Houston Division
Production Operations, United States

Marathon Oil Company

P.O. Box 2409
Hobbs, New Mexico 88240
Telephone 505/393-7106

RECEIVED
JAN 30 1984
OIL CONSERVATION DIVISION
SANTA FE

January 19, 1984

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

Dear Gentlemen:

Marathon Oil Company requests Administrative Approval for the injection of produced water into the Lea Unit SWD Well No. 2. This well is located in Lea County, 1625' FSL and 330' FWL, Unit L, Section 12, T20S, R34E. This is the second water disposal well on this lease. The first, Lea Unit No. 8 is still in operation. It was approved in 1977 by Order No. SWD-189. With the recent addition of submersible pumps in the Lea Unit Field, water production has increased significantly. In order to efficiently handle these volumes of water Lea Unit SWD Well No. 2 was drilled. It will be disposing into the same formation as Well No. 8.

Attached with this letter you will find Form C-108 and the requested data. Should any additional data or information be required please contact this office. Thank you.

Sincerely,

Thomas F. Zapatka
Production Engineer

TFZ:lbp

Enclosures

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no

II. Operator: Marathon Oil Company

Address: P. O. Box 2409 Hobbs, New Mexico 88240

Contact party: Thomas F. Zapatka Phone: (505) 393-7106

III. 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

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SANTA FE

V. 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:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. 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.).

*VIII. 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.

* X. 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.

XIII. 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: Thomas F. Zapatka Title Production Engineer

Signature: Date: January 19, 1984

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that 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.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

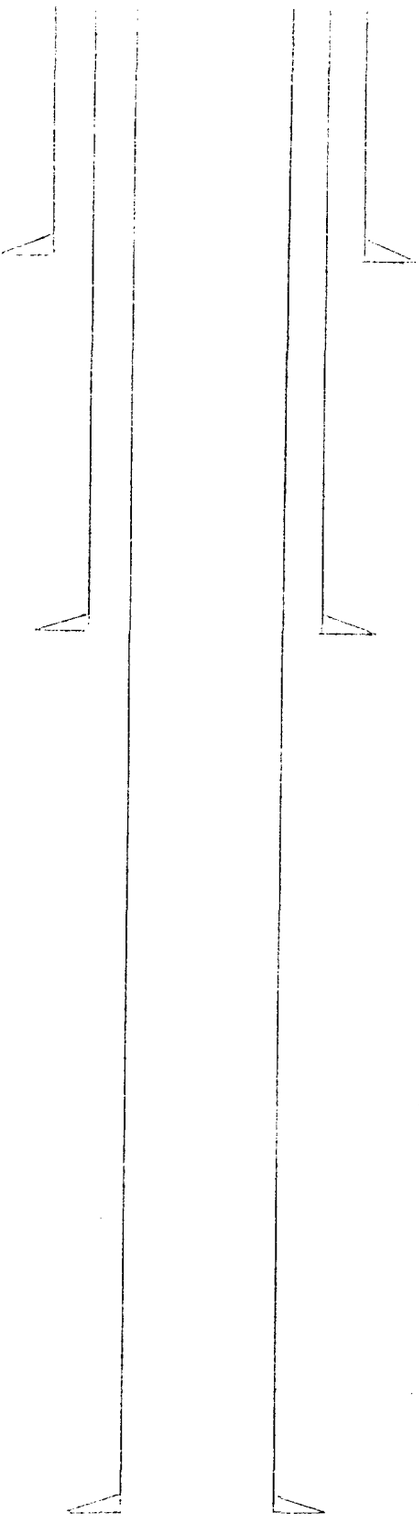
ATTACHMENT

The propsed average daily injection rate for this well is estimated at 9000 BWPD. The other disposal well, Well No. 8 will handle the other 9000 BWPD being produced on this lease. If Well No. 8 goes down for some reason this new well will handle all of the produced water, approximately 18,000 BWPD. This system is closed. The maximum injection rate is 110 psi, the average will be around 45 psi.

The source of the injected water is the Devonian formation from the producing wells on this lease. A water analysis is enclosed with this application. No water analysis is available for the Seven Rivers formation.

The injection zone is the Seven Rivers formation from 3800' - 4611'. Injection will be down 4 1/2" plastic coated tubing into this open hole interval.

WELL DATA SHEET



FIELD Lea Unit

LEASE & WELL NO. Lea Unit SWD No. 1

LOCATION 1905' FSL & 810' FWL, Sec. 12, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS Plugged and Abandoned
(Pumping, Flowing, Gas-Lift, etc.)

TD 4137 PBTD _____ KB _____ GL _____

SURFACE CASING 8 5/8", 24# at 1357'. Cemented to surface with 400 sacks.

INTERMEDIATE CASING 5 1/2", 15.5# at 3898'. Cemented to surface with 800 sacks.

PRODUCTION CASING _____

TUBING _____

RODS _____

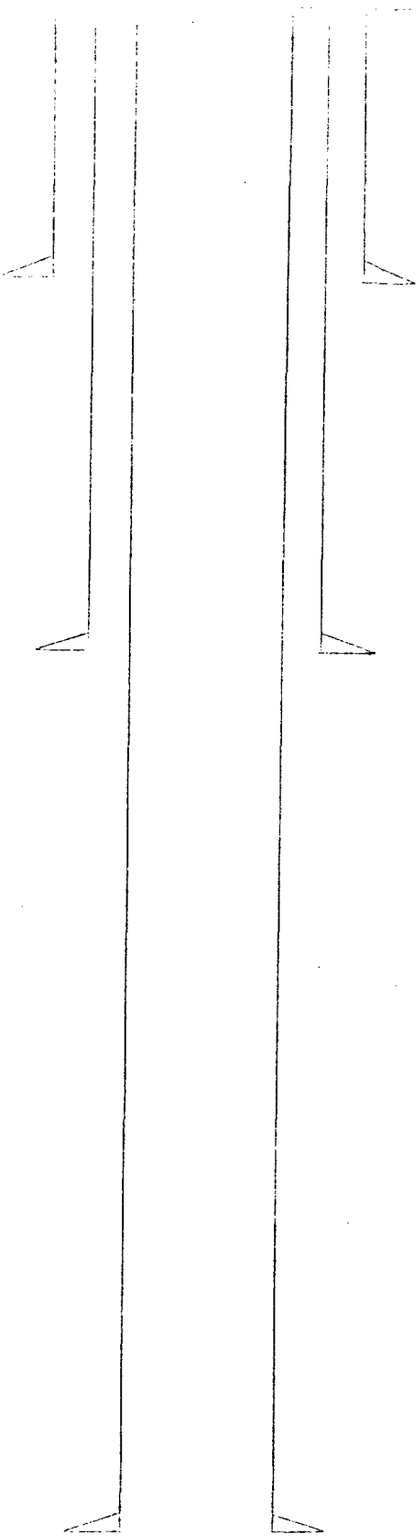
PUMPING UNIT _____

PRESENT COMPLETION Plugged and Abandoned
(Formation and Interval)

HISTORY Drilled in 1963 as a salt water disposal well. It was plugged in 1977. Pumped 375 sacks down tubing at 972'. Tagged cement at 903'. Filled casing to surface with 150 sacks of cement.

PREPARED BY Thomas F. Zapatka DATE Janaury 11, 1984

WELL DATA SHEET



FIELD Lea Unit

LEASE & WELL NO. Lea Unit Well No. 1

LOCATION 1980' FSL & 660' FWL, Sec. 12, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS Plugged and Abandoned
(Pumping, Flowing, Gas-Lift, etc.)

TD 14735 PBTD _____ KB _____ GL _____

SURFACE CASING 13 3/8", 48# at 388'. Cemented with 400 sacks to surface.

INTERMEDIATE CASING 9 5/8", 36# at 4515'. Cemented with 2691 sacks in 2 stages. Top of cement at 600'.

PRODUCTION CASING 7", 29# at 14080'. Cemented with 1750 sacks in 2 stages. Top of cement at 6640'.

LINER 4 1/2" f/13958 - 14731. Cemented with 150 sacks.

TUBING

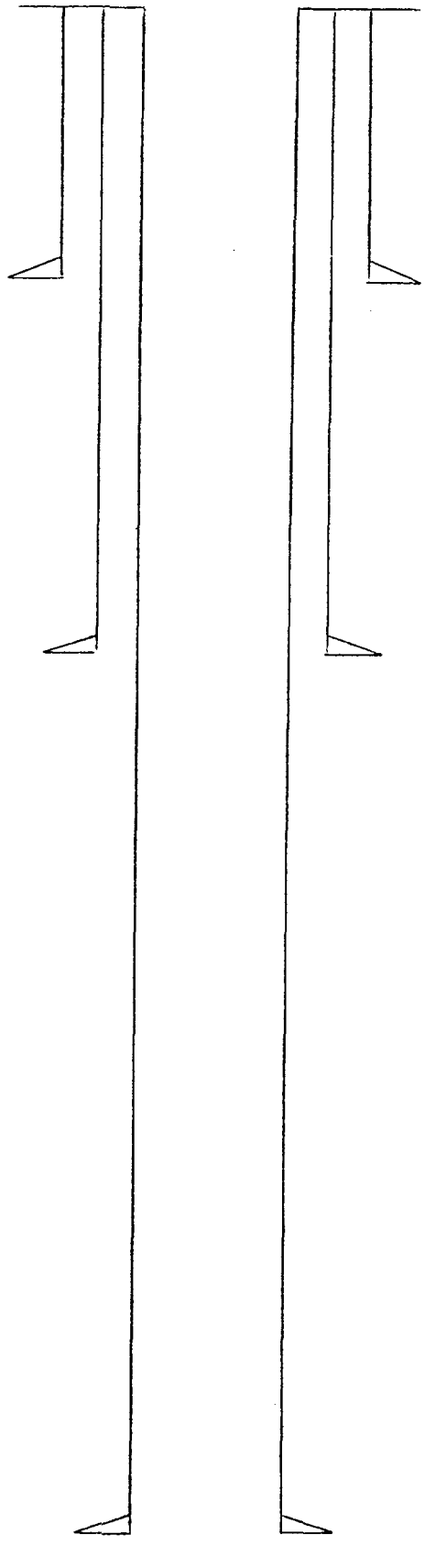
RODS

PUMPING UNIT

PRESENT COMPLETION Plugged and Abandoned
(Formation and Interval)

HISTORY Drilled in 1960 and completed in the Devonian. Plugged in 1977. Pumped 400 sacks cement down tubing set at 1664'. Tagged at 1244'. Circulated hole from 1244 to surface with 400 sacks cement.

PREPARED BY Thomas F. Zapatka DATE January 11, 1984



WELL DATA SHEET

FIELD Lea Unit

LEASE & WELL NO. Lea Unit SWD Well No. 2

LOCATION 1625' FSL & 330' FWL, Sec. 12, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS
(Pumping, Flowing, Gas-Lift, etc.)

TD 4611 PBTD 4611 KB 3671 GL 3659

SURFACE CASING 9 5/8", 32.3# at 898'. Cemented with 600 sacks, circulated to surface.

INTERMEDIATE CASING

PRODUCTION CASING 7", 23# at 3800'. DV tool at 1560', ECP at 1563'. Cemented with 850 sacks total 2 stages, circulated to surface on second stage.

TUBING 4 1/2", 9.5# & 10.5# plastic wated tubing, Otis MH packer at 3714'.

RODS

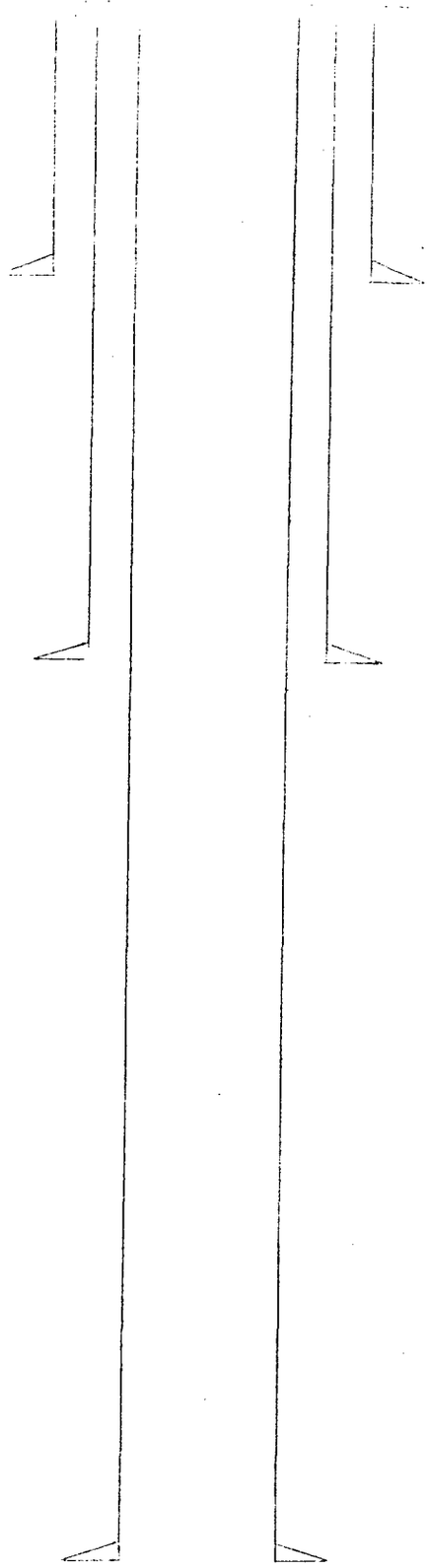
PUMPING UNIT

PRESENT COMPLETION Open hole from 3800 - 4611'.
(Formation and Interval)
Capitan Reef, Seven Rivers/Queen.

HISTORY Drilled in 1984 as a saltwater disposal well.

PREPARED BY Thomas F. Zapatka DATE January 19, 1984

WELL DATA SHEET



FIELD Lea Unit

LEASE & WELL NO. Lea Unit Well No. 4

LOCATION Sec. 11, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS Submersible pump
(Pumping, Flowing, Gas-Lift, etc.)

TD 14492 PBTD 14487 KB 3677 GL 3655

SURFACE CASING 13 3/8", 54.5# at 856'. Cemented with 750 sacks, circulated to surface.

INTERMEDIATE CASING 9 5/8", 36# at 5008'. Cemented with 3900 sacks in 2 stages, cement to surface.

PRODUCTION CASING 7", 29# at 14040'. Cemented in 2 stages with 2250 sacks.

LINER 4 1/2" 14.9# from 13925 - 14490. Cemented with 150 sacks.

TUBING 3 1/2", 9.3# at 4590'.

RODS

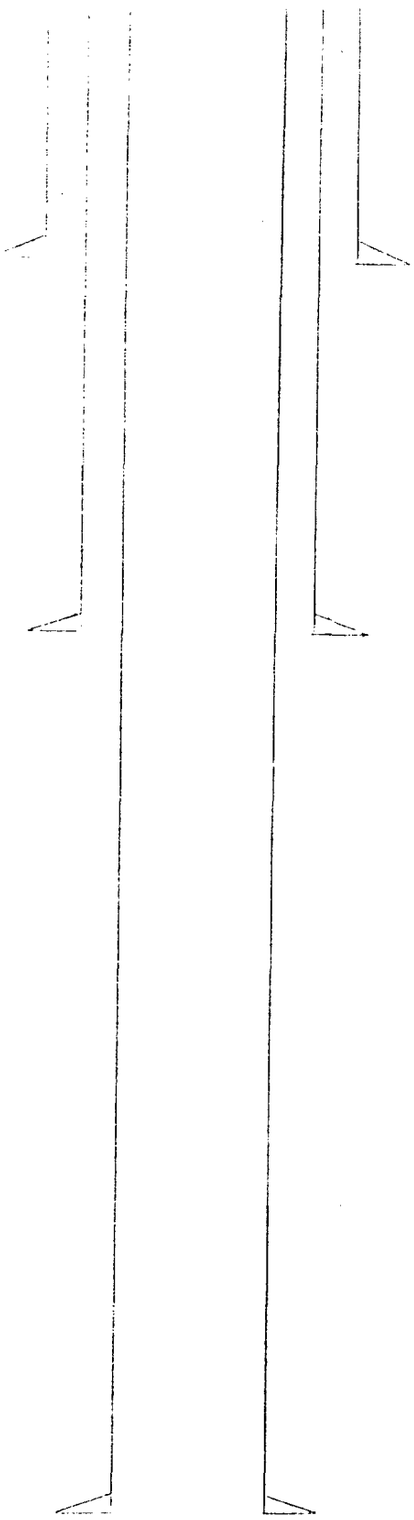
PUMPING UNIT Reda Submersible Pump.

PRESENT COMPLETION Devonian
(Formation and Interval)
14420' - 424', 14450' - 482'.

HISTORY Well was spudded on December 6, 1960. Completed as a dual Bone Springs - Devonian. Bone Springs abandoned in 1969. Dualed with Penn Gas. Penn Gas abandoned in 1973.

PREPARED BY Thomas F. Zapatka DATE January 10, 1984

WELL DATA SHEET



FIELD Lea Unit

LEASE & WELL NO. Lea Unit Well No. 6

LOCATION 1980' FSL & 1830' FEL, Sec. 11, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS Submersible pump
(Pumping, Flowing, Gas-Lift, etc.)

TD 14472 PBTD 13150 KB 3667 GL 3647

SURFACE CASING 13 3/8", 48# at 846. Cemented with 800 sacks, cement circulated to surface.

INTERMEDIATE CASING 9 5/8", 36# & 40# at 5508'. Cemented with 3150 sacks in 2 stages. Cement circulated.

PRODUCTION CASING 7", 26# & 29# at 14358'. Cemented wtih 1100 sacks. Top of cement at 7640'.

TUBING 2 7/8" set at 6031'.

RODS

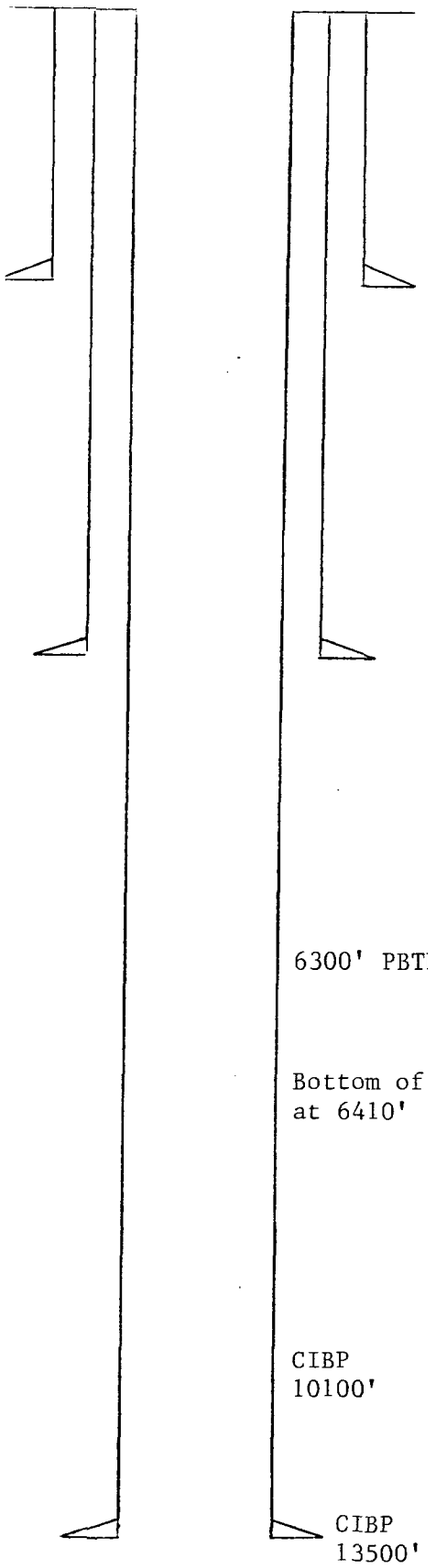
PUMPING UNIT

PRESENT COMPLETION Devonian
(Formation and Interval)
open hole f/14358 - 14472

HISTORY Completed in 1961 as a dual Devonian - Bend gas well. Bend gas squeezed in 1973. Shut in Devonian in 1980. Reactivated Devonian in December 1983.

PREPARED BY Thomas F. Zapatka DATE January 10, 1984

WELL DATA SHEET



FIELD Lea San Andres

LEASE & WELL NO. Lea Unit Well No. 7

LOCATION 1980' FWL & 660' FSL, Sec. 12, T20S, R34E

COUNTY & STATE Lea County, New Mexico

STATUS Pumping
(Pumping, Flowing, Gas-Lift, etc.)

TD 14540 PBTD 6300 KB 3678 GL 3657

SURFACE CASING 13 3/8", 48# at 867'. Cemented with 800 sacks, circulated to surface.

INTERMEDIATE CASING 9 5/8", 36# at 5508'. Cemented with 2725 sacks in 2 stages. Cement circulated.

PRODUCTION CASING 7", 29# at 13565. Cemented with 1300 sacks.

LINER 4 1/2", 14.9# from 13375 - 14540.

TUBING 2 7/8", 6.5# at 6089'.

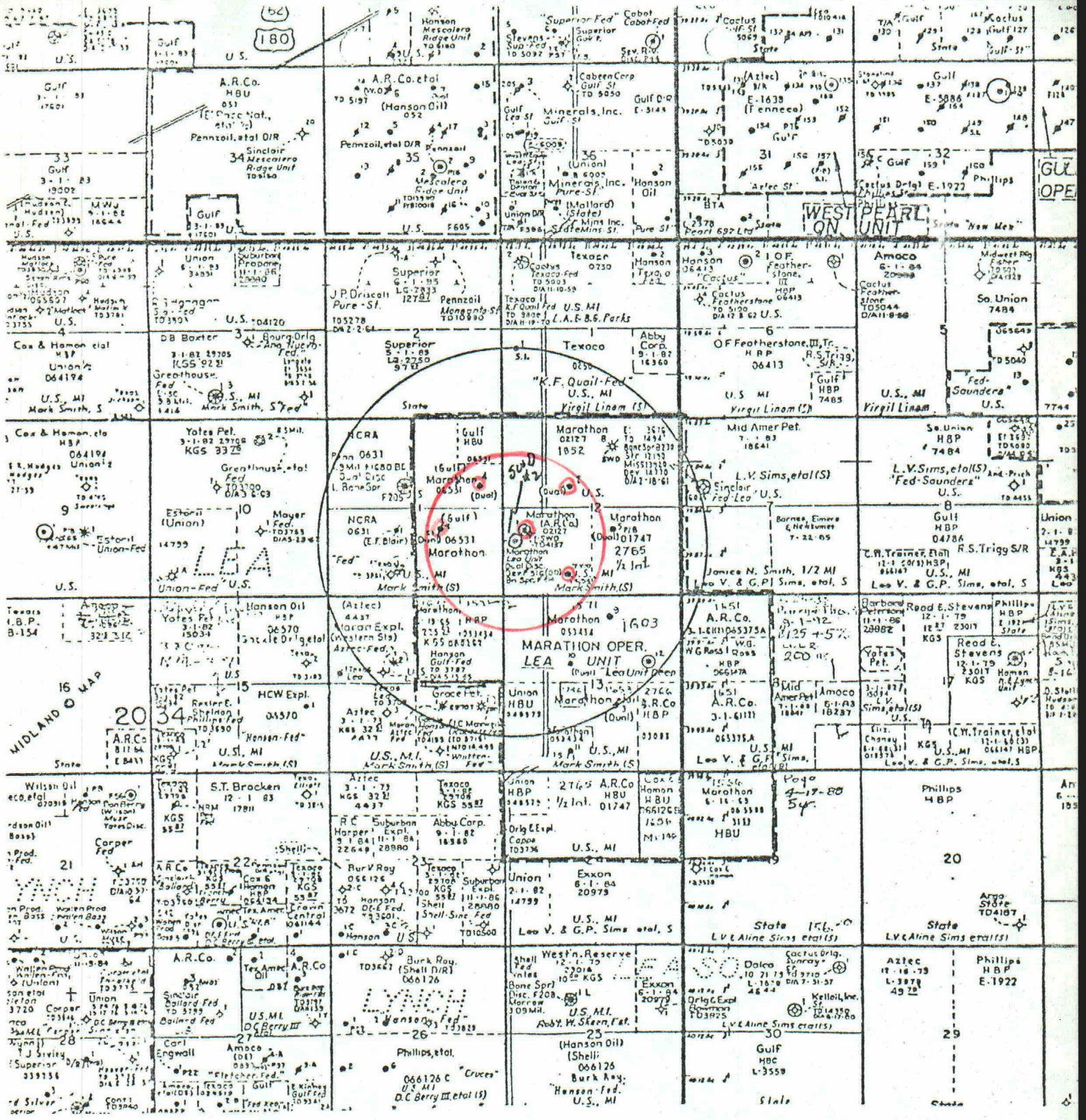
RODS

PUMPING UNIT

PRESENT COMPLETION Lea San Andres
(Formation and Interval)
from 6196 - 6222

HISTORY Drilled in 1961. Completed as a dual Bone Springs - Bend Gas well. Bone Springs was shut-in in 1969, Bend Gas in 1972. Deepened in 1978 to Devonian. Abandoned Devonian in 1982 and completed in Lea San Andres.

PREPARED BY Thomas F. Zapatka DATE January 10, 1984



Exhitbit "C"

Proposed Location
Marathon Oil Company
Lea Unit SWD No. 2
1625' FSL & 330' FWL
Sec 12, T-20-S, R-34-E
Lea County, New Mexico
Lease: NM-02127-B

1142-A

HALLIBURTON DIVISION LABORATORY
HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W83-1335

To Marathon Oil Company

Date 1-3-84

Box 2409

Hobbs, New Mexico

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by

Date Rec. 12-31-83

Well No. Lea U. SWD #2 Depth Formation

County Field Source

Injection Water

Resistivity	0.174 @ 91°F.			
Specific Gravity	1.031			
pH	6.6			
Calcium (Ca)	1,800			*MPL
Magnesium (Mg)	300			
Chlorides (Cl)	22,500			
Sulfates (SO_4)	1,450			
Bicarbonates (HCO_3)	440			
Soluble Iron (Fe)	Nil			

Remarks:

Copy mailed to W. D. Holmes
1-6-84
mjm

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

HALLIBURTON COMPANY

By W. L. Brewer
CHEMIST

cc:

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: NM-02127-B

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL ☐ GAS WELL ☐ OTHER: Salt Water Disposal

7. UNIT AGREEMENT NAME: Lea Unit

2. NAME OF OPERATOR: Marathon Oil Company

8. FARM OR LEASE NAME:

3. ADDRESS OF OPERATOR: P.O. Box 552, Midland, Texas

9. WELL NO.: SWD No. 2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 1625' FSL & 330' FWL

10. FIELD AND POOL, OR WILDCAT: Lea

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 12, T-20-S, R-34-E

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 3659 GR, 3671 KB

12. COUNTY OR PARISH: Lea

13. STATE: N.M.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Spud and Casing Test			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

1. Moved in and spudded 12 1/4" hole 7:00 p.m. 12/30/83.
2. Drilled 12 1/4" hole to 900'. Ran 9 5/8", 32.3 lb/ft., H-40 casing to 898'.
3. Cemented casing with 400 sacks of Lite cement followed by 200 sacks of Class "C" with 2% $CaCl_2$. Circulated 195 sacks to pit.
4. WOC 24 hours. Install BOP.
5. Test BOP and casing to 1500 psi.
6. Drilled 8 3/4" hole to 3800'.
7. Ran 7" 23 lb/ft, K-55 casing to 3800'. Ran DV tool at 1560' with external casing packer at 1563'.
8. Cemented first stage with 350 sacks of 65/35 POZ w/4% gel and 5 lb/salt per sack followed by 200 sacks of Class "C" with 2% $CaCl_2$. Cemented second stage with 200 sacks of 65/35 POZ with 4% gel and 5 lb/salt per sack followed by 100 sacks of Class "C" with 2% $CaCl_2$. Circulated 100 sacks to surface on second stage.
9. WOC 28 hours. Install and test BOP and casing to 1500 psi. Held okay.
10. Drilled out with 6 1/8" bit to 4611'.
11. Ran GR-N Log from 4611' to 3250'.
12. Rig up and ran 4 1/2", 9.5 and 10.5 lb/ft, K-55 and H-40 plastic-coated tubing and Otis MH packer to 3714'. Set packer at 3714'.
13. Installed wellhead. Released drilling rig.

18. I hereby certify that the foregoing is true and correct

SIGNED William D Holman TITLE Dist. Operations Engineer DATE 1/12/84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Hobbs Daily News-Sun

Tues., Jan. 24, 1984—Page 9

LEGAL NOTICE
JANUARY 24, 25, 1984

Marathon Oil Company recently drilled the Lea Unit SWD Well No. 2. This well is located in Lea County New Mexico, 1625' FSL and 330' FWL, Section 12, T20S, R34E. The purpose of this well is for the disposal of produced water from the Lea Unit. This produced water is from the Devonian formation and will be disposed of into the Seven Rivers formation from 3800' - 4611'. Maximum injection rates will be 18,000 BWPD with maximum pressure of 150 psi.

Interested parties may 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.

Marathon Oil Company
P.O. Box 2409
Hobbs, NM 88240
(505) 393-7106
Contact: Mr. C.C. Saathoff
Operations Superintendent