New Mexico

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT-" for such proposals

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.
NM 17807

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation
Querecho Plains Bone Spring Unit

1. Type of Well
Oil Well ☐ Gas Well ☒ Other Water Injection

8. Well Name and No.
QPBSSU 13-2

2. Name of Operator
Mewbourne Oil Company

9. API Well No.
30-025-29679

3. Address and Telephone No.
PO Box 5270, Hobbs, New Mexico 88241. (505) 393-5905

10. Field and Pool, or Exploratory Area
Querecho Plains Bone Spring

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
760' FSL & 2310' FWL. Sec.23 T-18S R-32E

11. County or Parish, State
Lea, NM

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☒ Notice of Intent	☐ Abandonment	☐ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☒ Conversion to Injection
	☐ Other	☐ Dispose Water

(Note. Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinet 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 markders and zones pertinent to this work.)*

Mewbourne Oil Company would like to convert this BoneSpring producer into a Bone Spring injection. All paper work & procedures have been approved by Mr. David Catanach with the NMOCD as of 9/18/01.

Enclosed, please find the procedure for conversion, wellbore schematic, NMOCD Application For Authorization to Inject, and letter to Mr. Catanach.

If any questions, please call.

SUBJECT TO
LIKE APPROVAL
BY STATE

WFX-776

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

Signed [signature] Title N.M. Young District Manager Date 09/19/01

(This space for Federal or State office use)

Approved by APPROVED Title Date
Conditions of approval, if any: (ORIG. SGD.) DAVID R. GLASS
SEP 21 2001
DAVID R. GLASS
PETROLEUM ENGINEER

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

GWW

SCS

Querecho Plains Bone Spring Sand Uni
Well 13-2 - Revision 1

Work performed to determine the best procedure to convert tubing-casing completion to tubingless completion for waterflood injection.

1. Spotted 3500# 20/40 sand plug on bottom. Top of Sand @ 8411' (8/29/01)
2. Performed casing test by pumping down 5½" casing. (See BJ Services Job Report - 9/05/01)
   A. 5½" casing would not test.
   B. With 2 bbls. FW pumped - returns on 8⅝" casing.
   C. Mixed 20 bbls. red dye marker pill.
   D. Red-dye marker returned to surface through 5½" x 8⅝" annulus after 20 bbls. dye and 98 bbls. FW flush pumped. Calculated depth of communication in the immediate vicinity of 5½" casing collapse @ 2020'-2038'.
3. Performed injection/circulation test to determine cement placement pressures.
   A. 3 B/M @ 30#
   B. 4 B/M @ 70#
   C. 5 B/M @ 115#
4. Concluded no water was lost out of 8⅝" casing or below 8⅝" casing shoe.

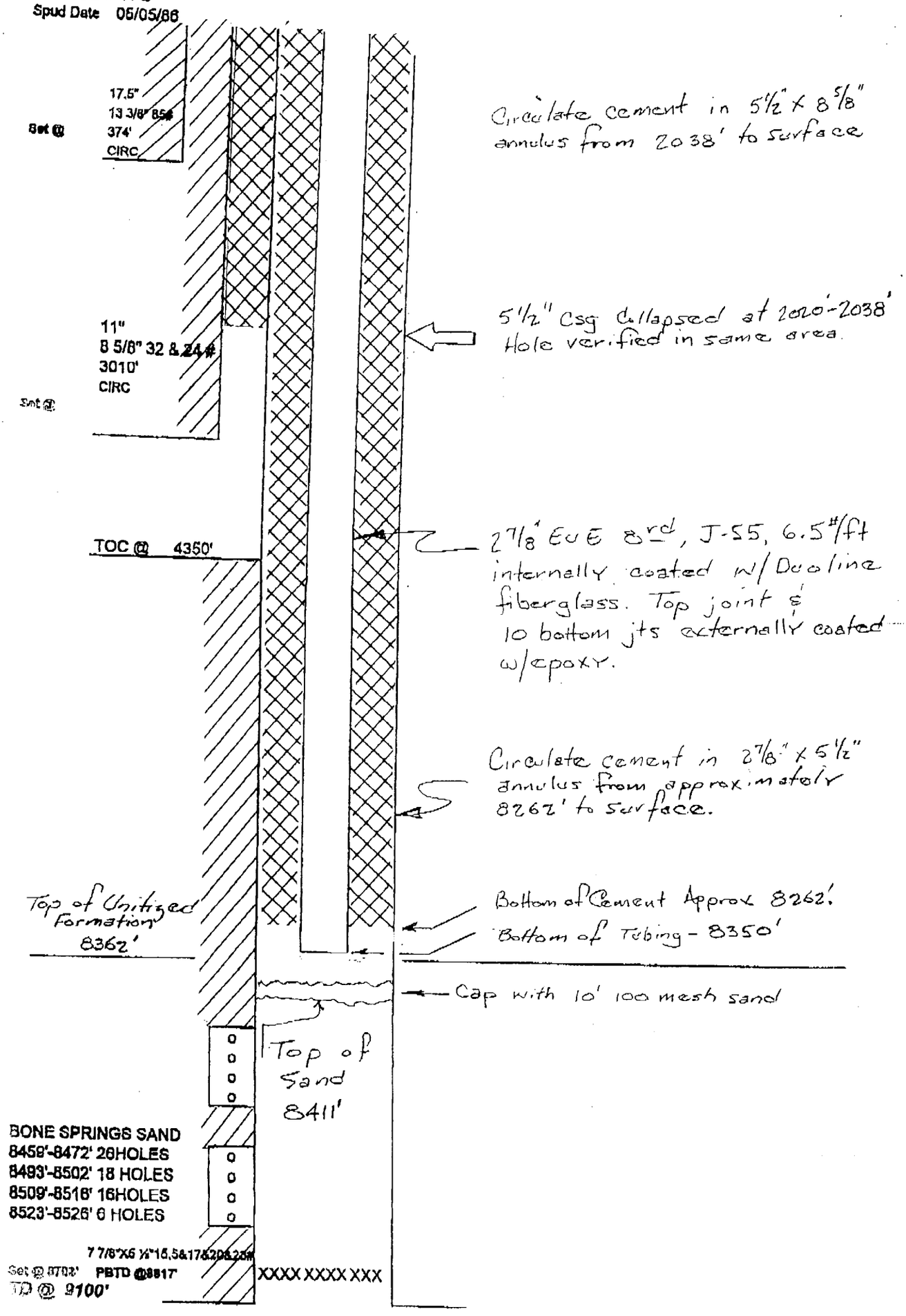
Recommended Procedure

1. Place 10' of 100 mesh sand to cap sand plug.
2. Rig up WO rig. Install BOP.
3. Pick up 2⅞" od EUE 8rd J-55 6.5#/ft. tubing lined with Duoline fiberglass, 2¼" id w/WL entry guide. Bottom 10 jts. and top joint to be externally coated with epoxy.
4. TIH w/tubing open-ended. Centralize from bottom up jts. 1, 2, 3, 5, 8, 11, 14, 17, 20, 23, 26, 29, 32.
5. Set bottom of tubing @ 8350'. Top of Unitized Formation as defined in Unit Agreement Section 2.11 (Equivalent depth 8362')
6. RU BJ Services. Perform dye-marker injection/circulation test in order to design cement job to assure proper volume of cement, annular pressure losses, placement rate and optimum sequence of placement.
7. RD BOP's
8. Hang tubing with top and bottom-threaded type G adapter flange.
9. Design cement job based on test from item 6 above.
10. Circulate cement in place to fill 2⅞" x 5½" annulus from approximately 8262' to surface and 5½" x 8⅝" annulus from 2042' to surface. Follow cement w/10 bbls. cross link gel for wiper. Cement volume approximately 193 bbls. Pump 10% excess cement.
11. Flush cement to bottom with total 42.4 bbls. (10 bbls. gel + 32.4 bbl. FW). (Tubing set approximately 8350' w/13' zero above THF)
12. Hold pressure on tubing to balance cement plug. Bottom of cement in 2⅞" x 5½" annulus calculated to be at approximately 8262', 100' above top of Unitized Formation.
13. RD WO Rig.
14. WOC 72 hours. Pressure test to 2500#.
15. Run cement bond log w/$1^{11}/_{16}$" Baker Atlas tool from top perf. @ 8459' to surface.
16. RU coil tubing unit.
17. TIH w/max. $1^{13}/_{16}$" BHA to wash sand to PBTD 8605'. Use foam to circulate sand as required.
18. Wash perfs. @ 8459'-8526' with 2000 gal. 15% HCl.
19. Jet hole clean w/N_2.
20. TOOH w/coil tubing. RD.
21. Rig up injection head with swab valve. Run injection tests.
22. RU Cardinal Surveys. Run injection profile log from PBTD to surface.
23. RD. Place on injection pending log analysis.

K. M. Calvert
9/11/2001

Schematic for the **Mewbourne Oil Company**

QPBSSU # 13-2
Spud Date 05/05/86



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

FORM C-108
Revised 4-1-98

Pkt Wells

APPLICATION FOR AUTHORIZATION TO INJECT

QPBBSO 13#2

I. PURPOSE: X Secondary Recovery ____ Pressure Maintenance X Disposal ____ Storage
Application qualifies for administrative approval? X Yes ____ No

II. OPERATOR: Mewbourne Oil Company

ADDRESS: P. O. Box 7698 - Tyler, Texas 75711

CONTACT PARTY: K. M. Calvert PHONE: (903) 561-2900

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. **Attachment 1**

IV. Is this an expansion of an existing project? ____ Yes X No
If yes, give the Division order number authorizing the project: R-9737-A

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. **Attachment 2**

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. **Attachment 3**

VII. Attach data on the proposed operation, including: **Attachment 4**

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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources known to be immediately underlying the injection interval. **Attachment 5**

IX. Describe the proposed stimulation program, if any. **Attachment 6** NONE

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). Previously Submitted. **Attachment 7**

*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. **Attachment 8**

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 sources of drinking water. **Attachment 9**

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: Sue Hearon TITLE: EngineeringTech.

SIGNATURE: Sue Hearon DATE: 7/26/01

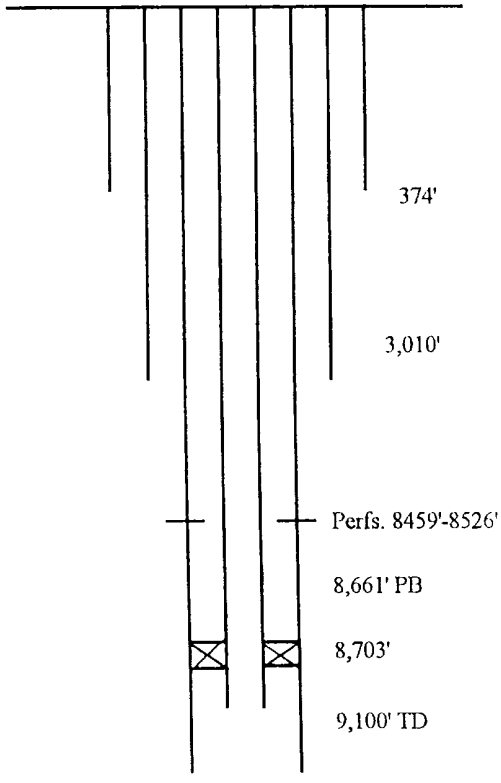
* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: C-108 5-28-93

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

NJECTION WELL DATA SHEET
(ITEM III: Attachment 1 to Form C-108)

Mewbourne Oil Company	QPBSSU	13-2			
Operator		Lease	Well No.		
760' FSL & 2310' FWL	23	18S	32E	Lea	NM
Location	Section	Township	Range	County	State

Schematic



Tubular Data

Surface Casing
Size 13-3/8" Cemented with 374 sx. Class H
TOC Surface Feet determined by Circ.
Hole size 17½"

Intermediate Casing
Size 8-5/8" Cemented with 1300 sx. Lite and 300 sx. Class C
TOC Surface Feet determined by Circ.
Hole size 11"

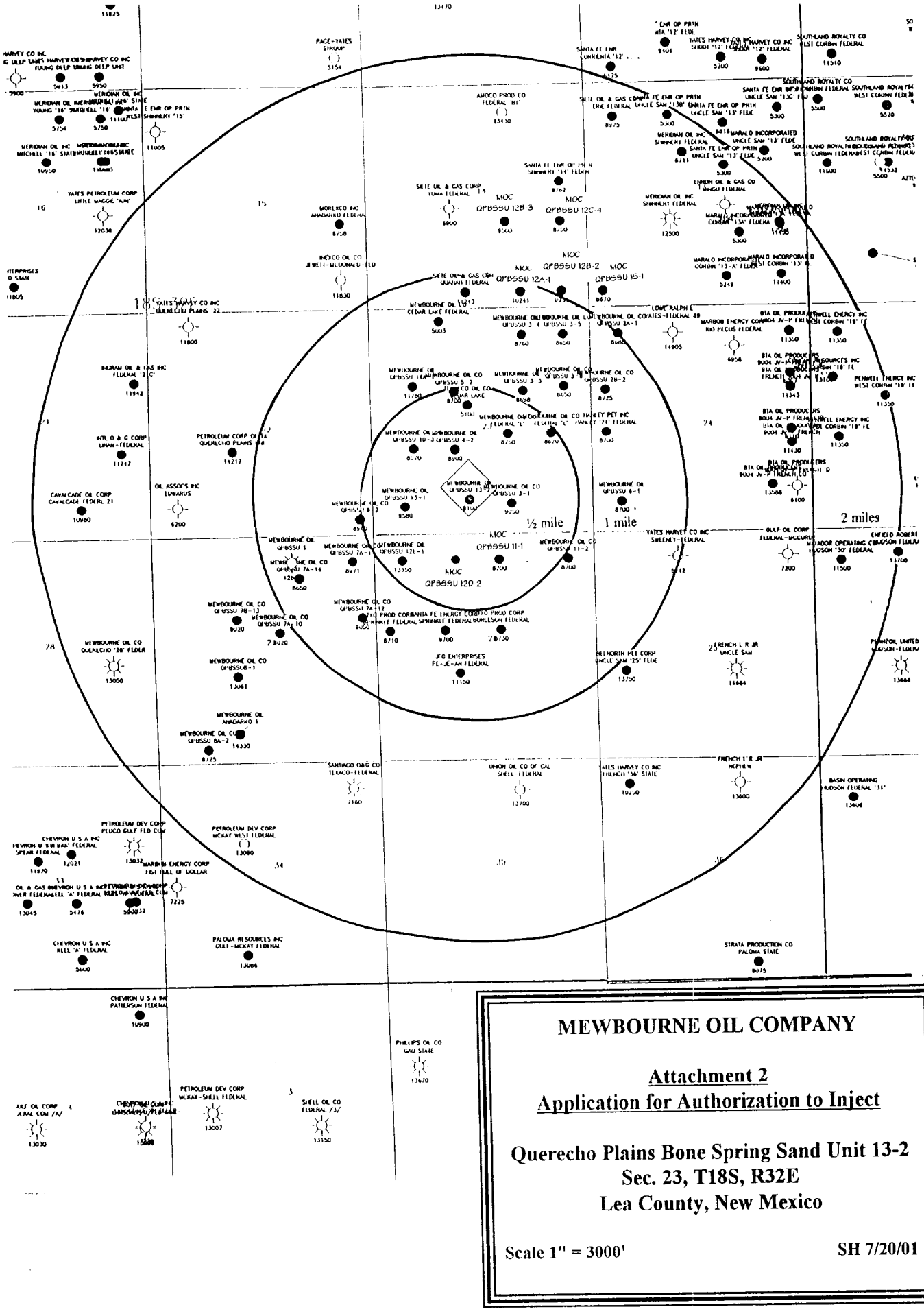
Long String
Size 5½" Cemented with 1100 sx. Class H
TOC 4350' Feet determined by Temp. Survey
Hole size 7-7/8"
Total depth 9,100'

Injection interval
8459 feet to 8526 feet - perforated

Tubing size 2-3/8" lined with Bonded PVC (material) set in a Otis Permalatch (brand and model) packer at 8703 feet

Other Data

1. Name of the injection formation Upper Bone Spring
2. Name of field or pool (if applicable) Querecho Plains - Upper Bone Springs
3. Is this a new well drilled for injection? ☐Yes ☒ No
   If no, for what purpose was the well originally drilled? Producing well
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Queen - 3890', Morrow - 12,693'



MEWBOURNE OIL COMPANY

Attachment 2
Application for Authorization to Inject

Querecho Plains Bone Spring Sand Unit 13-2
Sec. 23, T18S, R32E
Lea County, New Mexico

Scale 1" = 3000' **SH 7/20/01**

ATTACHMENT 3 TO FORM C-108
Tabulation of Data on all wells within the Area of Revies

OPERATOR	LEASE/WELL	LOCATION	TYPE	CONSTRUCTION	DATE DRILLED	TD	COMPLETION & COMMENTS
Mewbourne Oil Company	QPBSSU 5-2	Sec. 23, T18S, R32E 1980' FNL & 1980' FWL	Oil	13⅜" @ 478' CMT w/ 500 sx. 8⅝" @ 4,286' CMT w/1400 sx. 5½" @ 8,708' CMT w/1075 sx.	11/10/86	8,700'	Perfs. @ 8,435'-8,501' 8,653' PBTD
Mewbourne Oil Company	QPBSSU 10-3	Sec. 23, T18S, R32E 1980' FSL & 990' FWL	Oil Converted to injection. 12/12/93	13⅜" @ 480' CMT w/ 275 sx. 8⅝" @ 4,285' CMT w/1700 sx. 5½" @ 8,570' CMT w/1375 sx.	12/31/86	8,570'	Perfs. @ 8,362'-8,436' 8,528' PBTD
Mewbourne Oil Company	QPBSSU 4-2	Sec. 23, T18S, R32E 1950' FSL & 1980' FWL	Oil Converted to injection 10/05/92	13⅜" @ 700' CMT w/ 700 sx. 8⅝" @ 3,100' CMT w/4800 sx. 5½" @ 8,900' CMT w/ 900 sx.	9/19/86	8,900'	Perfs. @ 8,343'-8,515' Packer @ 8277'
Mewbourne Oil Company	QPBSSU 3-2	Sec. 23, T18S, R32E 2310' FSL & 2030' FEL	Oil	13⅜" @ 441' CMT w/ 450 sx. 9⅝" @ 4,293' CMT w/1800 sx. 5½" @ 8,750' CMT w/ 925 sx.	10/14/86	8,750'	Perf. @ 8,458'-8,473' 8,494'-8,508' and 8,517'-8,531' 8,660' PBTD
Mewbourne Oil Company	QPBSSU 3-7	Sec. 23, T18S, R32E 2310' FSL & 990' FEL	Oil	8⅝" @ 356' CMT w/ 250 sx. 5½" @ 8,670' CMT w/4630 sx.	5/14/88	8,670'	Perfs. @ 8,485'-8552'
Mewbourne Oil Company	QPBSSU 13-1	Sec. 23, T18S, R32E 610' FSL & 760' FWL	Oil	13⅜" @ 354' CMT w/ 385 sx. 8⅝" @ 3,047' CMT w/1475 sx. 5½" @ 8,565' CMT w/1250 sx.	12/31/85	9,580'	Perfs. @ 8,414'-8,447' 8743' PBTD
Mewbourne Oil Company	QPBSSU 3-1	Sec. 23, T18S, R32E 660' FSL & 1980' FEL	Oil	13⅜" @ 459' CMT w/ 400 sx. 8⅝" @ 4,345' CMT w/1700 sx. 5½" @ 9,050' CMT w/1050 sx.	4/22/86	9,050'	Perfs. @ 8,370'-8,390' RBP @ 8,453'
Mewbourne Oil Company	QPBSSU 12E-1	Sec. 26, T18S, R32E 660' FNL & 660' FWL	Oil converted to injection 12/29/93	13⅜" @ 536' CMT w/ 500 sx. 8⅝" @ 4,814' CMT w/1250 sx. 5½" @ 10,635' CMT w/1735 sx.	5/11/85	13,350'	Perfs. @ 8,507'-8,512' 10,595' PBTD
Mewbourne Oil Company	QPBSSU 12D-2	Sec. 26, T18S, R32E 660' FNL & 1980' FWL	Oil converted to injection 11/26/93	8⅝" @ 537' CMT w/ 400 sx. 5½" @ 8,711' CMT w/1850 sx.	10/03/85	8,711'	Perfs. @ 8,506'-8,574' Packer @ 8420'
Mewbourne Oil Company	QPBSSU 11-1	Sec. 26, T18S, R32E 660' FNL & 2310' FEL	Oil converted to injection 11/26/93	11¾" @ 350' CMT w/ 485 sx. 8⅝" @ 2,800' CMT w/1750 sx. 4½" @ 8,700' CMT w/1205 sx.	11/02/85	8,700'	Perfs. @ 8,512-8,526', @ 8,542'-8,572' 8,613' PBTD Packer @ 8426'

Attachment 4
Application for Authorization to Inject
Querecho Plains Bone Spring Sand Unit 13-2
Lea Co., NM

ITEM VII. (1) Anticipated average injection rate is 400 bwpd for the injector. Proposed maximum injection rate is 2000 bwpd for the unit.

ITEM VII. (2) The injection system will be operated as a closed system.

ITEM VII. (3) Proposed average injection pressure is 1700. Proposed maximum injection pressure is 1700.

ITEM VII. (4) See Case No. 10,761.

ITEM VII. (5) Not applicable.

Attachment 5
Application for Authorization to Inject
Querecho Plains Bone Spring Sand Unit 13-2
Lea Co., NM

The zone being target for water injection at Querecho Plains is the First Bone Spring sand at a depth from 8459'- to 8526' in the Querecho Plains Bone Spring Sand Unit 13-2, Section 23, T18S, R32E. The First Bone Spring sands are a sequence of well consolidated sandstone, silt stone, and shale strata, with localized carbonate deposition, of Permian age cemented with calcareous material. An eight percent porosity cut-off is used to determine net pay as porosity less than eight percent is considered impermeable at the existing and proposed reservoir pressure and reservoir fluid regimes. Net pay isopach maps contained in the engineering report portion of the unit plan show the areal extent of the targeted sands. Impermeable carbonate deposits exist above and below the targeted sands thus defining the permeable limits of the reservoir. All injected fluid should remain in the reservoir with the exception of cycling to the surface through well bores.

Item XI. Form C-108
Attachment 8
Application for Authorization to Inject
Querecho Plains Bone Spring Sand Unit 13-2
Lea Co., NM

There are no known fresh water wells within the area of review.

Item XII. Form C-108
Attachment 9
Application for Authorization to Inject
Querecho Plains Bone Spring Sand Unit 13-2
Lea Co., NM

The Querecho Plains Bone Spring Sand Unit waterflood has been operating approximately eight years. No know communication between the proposed injection zone and any possibly known fresh water zones has been detected.

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, KATHI BEARDEN

Publisher

of the Hobbs News-Sun, a 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 1

weeks.

Beginning with the issue dated

July 22 2001

and ending with the issue dated

July 22 2001

Kathi Bearden

Publisher

Sworn and subscribed to before me this 23rd day of

July 2001

Jodi Henson

Notary Public.

My Commission expires
October 18, 2004
(Seal)

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.

LEGAL NOTICE
July 22,2001
NOTICE OF APPLICATION FOR FLUID INJECTION WELL PERMIT
Mewbourne Oil Company
P.O. Box 7698
TYLER, TX 75711

has applied to the state of New Mexico. Oil Conservation Division, Santa Fe, New Mexico, to allow injection of produced water into the existing Querecho Plains Bone Springs Sand Unit 13-2 in the Upper Bone Spring formation at a depth of approximately 8459 feet to 8526 feet subsurface. The well is located 2310 feet from the west line and 760 feet from the south line of Section 23, Township 18 South, Range 32 East, Lea County, New Mexico. The maximum injection rate is 400 barrels of water per day at an estimated maximum pressure of 1700 psi. Interested parties must file objections or requests for hearing within 15 days of the publication of this notice with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. The applicant is Mewbourne Oil Company.
#18312

01102551000 02548694

Mewbourne Oil Company
P.O. Box 7698
TYLER, TX 75711

ITEM XIV. (C-108)
MEWBOURNE OIL COMPANY
APPLICATION FOR AUTHORIZATION TO INJECT
QPBSSU 13-2
LEA COUNTY, NEW MEXICO

CERTIFICATE OF SERVICE

I, Sue Hearon, Engineering Technician, Mewbourne Oil Company, Operator of the QPBSSU 13-2 have on this 23rd day of July 2001, mailed or caused to be mailed, postage prepaid a copy of the Application for Authorization to Inject to the Bureau of Land Management - P. O. Box 1397 - Roswell, New Mexico 88220. There are no offset operators to notify.

QPBSSU 13-2
Sec. 23, T18S, R32E
Lea County, New Mexico

Mewbourne Oil Company - P. O. Box 7698 - Tyler, Texas 75711 has applied to the State of New Mexico, Oil Conservation Division, Santa Fe, New Mexico, to allow injection of produced water into the existing Querecho Plains Bone Springs Sand Unit 13-2 in the Upper Bone Spring formation at a depth of approximately 8459 feet to 8526 feet subsurface. The well is located 2310 feet from the west line and 760 feet from the south line of Section 23, Township 18 South, Range 32East, Lea County, New Mexico. The maximum injection rate is 400 barrels of water per day at an estimated maximum pressure of 1700 psi.

Interested parties must file objections or requests for hearing within 15 days of the publication of this notice with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. The applicant is Mewbourne Oil Company.

Sue Hearon
Sue Hearon, Engineering Technician

Subscribed in my presence and duly sworn to before me on this 23rdth day of July 2001.

CHERYL LITTLE
Notary Public
STATE OF TEXAS
My Comm. Exp. 5-30-2002

Notary Public, in and for Smith Co., TX

MEWBOURNE OIL COMPANY

P. O. BOX 7698
TYLER, TEXAS 75711
(903) 561-2900
FAX (903) 561-1870

September 12, 2001

Via Fax (505) 476-3462

Mr. David Catanach
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 88504

Re: Completion Procedure - Revision 1
QPBSSU 13-2
Lea County, NM

Dear Mr. Catanach:

Since I last talked to you on Tuesday, September 4, Mewbourne has taken further steps to determine the mechanical condition of the wellbore, discussed remedial alternatives with various industry service companies, and have teamed five Mewbourne engineers and personnel to determine the best procedure to preserve the wellbore integrity plus maintain the security of the environment.

First, you will note on the attached Revision 1 of the procedure that a casing integrity test was performed by BJ Services (See attached Job Report). The result of the test and conclusions are summarized above the procedure portion of Well 13-2, Revision 1.

The collapse of the 5½" casing at 2020', plus the confirmed leak in the same area, emphasizes the need to leave the 5½" casing as it is and not try to remove or repair the casing due to its poor mechanical condition. The cementing of tubing to make a tubingless completion is by far the best alternative.

The attached recommended procedure plus the wellbore schemat shows the placement of the tubing and cement. The placement of cement has been discussed in detail. First, there is 13⅜" casing set at 374'. Should thus be any fresh water in the area, it typically is no deeper than 200'. The fresh water sand is protected. Next 8⅝" casing is set to 3010' with cement circulated to the surface. The 5½" casing has good cement to 4350'. The proposed procedure provides cementing the 2⅞" x 5½" annulus to within 100' of the top of the Unitized Formation to the surface. The 5½" x 8⅝" annulus will be cemented from area of leakage, 2020'-2038' to surface. The surface sands will be protected by four strings of steel pipe (1.538") and 7.5" of cement. This is considered adequate to protect any surface areas. Measurement of displacement fluid is extremely critical to assure leaving no cement in the tubing or below the tubing, and still maintain cement no higher than 100' above the Unitized Formation.

The tubing will be internally lined with Duoline fiberglass. The top joint and bottom 10 joints of tubing will be externally coated with epoxy. To insure integrity of the system, a cement bond log and an injection profile log will be run.

Mewbourne has spent much time in detailing this procedure. It must be done right the first time and at the same time, meet with OCD approval. In order to assure preservation of this wellbore as a critical injector for the Querecho Plains Bone Spring Sand Unit. Mewbourne respectfully requests approval of this procedure.

After you have reviewed this proposed procedure, please call me if you have additional questions. There are many details that have been investigated that I did not discuss in this presentation. Thank you for your consideration.

Yours truly,

K. M. Calvert

KMC/sh
Attachments: BJ Services Job Report
Proposed Wellbore Schemat QPBSSU 13-2

C:\OFFICE\WPWIN\Qpbssu\LETTERS\D Catanach.wpd