested thru Permo-Penn perfs. 11,544-11,568'.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page -2-

(4) Other Perforated Intervals: (Also see Exhibit "B")

Well was later plugged back with a bridge plug set @ 11,162', perforated from 10,686-10,726', and tested. Again, plugged well back with a CIBP set @ 10,400', perforated from 10,175-9202', and tested. Well was P&A'd 7/25/83.

(5) Higher/Lower Oil Zones:

There is no higher oil zone and the top of the Devonian is 0 ±13,600'.

V. Map: See Exhibit "A".

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page -3-

VI. Wells in Area of Review:

Operator: Atlantic Richfield Company

Well Name: State AW #4

Location: 1980' FSL & 660' FEL, (I) Section 35, T15S, R36E

Spud Date: 3/16/58 Completion Date: 5/22/58

Surface Casing: 13 3/8" set @ 367', cemented with 350 sx.

Intermediate Casing: 8 5/8" set @ 4924', cemented with 1983 sx.

Production Casing: 5 1/2" set @ 11,597', cemented with 350 sx.

TD: 11,597'

Completion: Completed in the Penn from perforations 10,685-

10,694' and 11,518-11,537'. Plugged back to 10,635' and converted to salt water disposal well by perforating the Penn @ 10,434-10,444' and 10,468-10,488'. Plugged back to 8391' and recompleted SWD to open hole from 4924-8391' in the San Andres/Glorieta.

70C@ 9975

Finally, P&A'd 8/71.

Operator: Cities Service Oil Company

Well Name: State AW #3

Location: 2080' FSL & 1880' FEL, (J) Section 35, T15S, R36E

Spud Date: 10/30/56 Completion Date: 1/6/57

Surface Casing: 13 3/8" set @ 368', cemented with 350 sx.

Intermediate Casing: 8 5/8" set @ 4916', cemented with 2470 sx.

Production Casing: 5 1/2" set @ 11,584', cemented with 400 sx.

TD: 11,585'

Completion: Completed in the Penn from perforations 11,505-

11,525'. For additional recovery, perforated the upper Penn from 10,641-10,675' and 10,396-10,408'.

Perforated additional Permo-Penn from 10,443-

10,483'. P&A'd well 8/28/70.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page -4-

Operator: Exxon Corporation

Well Name: New Mexico AP St. #2

Location: 1895' FNL & 2141' FWL, (F) Section 36, T15S, R36E

Spud Date: 5/3/86

Surface Casing: 13 3/8" set @ 385', cemented with 450 sx.

8 5/8" set @ 4590', cemented with 2050 Intermediate Casing:

SX.

TD: 11,890'

Completion: Well was D&A'd 6/5/86.

Operator: Atlantic Richfield Company

Well Name: Lea 758 State #1

Location: 660' FNL & 660' FWL, (D) Section 36, T15S, R36E

Spud Date: 9/22/55 Completion Date: 1/28/56

Surface Casing: 13 3/8" set @ 305', cemented with 350 sx.

Intermediate Casing: 9 5/8" set @ 4985', cemented with 2800 sx.

Production Casing: 5 1/2" set @ 11,675', cemented with 400 sx.

13,005' TD:

Completion:

Completed from perforations 11,566-11,597'. Perforated additional sections of Penn from 10,654-10,664'and 10,670-10,678' and then squeezed same perfs. Perforated 10,731-10,737'. P&A'd well 6/22/74.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page -5-

Operator: Mobil Oil Corporation

Well Name: New Mexico J #1

Location: 1980' FSL & 660' FWL, (L) Section 36, T15S, R36E

Spud Date: 10/3/56 Completion Date: 12/2/56

Surface Casing: 13 3/8" set @ 440', cemented with 425 sx.

Intermediate Casing: 9 5/8" set @ 4971', cemented with 2720 sx.

Production Casing: 7" set @ 11,636', cemented with 1550 sx.

TD: 11,636'

Completion: Completed in the Penn from perforations 11,530-

11,582'. Added Permo-Penn perfs. from 10,688-

10,730'. P&A'd well 12/29/70.

Operator: Yates Petroleum Corporation

Well Name: Phillips YX St. #1

Location: 990' FSL & 330' FWL, (M) Section 36, T15S, R36E

Spud Date: 1/31/84 Completion Date: 6/12/84

Surface Casing: 13 3/8" set @ 398', cemented with 375 sx.

Intermediate Casing: 8 5/8" set @ 4906', cemented with 2750 sx.

Production Casing: 5 1/2" set @ 11,727', cemented with 1300 sx.

TD: 11,727'

Completion: Completed in the Permo-Penn. Perforated 11,525-

11,530' and 10,695-10,700' and set BP @ 11,448'.

Added perforations from 11,018-11,054'. P&A'd well

10/14/85.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page -6-

Operator: Gulf Oil Corporation

Well Name: Lea HQ St. #1

660' FSL & 660' FWL, (M) Section 25, T15S, R36E Location:

Spud Date: 1/25/57 Completion Date: 4/3/57

Surface Casing: 13 3/8" set @ 322', cemented with 450 sx.

Intermediate Casing: 8 5/8" set @ 4984', cemented with 3050 sx.

Production Casing: 5 1/2" set @ 11,652', cemented with 675 sx.

TD: 11,653'

Completion: Completed in the Penn from perforations 11,592-

11,626'. Added perforations from 10,740-10,768'.

P&A'd well 4/13/73.

Operator: Atlantic Richfield Company

Well Name: Lea 396 St. #3

Location: 1980' FNL & 1980' FEL, (G) Section 35, T15S, R36E

Spud Date: 1/23/56 Completion Date: 6/25/56

Surface Casing: 13 3/8" set @ 319', cemented with 350 sx.

Intermediate Casing: 9 5/8" set @ 4939', cemented with 2600 sx.

Production Casing: 7" set @ 13,725', cemented with 810 sx.

TD:

13,726'

Completion: Dually completed in the Devonian and Penn from

perforations 13,690-13,720' and 11,546-11,578'.
Added Permo-Penn perfs. 10,396-10,404' and 10,656
-10,669'. Squeezed perfs. 10,396-11,577'. Converted to salt water disposal through perfs. 13,69013,720'. P&A'd well 11/29/78.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page 7

VII. Proposed Operations Data:

- (1) Average Daily Injection Rate 3000 BWPD Maximum Daily Injection Rate 4000 BWPD
- (2) Type of System Closed
- (3) Average Injection Pressure 1500 psi Maximum Injection Pressure - 2000 psi
- (4) Source of Injection Water Water produced from the Hondo wells J. P. Dean #1 and the Lea 396 St. #2. Water analyses are attached.
- (5) Chemical Analysis of Disposal Zone Formation Analysis should be similar to the one for the Lea 396 St. #2.

VIII. Geological Data:

The proposed injection zone is the Permo-Penn from 9902-11,568'. This formation consists primarily of dolomite and limestone with some interbedded shale.

The underground sources of drinking water overlying the proposed injection zone are as follows (obtained from the State Engineers Office):

Geologic Name	Depth to Bottom of Formation
Ogalalla	250′
Triassic	500 ′

There are no known sources of drinking water underlying the proposed injection interval.

IX. Proposed Stimulation Program:

Plans are to acidize the Permo-Penn from 9902-11,568' with approximately 6000 gals. 15% NE-FE with ball sealers.

X. Well Logs:

Copies of the well logs have been filed with the Commission.

HONDO OIL & GAS COMPANY APPLICATION FOR AUTHORITY TO INJECT NEW MEXICO AP STATE #1 Page 8

XI. Chemical Analysis of Fresh Water:

There are two known producing fresh water wells within one mile of the proposed injection well. Water analyses are attached.

XII. Upon examination of the available geologic and engineering data no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water was found.

SURFACE OWNERS:

Jerry & Bob Dean P. O. Box 1285 Lovington, NM 88260

OFFSET OPERATORS:

Yates Petroleum Corporation 105 S. 4th Artesia, NM 88210

Elk Oil Company P. O. Box 310 Roswell, NM 88202

Exxon, U.S.A. Box 1600 Midland, TX 79702

Gulf Oil Explor. & Prod. Co. 1923 N. Dal Paso Hobbs, NM 88240

Harvey E. Yates Co. One Sunwest Center Roswell, NM 88201

AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, William H. Shearman, Jr.

of the Hobbs Daily News-Sun, a daily newspaper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not a supplement thereof for a period

of
One weeks.
Beginning with the issue dated
August 10 , 1988
and ending with the issue dated
August 10 , 1988
TION Sheasanai
Business Manager
Sworn and subscribed to before
me thisday of
august 1988
Llesa Mershy
Notary Public.
My Commission expires
November 14 , 1988

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

(Seal)

Hondo Oil & Gas Company has applied for authority to convert the New Mexico AP State Well No. 1, located 1980' FNL & 660' FWL, Section 36, T-15S, R-36E, Lea County, New Mexico, into a salt water disposal well. Water produced from the Hondo wells J.P. Dean #1 and Lea 396 St. #2 will be disposed into the Permo-Penn form a fion from 9902-11,586'. The maximum daily injection rate will be 4000 BWPD with a maximum pressure of 2000 psi. Interested parties must

interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days of this notice:

E.L. Buttross, Jr.
Petroléum Engineer
Hondo Oil &
Gas Company
P.O. Box 2208
Roswell, New Mexico
88202
(505) 625-8760

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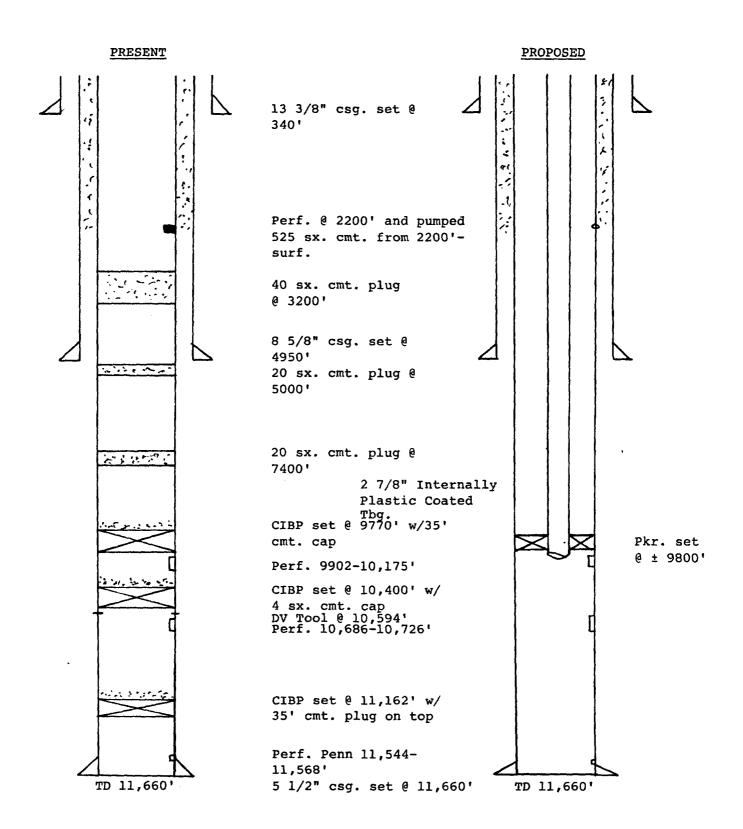
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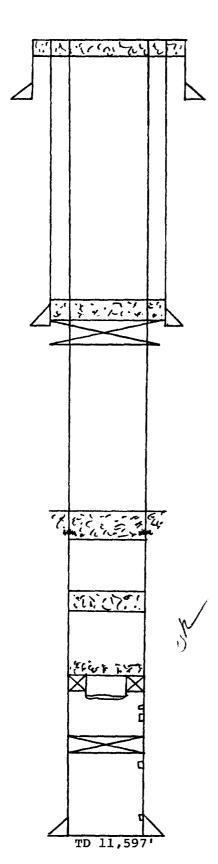
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Hondo Oil & Gas Company Application to Inject New Mexico AP St. #1 Lea County, New Mexico



ATLANTIC RICHFIELD COMPANY STATE AW #4 1980' FSL & 660' FEL Section 35, T15S, R36E Lea County, New Mexico



20 sx. cmt. plug set in top of 8 5/8" and 13 3/8" csg.

13 3/8" csg. set @ 367'

CIBP set @ 4904' w/35 sx. cmt. plug on top (4904-4792')
8 5/8" csg. set @ 4924'

35 sx. cmt. plug from 8391-8548' shot 5 1/2" csg. @ 8530' and pulled

15 sx. cmt. plug from 9400-9540'

pkr. set @ 10,360' in 5 1/2" csg. blanking plug set @ 10,358' w/30 sx. cmt. on top of plug & pkr. (cmt. 10,170-360') Perf. 10,434-44' and 10,468-88'

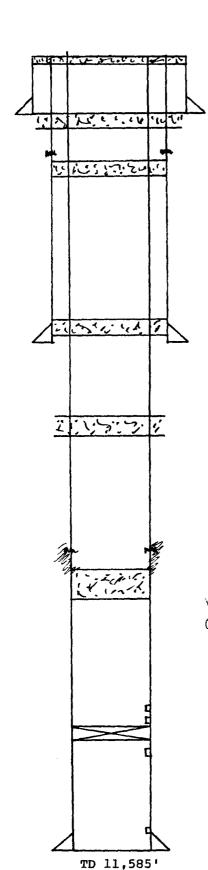
CIBP set @ 10,650' Perf. 10,685-94'

Perf. 11,518-37'
5 1/2" csg. set @ 11,597'

CITIES SERVICE OIL COMPANY

STATE AW #3

2080' FSL & 1880' FEL Section 35, T15S, R36E Lea County, New Mexico



10 sx. cmt. plug @ surf.

13 3/8" csg. set @ 368' 25 sx. cmt. plug @ 371'

shot off 8 5/8" csg. @ 588' and pulled 25 sx. cmt. plug @ 618'

25 sx. cmt. plug @ 4860' 8 5/8" csg. set @ 4916'

25 sx. cmt. plug @ 6504'

shot off 5 1/2" csg. @ 8600' and pulled

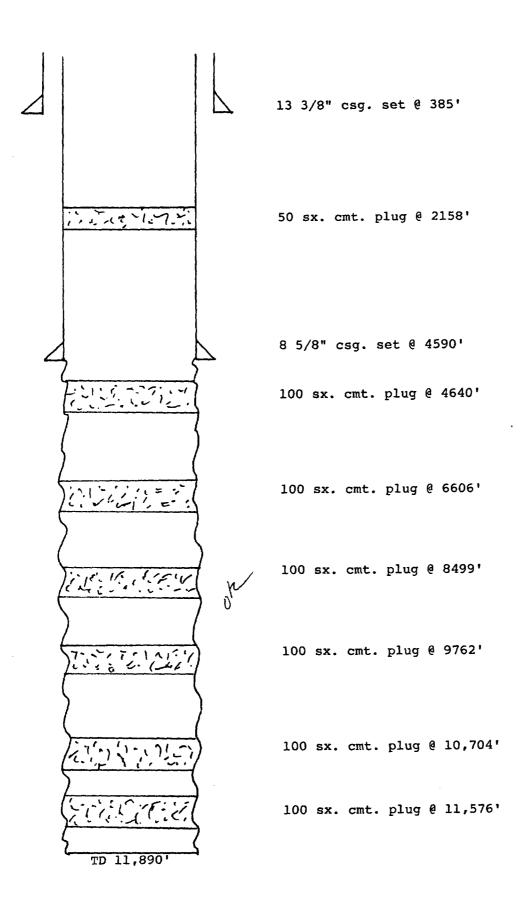
50 sx. cmt. plug @ 8900'

= 505 lug ok

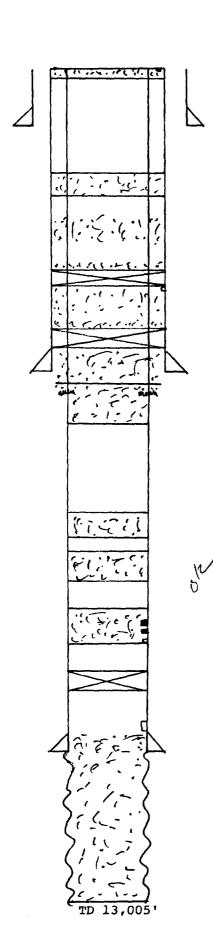
Perf. 10,396-408' Perf. 10,443-83' BP set @ 10,494' Perf. 10,641-75'

Perf. 11,505-25'
5 1/2" csg. set @ 11,584'

EXXON CORPORATION NEW MEXICO AP ST. #2 1895' FNL & 2141' FWL Section 36, T15S, R36E Lea County, New Mexico



ATLANTIC RICHFIELD COMPANY LEA 758 STATE #1 660' FNL & 660' FWL Section 36, T15S, R36E Lea County, New Mexico



10 sx. cmt. plug @ surf.

13 3/8" csg. set @ 305'

60 sx. cmt. plug from 1425-1625'

100 sx. cmt. inside 9 5/8" csg. from 2400-2128'

CI retainer set @ 3100' w/200 sx. cmt. below ret. and 20' cmt. on top Perf. 4 holes @ 3130-34'

CI retainer set @ 4870' w/300 sx. cmt. below and 20' cmt. on top 9 5/8" csg. set @ 4985'

cut 5 1/2" csg. @ 5670' and pulled 80 sx. cmt. plug from 5570-6030'

50 sx. cmt. plug from 8500-8950'

50 sx. cmt. plug from 9660-10,100'

50 sx. cmt. plug from 10,737-312'
Perf. 10,654-64' and 10,670-78'
sqz. perf. 10,654-78' w/100 sx. cmt. and drld.
out to BP @ 11,190'
Perf. 10,731-37'

Perf. 11,566-97'
5 1/2" csg. set @ 11,675'

PBTD 11,605'

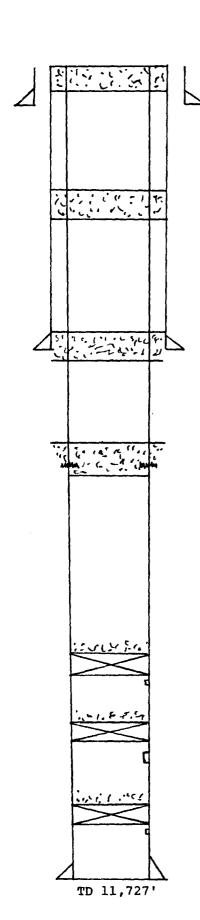
MOBIL OIL CORPORATION
NEW MEXICO J #1
1980' FSL & 660' FWL
Section 36, T15S, R36E
Lea County, New Mexico

cut off 13 3/8", 9 5/8" and 7" csg. @ surf. 13 3/8" csg. set @ 440' Perf. tbg. @ 3400'; cmt. down tbg. w/900 sx., circ. to surf., then sqz. 300 sx. into formation Perf. tbg. @ 3800'; cmt. down tbg. w/50 sx. w/1 bbl. in tbg. Perf. tbg. @ 4360' & 4150' Perf. 2 1/2" tbg. @ 4900'; cmt. down tbg. w/50 sx. w/l bbl. in tbg. 9 5/8" csg. set @ 4971' top of rods approx. @ 5075' 2 1/2" tbg. to 5789' Perf. 2" tbg. @ 8000'; cmt. down tubing w/50 sx. 256 w/l bbl. cmt. in tbg. tbg. anchor @ 10,662' SN @ 10,737' Perf. 10,688-730' 2" tbg. from 5789-10,768' Perf. 11,530-82' 7" csg. set @ 11,636'

PBTD 11,623'

TD 11,636'

YATES PETROLEUM CORPORATION PHILLIPS YX ST. #1 990' FSL & 330' FWL Section 36, T15S, R36E Lea County, New Mexico



50 sx. cmt. plug to surf.

13 3/8" csg. set @ 398'

35 sx. cmt. plug @ 2213'

8 5/8" csg. set @ 4906' 35 sx. cmt. plug @ 4953' tag plug @ 4820'

35 sx. cmt. plug @ 6554' tag plug @ 6410' shot 5 1/2" csg. @ 6500' and pulled

CIBP set @ 10,645' w/35' cmt. on top Perf. 10,695-700'

CIBP set @ 10,968' w/35' cmt. on top

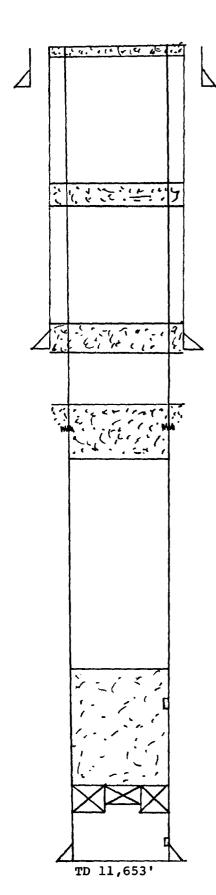
Perf. 11,018-54'

35' cmt. on top of RBP PBTD 11,448' w/RBP

Perf. 11,525-30'

5 1/2" csg. set @ 11,727'

GULF OIL CORPORATION LEA HQ ST. #1 660' FSL & 660' FWL Section 25, T15S, R36E Lea County, New Mexico



15 sx. cmt. plug from 50'-surf.

13 3/8" csg. set @ 322'

30 sx. cmt. plug from 2200-2100'

50 sx. cmt. plug from 5000-4800' 8 5/8" csg. set @ 4984'

100 sx. cmt. plug from 6566-6186' cut and pulled 5 1/2" csg. @ 6516'

ON

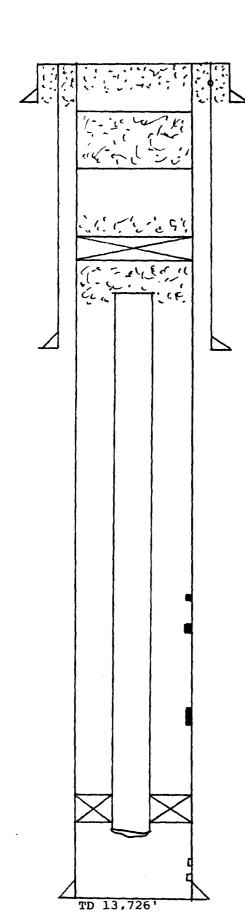
Perf. 10,740-68'

100 sx. cmt. plug from 11,475-10,528'

Bull plug seal assembly set in Baker Model N pkr. @ 11,475'

Perf. 11,592-626' 5 1/2" csg. set @ 11,652'

ATLANTIC RICHFIELD COMPANY LEA 396 ST. #3 1980' FNL & 1980' FEL Section 35, T15S, R36E Lea County, New Mexico



cmt. sqz. w/260 sx. thru swage in 7" csg.
and hole in 9 5/8" @ 194'
13 3/8" csg. set @ 319'

320 sx. cmt. plug from 2100-350'

cmt. retainer set @ 4320' w/100 sx. cmt. below ret. and 100 sx. cmt. from 4320-3637'

rec. 2 3/8" tbg. to 4536'

9 5/8" csg. set @ 4939'

Perf. 10,396-404'

Perf. 10,656-69'

sqz. perfs. 10,396-11,578' w/471
sx. cmt.

Perf. 11,546-78'

2 3/8" tbg. in pkr. set @ 13629'

Perf. 13,690-99'
Perf. 13,710-20'
7 1/2" csg. set @ 13,725'

Lab ID No.: 060788D Analysis Date: June 7, 1988 Company : Hondo Oil & Gas Co. Sampled By : Don Bamert Field Sample Date: Lease/Unit : J. P. Dean | Salesperson: Don Bamert Well ID. : Formation : Sample Loc.: Location : Hobbs, N. M. CATIONS MEQ/L ANIONS MEQ/L MG/L MG/L 2,006 579 100.3 Hydroxyl as OH-Calcium as Ca++ 0 0.0 Magnesium as Mg++ 579 47.4 Carbonate as CO3= Sodium as Na+ (Calc) 79,093 3,438.8 Bicarbonate as HCO3-Carbonate as CO3= 0 0.0 453 7.4 Barium as Ba++ Not Determined Sulfate as SO4= 2,600 54.2 Other 0 Chloride as Cl-124,972 3,525.0 Total Dissolved Solids, Calculated: 209,703 mg/L. Calculated Resistivity: 0.010 ohm-meters pH: 5.940 mg/L. Hydrogen Sulfide: Present Specific Gravity 60/60 F.: 1.134 mg/L. Carbon Dioxide: Not Determined Saturation Index ● 80 F.: -0.321 mg/L. Dissolved Oxygen: Not Determined € 140 F.: +0.779 Total Hardness: 7,385 mg/L. as CaCO3 8 Total Iron: mg/L. as Fe++ PROBABLE MINERAL COMPOSITION COMPOUND MG/L MEQ/L 7 Ca(HCO3)2 601 Calcium Sulfate Scaling Potential CaSO4 3.687 54 Not Present CaC12 2,149 39 Estimated Temperature of Calcium Carbonate Instability is 0 Mg(HCO3)2 0 95 F. 0 0 MgSO4 MgC12 2,260 47 0 NaHCO3 0

Na2SO4

NaC1

Analyst.

01:29 PM

0

201,034

0

3,439

Lab ID No. : 060788E Analysis Date: June 7, 1988 Company : Hondo Oil & Gas Co. Sampled By : Don Bamert Field Sample Date: Lease/Unit : Lea Salesperson: Don Bamert Well ID. : No. 396 Formation : Sample Loc.: Location : Hobbs. N. M. CATIONS MG/L MEQ/L . ANIONS MG/L MEQ/L Calcium as Ca++ 10,699 534.9 Hydroxyl as OH-O 0.0 Magnesium as Mg++ 1,563 128.1 Carbonate as CO3= 0 0.0 Sodium as Na+ (Calc) 56,410 2,452.6 Bicarbonate as HCO3-134 2.2 Barium as Ba++ Not Determined Sulfate as SO4= 550 11.5 Other Chloride as Cl-0 109,975 3,102.0 Total Dissolved Solids, Calculated: 179,331 mg/L. Calculated Resistivity: 0.014 ohm-meters pH: 5.950 mg/L. Hydrogen Sulfide: Not Present Specific Gravity 60/60 F.: 1.121 mg/L. Carbon Dioxide: Not Determined Saturation Index ● 80 F.: -0.201 mg/L. Dissolved Oxygen: Not Determined ● 140 F.: +0.789 Total Hardness: 33,113 mg/L. as CaCO3 Total Iron: 40 mg/L. as Fe++ PROBABLE MINERAL COMPOSITION COMPOUND MG/L MEQ/L Ca(HCO3)2 178 2 Calcium Sulfate Scaling Potential CaSO4 780 11 Not Present 28,932 CaC12 521 Estimated Temperature of Calcium Carbonate Instability is Mg(HCO3)2 0 0 89 F. MgSO4 MgC12 6,101 128 NaHCO3 0 0

Na2SO4

NaC1

Analyst

01:30 PM

143,379

2,453

Lab ID No. : 060788F Analysis Date: June 7. 1988 : Hondo Oil & Gas Co. Sampled By : Don Bamert Company Field Sample Date: Lease/Unit : Fresh Water Salesperson: Don Bamert Well ID. : No. of Lea 396 Formation : Sample Loc.: Location : Hobbs, N. M. CATIONS MEQ/L MEQ/L MG/L ANIONS MG/L Calcium as Ca++ 5.7 0 115 Hydroxyl as OH-0.0 Magnesium as Mg++ 29 2.4 Carbonate as CO3= 0 0.0 Sodium as Na+ (Calc) 49 2.1 Bicarbonate as HCO3-177 2.9 Barium as Ba++ Sulfate as SO4= Below 10 82 1.7 Chloride as C1-Other 0 200 5.6 Total Dissolved Solids, Calculated: 652 mg/L. Calculated Resistivity: 2.703 ohm-meters pH: 7.670 mg/L. Hydrogen Sulfide: Not Present Specific Gravity 60/60 F.: 1.000 mg/L. Carbon Dioxide: Not Determined Saturation Index @ 80 F.: +0.484 mg/L. Dissolved Oxygen: Not Determined ● 140 F.: +1.184 Total Hardness: 405 mg/L. as CaCO3 Total Iron: 0.8 mg/L. as Fe++ PROBABLE MINERAL COMPOSITION MG/L MEQ/L COMPOUND Ca(HCO3)2 235 3 Calcium Sulfate Scaling Potential CaSO4 116 2 Not Present CaC12 62 1 Estimated Temperature of Calcium Carbonate Instability is Mg(HCO3)2 0 58 F. 0 MaSO4 MgC12 113 2 0 NaHCO3 Na2S04 0

NaC1

01:32 PM

Analyst

126

Analysis Date: June 7, 1988 Lab ID No. : 060788G

Company : Hondo Oil & Gas Co.

Field

Lease/Unit : Fresh Water

Well ID. : So. of Lea 396

Sample Loc.:

Sampled By : Don Bamert

Sample Date:

Salesperson: Don Bamert

Formation :

Location : Hobbs. N. M.

CATIONS	MG/L	MEQ/L	ANIONS	MG/L	MEQ/L
Calcium as Ca++	76	3.8	Hydroxyl as OH-	0	0.0
Magnesium as Mg++	23	1.9	Carbonate as CO3=	0	0.0
Sodium as Na+ (Calc)	55	2.4	Bicarbonate as HCO3-	161	2.6
Barium as Ba++ Be	low 10		Sulfate as SO4=	100	2.1
Other	0		Chloride as C1-	120	3.4

Total Dissolved Solids, Calculated:

536 mg/L.

Specific Gravity 60/60 F.: 1.003

Saturation Index ● 80 F.: +0.909

pH: 8.310

● 140 F.: +1.609

Calculated Resistivity: 2.588 ohm-meters

mg/L. Hydrogen Sulfide: Not Present

mg/L. Carbon Dioxide: Not Determined

mg/L. Dissolved Oxygen: Not Determined

mg/L. as CaCO3

Total Hardness: Total Iron:

0.6

286 mg/L. as Fe++

PROBABLE MINERAL COMPOSITION

	COMPOUND	MG/L	MEQ/L
	Ca(HCO3)2	214	3
Calcium Sulfate Scaling Potential Not Present	CaSO4	80	1
	CaC12	0	0
Estimated Temperature of Calcium Carbonate Instability is 54 F.	Mg(HCO3)2	o	0
04 P.	MgSO4	55	1
	MgC12	47	1
	NaHCO3	0	0
	Na2SO4	0	0
Analyst 01:33 PM	NaC1	140	2

Box 2208 Roswell, New Mexico 88202 (505) 625-8700



September 1, 1988

Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501

SWD Application RE:

New Mexico AP State No.1

1980' FNL & 660' FWL, Section 36, T-15S, R-36E Lea County, New Mexico

Gentlemen:

Please find enclosed copies of the signed return receipts for notification of the above captioned matter as required by Oil Conservation Division Rule 701.

If any more information is needed, please contact E. L. Buttross, Jr. at 505/625-8760.

Sincerely,

Lisa Bohannon

Engineering Technician

:1b

3. Article Addressed to:	addresses s address. Z hesinicial Convery † (Extra charge)†
	4. Article Number
Harvey E. Yates Co.	P663380981 Type of Service:
est C	Registered
Roswell, NM 88201	Express Mail
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature - Addressee	8. Addressee's Address (ONLY if requested and fee paid)
6. Signardre 7 Agent	
Selection of the select	
PS Form 3811, Mar. 1987 + US.G.P.O. 1987-178-268	DOMESTIC RETURN RECEIPT
SENDER: Complete items 1 and 2 when and 4. ut your address in the "RETURN TO" Space rife from being returned to you. The return river to and the date of delivery. For add stivates for feet and check box(es) for additionates for feet and check box(es) for additionates for feet and check box(es) for additionates for whom delivered, date, and address for whom delivered, date, and address for the fextra charge)†	
e Addre	4. Article Number P663380978
ELK Oll Company P. O. Box 310	Type of Service:
Roswell, NM 88202][]
	Always obtain signature of addresses or agent and DATE DELIVERED.
5. Signature - Addressee	8. Addressee's Address (ONLY if srequested and fee paid)
6. Sigpéture – Agent	
7. Date of Delivery	

Put your address in the "RETURN TO" Space on the card from being returned to you. The return receip delivered to and the date of delivery. For additional postmaster for fees and check box(es) for additional set. B. Show to whom delivered, date, and addressee's texture charge!	It fee will provide you the name of the person fees the following services are available. Consult prvice(s) requested.			
3. Article Addressed to: Yates Petroleum Corp.	4. Article Number P663380977			
105 S. 4th Artesia, NM 88210	Type of Service: ☐ Registered ☐ Insured ☑ Certified ☐ COD ☐ Express Mail			
2	Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .			
5. Signature – Addressee X	8. Addressee's Address (ONLY if requested and fee paid)			
6. Signature – Agent X				
7. Date of Delivery				

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services are desired, and complete items 3	2" Space on the reverse side. Failure to do this will prevent this a return receipt fee will provide you the name of the passon. For additional fees the following services are available. Consult for additional service(s) requested. for additional service(s) requested. for additional service(s) requested. for additional service(s) requested.	4	F663380976	Registered	Certified COD	Always obtain signature of addressee	. 1	requested and fee paid			BOMESTIC HETURN RECEIPT	Although the second sec	when additional services are desired, and complete items 3	ee will provide you the name of the person this see will provide you the name of the person s the following services are available. Consult	cets) requested: ress. 2. Bestricted Delivery † (Extra charge)†	4. Article Number	<u>۾</u>	ات چ چ	Express Mail	Always obtain signature of addressee or agent and DATE DELIVERED.	8. Addressee's Address (ONLY tf requested and fee paid)	- 1923 N. Del Poro		B DOMESTIC RETURN RECEIPT
SENDER: Complete Items 1 and 2 when additional services are desired, and complete Items 3	and 4. Put your address in the "RETURN TO" Space on the reverse side. Fall provide card from being returned to you. The return receipt fee will provide delivered to and the date of delivery. For additional fees the following postmatter for fees and check box (es) for additional service(s) requested to be succeeded, date, and addresses address. 1. \$\tilde{\mathbb{Z}}\$ Show to whom delivered, date, and addresses address. 2. \$\tilde{\mathbb{L}}\$ full flowers.	3. Article Addressed to:	Jerry & Bob Dean	Box 310	Lovington, NM 88260			5. Signature—Addressee	6. Signature – Agent X	7. Date of Delivery	PS Form 3811, Mar. 1987 * U.S.G.P.O. 1987-178-268		SENDER: Complete Items 1 and 2 and 4.	Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the parson delivered to and the date of delivery. For additional fees the following services are available. Consult delivery.	1. If Show to whom delivered, date, and addressee's add	3. Article Addressed to:	Gulf Oil Explor. & Prod. Co.	Dal Paso	Hobbs, NM 88240		5. Signature – Addressee X	6. Signature – Agenț	Marie Many	PS Form 3811, Mar. 1987 * U.S.G.P.O. 1987-178-268

SENDER: Complete items 1 and 2 when additional and 4. Put your address in the "RETURN TO" Space on the revicerd from being returned to you. The return receipt fee delivered to and the date of delivery. For additional fees postmaster for fees and check box(es) for additional service 1. Show to whom delivered, date, and addressee's addressee's addressee's feet and addressee's addressee's feet and addressee's ad	erse side. Failure to do this will prevent this will provide you the name of the person the following services are available. Consult (s) requested.
3. Article Addressed to:	4. Article Number P663380979
Exxon, U.S.A. Box 1600 Midland, TX 79702	Type of Service: Registered Insured Certified COD Express Mail
	Always obtain signature of addressee or agent and <u>DATE DELIVERED</u> .
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature – Agent X Druce Mux	
7. Date of Delivery 9-25-81	
PS Form 3811, Mar. 1987 * U.S.G.P.O. 1987-178-268	DOMESTIC RETURN RECEIP

	charge)†	†(Extra charge)†
3. Article Addressed to:		4. Article Number
NMOCD		P663380982
P. O. Box 2088		Type of Service:
i i	37501 E 🖟	Certified COD
		☐ Express Mail
		Always obtain signature of addressee
		or agent and <u>DATE DELIVERED</u> .
5. Signature - Addressee		8: Addressee's Address (ONLY if eguested and fee paid)
X	() 3/0	So I I
6. Signature – Agent	XX	[[*]]
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PS Form 3811, Mar. 1987		
and 4.		ervices are desired, and complete items 3
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STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

/ed

8-26-88

POST OFFICE BOX 1980 HOBBS, NEW MEXICO 88241-1980 (505) 393-6161

10. Unit S-T-R