

CASE 3856: Application of SKELLY  
OIL COMPANY FOR A WATERFLOOD  
PROJECT, RIO ARriba COUNTY.

50 barrels proj. allow.

Case Number

3856

Application  
Transcripts.

Small Exhibits

ETC.



# SKELLY OIL COMPANY

1860 Lincoln Street  
Denver, Colorado 80203

April 17, 1970

File: Jicarilla "B" #5  
Jicarilla "B" #6  
Rio Arriba County, New Mexico

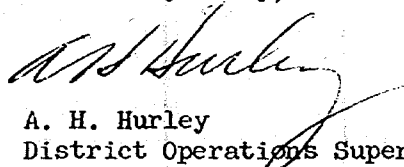
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Gentlemen:

The captioned lease was approved for waterflooding the Otero Gallup zone under Commission Order No. R-3503 entered in Case No. 3856 dated September 17, 1968.

This lease has not responded to the waterflooding, therefore, we plan to discontinue waterflood operations and shut down injection wells No. 5 and No. 6 and Water Supply Well No. 17 effective April 17, 1970. The cumulative injection to March 1, 1970 was 458,681 bbls. of water. Plans are to continue operations of the wells on the lease and recover the remaining primary oil therefrom.

Yours very truly,

  
A. H. Hurley  
District Operations Superintendent

AHH:vs

cc: New Mexico Oil Conservation Commission, Aztec, New Mexico  
U. S. Geological Survey, P. O. Box 959, Farmington, I.M.

APR 20 1970

*Jicarilla Case*  
*Case 3856*

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. 3856  
Order No. R-3503

APPLICATION OF SKELLY OIL COMPANY  
FOR A WATERFLOOD PROJECT, RIO ARRIBA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 4, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 17th day of September, 1968, 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, Skelly Oil Company, seeks permission to institute a waterflood project in the Otero-Gallup Pool by the injection of water into the Gallup formation through its Jicarilla "B" Well No. 5, located in Unit L, and its Jicarilla "B" Well No. 6, located in Unit F, of Section 32, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant further seeks an administrative procedure whereby said project could be expanded to include additional lands and injection wells in the area of the said project as may be necessary in order to complete an efficient injection pattern; that said administrative procedure should provide for administrative approval for conversion to water injection in exception to the well response requirements of Rule 701 E-5 of the Commission Rules and Regulations.

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CASE No. 3856

Order No. R-3503

(4) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(5) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) 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; provided however, that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

IT IS THEREFORE ORDERED:

(1) That the applicant, Skelly Oil Company, is hereby authorized to institute a waterflood project in the Otero-Gallup Pool by the injection of water into the Gallup formation through the following-described wells in Section 32, Township 25 North, Range 5 West, NMPM, Rio Arriba County, New Mexico:

Jicarilla "B" Well No. 5, located in Unit L  
Jicarilla "B" Well No. 6, located in Unit F

(2) That the subject waterflood project is hereby designated the Skelly Jicarilla Otero Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations;

PROVIDED HOWEVER, that the Secretary-Director of the Commission may approve expansion of the Skelly Jicarilla Otero Waterflood Project to include such additional lands and injection wells in the area of the project as may be necessary to complete an efficient water injection pattern; that the showing of well response as required by Rule 701 E-5 shall not be necessary before obtaining administrative approval for the conversion of additional wells to water injection.

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

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CASE No. 3856

Order No. R-3503

(4) 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

  
DAVID E. CARGO, Chairman

GURTON B. HAYS, Member

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

esr/

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 17, 1968

C  
O  
P  
Y

Mr. Ronald Jacobs  
Skelly Oil Company  
Post Office Box 1650  
Tulsa, Oklahoma 74102

Dear Sir:

Enclosed herewith are two copies of Commission Order No. R-3503 entered in Case No. 3856, approving the Skelly Jicarilla Otero Waterflood Project.

Injection is to be into the two authorized water injection wells, each of which shall be equipped with tubing set in a packer within 50 feet of the uppermost perforation. The casing-tubing annulus shall be loaded with an inhibited fluid and either left open or equipped with a pressure gauge to facilitate detection of leakage in the tubing, casing or packer.

As to allowable, our calculations indicate that when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 560 barrels per day when the Northwest New Mexico normal unit allowable is 70 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

-2-

Mr. Ronald Jacobs  
Skelly Oil Company  
Post Office Box 1650  
Tulsa, Oklahoma 74102

C commences, when additional injection or producing wells are drilled,  
when additional wells are acquired through purchase or unitization,  
when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the  
status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

P Enclosures  
ALP/DSH/ir

Y cc: Oil Conservation Commission Offices in Hobbs and Aztec, N.M.  
Mr. D. E. Gray, State Engineer Office, Santa Fe, New Mexico.  
U. S. Geological Survey, P. O. Box 959, Farmington, N. Mex.



Case 3856  
Hear'd 9-4-68  
Rec. 9-6-68

Grant Skelly's request for a  
waterflood project + conversion  
of 2 wells to water injection.  
Discontinue Hallup oil Pool.

Jicarilla 'B' #5 L-32-25N-5W.

— 'B' #6 F-1-C-C-C

Injection will be thru tubing  
+ under a packer set at 5800  
and 6000 in the 5+6 zone.  
Injection shall be in the Hallup  
zone.

Thos. L. Kelly

OPERATORS OF  
OTERO-GALLUP WELLS WITHIN  
TWO-MILE RADIUS OF PROPOSED  
INJECTION WELLS - JICARILLA "B" NO. 5 & 6

Amerada Petroleum Corporation  
P. O. Box 2040  
Tulsa, Oklahoma 74101

El Paso Natural Gas Company  
P. O. Box 1492  
El Paso, Texas 79948

Gulf Oil Corporation  
P. O. Box 1150  
Midland, Texas 79704

B.W.P., Inc.  
1012 Alpine  
Midland, Texas 79702



# SKELLY OIL COMPANY

P. O. BOX 1850

PRODUCTION DEPARTMENT

TULSA, OKLAHOMA 74102

C. L. BLACKSHER, VICE PRESIDENT

August 6, 1968

W. P. WHITMORE, MGR. PRODUCTION

W. D. CARSON, MGR. TECHNICAL SERVICES

BARTON W. RATLIFF, MGR. JOINT OPERATIONS

GEORGE W. SELINGER, MGR. CONSERVATION

Re: Application for Waterflood  
Jicarilla "B" Lease  
Rio Arriba County, New Mexico

*Case 3856*

Mr. A. L. Porter, Jr., Secretary-Director  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. Porter:

Attached, in triplicate, is our application for permission to conduct a waterflood project into the Gallup formation on our Jicarilla "B" lease, located in Rio Arriba County, New Mexico.

Please set this matter down for the next Examiner Hearing, which we understand will be September 4, 1968.

We are, also, attaching a list of names and addresses of operators of Otero-Gallup wells within the two-mile radius of our proposed initial injection wells.

Yours very truly,

*George W. Selinger*

RJJ:br  
Attach.

cc-Mr. L. C. White  
White, Gilbert, Koch & Kelly  
P. O. Box 787  
Santa Fe, New Mexico 87501 w/ attach.

68 AUG 8 AM 32

← CASE 3856: Application of Skelly Oil Company for a waterflood project, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Gallup formation through its Jicarilla "B" Wells Nos. 5 and 6 located in Units L and F, respectively, of Section 32, Township 25 North, Range 5 West, Otero-Gallup Pool, Rio Arriba County, New Mexico.

CASE 3857: Application of Coastal States Gas Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Tulk-Pennsylvanian Pool in Township 14 South, Range 32 East, Lea County, New Mexico, including a provision for 160-acre spacing and proration units with the assignment of 80-acre allowables.

In the alternative, applicant seeks the creation of a new pool for Pennsylvanian oil production from its State "26" Well No. 1 located in Unit D of Section 26, said Township and Range, and promulgation of the aforesaid special rules therefor.

WHITE, GILBERT, KOCH & KELLY  
(GILBERT, WHITE AND GILBERT)

ATTORNEYS AND COUNSELORS AT LAW

LINCOLN BUILDING

SANTA FE, NEW MEXICO 87501

CARL H. GILBERT (1891-1963)

L. C. WHITE

WILLIAM W. GILBERT

SUMNER S. KOCH

WILLIAM BOOKER KELLY

JOHN F. MCCARTHY, JR.

August 8, 1968

POST OFFICE BOX 787

TELEPHONE 982-4301  
(AREA CODE 505)

Mr. A. L. Porter, Jr.  
Secretary Director  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Re: Skelly Oil Company, Waterflood Project  
Jicarillo "B" Lease, Rio Arriba County

Dear Mr. Porter:

Will you please note on your records in the above matter that the under-  
signed appears as resident counsel for the applicant.

Very truly yours,



L. C. WHITE

LCW:le

CC: Mr. George Selinger  
Skelly Oil Company  
Tulsa, Oklahoma 74102

DOCKET MAILED

Date 8/22/68

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF SKELLY )  
OIL COMPANY FOR AN ORDER AUTHORIZING A )  
WATERFLOOD ON ITS JICARILLA "B" LEASE BY )  
THE INJECTION INTO TWO WELLS LOCATED IN )  
SECTION 32, TOWNSHIP 25 NORTH, RANGE 5 )  
WEST, OTERO-GALLUP POOL, RIO ARriba COUNTY, )  
NEW MEXICO. )

CASE NO. 3856

A P P L I C A T I O N

Comes now Skelly Oil Company and alleges and states:

1. That it is a Delaware corporation authorized to do business in the State of New Mexico, and that it is operating wells on its Jicarilla "B" lease located in Sections 31 and 32, Township 25 North, Range 5 West, and Sections 5 and 6, Township 24 North, Range 5 West, Rio Arriba County, New Mexico.

2. That the oil wells on this lease have declined in production to near the economic limit, and that of the 22 wells on the Jicarilla "B" lease all produced Gallup oil except Wells 1, 21 and 22, and that the current production from the six active oil wells is less than 40 barrels of oil per day.

3. That in order to recover oil which would not otherwise be recovered and to increase the ultimate recovery, applicant proposes to conduct a waterflood project on said lease by injecting water into the Gallup formation, Otero-Gallup Pool, in its Jicarilla "B" Well No. 5, located in Unit "L" of Section 32, and Well No. 6, located in Unit "F" of Section 32, both in Township 25 North, Range 5 West, Rio Arriba County, New Mexico.

4. That based on the performance and information gained from the injection into the aforementioned two wells the applicant may request administrative approval to expand the project and to convert additional wells.

5. That attached hereto and made a part hereof is Exhibit "A", a plat showing the location of the proposed injection wells and the location of all other wells within a radius of two miles from the proposed injection wells and the formation from which said wells are producing or have produced. The plat also indicates the lessees within the aforementioned two-mile radius.

6. That attached hereto and made a part hereof is Exhibit "B", a log of the proposed injection wells.

7. That attached hereto and made a part hereof is Exhibit "C", a diagrammatic sketch of the proposed injection wells showing all casing strings, including diameter and setting depths; quantities used and tops of cement; perforation interval; tubing strings, including diameter and setting depths; and the type and location of packers.

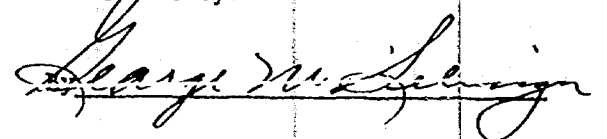
8. That applicant proposes to inject into the Gallup formation through perforations 5,948-6,064' in Well No. 5, and through perforations 6,031-6,151' in Well No. 6. A water supply source has been completed in Well No. 17 on said lease in the Ojo Alamo from perforation between the intervals of 2,010-2,125', and that an initial injected volume of 1,500 barrels of water per day is planned into the two wells at a maximum pressure of 1,250 psi.

WHEREFORE, PREMISES CONSIDERED, applicant prays that this Commission set this matter down for hearing, that notice hereof be given as required by law, and that at the conclusion of said hearing based on the evidence adduced, the Commission enter its order granting Skelly Oil Company permission to conduct a waterflood project in the Otero-Gallup Pool, on the Jicarilla "B" lease through injection in its Wells 5 and 6, and to further provide for administrative expansion of the project area and the conversion of additional wells by administrative means without the necessity of separate hearings, and for such other orders, rules and regulations as may be necessary in the premises.

Respectfully submitted,

SKELLY OIL COMPANY

George W. Selinger  
Ronald J. Jacobs  
Its Attorneys



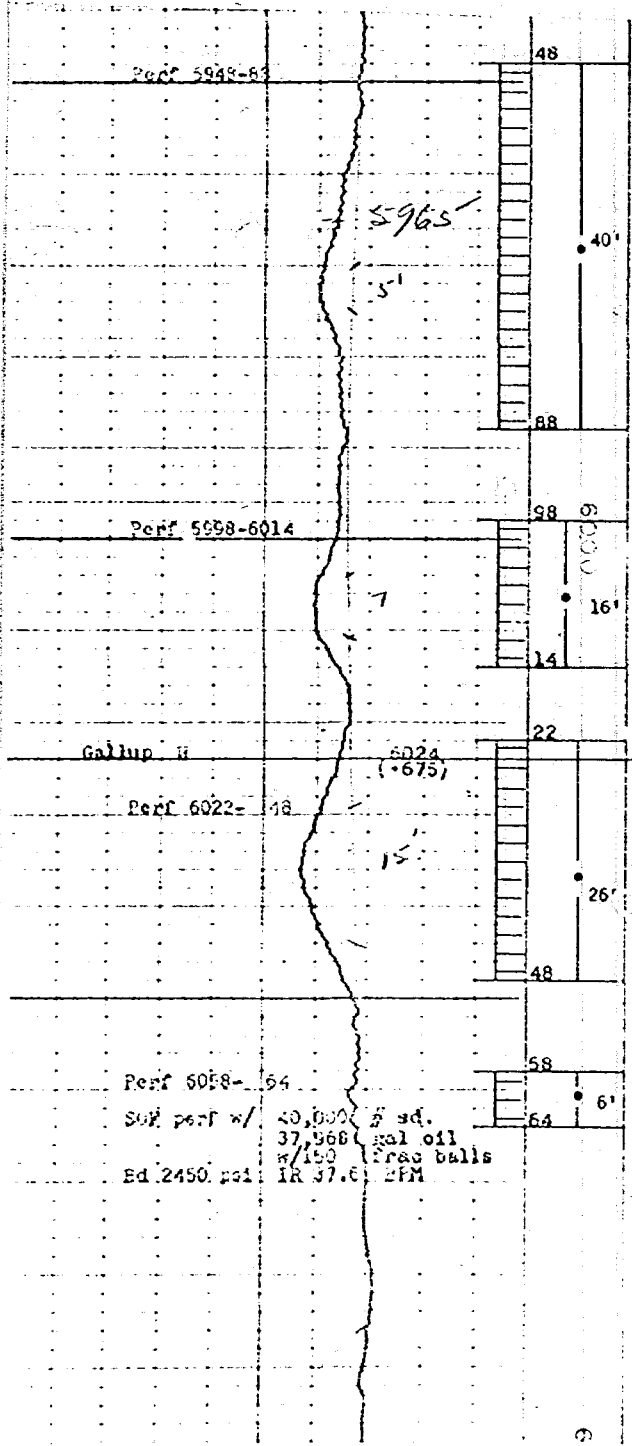
Of Counsel:  
Mr. L. C. White  
White, Gilbert, Koch & Kelly  
P. O. Box 787  
Santa Fe, New Mexico

WELL LOG

COUNTY RIO ARriba, N.M.  
FIELD or LOCATION SKELLY GALLUP  
WELL #5  
COMPANY SKELLY OIL COMPANY  
STATE NEW MEXICO

Other Surveys  
GRN M  
Location of Well  
660' FR W/L  
1650' FR S/L  
SEC. 32-25N-5  
Elevation: D.F. 669  
K.B. 670  
or G.L. 669  
FILING No.

RUN No. ONE  
Date 10-24-57  
First Reading 6310  
Last Reading 330  
Feet Measured 5930  
C.G. Section 330  
C.G. Driller 330  
Depth Reached 6315  
Bottom Driller 3315  
Depth Datum K.R.  
Mud Mat. GEL OIL CHEM  
Dens. Visc. 10.2125  
Mud Weight 10.38  
Rmt. SHT 1.33  
Rmt. C 1.33  
Rmt. C 1.33  
pH 9.0  
W/L Loss 3.0  
SHT Loss 3.0  
Spec. Grav. 1.33  
IND. 1.33  
M.V. 27.2  
Opt. Run Time 3 HRS  
Truck No. 1559FARM  
Recorded By MATTHEWS



Total Mancoos Pay  
Gross 76'  
Net 50'

Total Gallup Pay  
Gross 40'  
Net 30'

SKELLY OIL CO.  
EXHIBIT NO. B-1  
Case 3856

SCHEIDT & BUCHNER

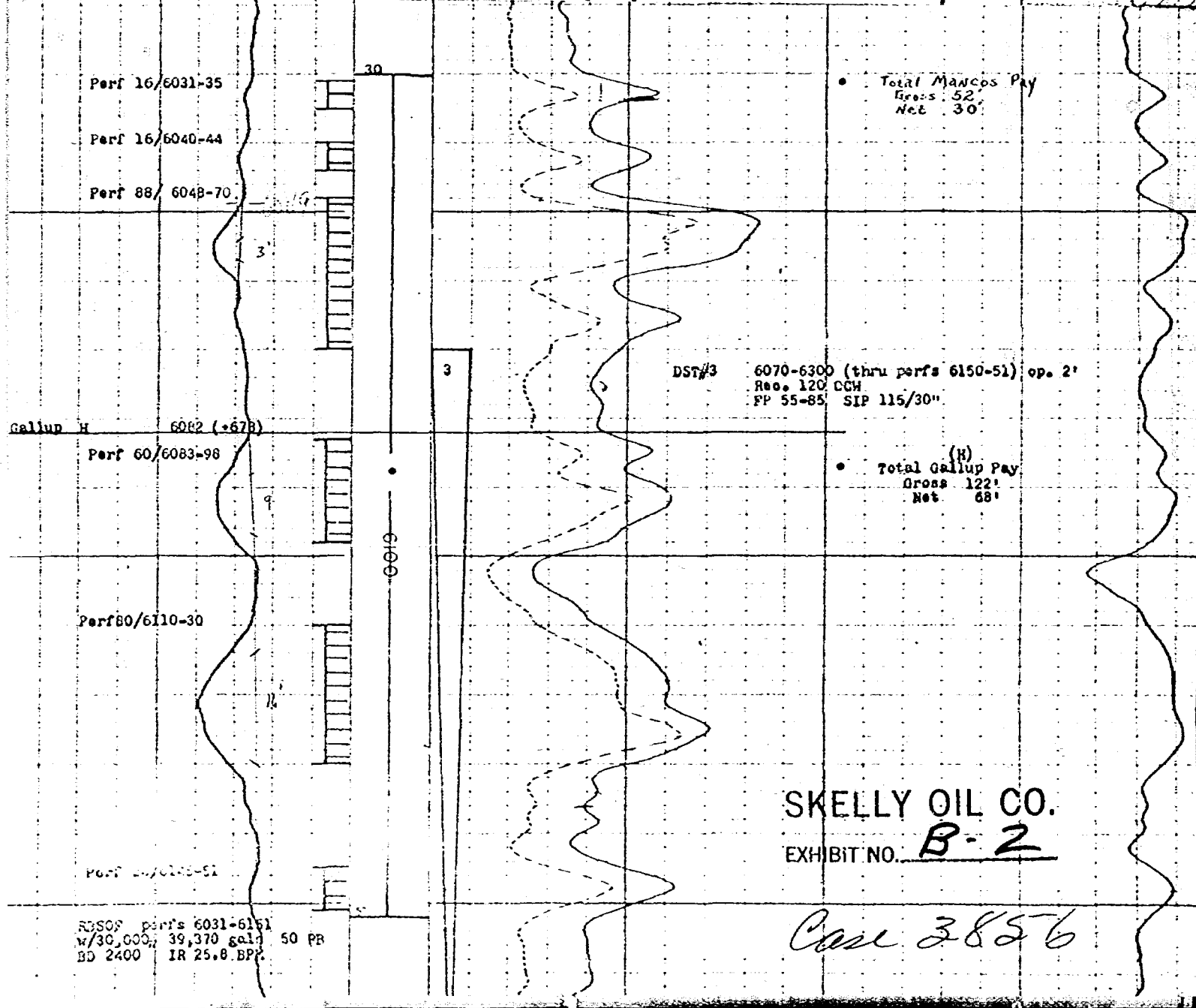
*Production*  
*Appraisal*  
*Log*

COUNTY RIO ARriba, N.M.  
FIELD WILDCAT  
WELL JICARILLA 8 #6  
COMPANY SKELLY OIL COMPANY

COMPANY SKELLY OIL  
WELL JICARILLA 8 #6  
FIELD WILDCAT  
LOCATION SEC. 32-25N-5W  
COUNTY RIO ARriba  
STATE NEW MEXICO

Other Surveys  
ML  
Location of Well  
1930' FR N/L  
1930' FR W/L  
SEC. 32-25N-5W  
Elevation D.F. 5155  
K.B. --  
EST. or C.L. ~~7300~~  
FILING No.

RUN No. ONE  
Date 1-22-58  
First Seeding 5333  
Test Seeding 330  
Test Measured 3003  
Csg. Seblum. 330  
Csg. Driller 330  
Depth Reached 5339  
Bottom Driller 3330  
Depth Datum 3330  
Mud Net. 10  
Mud Visc. 10  
Mud Weight 10  
Res. CHT 1.5  
Rmf 1.5  
Rmc 2.2  
pH 2.4  
Vib. Loss 8.5  
Bit Size 5.3  
Spgrs. -AM 3.4  
MN 16  
IND. 40  
Opr. Rig Time 2 HRS  
Track No. 791 FARM  
Recorded By COVEY



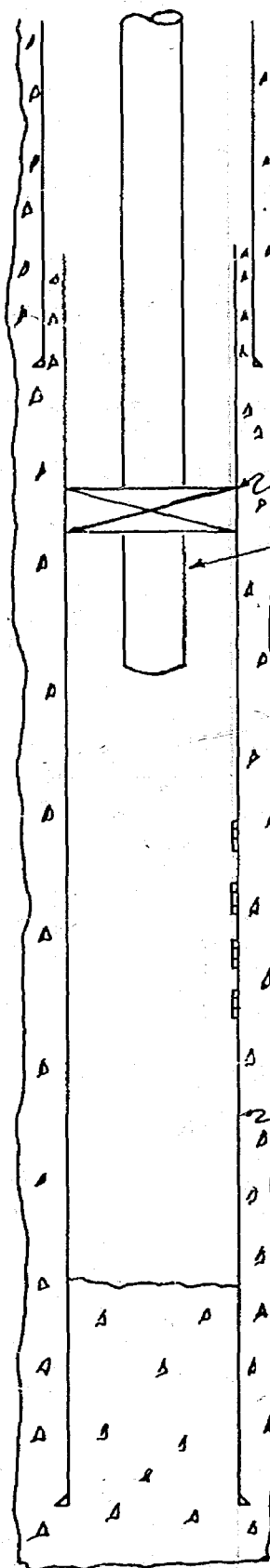
SKELLY OIL CO.  
EXHIBIT NO. B-2

Case 3856

ROSS perf's 6031-6151  
w/30,000 39,370 gal 50 PB  
BD 2400 IR 25.8 BPP



PROPOSED INJECTION WELL  
Jicarilla "B" Well No. 5



10-3/4" 32.75# surface casing set  
@ 326' with 300 sacks cement to  
surface

Halliburton R-4 Tension Packer set  
at 5910'

2-3/8" 4.7# tubing set at 5925'

Perf. 5948' - 5988'

Perf. 5998' - 6014'

Perf. 6022' - 6048'

Perf. 6058' - 6064'

5-1/2" 15.5# casing set at 6314' with  
600 sacks cement. DV tool at 3674'.  
Cement tops 5600' and 2425'.

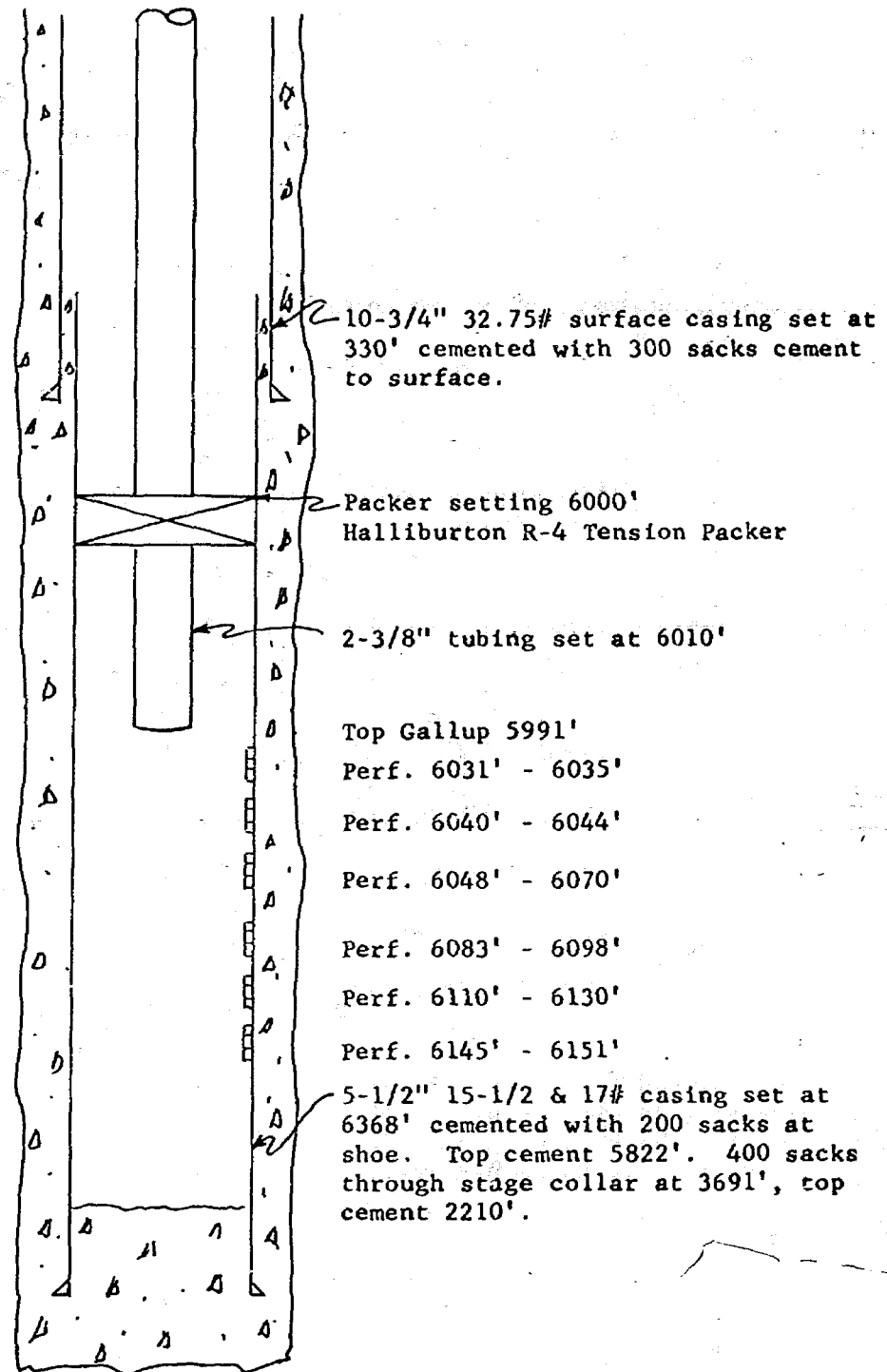
PBTD 6277'

SKELLY OIL CO.

EXHIBIT NO. C-1

*Case 3856*

PROPOSED INJECTION WELL  
Jicarilla "B" Well No. 6

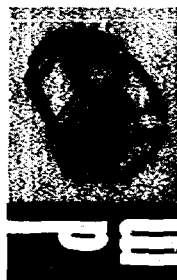


SKELLY OIL CO.  
EXHIBIT NO. C-2

dearnley-meier reporting service, inc.

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

1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 4, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Skelly Oil Company for  
a waterflood project, Rio Arriba  
County, New Mexico.

Case 3856

BEFORE: Elvis A. Utz  
Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3856.

MR. HATCH: Case 3856. Application of Skelly Oil Company for a waterflood project, Rio Arriba County, New Mexico.

MR. JACOBS: Appearing on behalf of the Applicant, Skelly Oil Company, Ronald J. Jacobs, Tulsa, Oklahoma, and the Commission's file should also reflect that Mr. L. C. White has entered an appearance as local Counsel for us in this matter. We have one witness we would like to have sworn.

MR. UTZ: Are there any other appearances in this case?

(Witness sworn.)

(Whereupon, Applicant's Exhibits Numbers 1 through 5 were marked for identification.)

A. H. HURLEY

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

DIRECT EXAMINATION

BY MR. JACOBS:

Q Will you please state your name, by whom you are employed and in what capacity?

A My name is A. H. Hurley. I'm employed by Skelly Oil Company as District Engineer, Denver, Colorado.

Q As District Engineer in Denver, Colorado, do you have under your supervision the area in Rio Arriba County, known as

the Otero-Gallup Pool?

A I do.

Q Are you familiar with Skelly Oil Company's operations in producing properties in that area?

A Yes, sir.

Q Are you familiar with the application in this case?

A Yes, sir, I am.

Q Have you heretofore testified before this Commission as a Petroleum Engineer, and on such occasions, have your qualifications been accepted?

A Yes, sir, I have and they have.

Q I direct your attention now to what has been marked for identification as Exhibit Number 1. Would you relate to the Examiner what this exhibit shows?

A Exhibit 1 is a map of the area including the surrounding Skelly's Jicarilla B Lease. Included in the legend are all wells currently completed in the area and coded as to their completion horizon.

Q Now, the Jicarilla B Lease is described as what geographical area?

A The Jicarilla B Lease includes Sections 31 and 32 of 25 North, 6 West, and 5 and 6, 24 North, 6 West.

UNIDENTIFIED SPEAKER: 5 West.

THE WITNESS: 5 West. I'm sorry.

Q Both those descriptions should have been 5 West?

A 5 West, yes, sir.

Q Now, you propose to inject by utilizing initially two wells, is that correct?

A Correct.

Q What wells are those?

A Shown on the map in red triangles, we propose to inject into the Gallup Formation in Wells 5 and 6 in Section 32.

Q And you've indicated by appropriate symbols the producing formations from which all the wells in the general area are completed or are producing from?

A Correct.

Q What is the nature of production from the Gallup Formation of the wells in the immediate vicinity on the Jicarilla B Lease and other leases in this area?

A The Gallup wells are currently producing an average of five barrels of oil per day. Cumulative production has averaged approximately 28,900 barrels of oil per well.

Q Are the wells reaching a point where they are approaching their economic limit?

A They are.

Q In order to recover oil which would not otherwise be recovered, do you feel it's necessary to commence an injection project to see if the Gallup Formation is floodable and additional

oil can be recovered?

A That's correct. This project is more or less experimental, pilot-type project. The Gallup is a fractured reservoir and meaningful engineering estimates of recoveries cannot be made. It is in the primary state of depletion and we propose to test the results of water injection by this procedure.

Q In fact, in northwest New Mexico, the Gallup Formation sometimes can be successfully flooded and sometimes cannot, is that correct?

A That's correct.

Q And the only real way to find out is to try it?

A That's correct.

Q I direct your attention now to what has been marked for identification as Exhibit Number 2. Would you relate to the Examiner what this exhibit is.

A Exhibit 2 is an electrical log of our Jicarilla B Well Number 5 proposed for water injection with the current perforations and the perforations proposed for injection indicated thereon.

Q I direct your attention now to what has been marked for identification as Exhibit Number 3. Would you relate to the Examiner what this exhibit shows?

A Exhibit Number 3 is the same as Exhibit Number 2 for our proposed injection well, Jicarilla B Number 6.

Q That's a log of the --

A It's an injection -- electric log of the section indicating the proposed perforations in the Gallup Formation for injection.

Q I direct your attention now to what has been marked for identification as Exhibit Number 4. Would you relate to the Examiner what this exhibit shows?

A Exhibit 4 is a downhole schematic of our proposed injection well, completion of the Jicarilla B Number 5 Well, showing the casing strings, cement tops and tension packer.

Q Now, with relation to the cement, cementing program in this well, you have an estimate as to where the top of the cement occurs?

A Yes. That's shown on Exhibit 5. There are two tops. It states cemented top of the bottom state is at 5600 feet. Our proposed packer setting is 5910 feet. The top of the injection interval would be 5948 feet.

Q And you do anticipate injection through tubing set on this packer?

A Through the tubing, right; unlined.

Q How will you treat the annulus space between the tubing and the casing?

A It will be filled with an inhibited fluid and a



permanent pressure gauge installed at the surface to monitor the surface pressure in the annulus.

Q I direct your attention now to what has been marked for identification as Exhibit Number 5. Will you please relate to the Examiner what the exhibit shows?

A Exhibit Number 5 is a downhole schematic showing the proposed completion of our Jicarilla B Lease Number 6 injection well. It shows the cement top at 5822. Shows the packer setting at 6000 feet and the proposed perforations for injection into the Gallup Formation.

Q And there, also, you've indicated the cement tops and in each case, the packer will be set below the calculated or the top of the cement?

A That's correct.

Q You will likewise treat the annulus base in the similar manner?

A Annulus base will be filled with an inhibited fluid and a pressure gauge installed at the surface.

Q And in each case, you will use two and three-eighths inch tubing?

A Yes, sir.

Q Mr. Hurley, what is the source of the water that will be injected, initially, into these two wells?

A Our Jicarilla B Number 17 Well in Section 5, 24 North,

5 West, has been recompleted in the Ojo Alamo Formation.

MR. UTZ: Section what?

THE WITNESS: That's Number 17 in Section 5, 24 North, 5 West. It has been recompleted in the Ojo Alamo Formation, perforated from 2,010 feet to 2125 feet and will deliver sufficient Ojo Alamo water to inject approximately 750 barrels per day into each injection wells, 5 and 6.

Q You're talking about a total of 1500 barrels of water a day into the two wells?

A Yes, sir.

Q What is the nature of the water?

A It's fresh, potable water.

Q And considering that and the subsurface installation you propose on these two wells, in your opinion, is there any chance of damage to either any fresh-water-bearing sands in the area or any other producing sand or possible producing formation in the immediate vicinity?

A No chance for it.

Q You're asking the Commission to grant you permission to inject into wells 5 and 6 and also provide for administrative expansion of the project without the necessity of a separate hearing should you desire to expand to include additional wells in the immediate vicinity of this lease?

A Yes, sir.

Q This Jicarilla B Lease, is this lease under the jurisdiction of the Federal Government?

A Yes, it is.

Q Have you discussed this proposal with representatives of the Government and explained the project to them?

A We have, and we have received their formal approval for the project based on like approval of the New Mexico Oil and Gas Commission.

Q Were Exhibits 1 through 5 prepared by you or under your direction or supervision?

A They were.

MR. JACOBS: We offer Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record in this case.

(Whereupon, Applicant's Exhibits Numbers 1 through 5, inclusive, were admitted in evidence.)

MR. JACOBS: We have no further direct testimony, Mr. Utz.

CROSS EXAMINATION

BY MR. UTZ:

Q What kind of pressures do you anticipate you will need to inject this 1500 barrels?

A We're providing for 1250 psig. We don't, frankly, know exactly what it will take but we think that will be

sufficient.

Q It will take 1250 or close, whatever I understood you to say it would take?

A Yes, sir.

Q These wells were drilled when? I thought I saw it here somewhere.

A In '57. Late '57 and '58, generally, for all the Gallup wells. Number 5 was completed 12-4-'57. Number 6, 2-2-'58.

MR. UTZ: Are there any questions of the witness? You may be excused. Any statements in this case?

MR. JACOBS: Nothing further.

MR. UTZ: The case will be taken under advisement.

I N D E X

| <u>WITNESS</u>                   | <u>PAGE</u> |
|----------------------------------|-------------|
| A. H. HURLEY                     |             |
| Direct Examination by Mr. Jacobs | 2           |
| Cross Examination by Mr. Utz     | 9           |

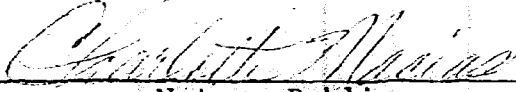
E X H I B I T S

| <u>Number</u>                    | <u>Marked for<br/>Identification</u> | <u>Received in<br/>Evidence</u> |
|----------------------------------|--------------------------------------|---------------------------------|
| Applicant's Exhibits 1 through 5 | 2                                    | 9                               |

STATE OF NEW MEXICO )  
 ) ss.  
COUNTY OF BERNALILLO )

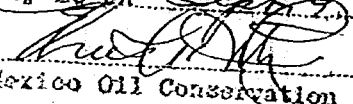
I, CHARLOTTE MACIAS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

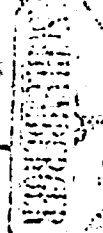
Witness my Hand and Seal this 7th day of October, 1968.

  
Notary Public

My Commission Expires:

February 10, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive Hearing of Case No. 3856, heard by me on Sept 4, 1968.  
  
Examiner  
New Mexico Oil Conservation Commission

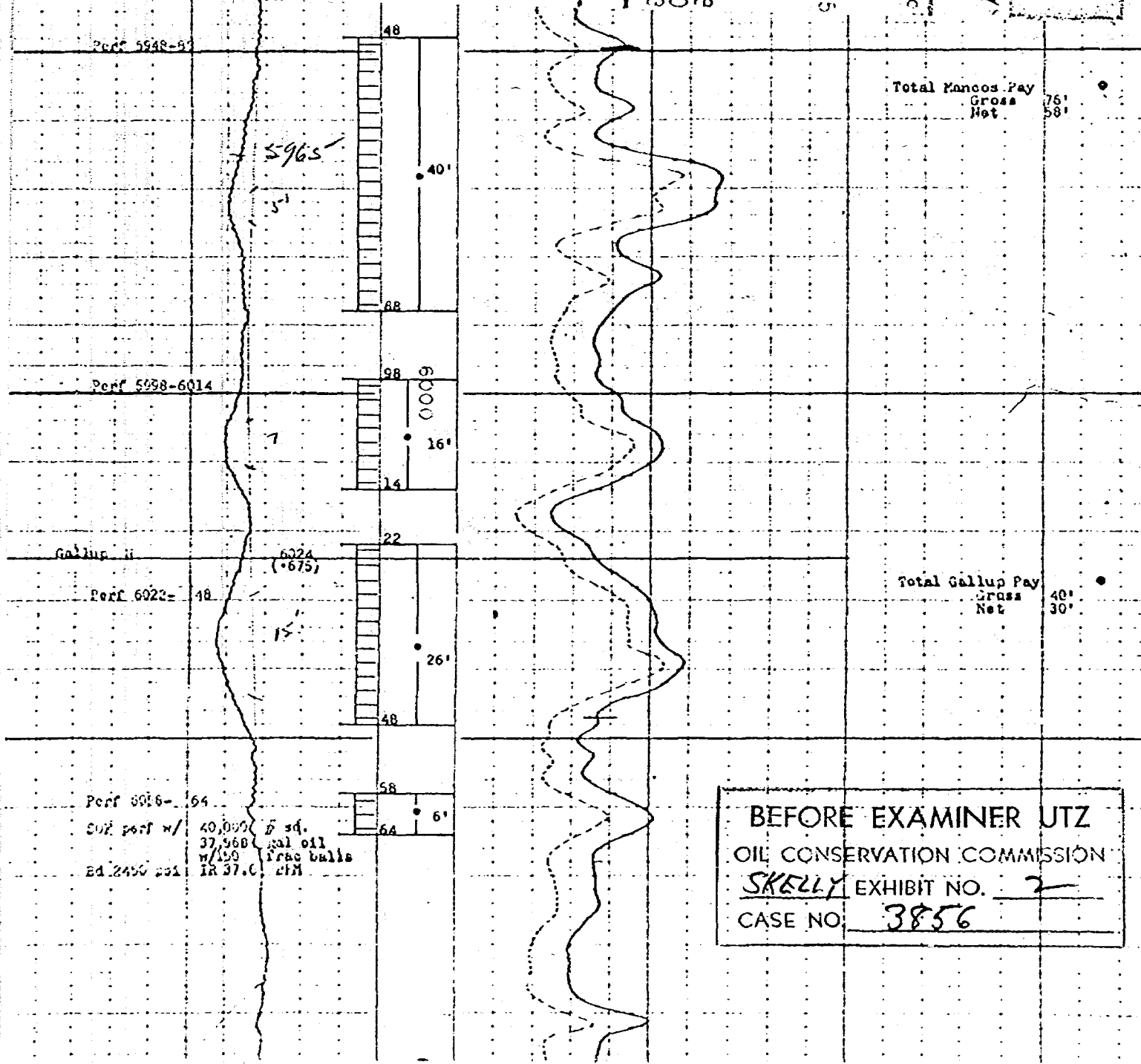


COUNTY RIO ARriba, N.M.  
FIELD or LOCATION SKELLY GALLUP  
WELL JIC. RILLA  
COMPANY SKELLY OIL COMPANY

COMPANY SKELLY OIL  
WELL JICARILLA "B"  
FIELD SKELLY GALLUP  
LOCATION SEC. 32-25N-5W  
COUNTY RIO ARriba  
STATE NEW MEXICO

Other Survey  
GRN M.  
Location of Well  
660' FR W/L  
1650' FR S/L  
SEC. 32-25N-5  
Elevation: D.F. 669  
K.B. 670  
or G.L. 669  
FILING No.

RUN No. ONE  
Date 10-24-57  
First Reading 6310  
Lost Reading 330  
Feet Measured 5980  
Csg. Schium. 330  
Csg. Driller 330  
Depth Reached 6316  
Bottom Driller 5315  
Depth Datum KB  
Mud Net. GEL OIL CHEM  
Dens. Visc. 10.2125  
Mud Resist. 4.06 58 F  
Res. BHT 1.39 133 F  
Rmf C 1.55 133 F  
Rmc C 1.55 133 F  
pH 9.0 F.L.F.  
Wtr. Loss 5.6 CC 30 min.  
Bit Size 8 3/4"  
Specs. AM 16"  
IND. 40"  
KN 27.2"  
Opt. Rig Time 3 HRS  
Truck No. 1559F ARM  
Recorded By MATHIEWS



STILLMEYER

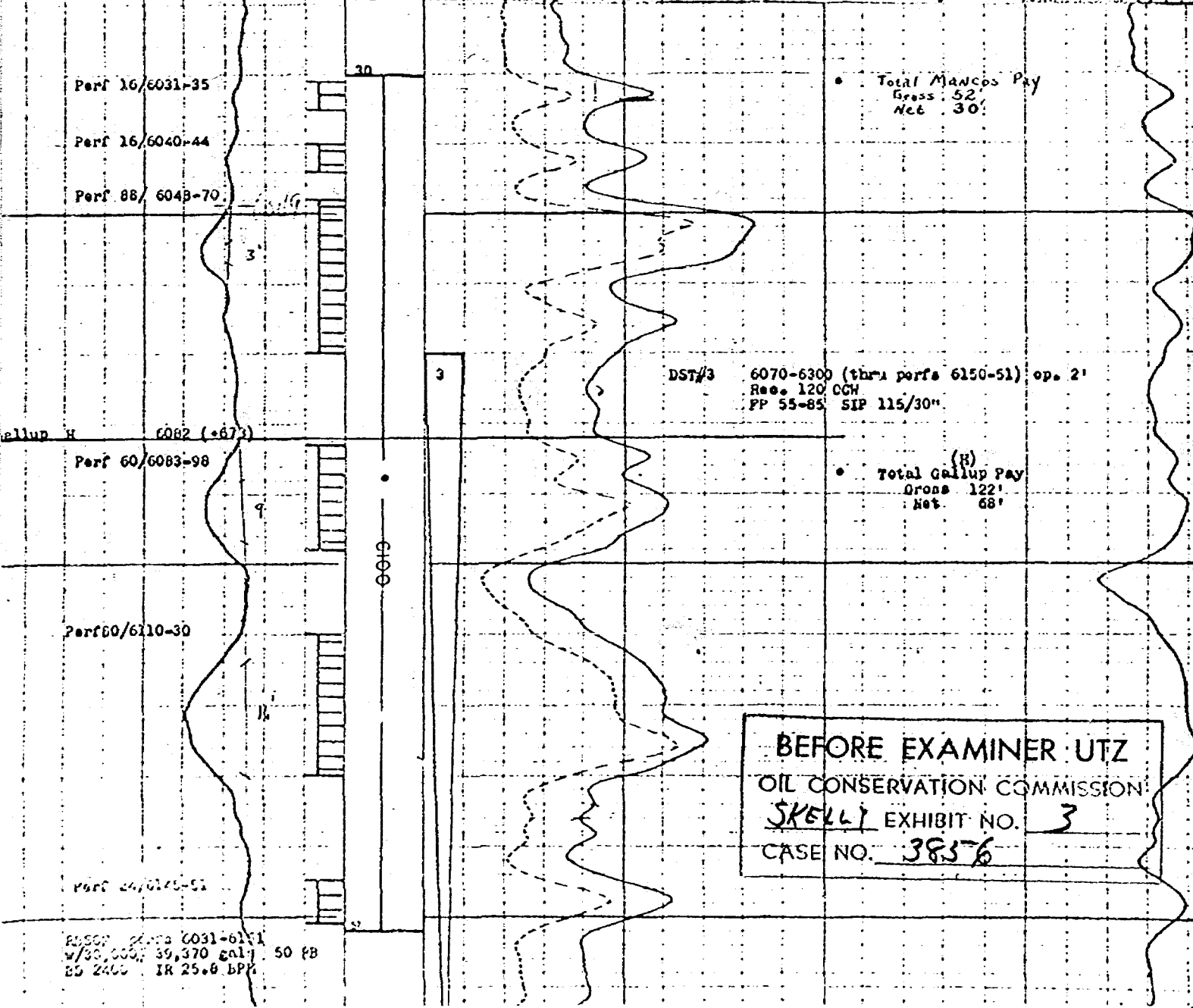
STILLMEYER

COUNTY RIO ARRIBA, N.M.  
FIELD or LOCATION WILDCAT  
WELL JICARILLA 8 #6  
COMPANY SKELLY OIL COMPANY

COMPANY SKELLY OIL  
COMPANY  
WELL JICARILLA 8 #6  
FIELD WILDCAT  
LOCATION SEC. 32-25N-5W  
COUNTY RIO ARRIBA  
STATE NEW MEXICO

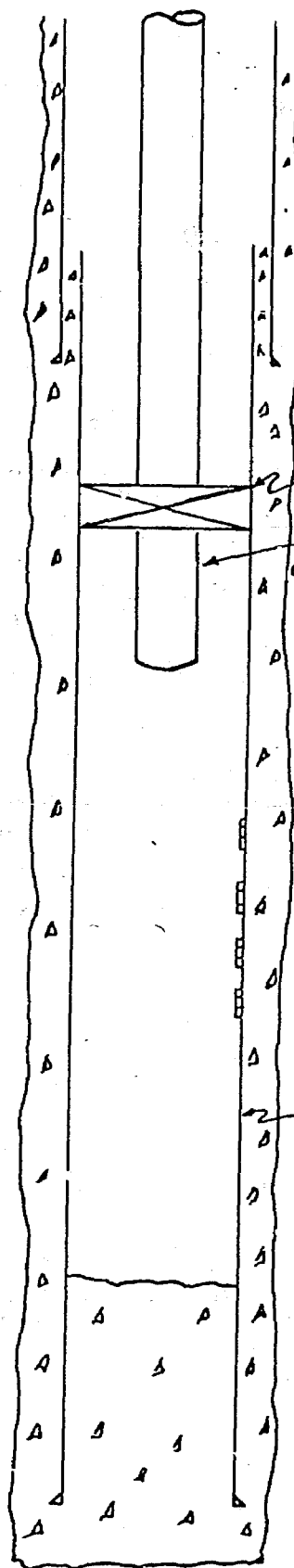
Other Surveys  
ML  
Location of Well  
1930' FR N/L  
1930' FR W/L  
SEC. 32-25N-5W  
Elevation: D.F. 6155  
K.B. --  
EST. or C.L. #3333  
FILING No.

RUN No. ONE  
Date 1-22-58  
First Reading 5333  
Last Reading 330  
Feet Measured 6003  
Csg. Schlum. 330  
Csg. Driller 330  
Depth Reached 5339  
Bottom Driller 6330  
Depth Datum 6330  
Mud Not. KB  
Mud No. GEL-OIL EMUL  
Dens. Visc. 10 1.90  
Mud Resist. 2.2 70  
Res. BHT 1.15 39  
Rmf 2.2 38  
Rmc 2.4 38  
PH 8.5  
Wtr. Loss 5.8 CC30 min.  
Bit Size 8 3/4"  
Specs. - AM 16"  
MN  
IND. 40"  
Opr. Rig Time 2 HRS  
Truck No. 791FA RM  
Recorded By





PROPOSED INJECTION WELL  
Jicarilla "B" Well No. 5



10-3/4" 32.75# surface casing set @ 326' with 300 sacks cement to surface

Halliburton R-4 Tension Packer set at 5910'

2-3/8" 4.7# tubing set at 5925'

Perf. 5948' - 5988'

Perf. 5998' - 6014'

Perf. 6022' - 6048'

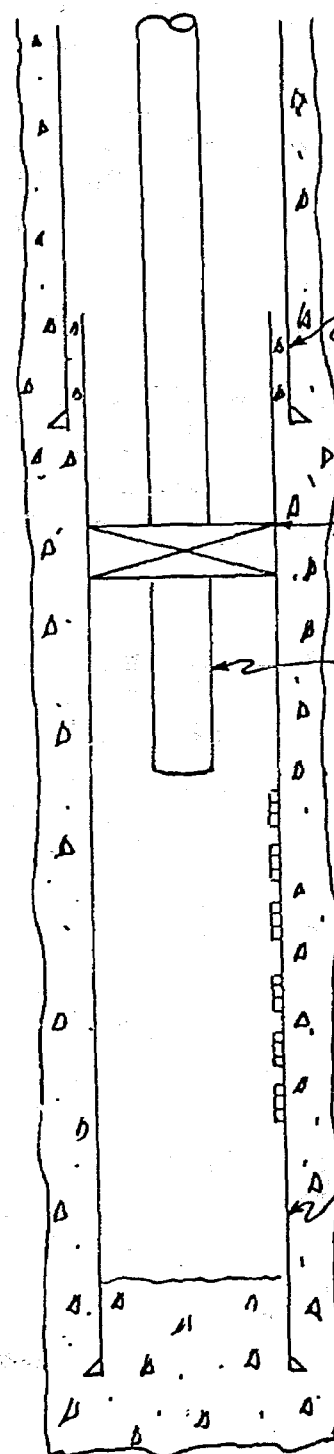
Perf. 6058' - 6064'

5-1/2" 15.5# casing set at 6314' with 600 sacks cement. DV tool at 3674'. Cement tops 5600' and 2425'.

PBTD 6277'

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
SKELLY EXHIBIT NO. 4  
CASE NO. 3856

PROPOSED INJECTION WELL  
Jicarilla "B" Well No. 6



10-3/4" 32.75# surface casing set at 330' cemented with 300 sacks cement to surface.

Packer setting 6000'  
Halliburton R-4 Tension Packer

2-3/8" tubing set at 6010'

Top Gallup 5991'

Perf. 6031' - 6035'

Perf. 6040' - 6044'

Perf. 6048' - 6070'

Perf. 6083' - 6098'

Perf. 6110' - 6130'

Perf. 6145' - 6151'

5-1/2" 15-1/2 & 17# casing set at 6368' cemented with 200 sacks at shoe. Top cement 5822'. 400 sacks through stage collar at 3691', top cement 2210'.

PBTD 6300'

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

SKELLY EXHIBIT NO. 5

CASE NO. 3856