

CASE 4588: Application of V. H.  
WESTBROOK FOR A PRESSURE MAIN-  
TENANCE PROJECT, EDDY COUNTY.

4588

Application  
Transcripts.

Small Exhibits

ETC.

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 15, 1971

EXAMINER HEARING

----- )  
IN THE MATTER OF: )

Application of V. H. Westbrook )  
for a pressure maintenance )  
project, Eddy County, New Mexico )  
----- )

Case No. 4588

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

I N D E XVIRGIL H. WESTBROOKPAGE

Direct Examination by Mr. Stevens

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Cross Examination by Mr. Nutter

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E X H I B I T SMarkedOffered and  
Admitted

Applicant's Exhibits 1, 2 &amp; 3

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MR. NUTTER: Case No. 4588

MR. HATCH: Case No. 4588. Application of  
V. H. Westbrook for a pressure maintenance project,  
Eddy County, New Mexico.

(Whereupon, Applicant's  
Exhibit Nos. 1, 2 and 3 were  
marked for identification.)

MR. STEVENS: Mr. Examiner, I am Don Stevens  
with McDermott, Connelly and Stevens, Santa Fe, repre-  
senting the Applicant in this case and we have one witness.

(Witness sworn.)

VIRGIL H. WESTBROOK

called as a witness, having been first duly sworn, was  
examined and testified as follows:

DIRECT EXAMINATION

BY MR. STEVENS:

Q Would you state your name for the record, your  
residence and your capacity in this case?

A My name is Virgil H. Westbrook, Hobbs, New Mexico.  
I am the owner of the lease -- operator.

Q And you are the Applicant?

A I am the Applicant in this case.

Q Have you ever testified before the New Mexico  
Oil Conservation Commission?

A No, sir, I haven't.

Q Could you give us a brief summary of your experience in the oil business and your qualifications?

A Yes. I was employed by Continental Oil Company in field operations for five years, for Tret-o-Lite Chemical Company as chemical sales engineer for three years. For the past 11 years, I have been employed as chemical sales engineer and consultant for United Chemical Company of Hobbs, and for the past four years I have been an independent oil operator in all phases of the operation.

Q Does your operation include the operation and production of oil and gas wells?

A Yes, sir, they do, in both Texas and New Mexico.

Q In that capacity you handle all of the operations, facilities and operations for your --

A (Interrupting) Yes, I do.

MR. STEVENS: Are the witness' qualifications acceptable to the Commission?

MR. NUTTER: Yes, they are.

BY MR. STEVENS:

Q Would you briefly state what you seek in this Application before we get into our exhibits?

A I seek authorization to institute a pressure

maintenance project on the Guy A. Reed Lease, Well No. 2. I seek authority to inject the water from the Guy Reed No. 1 into the Guy Reed No. 2.

Q Referring to what has been marked as Exhibit No. 1, could you explain its significance to the Commission?

A Exhibit No. 1 is a plat of the Malaga-Delaware area. The proposed injection well is circled in red. The small circles of this plat is -- the well is located in Section 24, Township 24 South, Range 28 East. The proposed pressure maintenance well is in the south of the NW/4 of the SW/4 of Section 24. The water would be coming from the NW -- the SW/4 of the NW/4 located in Reed No. 1. The small circle is a half-mile circle showing the off-set operators in all directions. The large red circle is a two-mile circle showing all operators within this two-mile area. The only producing wells in this large circle is in Antweil's Malaga-Delaware plug, and I understand that Mr. Antweil has no objection to this.

Q What is the producing formation under which you propose to inject?

A Into the whole -- Delaware.

Q Of the Delaware formation?

A Yes, sir.

Q What is the formation from which this water will come?

A From the oil sand.

Q In other words, it is the same. You will be taking water out of it and putting it back in a dry hole offsetting your one producing well, is that correct?

A That is correct.

Q Could you give us your understanding of the geology of the area?

A Well, I am not a geologist, but my understanding of the Malaga-Delaware is just a stratigraphic trap with no relation to structure with possible exception of minor nosing.

Q The wells in the one-half mile area within your circle I note two dry holes -- three counting your injection well -- can you tell us what they recovered?

A My best information was water was all that they recovered.

Q And that is the well in the NW/4 -- NW-NW of Section 24, is that correct?

A Yes, sir.

Q And the SE and NE of Section 23?

A Yes.



Q Township 24 South, Range 28 East. Could you give us the completion and the production history of your Well No. 1?

A Well No. 1 was drilled with a rotary rig to the depth of 2650. Of course, at that time, they moved the rotary off and then moved the cable to the rig again and continued drilling on down to the depth of 2700 feet. It was completed in open-hole from 2650 down to 2700. This Well No. 1 was fraced a couple of months ago -- I guess back in June -- let's see -- July-- a hydromat plug was set in the bottom 15-foot of the hole and 2000 gallons of kerosene in sand track was done on it. The production of this well is now 70 barrels of oil and 60 barrels of water approximately.

Q What is your present disposition of that water?

A Well, we are hauling the water as of now.

Q What is your cost for the hauling of that water?

A The cost of hauling water is 41¢ a barrel and this cost will be reduced.

Q When you start injecting this water into your Well No. 2, is that correct?

A That is correct.

Q Referring to what has been marked as Exhibit No. 2,

could you explain it to the Commissioner?

A Exhibit No. 2 is the schematics of what is proposed to be done on the Guy Reed Well No. 2; 8 and 5/8 casings was set at a depth of 353 and cement was circulating. 4 and 1/2 casing was rammed to the depth of 2730 and by temperature survey on the top of the cement was 2062 feet. We propose to run two-inch tubing to a depth of 2669 with a model A.D. Baker packer and set at that depth and in annular space, inert fluid would be placed with corrosion resistant additives which would be -- the fluid itself would be treated water.

Q Where do you plan to inject this water, into what part of the formation?

A We plan to inject the water into where it is mainly perforated at 2681, 2682 and 2683 with one jet shot to the foot.

Q Is this water you propose to inject very corrosive?

A It is not corrosive to my knowledge.

Q Do you know its salt content?

A The chlorides run around 80 to 90,000 parts per million.

Q Do you plan any treatment for injected water prior to injection?

A Yes, I do. I do intend to inject continuously corrosion inhibitors to protect the tubing in the injection well.

Q What pressure do you propose for this injection well?

A I anticipate 450 to 500 pounds of pressure.

Q Is this on the basis of the Malaga field?

A This is on the basis of the Malaga field where Antweil is now flooding.

Q Referring to Exhibit No. 3, can you explain that for the Commission?

A Exhibit No. 3 is bore-hole compensated sonic gamma ray log in the Guy Reed Well, No. 2. This log indicates the top of the range of sand, forward shale and old sand. The sand which we seek authority to inject into the top is 2673. The best porosity and permeability is at 2681 and 2682 and 2683 where it is now perforated. This well never produced any oil. It produced for around, I think, 19 days of water.

Q This was when?

A This was back in 1967 when --

Q (Interrupting) When the well was originally completed?

A When the well was originally completed.

Q What was the recovery on the completion attempt?

A There was no oil recovery on the completion attempt. Only water, salt water.

Q Do you have an estimate of the volume that was recovered?

A No. I think it was approximately 40 barrels a day of water, by pumping.

Q By pumping. And on the basis of this, it is your opinion that you would be able to inject into this formation some 60 barrels of water a day from your No. 1 well?

A It is my opinion that I would be, yes, sir.

Q Were Exhibits 1, 2 and 3 prepared by you or under your direction?

A Yes, they were.

Q In your opinion in this case, will the granting of the Application protect correlative rights and help to prevent waste?

A Yes, it would.

MR. STEVENS: At this time, Mr. Examiner, we would like to introduce into evidence, Exhibits 1, 2 and 3.

MR. NUTTER: Applicant's Exhibits 1 through 3

will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1, 2 and 3 were offered and admitted in evidence.)

MR. STEVENS: We have no further questions.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Westbrook, as I understand it, you won't run a plastic line tubing, but you will continuously treat the water?

A Yes, sir.

Q To protect the tubing?

A Yes, sir.

Q And the tubing will be installed in a packer?

A Yes, sir.

Q And the annulus between the tubing and the casing will be loaded with a corrosion-inhibited fluid?

A Yes, sir.

Q Will you equip that with a pressure guage to determine leakage in the tubing or packing?

A Yes, sir, I certainly will.

Q And at the present time your No. 1 well is making 70 barrels of oil per day and 60 barrels of water. Is it anticipated that the water production will

go up or down or is it fairly stable at this point?

A Well, it is fairly stable at this time.

Q At the present time you are having to haul water so this not only gives you a means of disposing of it, but you may enhance your production as well?

A Yes, sir, that is what I hope for.

MR. NUTTER: Are there further questions of Mr. Westbrook?

You may be excused.

(Witness dismissed.)

MR. NUTTER: Does anyone have anything further to offer in Case No. 4588.

MR. HATCH: Mr. Examiner, the Commission has received a telegram from Morris Antweil offering no objections to the Application.

MR. NUTTER: If there is nothing further in Case No. 4588, we will take the case under advisement.

STATE OF NEW MEXICO )  
 ) SS.  
 COUNTY OF SANTA FE )

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard L. Nye  
 COURT REPORTER

My commission expires March 25, 1975.

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing bearing on Case No. 4588, heard by me on 9/15, 19 71.  
[Signature], Examiner  
 New Mexico Oil Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

October 5, 1971

GOVERNOR  
BRUCE KING  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

Mr. Don Stevens  
McDermott, Connelly & Stevens  
Attorneys at Law  
Post Office Box 1904  
Santa Fe, New Mexico

Re: Case No. 4588  
Order No. R-4197  
Applicant:  
V. H. Westbrook

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x  
Artesia OCC x  
Aztec OCC           

Other State Engineer Office



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 4588  
Order No. R-4197

APPLICATION OF V. H. WESTBROOK  
FOR A PRESSURE MAINTENANCE PROJECT,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 15, 1971, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 5th day of October, 1971, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, V. H. Westbrook, is the owner and operator of the Guy A. Reed Well No. 2, located in Unit L of Section 24, Township 24 South, Range 28 East, NMPM, Malaga-Delaware Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to inject produced salt water into the Delaware formation, with injection into the perforated interval from approximately 2681 feet to 2683 feet.

(4) That the subject well should be classified as a pressure maintenance project injection well.

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CASE NO. 4588

Order No. R-4197

(5) That the subject pressure maintenance project is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(6) That the injection should be accomplished through 2-inch tubing installed in a packer set at approximately 2669 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer; and that the produced salt water shall be continuously treated to inhibit corrosion prior to injection and coupon corrosion tests shall be conducted continuously on said well and the results thereof filed semi-annually with the Commission until further notice from the Secretary-Director of the Commission.

(7) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, V. H. Westbrook, is hereby authorized to institute a pressure maintenance project in the Malaga-Delaware Pool, Eddy County, New Mexico, by the injection of water into the Delaware formation through his Guy A. Reed Well No. 2, located in Unit L of Section 24, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico.

(2) That said injection should be accomplished through 2-inch tubing installed in a packer set at approximately 2669 feet, and into the perforated interval from 2681 feet to 2683 feet.

PROVIDED HOWEVER, that the casing-tubing annulus shall be filled with an inert fluid and that a pressure gauge shall be attached to the annulus in order to determine leakage in the tubing, casing, or packer.

PROVIDED FURTHER, that the produced salt water shall be continuously treated prior to injection and coupon corrosion tests shall be conducted continuously on said well and the results thereof filed semi-annually with the Commission until further notice from the Secretary-Director of the Commission.

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CASE NO. 4588

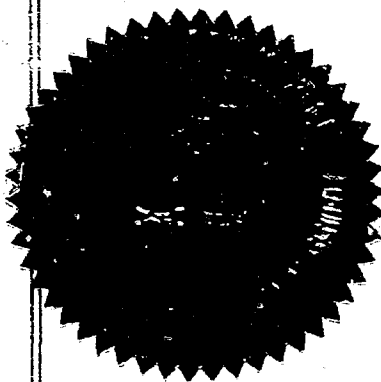
Order No. R-4197

(3) That the subject pressure maintenance project is hereby designated the Westbrook Malaga Pressure Maintenance Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the pressure maintenance project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Bruce King*  
BRUCE KING, Chairman

*Alex J. Armijo*  
ALEX J. ARMIJO, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary

S E A L

dr/



western union

Telegram

KA020 SSB203

K HBA006 JM PD=HOBBS NMEX 14 932A MDT=

A L PORTER, SECY DIRECTOR=

NEW MEXICO OIL CONSERVATION COMM

SANTA FE NMEX=

REF. CASE #4588, 15 SEPT 1971=

GENTLEMEN: MORRIS R ANTWEIL UNIT OPERATOR OF THE  
MALAGA UNIT MALAGA DELAWARE FIELD EDDY COUNTY HAS NO  
OBJECTION TO THE APPLICATION OF V H WESTBROOK TO  
INSTITUTE A PRESSURE MAINTENANCE PROJECT BY THE  
INJECTION OF WATER INTO THE DELAWARE FORMATION IN HIS  
GUY A REED WELL #2 IN ACCORDANCE WITH HIS REQUEST IN  
CASE #4588=

MORRIS R ANTWEIL.=

WU 1201 (R 5-63)

(951) 100

1971 SEP 14 11 9 58

RECEIVED

SEP 14 1971

*AM*

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 15, 1971

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE  
LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for October, 1971, from fifteen prorated pools in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, for October, 1971.

CASE 4222 (Reopened): In the matter of Case 4222 being reopened pursuant to the provisions of Order No. R-3850-A, which order continued 80-acre spacing units for the West Sawyer-San Andres Pool, Lea County, New Mexico, for an additional one-year period. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units and present evidence as to whether or not said pool is in fact an associated reservoir.

CASE 4588: Application of V. H. Westbrook for a pressure maintenance project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Delaware formation through his Guy A. Reed Well No. 2 located in Unit L of Section 24, Township 24 South, Range 28 East, Malaga-Delaware Pool, Eddy County, New Mexico.

CASE 4589: Application of Anadarko Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Burnham Grayburg San Andres Unit Area comprising 480 acres, more or less, of state lands in Section 2, Township 17 South, Range 30 East, Square Lake Field, Eddy County, New Mexico.

CASE 4590: Application of Wolfson Oil Company, MKA Oil Properties, John H. Hendrix, and Bruce A. Wilbanks for a special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks as an exception to Rule 506 of the Commission Rules and Regulations, a limiting gas-oil ratio of 6,000 cubic feet of gas per barrel of oil in the Drinkard Pool, Lea County, New Mexico.

CASE 4591: Application of American Quasar Petroleum Company of New Mexico for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill an exploratory gas well at an unorthodox location 660 feet from the South and East lines of Section 21, Township 25 South, Range 33 East, Lea County, New Mexico, to test the Devonian, Pennsylvanian, and Wolfcamp formations within one mile of the Red Hills Field.

Examiner Hearing  
September 15, 1971  
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Docket No. 20-71

- CASE 4592: Application of Gulf Oil Corporation for amendment of order permitting commingling of production, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4079, which order authorized the applicant to commingle production from the Hobbs (Grayburg-San Andres) and Hobbs-Blinebry Pools on its W. D. Grimes NCT-B Lease and to commingle production from said lease with the Hobbs (Grayburg-San Andres) Pool on its W. D. Grimes NCT-A lease, located in Sections 32 and 33, Township 18 South, Range 38 East, Lea County, New Mexico. Applicant seeks to allocate production to each lease and pool on the basis of bi-monthly tests rather than monthly tests.
- CASE 4593: Application of Continental Oil Company for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose of water produced by wells located on its W. R. Means lease comprising the S/2 and NW/4 of Section 28, and E/2 and E/2 W/2 of Section 29, Township 14 South, Range 30 East, Vest Ranch-Queen Pool, Chaves County, New Mexico, in unlined surface pits.
- CASE 4594: Application of Continental Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its second well on a proration unit at an unorthodox location 660 feet from the South line and 2540 feet from the East line of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 4595: Application of Continental Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from undesignated Gallup and Dakota oil pools in the wellbores of two wells to be drilled in Section 27, Township 25 North, Range 4 West, West Lindrith Field, Rio Arriba County, New Mexico. Applicant further seeks the establishment of a procedure whereby similar approval may be granted administratively for other wells to be drilled in said area.
- CASE 4597: Application of Morris R. Antweil for lease commingling and off-lease storage, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle condensate produced from his Little Jewel Well No. 1 and Allen Well No. 1 located in Units F and J, respectively,

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Docket No. 20-71

(Case 4597 continued)

of Section 31, Township 22 South, Range 27 East, and from his Joell Well No. 1 located in Unit C of Section 6, Township 23 South, Range 27 East, South Carlsbad-Strawn Gas Pool, Eddy County, New Mexico, after separation and measurement of the liquids from each well.

CASE 4583: (Continued from the August 18, 1971, Examiner Hearing) Application of V. F. Vasicek and J. M. Fullinwider, doing business as V-F Petroleum for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 of Section 15, Township 16 South, Range 35 East, Lea County, New Mexico, said acreage to be dedicated to a well to be re-entered and recompleted in the Pennsylvanian formation and located 1980 feet from the South and East lines of said Section 15. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4596: Southeastern New Mexico nomenclature case calling for an order for the creation, extension and abolishment of certain pools in Lea, Eddy, and Chaves County, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as an oil pool for Strawn production and designated as the South Hackberry-Strawn Pool. The discovery well is the Perry R. Bass Big Eddy Unit No. 33 located in Unit P of Section 4, Township 20 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM  
SECTION 4: SE/4 SE/4

(b) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Maroon Cliffs-Morrow Gas Pool. The discovery well is the Perry R. Bass Big Eddy Unit No. 7 located in Unit O of Section 19, Township 20 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM  
SECTION 19: S/2

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(c) Create a new pool in Lea County, New Mexico, classified as an oil pool for Pennsylvanian production and designated as the McDonald-Pennsylvanian Pool. The discovery well is the J. M. Huber Corporation Griffin No. 1 located in Unit A of Section 4, Township 14 South, Range 36 East, NMPM. Said pool would comprise:

TOWNSHIP 14 SOUTH, RANGE 36 EAST, NMPM  
SECTION 4: NE/4

(d) Abolish the Northwest Vacuum-Abo Pool in Lea County, New Mexico, described as:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
SECTION 2: SW/4  
SECTION 3: NE/4 SE/4

(e) Extend the North Vacuum-Abo Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
SECTION 2: SW/4  
SECTION 3: SE/4

(f) Extend the Blinebry Oil Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM  
SECTION 36: NE/4

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
SECTION 8: NW/4

(g) Extend the South Carlsbad-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 26 EAST, NMPM  
SECTION 25: S/2

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM  
SECTION 30: S/2  
SECTION 31: W/2

(h) Extend the South Carlsbad-Strawn Gas Pool in Eddy County, New Mexico, to include therein:



Examiner Hearing  
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TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM  
SECTION 30: S/2

- (i) Extend the Double L-Queen Associated Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 29 EAST, NMPM  
SECTION 25: NW/4 SE/4

- (j) Extend the Eagle Creek-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM  
SECTION 22: W/2

- (k) Extend the Flying "M"-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM  
SECTION 9: NE/4

- (l) Extend the Flying "M"-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM  
SECTION 9: W/2, NE/4 and N/2 SE/4

- (m) Extend the Grayburg Jackson Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM  
SECTION 18: S/2 NW/4

- (n) Extend the Langlie-Mattix Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
SECTION 20: NW/4 and NW/4 SW/4

- (o) Extend the Power Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM  
SECTION 1: NE/4 NE/4

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM  
SECTION 6: SW/4 NW/4

Examiner Hearing  
September 15, 1971  
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Docket No. 20-71

(Case 4596 continued)

(p) Extend the East Shoebar-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 36 EAST, NMPM  
SECTION 29: SW/4  
SECTION 30: SE/4

(q) Extend the North Vacuum-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
SECTION 12: S/2  
SECTION 14: S/2  
SECTION 23: N/2

(r) Extend the North Vacuum-Lower Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
SECTION 4: NW/4

(s) Extend the Northwest Vacuum-Wolfcamp Pool in Lea County, New Mexico, to include therein:

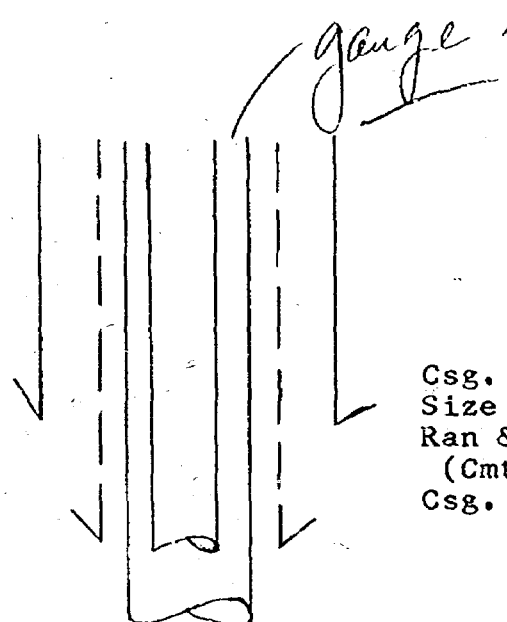
TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM  
SECTION 5: SE/4

(t) Extend the Vada-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 34 EAST, NMPM  
SECTION 2: S/2 and NW/4  
SECTION 3: NE/4  
SECTION 7: S/2  
SECTION 10: E/2  
SECTION 11: N/2



WELL NAME: Guy A. Reed #2



Csg. Seat 353' ✓  
Size 8 5/8" ✓  
Ran & cmt'd 12/15/66  
(Cmt Circu.) ✓  
Csg. Seat None

(Delaware top @2674',  
2730' TD) ✓

Perfs #1 @2681', 82', & 83'  
w/1 JS @ ea. interval  
(By Schl GR-Sonic log meas.)  
12/29/66.

Top of Cement behind Oil  
String

*no lined  
tubing*

Actual 2062' (Temp Surv)

*corrosive inhibited  
fluid in annulus*

Tbg. Btm. 2669' ✓  
Size 2" ✓

Wt. 4.70#  
Grade J  
Thd. 8 R EUE

Model  
AD Baker

*packer*

*Clarifier*

*80-90,000*

*will inject corrosion  
inhibitor in wtr on  
injection to protect  
tubing*

Fluid above  
Packer Treated H<sub>2</sub>O

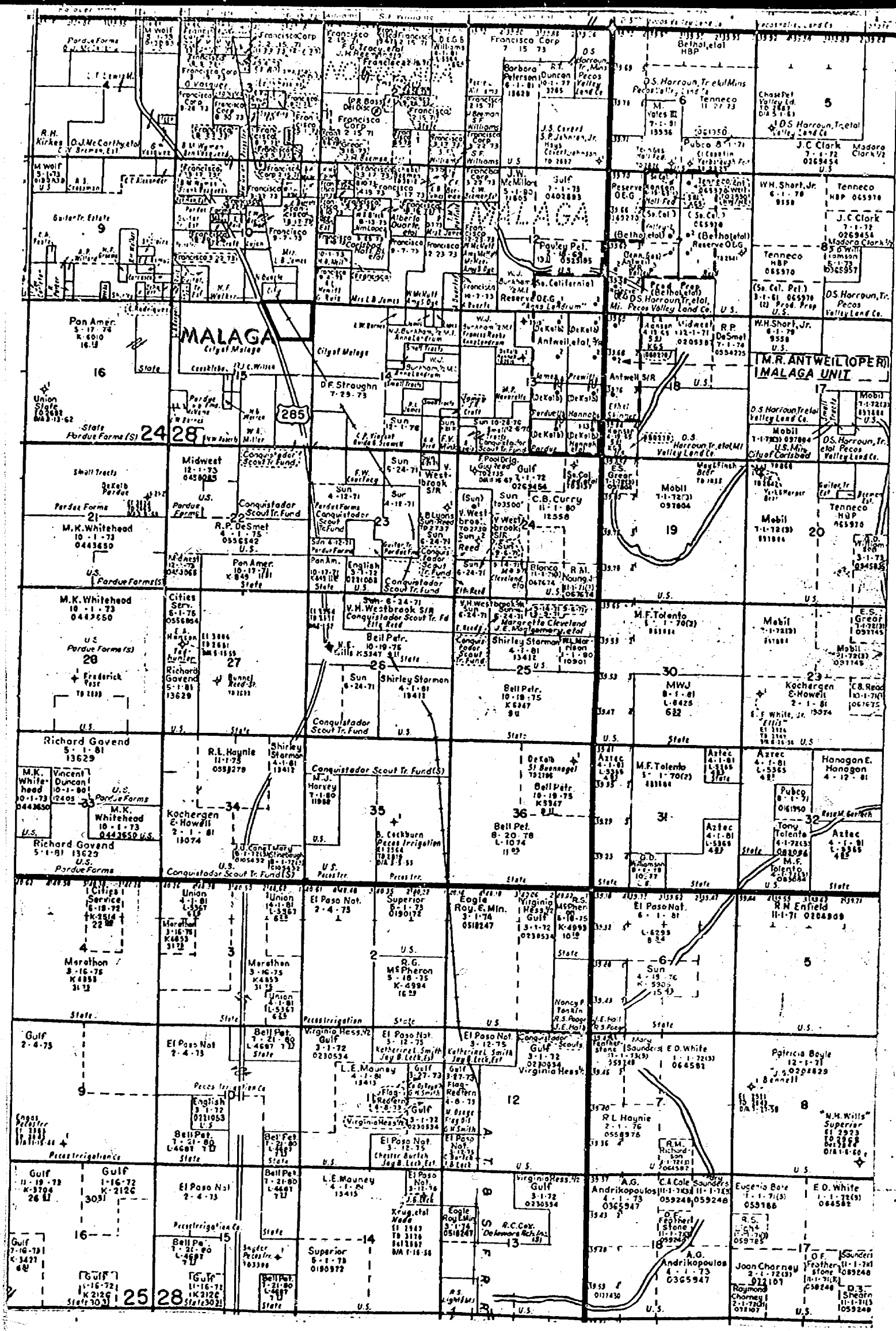
Top of Plug in Csg. @ 2704'  
Pkr. Depth @ 2665'  
Length 2' 6"  
Kind Baker Model AD

Csg. Seat 2730'  
Size 4 1/2" ✓  
T.D. @ 2730' ✓

BEFORE EXAMINED BY  
OIL CONSERVATION COMMISSION  
*Apple* EXHIBIT NO. 2  
CASE NO. 4588

*no oil recovered when #2 well was  
completed in 1967 - only wtr. X-2*

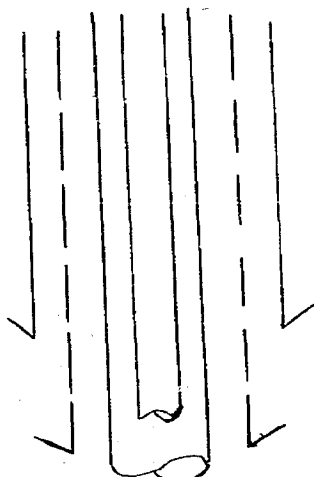
Pipe Diagram not to Scale



Case 4588

Well Name: Guy A. Reed #2

DOWN HOLE SUMMARY



Csg. Seat 353'  
Size 8 5/8"  
Ran & cmt'd 12/15/66  
(Cmt. Circu.)

Csg. Seat None  
Size \_\_\_\_\_

*Case 4588*  
Delaware top @ 2674', 2730' TD  
Perfs #1 @ 2681', 82', & 83'  
w/1 JS @ ea. interval (by  
Schl GR-Sonic log meas.) 12/29/66.

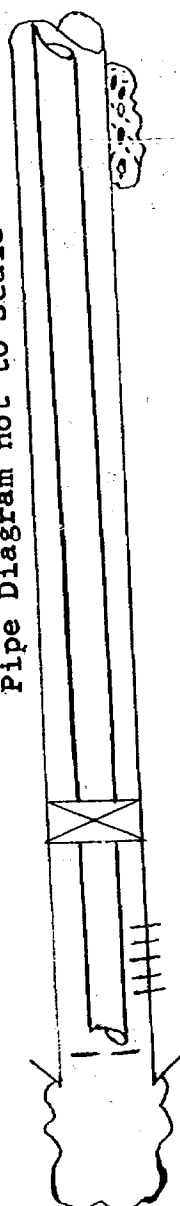
Top of Cement behind Oil String

Actual 2062' (Temp. Surv.)  
Calc. \_\_\_\_\_

**RECEIVED**  
AUG 1 1971

JL CONSERVATION DEPT

Pipe Diagram not to Scale



Tbg. Btm. 2669'  
Size 2"

Wt. 4.70#  
Grade J  
Thd. 8 R EUE  
Date Run 1/4/67

Fluid above  
Packer Treated Water Circ.

Top of Plug in Csg. @ 2704'  
Pkr. Depth @ 2669'  
Length 4'  
Kind Baker Model B  
Tbg. Stop @ None  
Kind \_\_\_\_\_

Csg. Seat 2730'  
Size 4 1/2"  
T.D. @ 2730'

Perforations

Reached TD on 12/22/66

Case 45-88 Form C-108  
Revised 3-1-68

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

**RECEIVED**  
1971

OPERATOR <b>V. H. Westbrook</b>		ADDRESS <b>Box 2264 Hobbs, New Mexico 88240</b>			
LEASE NAME <b>Guy A. Reed</b>	WELL NO. <b>2</b>	FIELD <b>Malaga</b>	COUNTY <b>Eddy</b>		
LOCATION UNIT LETTER <b>L</b> ; WELL IS LOCATED <b>2116.4</b> FEET FROM THE <b>South</b> LINE AND <b>862.7</b> FEET FROM THE <b>West</b> LINE, SECTION <b>24</b> TOWNSHIP <b>24-S</b> RANGE <b>28-E</b> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	<b>8 5/8</b>	<b>353'</b>	<b>200</b>	<b>Cmt. Circu.</b>	<b>Circulation</b>
INTERMEDIATE					
LONG STRING	<b>4 1/2</b>	<b>2730'</b>	<b>180</b>	<b>2062</b>	<b>Temp. Surv.</b>
TUBING			NAME, MODEL AND DEPTH OF TUBING PACKER		
NAME OF PROPOSED INJECTION FORMATION <b>Delaware (Olds Sand)</b>			TOP OF FORMATION <b>2674'</b>	BOTTOM OF FORMATION <b>2730'</b>	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforations</b>	PROPOSED INTERVAL(S) OF INJECTION <b>2681, 2682, 2683</b>		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Producing Delaware Oil Well</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>		
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>None</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBL'S.)	MINIMUM <b>50</b>	MAXIMUM <b>120</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>	IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Pressure</b>	APPROX. PRESSURE (PSI) <b>450#</b>
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 - <b>Yes</b>			WATER TO BE DISPOSED OF <b>Produced</b>	NATURAL WATER IN DISPOSAL ZONE <b>Same</b>	ARE WATER ANALYSES ATTACHED? <b>Yes</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Guy A. Reed Trust Estate - Charles Reed</b>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>None</b>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
				<b>None</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA		ELECTRICAL LOG	
		<b>Yes</b>		<b>Yes</b>	
				DIAGRAMMATIC SKETCH OF WELL	
				<b>Yes</b>	

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

_____ (Signature)	_____ Owner (Title)	_____ August 11, 1971 (Date)
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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.

EAST HOBBS,  
TEXAS

TELEPHONE:  
AC 915/297-1751

V. H. WESTBROOK, OIL OPERATOR

P. O. Box 2264  
HOBBS, NEW MEXICO 88240

August 11, 1971

**RECEIVED**  
**AUG 11 1971**  
**OIL CONSERVATION COMMISSION**

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

*Case 4588*

Attention: Mr. A. L. Porter, Jr., Sec.-Director

Subject: Application for Pressure Maintenance Project

Dear Mr. Porter:

I am applying for authority to begin a pressure maintenance project on the Guy A. Reed Lease - Sec. 24, R 24 S, T 28 E, NMPM, Eddy County, New Mexico.

There are two wells on the lease: No. 1 which is producing 70 bbls. oil daily and 60 bbls. of water. - No. 2 which was originally drilled as a producing Delaware Sand Oil Well, but was T.A. in 1967.

I propose to set a packer in the No. 2 well and pressure the produced water from the No. 1 well into formation through perfs in well No. 2. As GOR on well No. 1 is only 360/1, this will help maintain reservoir pressure and allow the No. 1 well's productive life to be extended as a top allowable producer.

There are no offset operators and the closest operator is Morris R. Antweil - Malaga Unit - approximately 3/4 mile to the Northeast from the proposed pressure maintenance well.

Enclosed are:

1. Lease Plat
2. Electrical Log
3. Diagrammatic sketch of proposed maintenance well
4. C-108 in triplicate

If further information is required, please advise.

Very truly yours,

*V. H. Westbrook*  
V. H. Westbrook

Enc.



OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

August 23, 1971

*Case 4588*

Mr. V. H. Westbrook  
Oil Operator  
P. O. Box 2264  
Hobbs, New Mexico 88240

Re: Application for a  
pressure maintenance  
project, Malaga-  
Delaware Pool, Eddy  
County, New Mexico.

Dear Mr. Westbrook:

As your application is not eligible for  
administrative approval, the matter is being set  
for hearing before an examiner on September 15,  
1971. It will be necessary for you to be present  
to present your case.

A docket of the cases to be heard that day  
will be sent to you in a few days.

Very truly yours,

GEORGE M. HATCH  
Attorney

GMH/dr

C  
O  
P  
Y

DRAFT

GMH/dr

(18)

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

*gmh*  
IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

*JW*  
CASE No. 4588

Order No. R- 4197

APPLICATION OF V. H. WESTBROOK  
FOR A PRESSURE MAINTENANCE PROJECT,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 15, 1971,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this October day of September, 19 71, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, V. H. Westbrook, is the owner and  
operator of the Guy A. Reed Well No. 2, located in Unit L of  
Section 24, Township 24 South, Range 28 East, NMPM, Malaga-  
Delaware Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to  
inject produced salt water into the Delaware formation, with  
injection into the perforated interval from approximately 2681  
feet to 2673 feet.

(4) That the subject well should be classified as a pressure maintenance project injection well.

(5) That the subject pressure maintenance project is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(6) That the injection should be accomplished through 2 ~~3~~-inch ~~plastic-lined~~ tubing installed in a packer set at approximately 2669 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer; ↑

(7) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, V. H. Westbrook, is hereby authorized to institute a pressure maintenance project in the Malaga-Delaware Pool, Eddy County, New Mexico, by the injection of water into the Delaware formation through his Guy A. Reed Well No. 2, located in Unit L of Section 24, Township 24 South, Range 28 East, NMPM, Eddy County, New Mexico.

(2) That said injection should be accomplished through 2 ~~3~~-inch tubing installed in a packer set at approximately 2669 feet, and into the perforated interval from 2681 feet to 2683 feet.

*as that the product well water shall be continuously treated to inhibit corrosion prior to injection and casing corrosion tests shall be conducted continuously on said well and the results thereof filed semi-annually with the Commission until full notice from the Secretary - Director of the Commission.*

-3-

Case No. 4588

Order No. R-

PROVIDED HOWEVER, ~~that the tubing shall be plastic lined,~~  
that the casing-tubing annulus shall be filled with an inert  
fluid, and that a pressure gauge shall be attached to the annulus  
in order to determine leakage in the tubing, casing, or packer.

(3) That the subject pressure maintenance project is hereby  
designated the Westbrook Malaga Pressure Maintenance  
Project and shall be governed by the provisions of Rules 701, 702,  
and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the pressure maintenance  
project herein authorized shall be submitted to the Commission in  
accordance with Rules 704 and 1120 of the Commission Rules and  
Regulations.

(5) That jurisdiction of this cause is retained for the  
entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

Provided Further, that the produced  
saltwater shall be continuously treated  
prior to injection and coupon corrosion  
tests shall be conducted continuously on  
said well and the results thereof filed  
semi-annually with the Commission  
until further notice from the Secretary-  
Director of the Commission.