

CASE 2423: Application of SKELLY
for authority to inject water into
the Horseshoe-Gallup Oil Pool.

-asa//o.

2423

plication, Transcript,
all Exhibits, Etc.

**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. 2423
Order No. R-2124**

**APPLICATION OF SKELLY OIL COMPANY
FOR A PRESSURE MAINTENANCE PROJECT
IN THE HORSESHOE-GALLUP OIL POOL,
SAN JUAN COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 8, 1961, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 17th day of November, 1961, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Skelly Oil Company, proposes to institute a pressure maintenance project in the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, by the injection of water into the Gallup formation through the Navajo "M" Well No. 2, located 1980 feet from the South line and 1980 feet from the West line of Section 33, Township 32 North, Range 17 West, NMPM, San Juan County, New Mexico.

(3) That the applicant seeks authorization to institute the above-described pressure maintenance project in order to offset the pressure maintenance project of Humble Oil & Refining Company which lies to the South of the proposed project, and that the applicant does not intend to expand the proposed project.

(4) That the Navajo "M" Well No. 1 located in the SW/4 SW/4 of said Section 33 is the only producing well on the above-described Navajo "M" Lease.

(5) That in regard to provisions governing allowables for the proposed project, the applicant seeks an order providing that

the injection well shall be assigned a top unit allowable, that the allowable for the project shall be the sum of the allowables of the producing well and the injection well, that the allowable for the injection well may be transferred to the producing well, and that the allowable for the project shall not exceed two times top unit allowable for the Horseshoe-Gallup Oil Pool.

(6) That the subject application should be approved and that the project should be designated as the Horseshoe-Gallup Pressure Maintenance Project No. 4.

(7) That the project area for said project should be defined as the SW/4 of Section 33, Township 32 North, Range 17 West, NMPM.

IT IS THEREFORE ORDERED:

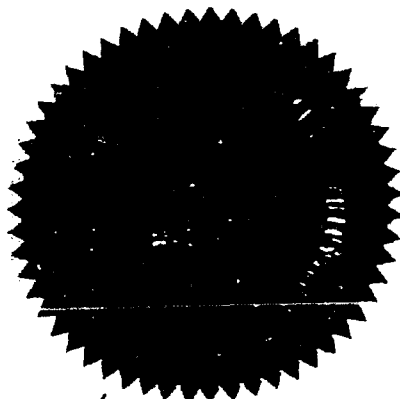
(1) That the applicant, Skelly Oil Company, is hereby authorized to institute a pressure maintenance project in the Horseshoe-Gallup Oil Pool, to be designated the Horseshoe-Gallup Pressure Maintenance Project No. 4, comprising the SW/4 of Section 33, Township 32 North, Range 17 West, NMPM, San Juan County, New Mexico, by the injection of water into the Gallup formation through the Navajo "M" Well No. 2, located 1980 feet from the South line and 1980 feet from the West line of said Section 33.

(2) That the injection well shall be assigned a top unit allowable; that the allowable for the project shall be the sum of the allowables of the producing well and the injection well; and that the allowable for the injection well may be transferred to the producing well.

PROVIDED HOWEVER, That the allowable for the project shall not exceed two times the top unit allowable for the Horseshoe-Gallup Oil Pool.

(3) 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.



ESR/

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

E. L. Mechem
EDWIN L. MECHEM, Chairman

E. S. Walker
E. S. WALKER, Member

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

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

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

P. O. BOX 871
SANTA FE

November 20, 1961

Mr. Charlie White
Gilbert, White & Gilbert
P. O. Box 787
Santa Fe, New Mexico

Re: Case No. 2423
Order No. B-2124
Applicant:
Skelly Oil Company

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

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC x

OTHER

Case 2423

Heard 11-8-61

Rec. 11-9-61

1. Grant Skelly's request for authority to inject H₂O into the Horseshoe-Hallings oil Pool thru their Marajo "A" #2 well located 1950/50W line of sec. 33-32N-12W.
2. Grant this authority for all the Marajo "A" lease consisting of sec. 33 & 34 said Twp. & Rge.
3. I believe the Rules for this project can be written by reference to R-1745, the Humble Flood which fronts this lease to the south.
4. Name project the Horseshoe P. M. P. #4.

Thos A. [Signature]

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 8, 1961

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, as Alternate Examiner:

- CASE 2421: Application of Texaco Inc. for approval of a unit agreement and for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Northeast Caprock (Queen) Unit Agreement, covering 1360 acres, more or less, in Township 12 South, Range 32 East, Caprock Queen Pool, Lea County, New Mexico. Applicant further seeks authority to institute a unit-wide waterflood by the injection of water into the Queen formation through 19 wells located within said unit.
- CASE 2422: Application of Texaco Inc. for an oil-gas dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its J. C. Estlack Well No. 1, located in Unit T of Section 3, Township 21 South, Range 37 East, Lea County, New Mexico, as an oil-gas dual completion (conventional) in the Blinebry Oil and Tubb Gas Pools, with the production of oil from the Blinebry zone and the production of gas from the Tubb zone to be through parallel strings of 2 1/16-inch tubing.
- CASE 2423: Application of Skelly Oil Company for authority to inject water into the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authorization to inject water into the Gallup formation underlying the Navajo "M" lease, comprising all of Sections 33 and 34, Township 32 North, Range 17 West, Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, through the Navajo "M" Well No. 2, located 1980 feet from the South and West lines of said Section 33, for the purpose of secondary recovery.
- CASE 2424: Application of The Ohio Oil Company for a 160-acre non-standard gas proration unit, an unorthodox well location and an oil-gas dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Monument-McKee Gas Pool, comprising the N/2 SW/4 and S/2 NW/4 of Section 5, Township 20 South, Range 37 East, Lea County, New Mexico,

CASE 2424: (Cont.)

said unit to be dedicated to the Bertha Barber Well No. 12, located at an unorthodox location 1650 feet from the South line and 330 feet from the West line of said Section 5. Applicant further seeks permission to complete said Bertha Barber Well No. 12 as an oil-gas dual completion (conventional) in the Monument-Paddock Pool and in the Monument-McKee Gas Pool, with the production of oil from the Monument-Paddock zone and the production of gas from the Monument-McKee zone to be through parallel strings of 2 3/8-inch tubing.

CASE 2425:

Application of Iverson & Welch for an order extending the limits of the Shugart and the North Shugart Pools and abolishing the Culwin & Culwin-Yates Pools, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order abolishing the Culwin and Culwin-Yates Pools both of which are located in Townships 18 and 19 South, Ranges 30 and 31 East, Eddy County, New Mexico. Applicant further seeks an order extending the vertical limits of the Shugart and North Shugart Pools to include the Yates, Seven Rivers, Queen and Grayburg formations and establishing the horizontal limits of said pools as follows:

NORTH SHUGART POOL:

TOWNSHIP 18 SOUTH, RANGE 31 EAST

Section 8: S/2

Section 9: S/2, NE/4

Section 10: S/2, S/2 NE/4

Section 11: S/2, NE/4

Section 12: All

Section 13: N/2, SE/4

Section 14, 15, 16, 17, and 18: All

Section 22: N/2 N/2

Section 24: N/2 N/2 NE/4

SHUGART POOL: Remaining portion of the North Shugart Pool, as presently defined, plus that acreage contained in the Shugart, Culwin and Culwin-Yates Pools, as presently defined.

- CASE 2426: Application of Cities Service Petroleum Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Hodges B Well No. 2, located in Unit L of Section 1, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in undesignated Drinkard and undesignated Fusselman Pools, with the production of oil from both zones to be through parallel strings of 2 inch tubing.
- CASE 2427: Application of J. C. Williamson for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Westates-Federal Well No. 5, located in Unit E of Section 1, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in undesignated Blinebry and undesignated Drinkard pools, with the production of oil from both zones to be through parallel strings of 2 3/8 inch tubing.
- CASE 2428: Application of Texas Pacific Coal & Oil Company for a 320-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, comprising the N/2 of Section 8, Township 22 South, Range 36 East, Lea County, New Mexico; said unit is to be dedicated to the State "A" A/c-2 Well No. 43, located 1650 feet from the North line and 990 feet from the East line of said Section 8.
- CASE 2429: Application of Stnadard Oil Company of Texas for approval of the Jurnegan Point Unit Agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Jurnegan Point Unit Agreement embracing 10,240.84 acres, more or less, of State and fee lands in Township 24 South, Ranges 24 and 25 East, Eddy County, New Mexico.
- CASE 2430: Application of Royal Development Company for seven unorthodox oil well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of seven unorthodox oil well locations in the Shiprock-Gallup Oil Pool, San Juan County, New Mexico, for the following-described wells in Section 17, Township 29 North, Range 18 West:
- Well No. 17-I-A located 2475 feet from the South line and 10 feet from the East line;

CASE 2430: (Cont.)

Well No. 17-I-B located 2475 feet from the South line and 1310 feet from the East line;

Well No. 17-I-D located 1650 feet from the South line and 10 feet from the East line;

Well No. 17-I-E located 1650 feet from the South line and 1310 feet from the East line;

Well No. 17-I-A-1 located 2475 feet from the South line and 660 feet from the East line;

Well No. 17-J-C located 2475 feet from the South line and 2630 feet from the East line;

Well No. 17-J-C-1 located 2475 feet from the South line and 1980 feet from the East line;

CASE 2431:

Application of H. F. Sears for an exception to Rule 107, San Juan, County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 107 authorizing the completion of the Navajo 1-5 well located in the NE/4 NE/4 of Section 5, Township 24 North, Range 10 West, Bisti-Lower Gallup Oil Pool, San Juan County, New Mexico, as a 2 7/8-inch tubingless completion below the depth of 5,000 feet.



2423

SKELLY OIL COMPANY

P. O. Box 1650
TULSA 2, OKLAHOMA

PRODUCTION DEPARTMENT
C. L. BLACKSHER, VICE PRESIDENT
W. P. WHITMORE, GENERAL MANAGER

October 12, 1961

VIA AIR MAIL

RECEIVED

Mr. L. C. White
Gilbert, White and Gilbert
Bishop Building
Santa Fe, New Mexico

Dear Mr. White:

Supplementing my letter of October 11, 1961 pertaining to the filing of an application before the New Mexico Oil Conservation Commission for approval of secondary recovery project on our Navajo "M" Lease, San Juan County, New Mexico, I am listing, for your information and for the information and convenience of the Commission, the names and addresses of all operators within a two mile radius of the proposed injection well which is Navajo "M" No. 2. They are as follows:

R. L. Bayless
Box 1541
Farmington, New Mexico

Texas Pacific Coal & Oil Company
2101 Summit Drive
Farmington, New Mexico

Honolulu Oil Corporation
Box 1410
Farmington, New Mexico

Humble Oil & Refining Company
Box 1268
Farmington, New Mexico

Very truly yours,


R. J. Jacobs

RJJ:br



SKELLY OIL COMPANY

P. O. Box 1650
TULSA 2, OKLAHOMA

PRODUCTION DEPARTMENT
C. L. BLACKSHER, VICE PRESIDENT
W. P. WHITMORE, GENERAL MANAGER

October 11, 1961

Mr. L. C. White
Gilbert, White and Gilbert
Bishop Building
Santa Fe, New Mexico

Dear Mr. White:

Will you please file an application before the New Mexico Oil Conservation Commission for approval of secondary recovery project in the Gallup Sand under our 1,280 acre Navajo "M" Lease, described as all of Sections 33 and 34, Township 32 North, Range 17 West, San Juan County, New Mexico.

Currently, No. 1 is the only producing well with August, 1961 production averaging 7 BO and no BWP/D while being operated 31 days. Wells 2 through 6 were completed as dry holes.

Casing initially in Well No. 2 was as follows:

8-5/8" OD 28# LW-RT & C set at 32' and cemented.
5" OD 11.5# J-55-RT & C set at 1246' and cemented
with 50 sacks.

At abandonment, 5" casing was cut off at 793', recovered, and well plugged with mud and cement.

Plans are to re-enter Well No. 2, reperforate the Gallup Sand 1156-60' and 1167-73', set Baker Model "D" packer above these perforations at approximately 1136' and inject 50 to 150 BWP/D at pressure of 0-600 psi through tubing and below the Baker packer. Water for injection will be purchased from Humble.

This flood will offset a waterflood operated by Humble and should result in recovery of some 30,000 barrels of oil, which will not otherwise be recovered.

Page 2
Mr. L. C. White
October 11, 1961

I am enclosing five copies of a plat showing the location of the proposed injection well, and the location of all other wells within a radius of two miles from said proposed injection well. The plat also reflects the lessees, if any, within the two mile radius. I am attaching, also, one copy of the Induction Electrical Log of the proposed injection well.

We would appreciate your having this set for Examiner's hearing, which I believe will be held Wednesday, November 8, 1961.

Very truly yours,


R. J. Jacobs

RJJ:br
Attach.

File 2473

GILBERT, WHITE AND GILBERT

ATTORNEYS AND COUNSELORS AT LAW

BISHOP BUILDING

SANTA FE, NEW MEXICO

October 17, 1961

CARL H. GILBERT
L. C. WHITE
WILLIAM W. GILBERT
SUMNER S. KOCH
WILLIAM B. KELLY

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mrs. Ida Rodriguez

Dear Ida:

Enclosed is Skelly's application for a secondary recovery which I mentioned to you this morning. If possible, please place it on the November 8th hearing.

Thanking you for your usual courtesies, I am,

Sincerely,

L. C. White

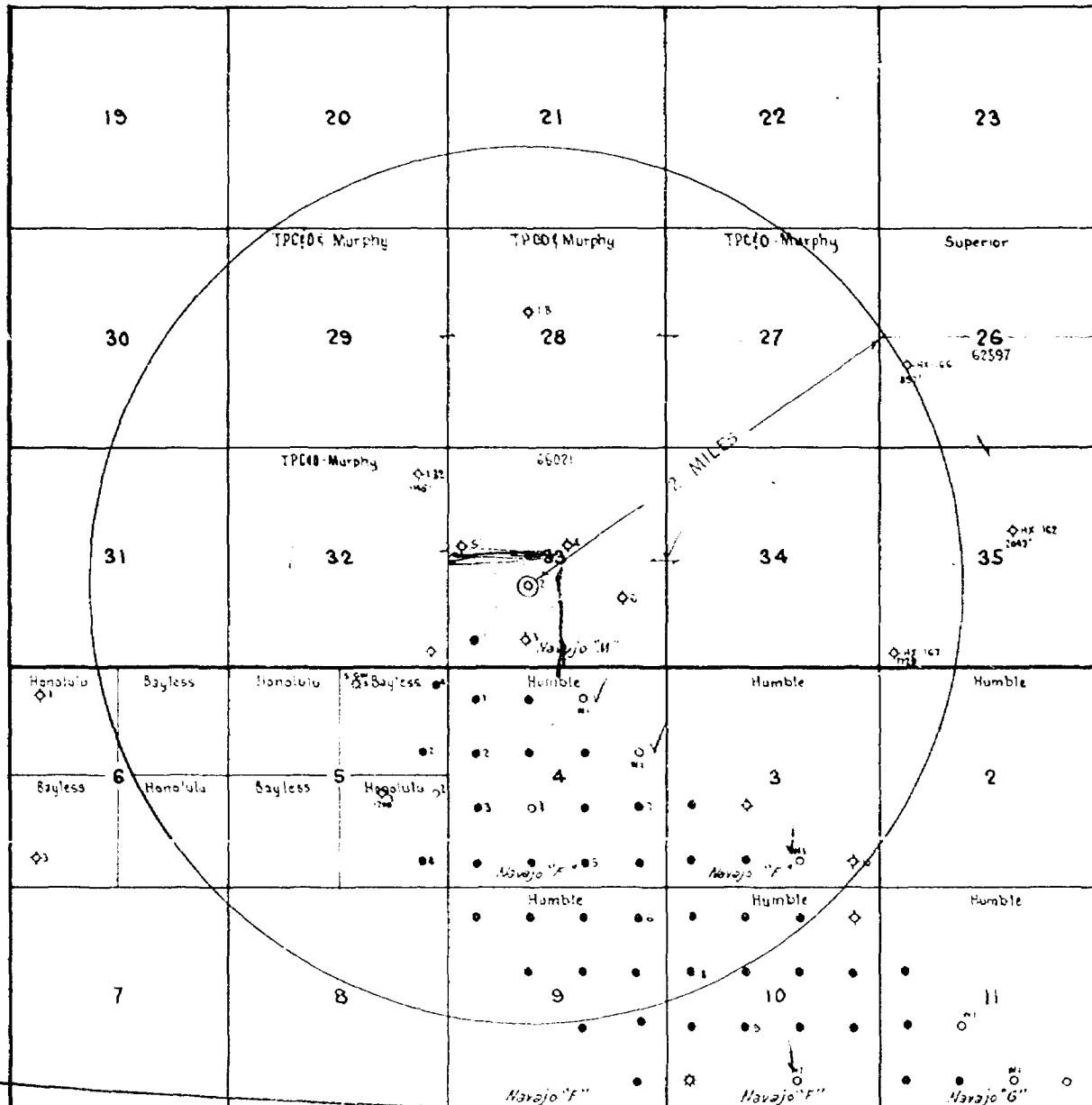
L. C. WHITE

LCW/ab
Encls.

*Enclosed
Mailed
10-27-61
4*

SAN JUAN COUNTY NEW MEXICO
SCALE 1" = 4000'

R-17-W



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BEFORE EXAMINER UTZ
OIL/CONSERVATION COMMISSION
Stelly EXHIBIT NO. 1
CASE NO. 2123

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
November 8, 1961

EXAMINER HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

IN THE MATTER OF:

Application of Skelly Oil Company for authority to inject water into the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authorization to inject water into the Gallup formation underlying the Navajo "M" lease, comprising all of Sections 33 and 34, Township 32 North, Range 17 West, Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, through the Navajo "M" Well No. 2 located 1980 feet from the South and West lines of said Section 33, for the purpose of secondary recovery.

CASE NO.
2423

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

EXAMINER UTZ: We will call Case No. 2423.

MR. MORRIS: Application of Skelly Oil Company for authority to inject water into the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico.

MR. WHITE: Charles White, of Gilbert, White, & Gilbert, Santa Fe, appearing on behalf of the applicant.



We have associated with us Mr. George S. Salinger of the Oklahoma bar, of Tulsa. We have one witness.

EXAMINER UTZ: Are there other appearances to be made in this case?

(Witness sworn.)

R. J. JACOBS,

called as a witness by and on behalf of Applicant, having been duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Will you state your full name, please.

A R. J. Jacobs.

Q By whom are you employed and in what capacity?

A Skelly Oil Company, senior proration engineer.

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

A No, sir, I have not.

Q Will you briefly state your educational background and your professional qualifications?

A I graduated in 1953 from the University of Tulsa with a B.S. degree in petroleum engineering. I spent two years in the Army. I was employed for five years by Sunray Mid-Continent Oil Company; four years as a reservoir engineer, approximately one year as a district staff engineer. Since June of 1960 I have been employed by Skelly Oil Company in my present capacity.

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PHONE 243-6691

Q Are you familiar with the subject application?

A Yes, sir, I am.

MR. WHITE: Are the witness's qualifications acceptable?

EXAMINER UTZ: Yes, they are.

Q (by Mr. White) Are you familiar with what Skelly is seeking in Case No. 2423?

A Skelly Oil is seeking permission to inject water into the Horseshoe-Gallup formation in our Navajo "M" Well No. 2 located in the northeast quarter of the southwest quarter of Section 33, Township 32 North, Range 17 West, San Juan County, New Mexico.

Q Will you refer to Exhibit 1 and describe that to the Examiner, please?

A Exhibit 1 is a plat of the area surrounding the proposed injection well. Shown on the map are the producing injection wells and other dry holes within a considerable area around the well, specifically within two miles of the proposed injection well indicated by a red circle. It shows all the names of all the operators to the best of our knowledge who are presently operating in this area.

Q The Navajo "M" lease is delineated in yellow on the plat?

A It appears that there is another lease over on the right hand side of the Navajo "M" lease consisting of Sections 33 and 34 of said Township and Range.

Q How many wells are producing on this particular lease?



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FARMINGTON, N. M.
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PHONE 243-6691

A There is only one producing well on this lease, Well No. 1.

Q Where is it located?

A In the southwest quarter of the southwest quarter of Section 33, Township 32 North, Range 17 West, San Juan County.

Q Have any other wells been drilled on the lease?

A Yes. Five additional wells have been drilled. They have all been dry holes.

Q What is the production of your Well No. 1?

A Well No. 1 on recent test indicated production of seven barrels oil per day and no water. However, the actual production for the preceding months indicates that the -- for instance, September, 1961, production from this well averaged 4.2 BPD.

Q Point out the location of the proposed injection well.

A It is offset to the northeast of the only producing well on this lease and that is in the northeast quarter of the southwest quarter of Section 33. It is indicated on the map by a red circle around a number 2 there.

Q Describe your casing program.

A Casing in this No. 2 well was 8 5/8 inches OD. 28 pounds set at 32 feet and cemented to the surface. 5 inch OD, 11 1/2 pound J 55 casing set at 1,246 feet and cemented with 50 sacks.

Q Will you state the proposed location of your perforation



point and in so doing refer to Exhibit No. 2.

A The plans are to re-enter Well No. 2 which has been plugged and drill out the cement and reperforate the Gallup sand between the intervals of 1,156 to 60 and 1,167 to 73. We will set a Baker Model B packer above these perforations at approximately 1,156.

Q How much water will you inject?

A Between 50 and 150 barrels water per day.

Q At what variation per pressure?

A Between zero and 600 psi maximum pressure.

Q Would you repeat those perforation points?

A The Gallup sand between the intervals 1,156 feet to 60 and 1,167 feet to 73.

Q You will set the Model B packer where?

A Approximately 1,136 which is above the perforations.

Q What is your source of water supply, Mr. Jacobs?

A Water will be purchased from Humble Oil & Refining Company, which is conducting a waterflood project directly offsetting us to the south and southeast.

Q Is their waterflood project described on Exhibit No. 1?

A Yes, sir. In looking at Exhibit 1 you will see indicated the producing wells and the water injection wells on the Humble Navajo leases. The injection wells are generally to the northeast flank of the producing wells and our proposed injection well will be merely an extension of this type of pattern flood.

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PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6191

Q Are the water injection wells shown on the Plat No. 1?

A The letters WI are shown next to a smaller circle indicating water injection well.

Q Is your waterflood program in reality an extension of Humble's?

A Yes, sir, it is. Our injection well will be in approximately the same position and we will attempt to push oil from the northeast toward the southwest.

Q In other words, your program will be synchronized with that of Humble?

A That is correct.

Q What additional production do you estimate from the waterflood program?

A It is extremely difficult to tell at this time but we know that the anticipated additional oil will more than exceed the cost of this program. It will recover oil which would not otherwise be recovered and our best estimate of it at this time is that it will recover approximately 30,000 barrels of additional oil.

Q Have you obtained approval from the USGS?

A We have received approval from the USGS through a letter signed by John Anderson.

Q Have you previously furnished the Commission with a list of the names and addresses of all offset operators?

A In our application, we indicated on that application



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FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

the names and addresses of the operators or lease hold owners in the two-mile radius surrounding the proposed injection well.

Q Will this proposal in your opinion recover oil that would not otherwise be recovered?

A Yes, sir, definitely.

Q In essence it is a salvage operation?

A Yes, sir. In view of the very low production from this one-well lease, we think it imperative that the operators do something to recover all the oil that can be recovered from this lease.

MR. WHITE: I offer Exhibit 1 and Exhibit 2 at this time.

EXAMINER UTZ: Without objection Exhibits 1 and 2 will be entered into the record of the case.

MR. WHITE: That concludes our presentation.

CROSS EXAMINATION

BY EXAMINER UTZ:

Q Where's the top of the five inch?

A The top of the five inch has been -- when the well was plugged it was cut off at approximately 793 feet and was recovered when the well was plugged and abandoned. We will go in and clean out this well and set the Baker packer, as I indicated, and the water will be injected through the tubing down through the packer into the perforations of the Gallup sand.

Q What size tubing?



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PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

A We are not sure. I think it will be $2\frac{1}{2}$ inch.

Q What type of packer was it?

A Baker Model B.

Q How are you going to test this packer to see whether or not it is holding?

A We will pressure test the packer. It is a latch-in type packer.

Q Pressure-blow the packer?

A Yes, sir.

Q You'll do that before you perforate?

A Yes.

Q You will have to go down $2\frac{1}{2}$ inches.

A Yes, sir, correct.

Q The tubing will be set above the perforations, then?

A Yes, sir.

Q What type of water is this that you're going to inject, fresh?

A We think it is fairly fresh. The water is being purchased and contract is being executed between the operators of this, our Navajo "M" lease and Humble, who have the water rights. We have not had it as yet analyzed but we are purchasing the water from them.

Q How about your corrosion problems in your injection string? What means are you going to take to prevent corrosion?

A If necessary, if we feel corrosion is occurring in the



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1112

ALBUQUERQUE, N. M.
PHONE 243 5491

tubing, we will, of course, run a plastic line tubing in and then we'll just run regular tubing.

Q Will you make that determination, then, before you complete the well?

A Yes. We will make a complete study and ascertain the method that Humble has used and check the exact content of the water to see the possibility of the tubing corroding during the life of the flood, which we think will be relatively short.

Q How long do you think it might be?

A It's difficult to ascertain that right now, but we do not expect production from this well or this lease "M" to exceed the allowable for the well.

EXAMINER UTZ: Are there any other questions of the witness?

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Jacobs, the other wells located at the Navajo "M" lease, as you stated, are plugged and abandoned, wells numbers 3, 4, 5, 6. Do you propose to re-enter these wells and convert them to producing wells?

A No, sir. The San Juan is developed at those locations and we think there is not sufficient oil to justify going in and extending this project any further.

Q You don't contemplate any expansion of the project area?

A No, sir.



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

Q Now, since this is an extension of the maintenance project that Humble has directly to the south, do you propose that your project be limited by the same rules as those in effect in the Humble area?

A We have no objection to that at all.

Q Those rules provide for, I believe, a limit of two times the top unit allowable to be produced in any given well. That would place that limit, I suppose, upon your Number 1 well.

A Yes, since these are diagonal offsets, the injection well and the one producing well. We are continually producing more than that anyway.

Q You would be limited to the allowable of your injection well plus your producing well, which would be that allowable.

A Correct.

Q Do you have any figures of the amount of production coming from the wells in the Humble area immediately to the south of your No. 1 well?

A No, sir, I do not.

Q You don't know what rates these wells are producing at?

A No, sir.

Q Have you any figures with respect to the well shown on Bailey's property?

A No, sir.

MR. MORRIS: Thank you.

CROSS EXAMINATION



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BY MR. NUTTER:

Q Mr. Jacobs, which of the two sands is this that is being flooded in this area?

A I believe this is locally called the Tocito.

Q Is this the upper sand?

A Upper of the two.

Q Is the lower developed at all in this area?

A No, sir. We have all of the dry holes to prove that.

Q How much did this well make on primary, Mr. Jacobs?

A I do not know the exact figure on primary. I am sorry I didn't get that. For the last year, since January '61, the well has averaged 3.3 BPD; 5.4, 4.2, 5.6; very, very low, and as shown from that, it is a salvage-type operation for this well.

Q Recent tests have indicated 7 BPD. Would you attribute this increase from 3 or 4 barrels to the 7 barrels to the Humble injection program?

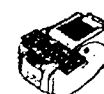
A No, sir. This test was taken early in the summer and this was what the well could produce on a 24-hour basis, but in actuality, sustained production over a period of a month has in fact averaged 4.2.

Q You don't know whether Humble has had any response on their property or not?

A No, sir, I do not.

Q Do you have sand development in the No. 2 well?

A Yes.



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Q Is there any sand development in No. 3?

A Yes, there is a little bit, but it wasn't sufficient to complete a well.

Q Do you anticipate re-opening the No. 3 well?

A Not at this time. We anticipate simply one injection well and one producing well.

MR. NUTTER: That's all. Thank you.

EXAMINER UTZ: Are there other questions of the witness?

The witness may be excused.

(Witness excused.)

EXAMINER UTZ: Are there any other statements to be made in this case?

The case will be taken under advisement.

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STATE OF NEW MEXICO)
) ss.
COUNTY OF SAN JUAN)

I, THOMAS F. HORNE, NOTARY PUBLIC in and for the County of San Juan, State of New Mexico, do hereby certify that the foregoing and attached transcript of hearing was reported by me in stenotype and that the same was reduced to type-written transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

Thomas F. Horne
NOTARY PUBLIC

My Commission Expires:

October 2, 1965

I do hereby certify that the foregoing is a correct and true transcript of the hearing in the case of *Wor. &* *2423* heard by *Mr. &* *1961*.

Glenn A. [Signature] Examiner
New Mexico Oil Conservation Commission

