

Case No.

3648

Application, Transcript,  
Small Exhibits, Etc.

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

P. O. BOX 2088  
SANTA FE

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

September 11, 1967

✓  
Mr. Booker Kelly  
White, Gilbert, Koch & Kelly  
Attorneys at Law  
Post Office 787  
Santa Fe, New Mexico

Re: Case No. 3648

Order No. R-3308

Applicant:

Tenneco 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 handwritten signature in cursive script, reading "A. L. Porter, Jr.", is written over the typed name.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Aztec OCC x

Other \_\_\_\_\_

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. 3648  
Order No. R-3308

APPLICATION OF TENNECO OIL COMPANY  
FOR A DUAL COMPLETION, RIO ARriba  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 6, 1967, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 11th day of September, 1967, 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, Tenneco Oil Company, seeks authority to complete its Jicarilla "A" Well No. 8, located in unit H of Section 17, Township 26 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, as a dual completion (conventional) to produce oil from the Tapacito-Gallup Associated Pool through 1 1/4-inch tubing and to produce gas from the Basin-Dakota Gas Pool through the casing-tubing annulus by means of a cross-over assembly, with separation of zones by packers set at approximately 7290 feet and 6152 feet.

(3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(4) That approval of the subject application will prevent waste and protect correlative rights.

-2-

CASE No. 3648  
Order No. R-3308

IT IS THEREFORE ORDERED:

(1) That the applicant, Tenneco Oil Company, is hereby authorized to complete its Jicarilla "A" Well No. 8, located in Unit H of Section 17, Township 26 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, as a dual completion (conventional) to produce oil from the Tapacito-Gallup Associated Pool through 1 1/4-inch tubing and to produce gas from the Basin-Dakota Gas Pool through the casing-tubing annulus by means of a cross-over assembly, with separation of zones by packers set at approximately 7290 feet and 6152 feet;

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;


PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Basin-Dakota Gas Pool.

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

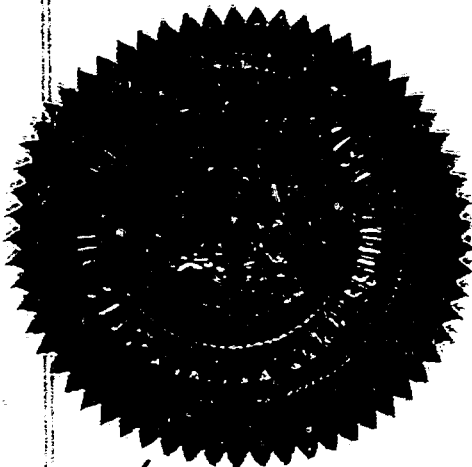
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

  
GUXTON B. HAYS, Member

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



esr/

OIL CONSERVATION COMMISSION  
AZTEC DISTRICT

61-2648  
DATE 8-10-67

OIL CONSERVATION COMMISSION  
BOX 871  
SANTA FE, NEW MEXICO

Re: Proposed NSP \_\_\_\_\_

Proposed NWU \_\_\_\_\_

Proposed NSL \_\_\_\_\_

Proposed NFO \_\_\_\_\_

Proposed DC XXX

Gentlemen:

I have examined the application dated 8-10-67

for the Tenneco Oil Company Jicarilla A #8 H-12-26N-5W  
Operator Lease and Well No. S-T-R

and my recommendations are as follows:

Approve Note the proper location of the gas-lift valves.

Yours very truly,

A. R. Kendrick  
A. R. Kendrick

MAIN OFFICE

'67 AUG 14 AM 8 43

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
APPLICATION FOR MULTIPLE COMPLETION

Form C-107  
5-1-61

Operator <b>Tenneco Oil Company</b>		County <b>Rio Arriba</b>	Date <b>8/10/67</b>
Address <b>P. O. Box 1714, Durango, Colorado</b>		Lease <b>Jicarilla "A"</b>	Well No. <b>8</b>
Location of Well <b>H</b>	Unit <b>17</b>	Township <b>26N</b>	Range <b>5W</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES Yes NO
2. If answer is yes, identify one such instance: Order No. MC - 1611; Operator Lease, and Well No.: Jicarilla "A"- 2

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	<b>Tapacito Gallup</b>		<b>Basin Dakota</b>
b. Top and Bottom of Pay Section (Perforations)	<b>6814-18</b>		<b>7312 - 7541</b>
c. Type of production (Oil or Gas)	<b>Oil</b>		<b>Gas</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Gas Lift</b>		<b>Flwg</b>

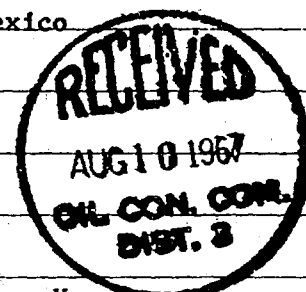
4. The following are attached. (Please check YES or NO)

- |                                     |                          |   |
|-------------------------------------|--------------------------|---|
| Yes                                 | No                       |   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.   |
| <input type="checkbox"/>            | <input type="checkbox"/> | c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*  |
| <input type="checkbox"/>            | <input type="checkbox"/> | d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112A.)  |

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Humble Oil and Refining, Lincoln Tower Bldg., Denver, Colorado

Pan American Petroleum, 501 Airport Drive, Farmington, New Mexico



6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO. If answer is yes, give date of such notification August 10, 1967.

CERTIFICATE: I, the undersigned, state that I am the Agent of the Tenneco Oil (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

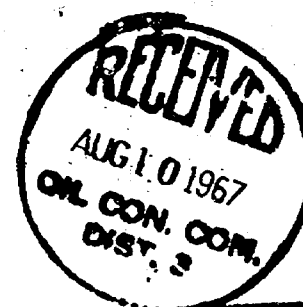
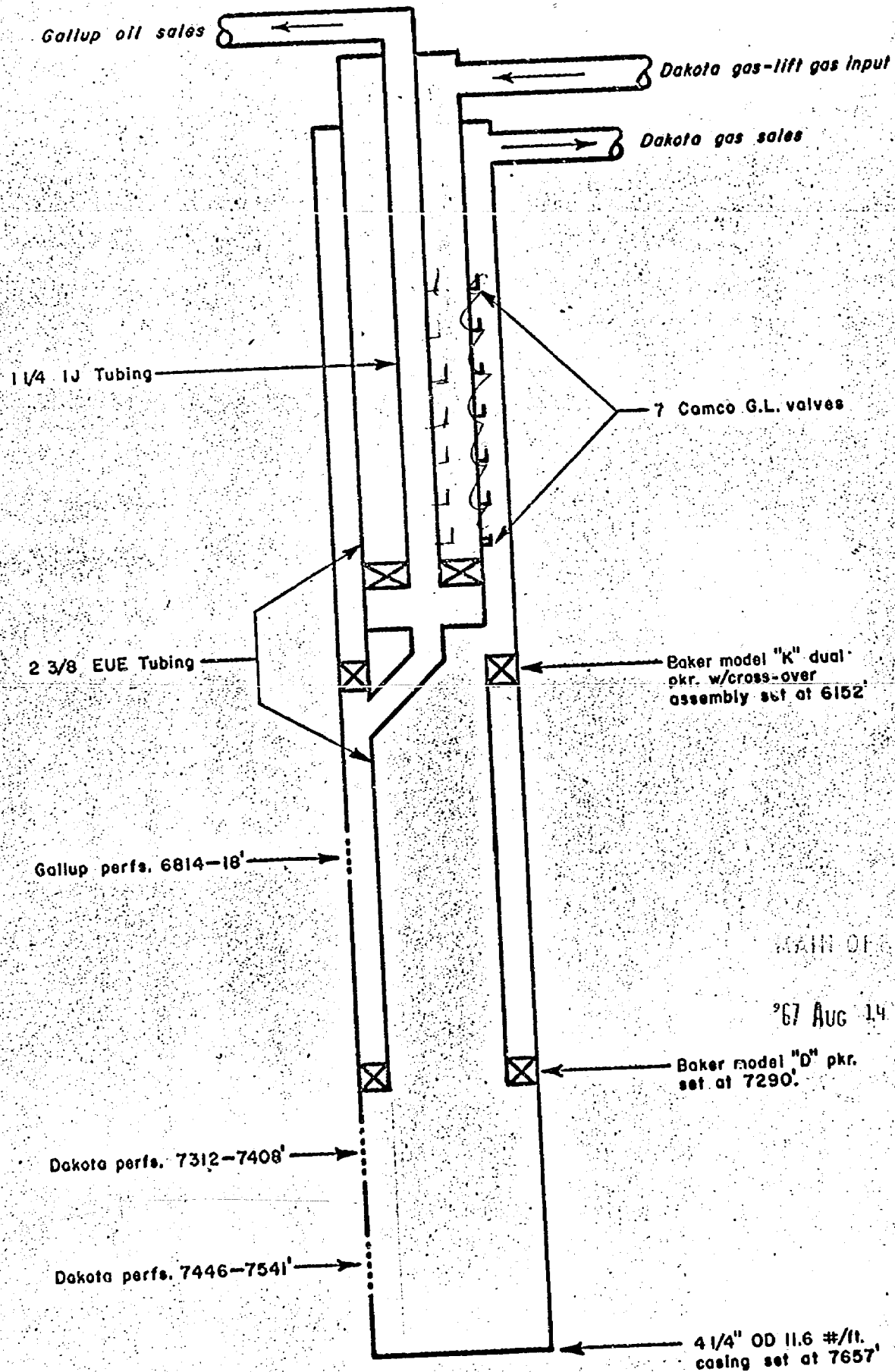
M. K. Wagner  
M. K. Wagner

Signature

\*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

TENNECO OIL COMPANY  
Durango District  
COMPLETION SCHEMATIC  
JICARILLA A-8



DOCKET NO. 26-67

DOCKET: SPECIAL HEARING - WEDNESDAY - AUGUST 30, 1967

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

CASE 3644: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the revision of Paragraph (1) of Order No. R-3221, to provide that the effective date for the prohibition of surface disposal of produced water from the North Bagley-Upper Pennsylvanian, North Bagley-Middle Pennsylvanian, North Bagley-Lower Pennsylvanian, North Bagley-Wolfcamp, and Northeast Bagley-Wolfcamp Pools, Lea County, New Mexico, or within one mile thereof, be changed from November 1, 1967, to some earlier date.

NOTE: A COPY OF THIS DOCKET WAS MAILED TO ALL PRODUCERS IN THE ABOVE-MENTIONED POOLS ON AUGUST 11, 1967.

DOCKET NO. 27-67

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 6, 1967

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 Elvis A. Utz, Alternate Examiner:

CASE 3431 (Reopened and continued from the August 9, 1967 Examiner Hearing)

In the matter of Case 3431 being reopened pursuant to the provisions of Order No. R-3100 to permit Sinclair Oil & Gas Company to show cause why its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

CASE 3645: Application of Skelly Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Lazy "J" Pennsylvanian Pool, including a provision for 80-acre spacing units for that area east of a line drawn through the centers of Sections 26 and 35, and south of a line drawn along the south line of Sections 33, 34, and 35, all in Township 13 South, Range 33 East, Lea County, New Mexico.

CASE 3646: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Delaware Sand through 12 wells in the Cotton Draw Unit Participating Area and through 3 wells on off-setting leases in Sections 10, and 28, Township 25 South, Range 32 East, Paduca-Delaware Pool, Lea County, New Mexico.

CASE 3647: Application of Tenneco Oil Company for two waterflood projects, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute two waterflood projects by the injection of water into the Delaware Sand through two wells on its State Monsanto Lease, in Section 16, and through one well on its J. D. Sena, Jr. Lease, in Section 28, both in Township 25 South, Range 32 East, Paduca-Delaware Pool, Lea County, New Mexico.

CASE 3648: Application of Tenneco Oil Company for a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Jicarilla "A" Well No. 8 located in Unit H of Section 17, Township 26 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of Tapacito-Gallup oil and Basin-Dakota gas through tubing, and the casing-tubing annulus, respectively, by means of a cross-over assembly.

CASE 3649: Application of Texas Pacific Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Ella Drinkard Well No. 2 located in Unit E of Section 25, Township 22 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from an undesignated Ellenburger pool and from another undesignated pool, either pre-Ellenburger or Granite Wash, through parallel strings of tubing.

CASE 3650: Application of Albert Gackle for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Jalmat and South Eunice Pools in the well-bore of his Esmond "B" Well No. 3 located in Unit H of Section 33, Township 22 South, Range 36 East, Lea County, New Mexico, with the assignment of a single allowable to said commingled production.

CASE 3635 (Corrected Notice):

Case 3635, Application of Cities Service Oil Company for an Exception to Order No. R-3221, Chaves County, New Mexico, was heard by the Commission on August 16, 1967. This notice is being given and the case will be re-opened to correct the location of one of the surface pits which were the subject of the hearing. The correct location of said pit is Unit E of Section 2, Township 14 South, Range 31 East, Chaves County, New Mexico, rather than Unit L of Section 2 as previously advertised.

CASE 3651: Application of Olen F. Featherstone for the creation of a new pool and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Permo-Pennsylvanian pool for his Mobil-State Well No. 1 located in Unit E of Section 32, Township 14 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre proration units.

CASE 3652: Application of Depco, Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Artesia Unit Area comprising 2400 acres, more or less, of State lands in Townships 17 and 18 South, Range 28 East, Eddy County, New Mexico.

CASE 3653: Application of Depco, Inc. for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Artesia Unit Area by the injection of water into the Grayburg formation through 15 wells, Artesia Pool, Eddy County, New Mexico.

CASE 3654: Application of Mobil Oil Corporation for a waterflood expansion and for an amendment of Order No. R-1244, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Bridges-State Waterflood Project by the conversion to water injection of its Bridges-State Wells Nos. 63 and 73 in Units K and G of Section 13; Wells Nos. 3 and 6 in Units O and E of Section 23; Well No. 47 in Unit K of Section 24; Well No. 5 in Unit C of Section 26, and Well No. 52 in Unit A of Section 27; its State G Well No. 3 in Unit G of Section 24 and State J Wells Nos. 1 and 4 in Units I and A of Section 22, all in Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.

Applicant further seeks the amendment of Order No. R-1244 to provide that future operation and expansion of said project would be subject to the provisions of Rule 701-E of the Commission Rules and Regulations.

ir/

**TENNECO OIL COMPANY**

A Major Component of Tenneco Inc.

P.O. BOX 1714 • 835 SECOND AVENUE • DURANGO, COLORADO 81302



September 7, 1967

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

Attention: Mr. Daniel S. Nutter

*file*  
Re: Case 3648 Application for  
Dual Completion,  
Jicarilla "A" No. 8,  
Rio Arriba County, New Mexico.

Gentlemen:

During the above mentioned hearing Mr. Nutter requested the previously issued Order Number concerning dual completion of Callow No.12, subsequently Central Totah Unit No. 12. A standard parallel string dual completion was allowed in Totah Unit No.12 by Order No. DC 9 06 on March 10, 1960. The Gallup Sand was successfully depleted through a 1½" tubing string inside 2-3/8" tubing as is shown in the attached diagram.

Yours very truly,

TENNECO OIL COMPANY

*R. E. Siverson*

R. E. Siverson  
District Production Superintendent

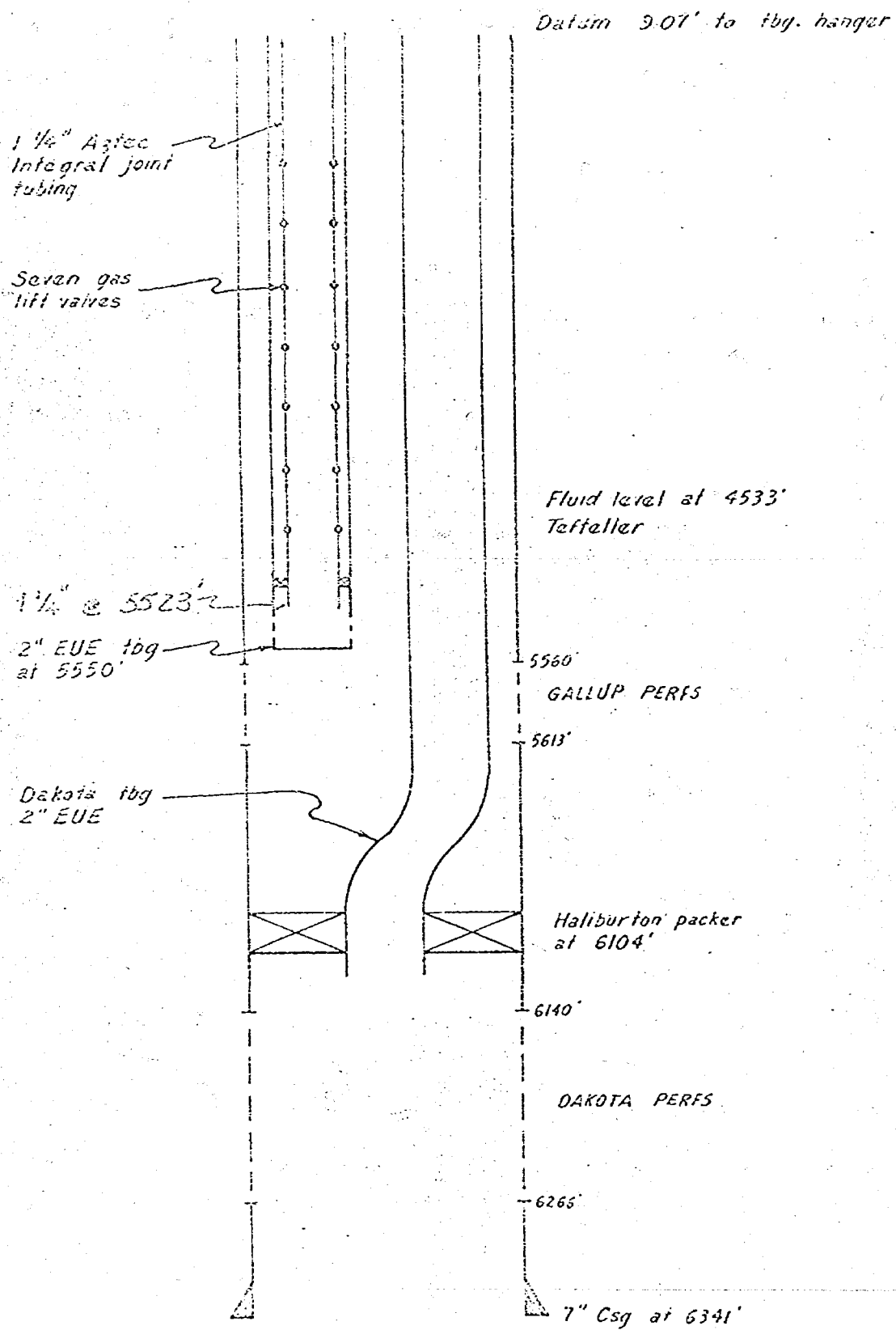
MAIN OFFICE

SEP 11 AM 8 10

JW/jh

Attachment

# Central Totah Unit No. 12



MAIN OFFICE OF  
'67 SEP 11 AM 8 1

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 6, 1967

EXAMINER HEARING

-----  
IN THE MATTER OF: )

Application of Tenneco Oil Company )  
for a dual completion, Rio Arriba )  
County, New Mexico. )

Case No. 3648

-----  
BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 3648.

MR. HATCH: Case 3648: Application of Tenneco Oil Company for a dual completion, Rio Arriba County, New Mexico.

MR. KELLY: Booker Kelly on behalf of the Applicant, Tenneco. We have one witness and ask that he be sworn.

(Witness sworn.)

(Whereupon, Tenneco's Exhibits 1 through 3 were marked for identification.)

JACK WILLOCK

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, position and employer?

A My name is Jack Willock. I am employed by Tenneco as a petroleum engineer in the Durango, Colorado District.

Q You have previously been accepted as an expert witness in the field of petroleum engineering before this Commission?

A Yes, sir, I have.

Q Would you state what Tenneco seeks by this

application?

A Tenneco seeks approval to produce the Tapacito-Gallup oil sand and the Basin-Dakota gas sand through tubing and casing-tubing annulus by means of a cross-over assembly. This is in the Jicarilla "A" 8 well.

Q Referring to Exhibit 1, that is a location plat, could you identify the well, please?

A Jicarilla Well "A" 8 is in the Northeast Quarter of Section 17, Township 26 North, Range 5 West, Rio Arriba County, New Mexico.

Q Now I notice that that well apparently is the only one that is dually completed.

A No, it's not true. Do you remember our key code here? We've set up the San Juan Basin code showing how wells are completed; if the circle is filled in from twelve to three o'clock it's Pictured Cliff, if three to six o'clock, Mesa Verde, from six to nine is Gallup and from nine to twelve is Dakota. So by the key code here on this sheet, from six to nine is the Gallup and from nine to twelve is the Dakota dual. You will see in Section 16, Jicarilla Well B-7 is also completed in the same zone.

Q What is the present status of the well?

A The Gallup zone is producing and the Dakota zone

is shut-in with the exception we are using some gas lift gas occasionally. The Dakota zone is essentially shut-in waiting approval of dual completion order by this Commission.

Q Now, you have prepared for the Commission a log of the well, is that correct?

A Right.

Q That's Exhibit No. 2?

A It's merely to show the two zones and their relationship to each other. The Gallup sand is completed at approximately 6800 feet and the Dakota sand is completed from immediately below 7300 feet down to 7540, approximately.

Q Now, on Exhibit No. 3 you have your diagrammatic sketch. Could you explain the installation that is proposed here?

A Yes, sir. We began at the bottom, Dakota perforations from 7312 to 7541 at the bottom of the pole inside 4-1/2-inch OD casing. I notice it's marked 4-1/4, it's actually 4-1/2. Baker Model D packer set at 7290 feet, that's a permanent packer. There's a Baker Model R dual retrievable packer with a cross-over assembly set at 6152 feet. The well is tubed from the Baker Model D packer completely to the surface with 2-3/8ths-inch OD tubing above the cross-over and in the 2-3/8ths-inch tubing there is

another tubing string set at 5277 with a National packer and pump hold-down. This is a 1-1/4th-inch OD tubing string. On this string there are seven Camco gas lift valves, if you would like to go through the color code. The Dakota perforations produce into the bottom part of the 2-3/8ths-inch into the interior part of the 2-3/8ths-inch OD tubing up and this flow proceeds up to the cross-over at 6152 feet wherein it crosses over into the annulus and flows up to the surface. The Gallup sand production comes from perforations at 6814 into the annulus, annular space between the 2-3/8ths-inch tubing and 4-1/2-inch casing. It crosses over in the Baker Model R packer to the inside portion of the 2-3/8ths-inch tubing and from there goes to the surface.

In order to be able to sustain production we installed small tubing string and the gas lift valves. We take the Dakota gas at the surface and meter it and put it back in in the pea green colored stream wherein it goes down this annular space and into the gas lift valves and back up to the surface, lifting the Gallup oil out. It's not shown here but there is a standing valve set in this National packer and pump hold-down which prevents any Dakota gas from going back down into the Gallup sand should we have some kind of leak. We have run packer leakage tests and had these

approved by the Commission.

Q Do you feel that the installation you have shown here will effectively separate the two zones?

A Yes, sir.

Q And you feel that the smaller tubing for the Gallup sand with the gas injection can be effectively and efficiently produced?

A Yes, sir. We have some previously submitted a test to the Commission at Aztec showing the well to be producing 213 barrels of water a day through this tubing string, after we kicked it off it flowed 213 barrels of oil a day with 1400 gas-oil ratio.

Q Are there similar approved completions in the San Juan Basin?

A Yes, sir. In fact, we removed part of this equipment from one of them that we have been using, the Totah No. 12 well in Totah-Gallup. It's a Totah-Gallup-Basin-Dakota dual completion in San Juan County.

MR. NUTTER: What order number approved that well?

THE WITNESS: Sir, I don't know.

MR. NUTTER: How do you know it's an approved well then?

THE WITNESS: I'd think we'd be in pretty bad trouble if we had been producing a well for four or five years.

MR. KELLY: We can find it out.

MR. NUTTER: I would appreciate which order number that was that approved that well.

MR. KELLY: I think there are some other similar completions also, aren't there?

THE WITNESS: Yes, right.

Q (By Mr. Kelly) If this application is denied, would it be economically prudent to complete these two zones through two separate wells by drilling another well?

A The Gallup sand, as you can see on the log, is only six to eight feet thick in this area and it will be extremely risky and a marginal economic venture at best.

Q So the probable alternative to denial of this application would be shutting-in of one of these zones?

A That's correct.

Q And in your opinion would that cause waste by leaving otherwise recoverable oil in place?

A Yes, sir.

Q Or gas?

A Yes, sir.

Q Were Exhibits 1 through 3 prepared by you or under your supervision?

A Yes, sir, they were.

MR. KELLY: I move the introduction of Exhibits 1 through 3.

MR. NUTTER: Tenneco's Exhibits 1 through 3 will be admitted in evidence.

(Whereupon, Tenneco's Exhibits 1 through 3 were offered and admitted in evidence.)

Q (By Mr. Kelly) Do you have anything further you would like to add in this case?

A No, sir.

MR. KELLY: That's all we have on direct.

CROSS EXAMINATION

BY MR. NUTTER:

Q You stated that there was a similar installation, this Totah No. 12, is that particular installation one in which the cross-over assembly is set 662 feet above the uppermost perforation?

A No, sir.

Q We have got that much annular flow here, though?

A Right. The uppermost Gallup perforation is 6814. The top of the Baker packer is at 6152, which is about 650

feet. Now that, what we have there is an accumulation chamber and it prevents us from having vast surges into the zone. If we set down real close and went directly into the one-inch and lifted off there would be no room for expansion down there.

Q What kind of a packer is this at 6152?

A It's an R.

Q It's an R?

A Yes, I do have.

Q Is that a retrievable?

A That's a retrievable.

Q If your fluid level should stand too low you can drop the packer down and your cross-over?

A We would have to pull the assembly out, the two-inch tubing, and run it and set it lower.

Q Your uppermost or your lowermost gas lift valve is at 5241, so that's approximately 1516 hundred feet above the uppermost perforation?

A Yes. We can lower that by pulling --

Q The macaroni string?

A Right. So we are flexible here.

Q Now the gas that's going to gas lift this Gallup gas is Dakota gas?

A Yes, sir.

Q It will be metered?

A Yes, sir, both --

Q And your Gallup gas will be metered on sale?

A Yes.

Q Which will be a combined Gallup gas and Dakota gas lift gas?

A Correct. We had this well completed as a single for a number of months and about two months ago we dually completed it and we produced the Gallup since last December and have had flare orders approved by the Commission allowing us, but now we're selling all gas from the well.

Q It was originally a Dakota well?

A It was originally completed in the Gallup.

Q And you deepened it to the Gallup?

A It was completed in both zones with a packer with a bridge plug above the Dakota and we did extensive testing to the Gallup. Now we'll come back and dual complete the well.

Q The Dakota is now shut-in?

A Yes, sir, awaiting the approval of this order.

Q So the Dakota never has produced here except for testing purposes?

A That is correct.

Q When was it originally completed?

A In December last year, '66.

Q How much has the well produced?

A 21,200 odd barrels at the first of last month.

That was at the end of July, the first of August.

Q And now with this gas lift equipment you potentialled it and it made over 200 barrels?

A Yes, we kicked it off with it. I don't expect the thing to sustain 200 barrels a day but as bottomhole pressure drops and GOR goes up, why I expect the capability of this well to drop rather rapidly.

Q Is it a pretty good well in the Dakota?

A We haven't run final tests on it. About three million AOF, which isn't an exceptional well.

MR. NUTTER: Are there any other questions of Mr. Willock? He may be excused.

(Witness excused)

MR. NUTTER: Do you have anything further, Mr. Kelly?

MR. KELLY: Nothing.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3648? We will take the case under advisement.

I N D E XWITNESSPAGE

JACK WILLOCK

Direct Examination by Mr. Kelly

2

Cross Examination by Mr. Nutter

8

EXHIBITSMARKEDOFFERED AND  
ADMITTED

Tenneco's 1 through 3

2

8

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

I, ADA DEARNLEY, 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.

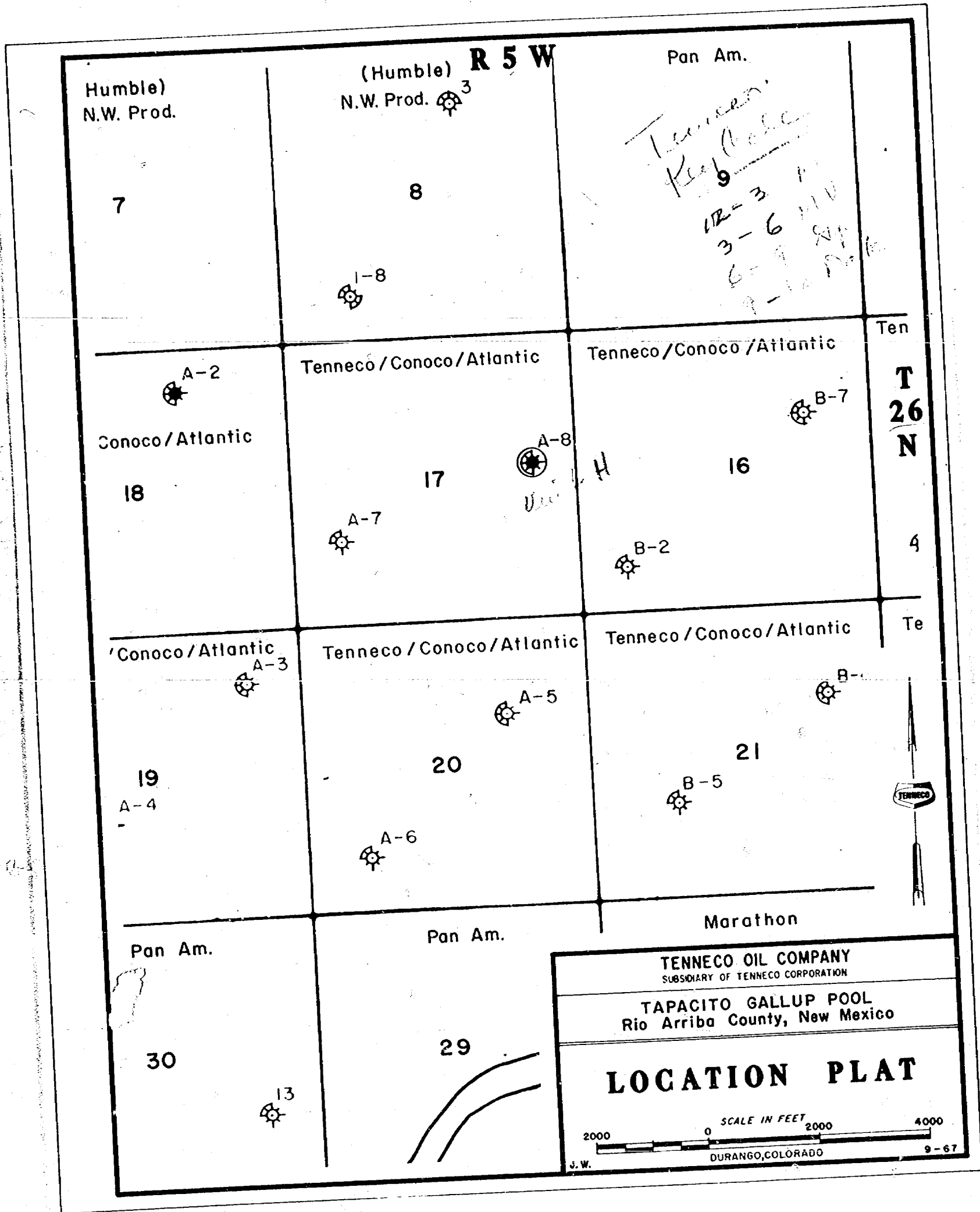
Witness my Hand and Seal this 28th day of September, 1967.

Ada Dearnley  
 NOTARY PUBLIC

My Commission Expires:  
 June 19, 1971.

I do hereby certify that the foregoing is  
 a complete record of the proceedings of  
 the New Mexico Oil Conservation Commission, Case No. 3648,  
 heard by me on 9/6, 1967.

James E. Freas, Secretary  
 New Mexico Oil Conservation Commission



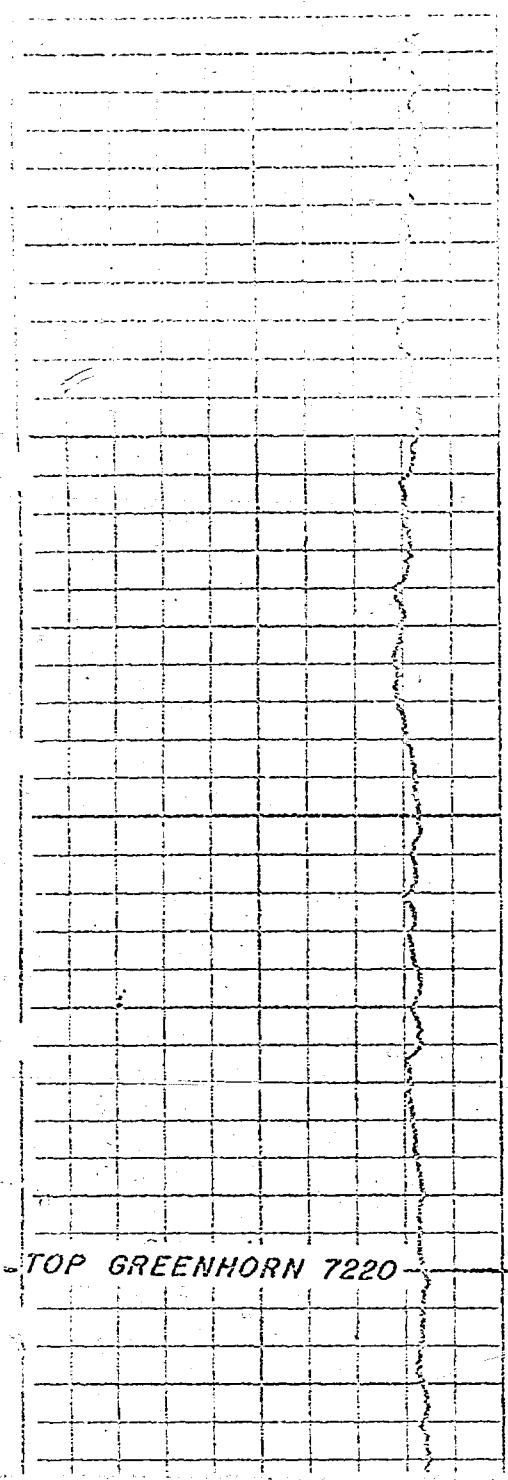
TEXAS OIL COMPANY  
Bureau Office  
HOUSTON, TEXAS

TOP GALLOP 5100

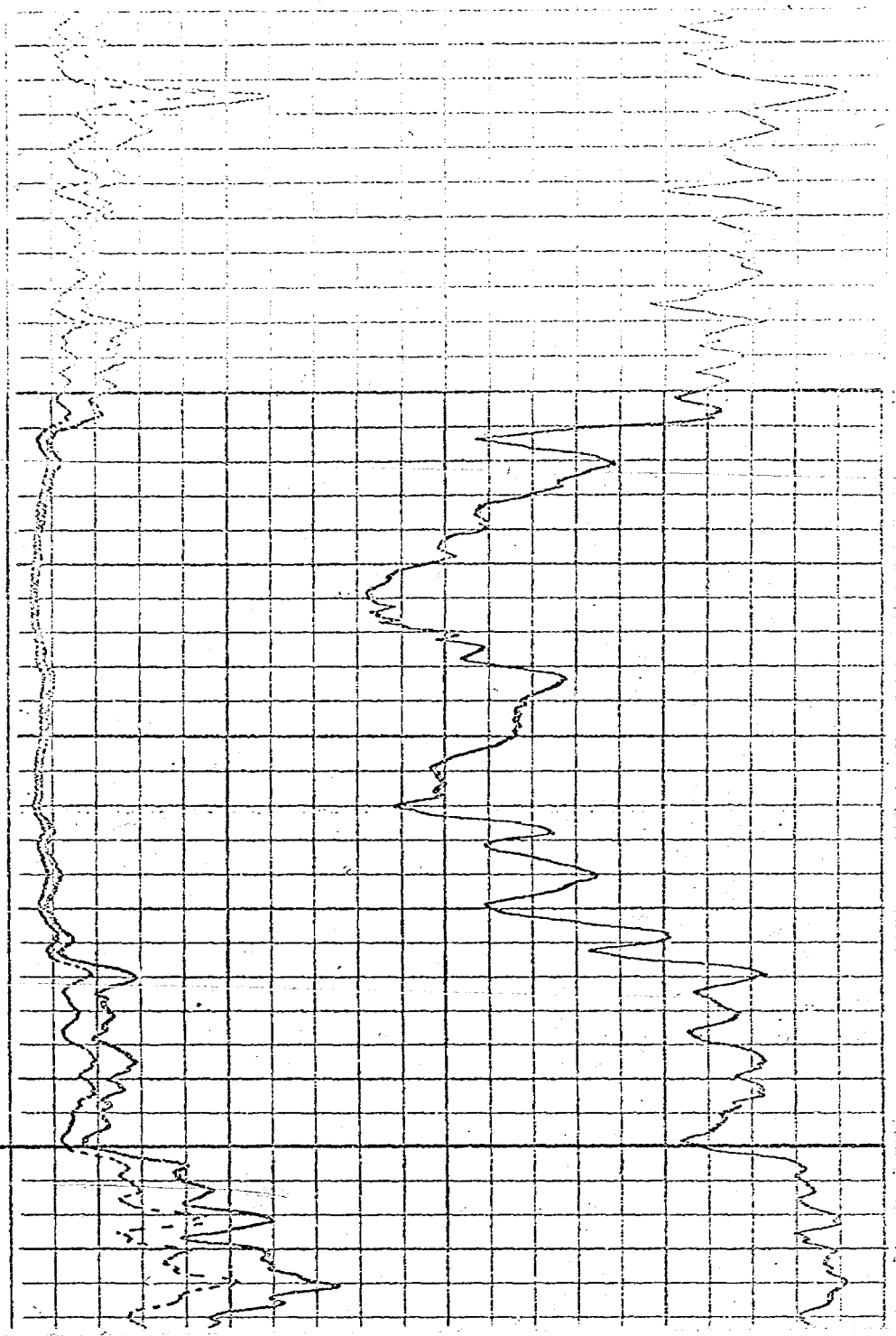
BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 2  
CASE NO. 3648

FRAC'D #19,000 #  
20-40 & 20,000 gal.  
Crude

16 holes



6900  
7000  
7100  
7200



TOP DAKOTA 7300

FRAC'D w/45,000 #  
20-40 & 50,000 gal.

FRAC'D w/75,000 #  
20-40

7300

18 holes

7400

10 holes

12 holes

2 holes

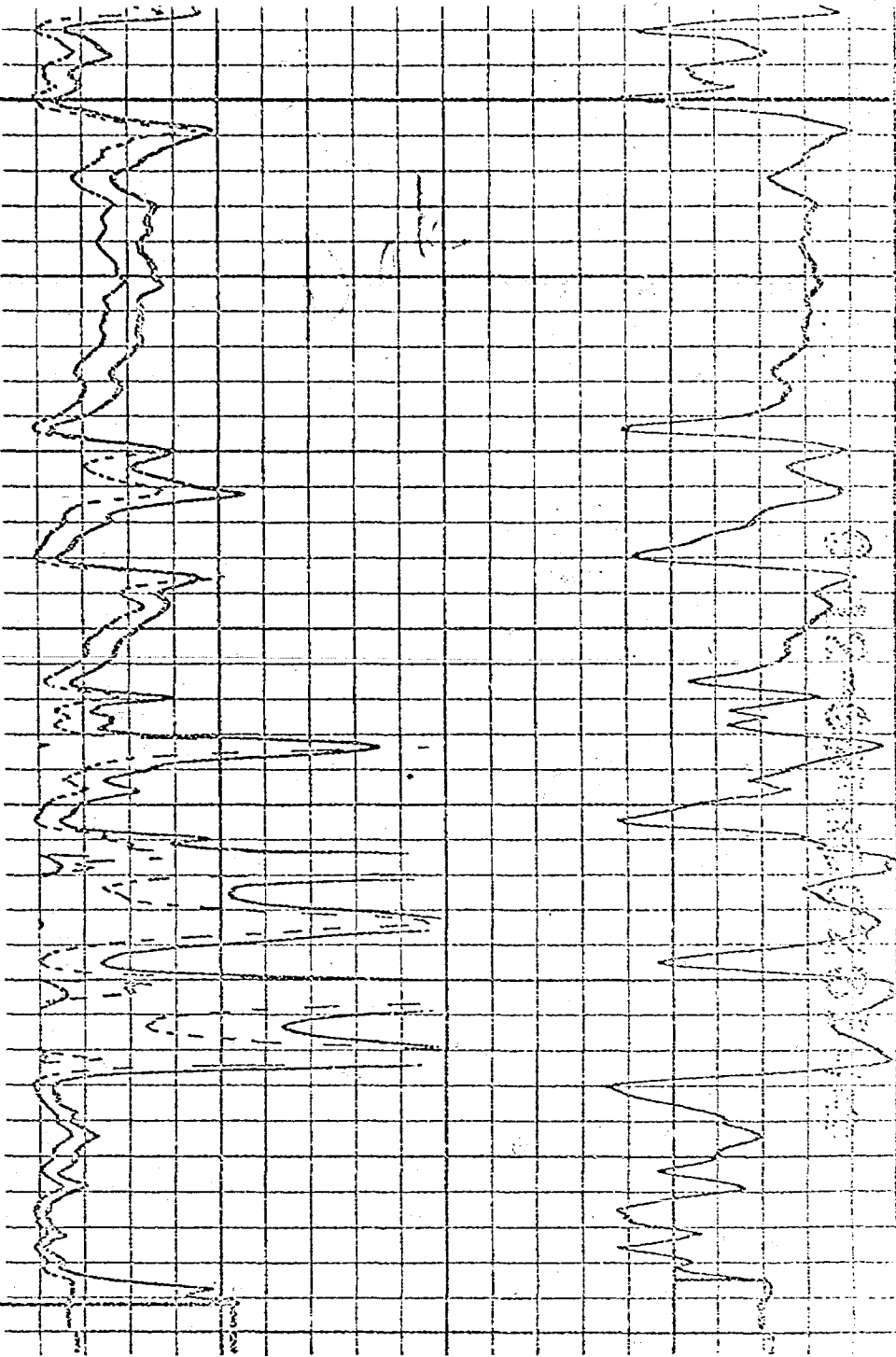
6 holes

7500

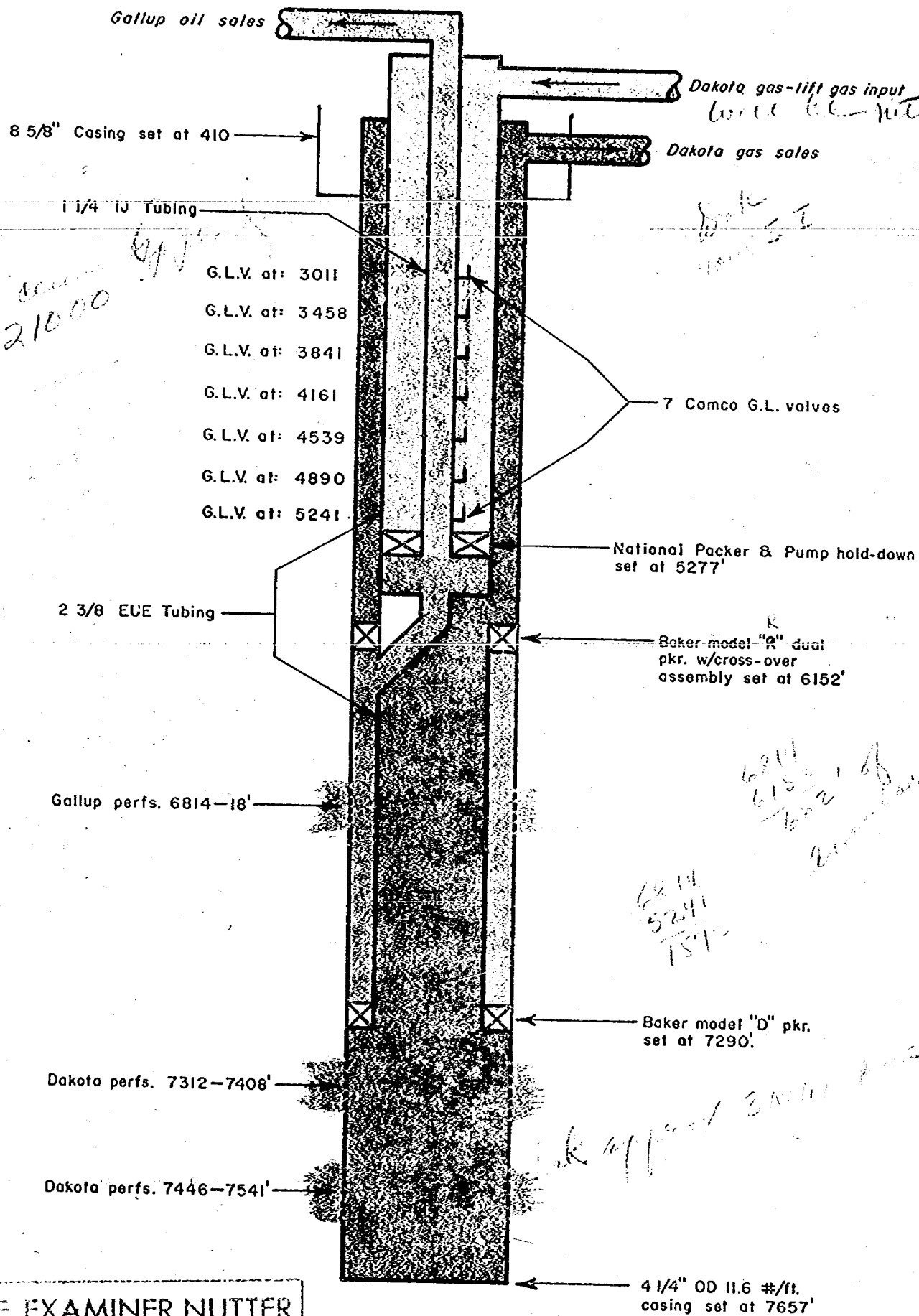
6 holes

1 holes

7600



TENNECO OIL COMPANY  
Durango District  
COMPLETION SCHEMATIC  
JICARILLA A-8



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. *3*  
CASE NO. *3648*