

CASE 3575: Application of HARVEY  
E. YATES for a triple completion, \_\_\_\_\_  
Eddy County, New Mexico.

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17 18 19

CASE No.  
3575

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



P. O. BOX 2088  
SANTA FE

June 8, 1967

LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

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

Mr. A. J. Losee  
Losee & Stewart  
Attorneys at Law  
Post Office Box 239  
Artesia, New Mexico

Re: Case No. 3575  
Order No. R-3255  
Applicant:  
HARVEY E. YATES

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.*  
A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x  
Artesia OCC x  
Aztec OCC \_\_\_\_\_  
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. 3575  
Order No. R-3255

APPLICATION OF HARVEY E. YATES  
FOR A TRIPLE COMPLETION, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 24, 1967,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 8th day of June, 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, Harvey E. Yates, seeks approval for  
the triple completion of his Stebbins Deep Federal Well No. 1,  
located in Unit H of Section 30, Township 20 South, Range 29 East,  
NMPM, Eddy County, New Mexico, to produce oil from the Scanlon-  
Delaware Oil Pool through one string of tubing and to selectively  
produce gas from an undesignated Strawn gas pool and from an  
undesignated Morrow gas pool through another string of tubing.

(3) That the oil production zone will be segregated from  
the gas zones by packers set at approximately 3304 feet and  
10,476 feet and a choke plug installed in the oil production  
string.

(4) That the Strawn gas zone will be segregated from the  
Morrow gas zone by a packer set at approximately 11,250 feet,

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CASE No. 3575

Order No. R-3255

sliding doors installed in the gas production string between the 10,476-foot and 11,250-foot packers and an Otis "PN" plug installed in the gas production string below the 11,250-foot packer.

(5) That the mechanics of the proposed triple completion are feasible and in accord with good conservation practices provided the operation of the subject well is conducted in a manner to ensure there will be no communication, within the well bore, among the various pools.

(6) That to ensure there is no communication between the two gas zones in the subject well, one gas zone should be depleted before production from the other gas zone is begun.

(7) That the subject well is a marginal producer in the Morrow zone.

(8) That approval of the subject application should result in the recovery of otherwise unrecoverable hydrocarbons, thereby preventing waste.

(9) That an administrative procedure should be established whereby the operator of the subject well can receive authority to change gas production from one gas zone to the other gas zone upon depletion of the gas zone first produced.

IT IS THEREFORE ORDERED:

(1) That the applicant, Harvey E. Yates, is hereby authorized to complete his Stebbins Deep Federal Well No. 1, located in Unit H of Section 30, Township 20 South, Range 29 East, NMPM, Eddy County, New Mexico, as a triple completion to produce oil from the Scanlon-Delaware Oil Pool through one string of tubing and to produce gas from an undesignated Strawn gas pool and an undesignated Morrow gas pool through a second string of tubing with separation of zones by packers set at approximately 3304 feet, 10,476 feet, 11,250 feet, a choke plug installed in the oil production string, and sliding doors and an Otis "PN" plug installed in the gas production string;

PROVIDED HOWEVER, that the operator of the subject well shall produce one gas zone to depletion before commencing production from the other gas zone;

PROVIDED FURTHER, that the operator of the subject well shall, prior to commencement of production, notify the Artesia District

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CASE No. 3575  
Order No. R-3255

Office of the Commission in writing which gas zone in the subject well is to be produced first and shall not produce the other gas zone without prior approval by the Commission;

PROVIDED FURTHER, that it shall be the responsibility of the operator of the subject well to contact the Artesia District Office of the Commission prior to commencement of production from the subject well in order that the Commission can witness the shutting in of one gas zone.

(2) That the Secretary-Director of the Commission is hereby authorized to approve the changing of gas production from one zone to the other zone in the subject well.

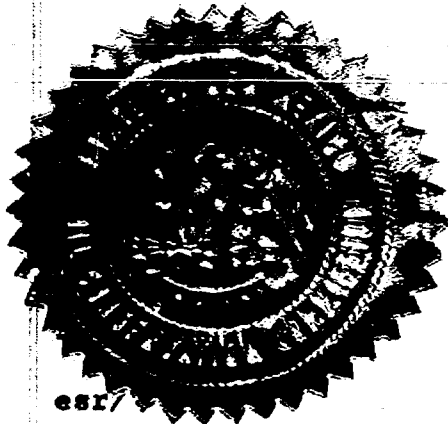
To obtain administrative approval to change gas production from one zone to the other zone, the operator of the subject well shall notify the Commission in writing that one zone has been depleted.

(3) That it shall be the responsibility of the operator of the subject well to contact the Artesia District Office of the Commission prior to the changing of gas production from one zone to the other zone in order that the Commission can witness the changeover.

(4) 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.

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

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



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*David F. Cargo*  
DAVID F. CARGO, Chairman

*Guyton B. Hays*  
GUYTON B. HAYS, Member

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

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

Form C-107  
5-1-61

Case 3575

Operator Harvey E. Yates		County Eddy		Date April 27, 1967
Address 305 Carper Bldg., Artesia, N. Mex.		Lease Stebbins Deep Federal		Well No. 1
Location of Well	Unit H	Section 30	Township 20S	Range 29E

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 \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_; Operator Lease, and Well No. \_\_\_\_\_

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Scanlon Delaware	Strawn	Morrow
b. Top and Bottom of Pay Section (Perforations)	3,195-3,357 3238-3240; 3339-3341.5	10,364-10,598 10,521-25; 10,535-38; 10,575-77	10,922-11,838 11,276-333 11,401-411
c. Type of production (Oil or Gas)	Oil	Gas	Gas
d. Method of Production (Flowing or Artificial Lift)	Pump	Flow	Flow

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 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 checked="" 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 112-A.)   |

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

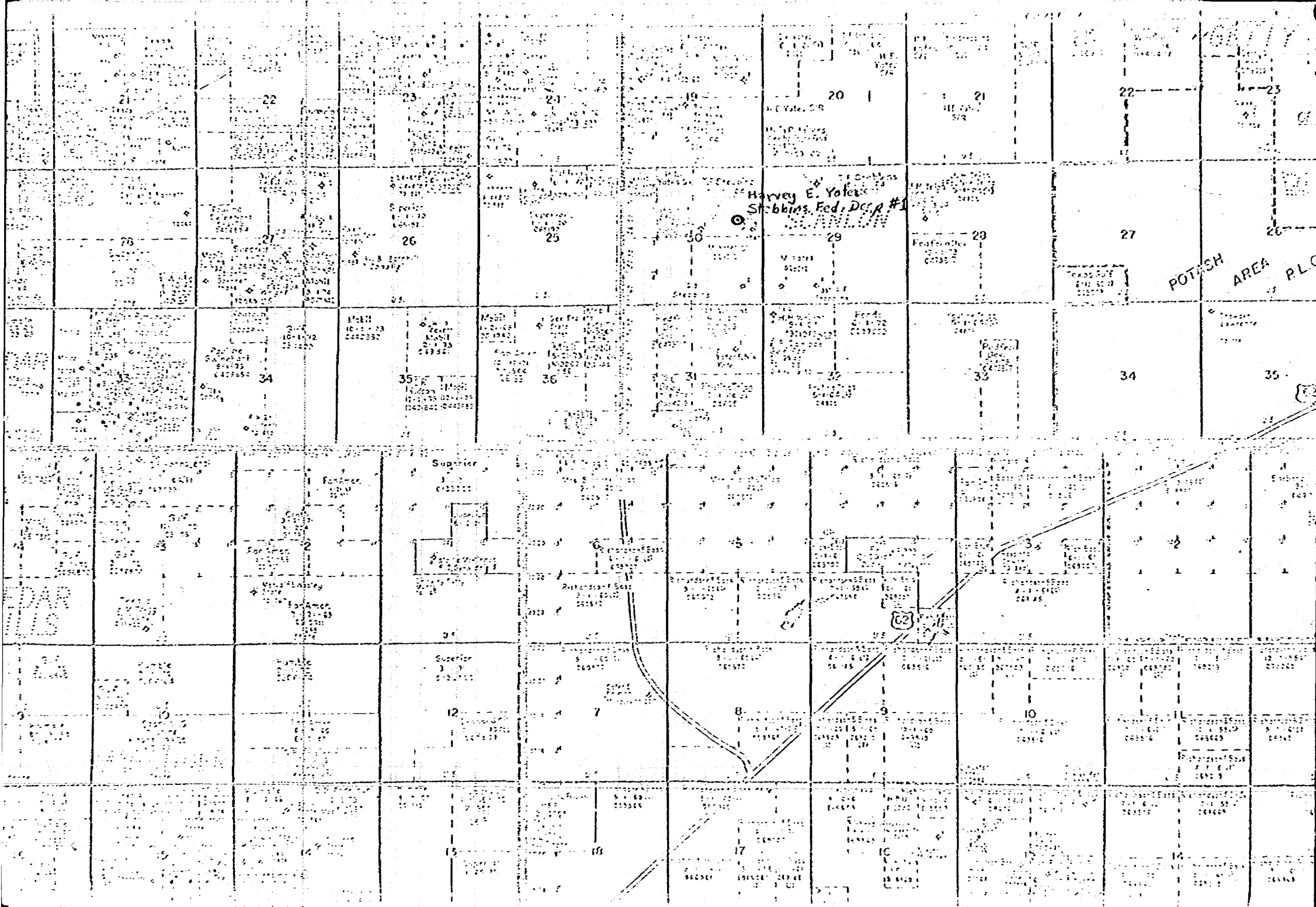
6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES \_\_\_\_\_ NO X . If answer is yes, give date of such notification \_\_\_\_\_.

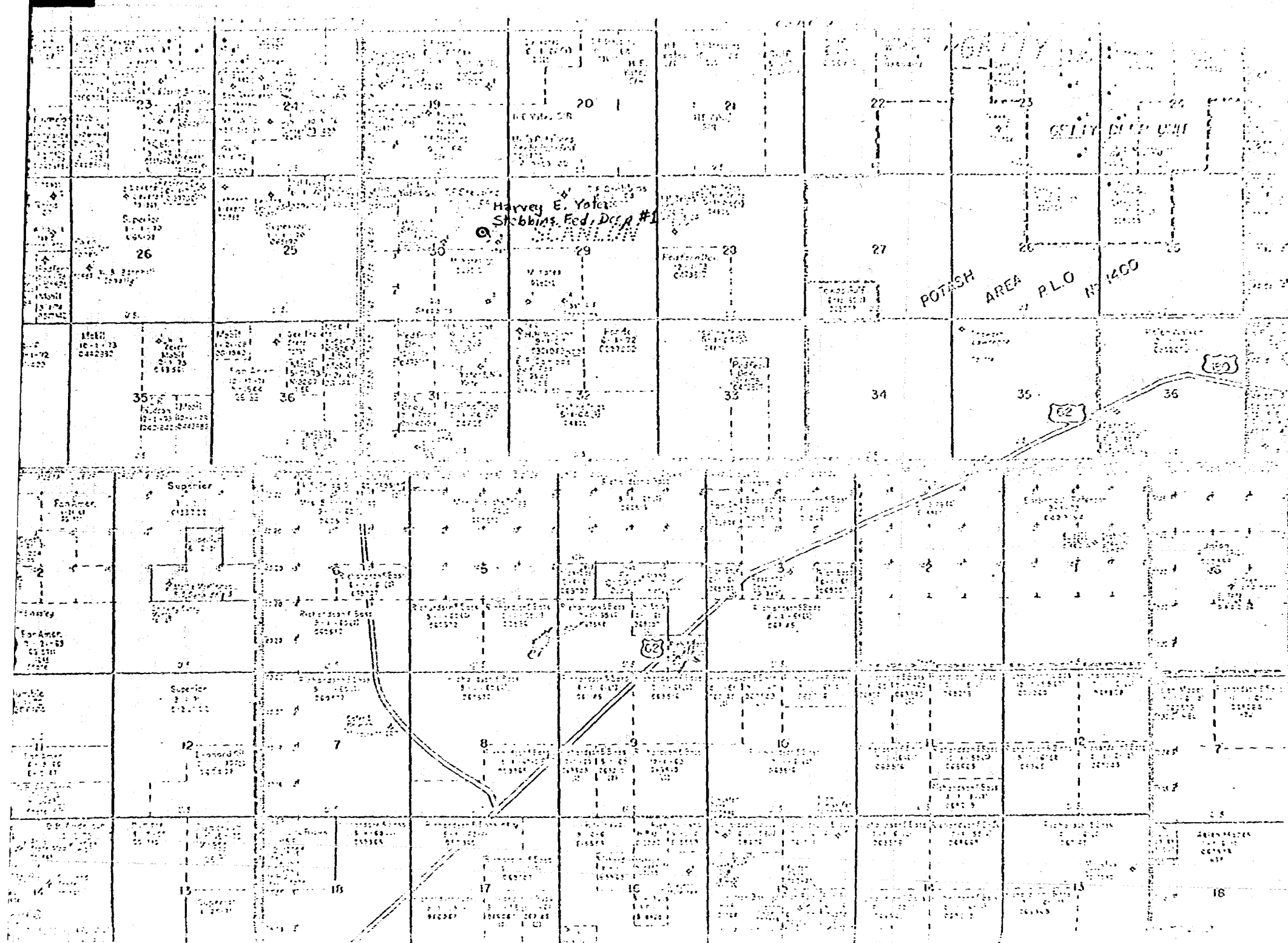
CERTIFICATE: I, the undersigned, state that I am the \_\_\_\_\_ Agent of the Harvey E. Yates \_\_\_\_\_ (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and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

  
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 perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.





EQUIPMENT DESCRIPTION

Otis "WA" Packer --- A permanent (drillable) packer that was set by Lane Wells electric wire line. Pressure rating 10,000 psi differential pressure and 350° F. It is comparable to Baker's Model "D" packer.

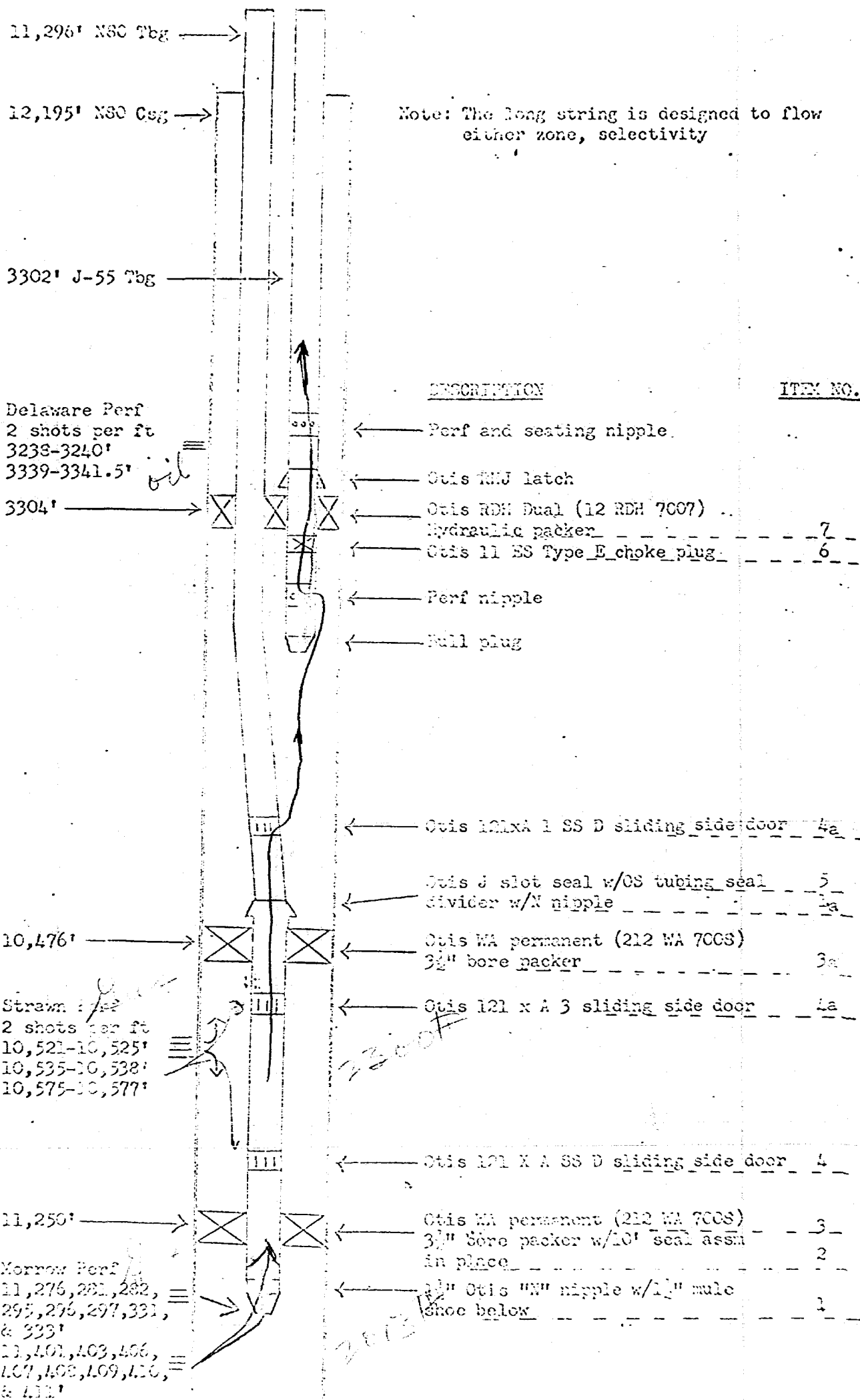
Otis Seal Unit----- Used to effect a seal between the bore of the "WA" packer and the tubing. The seal element used to effect a seal in the upper "WA" is a continuous group of seals of the same type used on the seal unit. The unit is N-80 grade plus with a working pressure rating of 13,000 psi.

Otis "RDH" Packer--- This packer is a hydraulic set, retrievable production packer that set by applying pressure. It is rated for 7,500 psi differential.

Otis Sliding Side Door----- This tool was installed in the tubing string (items 4 and 4<sub>2</sub>). It was run to allow selective production and to displace fluids after Christmas tree installation. It is rated at 10,000 psi working pressure. The comparable tool is Baker psi Model "L".

WILKINSON, MARY  
 OPERATING NO. 1  
 SECTION 30-20-29, DEW COUNTY, NEW MEXICO

SITUATION #1  
 SITUATION #1



SITUATION 12

11,296' NSO Tbg →

12,195' NSO Csg →

Note: The long string is designed to flow either zone, selectivity

3302' J-55 Tbg →

Delaware Perf  
 2 shots per ft  
 3238-3240'  
 3339-3341.5'

3304' →

DESCRIPTION

ITEM NO.

← Perf and seating nipple

← Otis RSW latch

← Otis RDH Dual (12 RDH 7007)

← Hydraulic packer

← Otis 11 ES Type E choke plug

← Perf nipple

← Bull plug

← Otis 121xA 1 SS D sliding side door 4a

← Otis J slot seal w/OS tubing seal divider w/N nipple 5 3a

10,476' →

← Otis WA permanent (212 WA 7008) 3/2" bore packer 3a

Strawn Perf  
 2 shots per ft  
 10,521-10,525'  
 10,535-10,538'  
 10,575-10,577'

← Otis 121 x A 3 sliding side door 4a

← Otis 121 X A SS D sliding side door 4

11,250' →

← Otis WA permanent (212 WA 7008) 3/2" bore packer w/10' seal assm in place 3 2

Morrow Perf  
 11,276,281,282,  
 295,296,297,331,  
 & 333'  
 11,401,403,406,  
 407,408,409,410,  
 & 411'

← 1 1/2" Otis "N" nipple w/1 1/2" mule shoe below 1

Case 3575

Heard. 5-24-67

Rec. 6-1-67

1. Grant H. Gates permission Dual complete this Stebbins Deep Dred. #1 H. Sec. 30. 20S-29 E Edley Co. in accordance with ~~Exhibit~~ #3 of this case.

2. The well may be completed to produce the <sup>Seafloor</sup> Delaware oil zone and ~~and~~ either the Strawn or Monow Gas zone. The operator shall notify the commission in writing as to which zone is to be produced first and shall satisfy the commission with witness that their well is produce from only the Strawn Gas zone or only the Monow Gas zone. The zone selected shall be produced to depletion.

Give the operator administrative ~~with~~ approval procedure to request ~~exchange from producing the~~ in producing Gas zones. (Strawn to Monow or vice versa) The changing of producing zones shall be witnessed by the commission representative.

Thos A Wf

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 24, 1967

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

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

CASE 3572: Application of Jones Exploration Company for a dual completion and for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its State Well No. 1 located in Unit H of Section 35, Township 17 South, Range 35 East, Vacuum Field, Lea County, New Mexico, in such a manner as to permit the production of Abo Reef oil through the tubing and the disposal of produced salt water down the casing-tubing annulus into the Paddock formation in the perforated interval from 6955 to 6995 feet.

CASE 3573: Application of Aztec Oil & Gas Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the South Corbin Strawn Oil Pool, including a provision for 160-acre proration units and the establishment of a 4000 to one gas-oil ratio limitation.

CASE 3574: Application of Cima Capitan, 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 Grayburg-San Andres formations through one well located in Unit C of Section 3, Township 17 South, Range 32 East, Maljamar Pool, Lea County, New Mexico.

CASE 3575: Application of Harvey E. Yates for a triple completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the triple completion of his Stebbins Deep Federal Well No. 1 located in Unit H of Section 30, Township 20 South, Range 29 East, Eddy County, New Mexico, to produce oil from the Scanlon Delaware Oil Pool through one string of tubing and to selectively produce gas from an undesignated Strawn gas pool and from an undesignated Morrow gas pool through another string of tubing. Selective production of one of the two gas zones at a time would be accomplished by means of a sliding side door and tubing plug.

CASE 3576: Application of Jomar Industries, Inc. for water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, has proposed to drill certain wells in the S/2 NW/4 SE/4 and the N/2 SW/4 SE/4 of Section 30, Township 18 South, Range 38 East, Lea County, New Mexico, for production of oil from the Ogallala formation. Applicant anticipates that fresh water will be produced from the Ogallala formation incidental to the production of said oil and now seeks authority to dispose of said water back into the Ogallala formation through an injection well or wells to be located no nearer than 330 feet to the outer boundaries of the above-described acreage.

CASE 3577: Application of El Paso Natural Gas Company for four non-standard units, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the following non-standard gas proration units in Township 29 North, Range 7 West, Basin-Dakota Gas Pool, Rio Arriba County, New Mexico:

A 327.78-acre non-standard unit comprising the W/2 of Section 6 and the NW/4 of Section 7, to be dedicated to the San Juan 29-7 Unit Well No. 100 located 790 feet from the South line and 950 feet from the West line of said Section 6;

A 345.19-acre non-standard unit comprising the SW/4 of Section 7 and the W/2 of Section 18;

A 361.64-acre non-standard unit comprising the W/2 of Section 19 and the NW/4 of Section 30;

A 375.28-acre non-standard unit comprising the SW/4 of Section 30 and the W/2 of Section 31.

Each of the latter three non-standard units will be dedicated to a well to be drilled at an as yet undetermined standard location on the respective unit.

CASE 3578: Application of Texas Pacific Oil Company for several non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the dedication and rededication of certain acreage and the establishment of the following non-standard gas proration units in Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico.

A 120-acre non-standard gas proration unit comprising the N/2 NE/4 and the SE/4 NE/4 of Section 7, to be dedicated to the State "A" A/c-2 Well No. 5, located in Unit A of said Section 7, and also to the State "A" A/c-2 Well No. 6 located in Unit B of said Section 7;

A 160-acre non-standard gas proration unit comprising the W/2 W/2 of Section 5, to be dedicated to the State "A" A/c-2 Well No. 41, located in Unit M of said Section 5;

An 80-acre non-standard gas proration unit comprising the E/2 NW/4 Section 5, to be dedicated to the State "A" A/c-2 Well No. 44, located in Unit F of said Section 5;

A 160-acre non-standard gas proration unit comprising the N/2 SE/4 and the E/2 SW/4 Section 5, to be dedicated to the State "A" A/c-2 Well No. 28, located in Unit I of said Section 5;

(Case 3578 continued)

An 80-acre non-standard gas proration unit comprising the S/2 SE/4 of Section 5, to be dedicated to the State "A" A/c-2 Well No. 27, located in Unit P of said Section 5;

A 160-acre non-standard gas proration unit comprising the W/2 SW/4, SE/4 SW/4, and SW/4 SE/4 Section 8, to be dedicated to the State "A" A/c-2 Well No. 54, located in Unit O of said Section 8;

A 160-acre non-standard gas proration unit comprising the S/2 NW/4, NE/4 SW/4, and NW/4 SE/4 of Section 8, to be dedicated to the State "A" A/c-2 Well No. 56, located in Unit J of said Section 8;

An 80-acre non-standard gas proration unit comprising the S/2 NE/4 of Section 8, to be dedicated to the State "A" A/c-2 Well No. 43, located in Unit H of said Section 8;

An 80-acre non-standard gas proration unit comprising the N/2 NW/4 Section 8, to be dedicated to the State "A" A/c-2 Well No. 49, located in Unit C of said Section 8;

A 240-acre non-standard gas proration unit comprising the NE/4 and E/2 NW/4 of Section 9, to be dedicated to the State "A" A/c-2 Well No. 40, located in Unit A of said Section 9;

A 240-acre non-standard gas proration unit comprising the E/2 SE/4 Section 8, and the SW/4 Section 9, to be dedicated to the State "A" A/c-2 Well No. 38, located in Unit K of said Section 9;

A 160-acre non-standard gas proration unit comprising the N/2 NE/4 Section 8, and the W/2 NW/4 of Section 9, to be dedicated to the State "A" A/c-2 Well No. 29, located in Unit D of said Section 9.

CASE 3579: Application of Texas Pacific Oil Company for three dual completions, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its State "A" A/c-2 Wells Nos. 28, 54, and 29, located in Unit I of Section 5, Unit O of Section 8, and Unit D of Section 9, respectively, Township 22 South, Range 36 East, Lea County, New Mexico, in such a manner as to produce gas from the Jalmat Gas Pool and oil from the South Eunice Oil Pool.

CASE 3580: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg formation through one well located in Unit C of Section 17, Township 17 South, Range 31 East, Grayburg-Jackson Pool, Eddy County, New Mexico.

- CASE 3581: Application of Sunray DX Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation from 4248 feet to 4286 feet in its Harris State Well No. 5 located in Unit I of Section 23, Township 10 South, Range 32 East, Mescalero-San Andres Pool, Lea County, New Mexico.
- CASE 3582: Application of Tenneco Oil Company for two unorthodox gas well locations, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox Blanco-Mesaverde Gas Pool location of its Jicarilla C Well No. 6, located 1780 feet from the North line and 1455 feet from the West line of Section 14, and its Jicarilla C Well No. 4 located 1650 feet from the North and West lines of Section 24, all in Township 26 North, Range 5 West, Rio Arriba County, New Mexico.
- CASE 3583: Application of Stoltz & Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the North Bagley-Lower Pennsylvanian Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units.
- CASE 3584: Application of Gulf Oil Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Eddy "BD" State Well No. 1 at an unorthodox location 660 feet from the South line and 990 feet from the East line of Section 32, Township 20 South, Range 30 East, in an undesignated Strawn gas pool, Eddy County, New Mexico.
- CASE 3585: Application of Gulf Oil Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the force-pooling of all mineral interests in the North Bagley-Pennsylvanian Oil Field, SW/4 SE/4 and SE/4 SE/4 of Section 9, Township 11 South, Range 33 East, Lea County, New Mexico, to be dedicated to the Lea State "OE" Well No. 1 to be drilled 660 feet from the South line and 1980 feet from the East line of said Section 9.
- CASE 3586: Application of Morris R. Antweil for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Malaga Unit Area comprising 839 acres, more or less, of Federal and Fee lands in Sections 12 and 13, Township 24 South, Range 28 East, and Sections 7 and 18, Township 24 South, Range 29 East, Eddy County, New Mexico.
- CASE 3587: Application of Morris R. Antweil for a waterflood project, Eddy 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 seven injection wells located in Sections 12 and 13, Township 24 South, Range 28 East, and Section 18, Township 24 South, Range 29 East, Malaga Pool, Eddy County, New Mexico.

- CASE 3588: Application of Pan American Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the unorthodox location in an undesignated Morrow and/or Devonian gas pool for its Poker Lake Unit Federal Well No. 26 at a location 660 feet from the South and East lines of Section 28, Township 24 South, Range 31 East, Eddy County, New Mexico, to be dedicated to a standard unit comprising the S/2 of said Section 28.
- CASE 3589: Application of Claude C. Kennedy for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules for the Slick Rock-Dakota Oil Pool comprising the S/2 SE/4 of Section 36, Township 30 North, Range 17 West, including a provision for development on 2 1/2 acre spacing with the provision that each 40-acre tract be subject to the Northwest New Mexico normal unit allowable.
- CASE 3590: Application of Texaco Inc. for a pilot waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Pennsylvanian formation in the interval from 9650 feet to 9800 feet in its State BV Well No. 1 located in Unit E of Section 26, Township 13 South, Range 33 East, Lazy-J Pennsylvanian Pool, Lea County, New Mexico.
- CASE 3591: Application of Anadarko Production Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Langlie-Mattix Penrose Sand Unit Waterflood Project by the injection of water into the Penrose Sand through eight additional injection wells located in Sections 20, 28, 29, 32, and 33, all in Township 22 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

A. J. LOSEE  
EDWARD B. STEWART

LAW OFFICES  
LOSEE AND STEWART  
CARPER BUILDING - P. O. DRAWER 239  
ARTESIA, NEW MEXICO 88210

3 May 1967

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31 MAY 4 AM 8 17

AREA CODE 505  
746-3508

Mr. A. L. Porter, Jr., Secretary-Director  
New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

*Case 3515*

Dear Mr. Porter:

Enclosed herewith you will please find triplicate copies of Application for Multiple Completion, Form C-107, for the Harvey E. Yates, Stebbins Deep Federal Well No. 1, located in the SE/4 NE/4 of Section 30, Township 20 South, Range 29 East, N.M.P.M. This is a triple completion, oil, gas, gas, with the long string of tubing being used to selectively flow either the Strawn or Morrow formations.

In view of the fact that the Commission has not heretofore authorized the multiple completion of a well in these pools or in these zones within one mile of the subject well, it will be necessary to have a public hearing on this application. We ask that the application be set for hearing before an examiner on May 24, 1967. Thank you for your consideration in this matter.

Very truly yours,

*A. J. Losee*  
A. J. Losee

Enclosures  
AJL:rh

cc: Mr. Harvey E. Yates

DOCKET MAILED

Date 5-12-67

*JK*

dearnley-meier reporting service, inc.

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

1170 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
EXAMINER HEARING

May 24, 1967

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

Application of Harvey E. Yates )  
for a triple completion, Eddy )  
County, New Mexico. )  
-----

Case No. 3575

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The next case will be 3575.

MR. HATCH: Application of Harvey E. Yates for a triple completion, Eddy County, New Mexico.

MR. LOSEE: A. J. Losee, Losee and Stewart, Artesia, appearing on behalf of the Applicant, Harvey Yates.

(Whereupon, Applicant's Exhibits 1 through 6 were marked for identification.)

(Witness sworn.)

KEN MANES

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q Will you state your name, residence and occupation?

A I am Ken Manes, 212 Gulf Building, Midland, Texas; Division Petroleum Engineer with Halliburton Company.

Q Mr. Manes, where did you take your higher education?

A I took part of it at North Texas State and Southern Methodist, but received a B. S. Degree in petroleum engineering from the University of Oklahoma.

Q What year was that?

A 1955.

Q Since graduating from Oklahoma University, have you attended any specialist schools in the field of petroleum

dearnley-meier

engineering?

A Yes, sir. We quite often are sent by the company to short courses in petroleum practices and completion techniques at the University of Texas and Texas Tech University.

Q Since graduation from the University of Oklahoma, what has been your occupation?

A I spent two years as production manager for Perkins Oil Company and have had ten years of various engineering assignments with Halliburton Company.

Q What is your present title with that company?

A Division Petroleum Engineer.

Q Does the division that you are in charge of cover the State of New Mexico?

A All of it, plus all of West Texas and the Four Corners area.

MR. LOSEE: Are Mr. Manes's qualifications acceptable as a petroleum engineer?

MR. UTZ: Yes, they are.

Q (By Mr. Losee) Would you explain the nature of this application of Mr. Yates?

A The application here that we are presenting today is a, what I would call a common, every-day method of completing a well in order to allow three separate zones to be produced without commingling of the fluids from any of the three zones,

giving good separation as required by the state laws.

Q Now, the first zone, the uppermost zone is Delaware?

A That is correct.

Q And the middle zone is the Strawn?

A Yes, sir.

Q And the lower zone is the Morrow?

A Correct.

Q Now, does this application request approval to produce all three zones at the same time or is there selective productivity of the lower two zones?

A There's selective productivity of the lower two zones so that the Delaware and either one of the other two lower zones can be produced at the same time.

Q Are there any other multiple completions of wells within this same pool within a mile of this well?

A No, there is not. There is some shallow production within a mile of this but none from the three zones that are being mentioned here.

Q Incidentally, the subject well name is the Harvey E. Yates Stebbins No. 1?

A Stebbins Federal No. 1.

Q What is the present production rate of the Delaware formation?

A Delaware is capable of producing 27 barrels of oil

per day.

Q What is the Strawn capable of producing?

A We're still recovering some load water from that zone but even with this back pressure from the load water we can produce it at 560 MCF per day.

Q What about the Morrow formation?

A It is capable of producing 120 MCF per day.

Q Please refer to what has been marked Applicant's Exhibit No. 1 and explain what is shown.

A In Section 30 of 20 South, 29 East, the Harvey E. Yates Stebbins Federal No. 1 is circled in red. In addition, it shows the Tansil gas wells to the south which are shallow producers, the Yates Sand and the Delaware Sand production approximately three miles to the north.

Q Please refer to what has been marked Exhibit 2, being the gamma ray log of the well, and explain what has been shown on this log or marked on the log.

A Well, commencing at the upper part of the hole we have marked for the Commission here the formation tops, the producing intervals and the perforated intervals of the Delaware, Strawn and Morrow pay zones.

Q Without giving the perforations, would you give us the top and bottom marked intervals of the productive portions of the Delaware, Strawn and Morrow?

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A The Delaware is productive from 3227 to 3256; the Strawn from 10,506 to 10,587; the Morrow has two separate, distinct intervals in here, one being from 11,274 to 11,335, and 11,390 to 11,414.

Q Please refer to what has been marked Exhibit 3, being the diagrammatic sketch, and explain what is portrayed by that exhibit.

A Exhibit No. 3 is what we referred to in the testing procedure on this well called Situation No. 1, and it depicts the method whereby the Delaware Sand is pumped via the short string of tubing and the Morrow gas is produced via the long string of tubing, with the Strawn blanked off and packers separating all producing intervals.

In the case of the Delaware, to prevent high pressure gas from going up the casing tubing annulus, we actually have set two packers between the top of the Strawn and the base of the Delaware as double protection against packer leakage.

Q Now, this sketch shows the casing strings, the tubing strings and the types of packers and the sliding doors used in this well?

A That is correct. We have the two lower packers being Otis WA permanent well completion packers, the top one is an Otis retrievable dual hydraulic set.

Q What is the size of the casing that's run in this well?

A This is 7-inch casing of varying weights. The well is equipped with a long string of 2-3/8ths-inch EUE tubing. The short string is two-inch regular non-upset tubing.

Q Have you calculated where the cement is behind the pipe in this well?

A Yes, sir. We cemented this string of casing in a three-stage procedure. The bottom stage filled over the first DV multiple stage cementer and the second subsequent stage of cement then filled, giving a continuous column of cement from approximately 12,995 feet back to 8700 feet. The third stage of cement was placed through a DV multiple stage cementer at 4486, with fillup back to 2600 feet, across the Delaware zone and back into, approximately 400 feet into the surface pipe.

Q Please refer to what has been marked Exhibit 4 and explain how that exhibit actually differs from Exhibit 3.

A All right. This is what we called Situation No. 2, wherein Item 1 on the far right-hand side there is a blanking plug that is landed in the seating nipple at the bottom of the tubing, thereby preventing the flow of gas into the tubing from the Morrow zone, or any fluid and/or gas from moving downward into the bottom zone. It actually makes a bull plug out of it.

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Then Item 4a, the Otis sliding side door sleeve is shifted into the open position, thereby allowing the Strawn gas to move into the long string of tubing and upwards to the surface.

Q Please refer to what has been marked Exhibit 5, being a description of the equipment in this well, and briefly summarize what is shown on that exhibit.

A All right. This shows that first we have the Otis WA packer, two in all, one above the Morrow perforation, one above the Strawn perforation. Then the Otis seal units, which seals into these packers to prevent migration through the bore, forcing it only into the tubing string. The Otis dual retrievable hydraulic packer set immediately below the Delaware perforations and the Otis sliding side door sleeves, which allows a portion of the tubing string to be in the open position or closed position. This is selective opening and/or closing item.

Q Mr. Manes, how did you determine that these zones were isolated?

A In each case we actually went beyond the requirements of the Commission on packer leakage test inasmuch as with three sets of perforations open on us here we were working with a dangerous animal, so that in each case we would set the Otis WA packer as a bridging plug above first the Morrow

perforation, then we went in with a Halliburton retrievable packer and set just below the Strawn perforations, pressured up, tested the packer to several thousand psi; this also gave us the benefit of testing the blank casing between the two zones. Then after the Strawn was treated and the WA was set above the Strawn, we again went in and tested the blank pipe from below the Delaware perforations to the Strawn packer and again testing the packer also.

Then upon completion, after all of the equipment was in the hole, as shown here, we set the blanking plug, which is Item 1 on Exhibit 4, in the bottom of the tubing with all sleeves closed and pressure tested the tubing to see that there was no leaks in this tubing string and after this was removed, then we flowed the Morrow zone, took a shut-in pressure with a surface casing of 2000 psi, then went in, put the blanking plug back in the bottom of the tubing again, opened the sliding side door, Item 4a, and immediately got a 300 psi increase at the surface, showing there was no leakage in the packers.

Q Mr. Manes, how can you determine with this selective equipment arrangement whether or not you are producing only the Strawn or only the Morrow?

A Well, as I mentioned earlier in my testimony, we are still making load water out of the Strawn zone due to the

large water frack we put on it. The Morrow zone does not make water and this was proven on the test, that it was a water-free production from the Morrow, that after we opened this side door and blanked off the Morrow with the plug we immediately commenced making ten barrels of water per million cubic foot of gas, showing that it was from a separate zone.

Q Do you know what the initial pressures were of the Strawn and the Morrow?

A Yes, sir. We ran Halliburton drill stem test on these same zones, but due to the water column I have in here right now I cannot make a correlation, the surface pressure correlates to the bottom hole pressure because they are measured at different datum, but we did record a higher pressure in the Strawn zone and in the Morrow, which is indicated on this testing procedure that we have used.

Q And the fact that when you opened the Strawn up and your pressure immediately increased would indicate that you had shut the Morrow off and were --

A Yes, sir, and would also indicate that it would be a good packer leakage test to show that the pressures were not equalized around the packer.

Q Do you have an opinion as to the dependability of the equipment that is in this well?

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A This equipment is the best that is available in the oil industry today. It is the same used on the Gulf Coast in completions up to 13,000 psi gas zones.

Q Are there any completions, multiple completions in New Mexico similar to this?

A I am not familiar with any in the Southeast New Mexico area that tends to go this route on triple completion. There is many of them on the Gulf Coast that have been in successful operations for many years.

Q Did you design this equipment in this well?

A Yes, sir, in cooperation with our engineers from our Otis Engineering Division, we worked out the completion program for presentation to the personnel of Harvey Yates Drilling Company and they followed our recommendations as being good practice and completed accordingly.

Q Mr. Manes, please refer to what has been marked as Exhibit 6, being the Commission's form for Southeast New Mexico packer leakage tests.

A Yes, sir.

Q And ask you if you ran the test on that?

A I did not run this test. It was run by the Production Superintendent for Harvey Yates Drilling Company and we did work up the forms in conjunction with each other.

Q Have you reviewed the procedure followed by these

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employees in running this leakage test?

A I have.

Q Do you have an opinion of whether it is a proper method to test the well?

A I am very much in agreement with it. As I say, we worked very close with Mr. Yates' personnel on planning this completion and all and reviewed this quite thoroughly with Mr. Morris and Otis engineers and it was with our full approval that it was a valid method of testing.

Q Will this proposed completion permit the well to be produced in such a manner that production from the separate zones will not be commingled?

A That is correct.

Q Were Exhibits 1 through 6, with the exception of No. 6, to which you just testified, prepared by you or under your supervision?

A Yes, sir.

MR. LOSEE: We offer Applicant's Exhibits 1 through 6.

MR. UTZ: Without objection Exhibits 1 through 6 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits 1 through 6 were offered and admitted in evidence.)

MR. LOSEE: That's our direct testimony.

CROSS EXAMINATION

BY MR. UTZ:

Q How are these side door chokes operated, on a wire line?

A Wire line shift. The plug, Item 1 there, is also retrieved as a wire line operation.

Q I notice between two bottom packers you have two sliding side door chokes; why is it necessary to have two?

A The well will produce better by coming out of the perforations and moving up a little bit. At the same time we put a large frack job on this well and we are going to produce a lot of sand back. If it is ever necessary to retrieve the seal unit out of the lower packer, we would open the lower one and attempt to get the sand out of there as a retrieving mechanism. It has nothing to do with the production of the well.

The same way the blanking plug in the short string, you will notice we have another one between the two packers. That, again, is set up so if we have a hole come in the tubing we could use it as a kill string by blanking off the Delaware and blanking down the short string to help kill the well. These are additional safety factors in the completion.

Q In other words, this system here would have to be managed properly or you could commingle all three zones with

this system without any problem at all, couldn't you?

A Yes, sir.

Q You could even produce any one of the bottom two zones in between the upper two packers and out the short string if you wanted to?

A Yes, sir.

Q Do these packer leakage tests reflect a reliability of these side door chokes, too, and reflect that they actually shut off properly?

A Yes, sir. And again, we pressure test them with a Halliburton pump truck for twenty-minute test prior to ever placing the well on production. It's not only the inherent stage within the law as laid down by the Commission, but any of this high pressure gas get up against the Delaware zone and the casing head and all would be the danger involved in that operation. So that there was a lot of extra equipment all put into this well as safety factors in addition to the packer leakage test.

Q What is the reason for using this type of setup rather than just running three strings of tubing?

A The three strings of tubing in there with necessity of pumping on this Delaware deal would, in my opinion, be a dangerous operation with that many collars and pumping on that top zone you would be wearing one collar against two more

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all the time with a great danger of getting a hole in the two long strings of tubing and releasing high pressure gas into your low pressure pumping equipment with the real danger of having a disaster.

Q Well, does the Delaware have to be pumped in this situation?

A Yes, that is correct. That is a pumping hookup.

Q Well, then, what is the difference between the pumping with a third string and pumping the way you have got it here?

A We can anchor in with these things offset from each other with only two strings in there but you crowd a third string of tubing in there you have that thing packed in that much closer together and with two wear points and bringing pressure back against it, the geometry of it would change quite a bit.

Q The two lower zones of gas?

A That is correct.

Q Do they produce any liquids?

A Well, as I say, the top one is producing ten barrels of water per million at this time on cleanup, showing some condensate, but until such time as the well is better cleaned up, why we would not be able to measure. The indications are that it will be rather slim pickings on condensate.

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Q How do you propose to produce these? In other words, what would be your sequence?

A The present planned sequence, due to the very poor completion in the Morrow, only 420,000 cubic foot per day, which is subnormal, is to be blanked completely off in the lower zone with the Strawn open to production and the Morrow gas will be merely picked up maybe fifteen or twenty years down the road as a little extra income before abandonment. That zone by itself would not have been worthy of completion.

Q In other words, you don't actually propose, nor do the operators actually propose to produce the Morrow for several years?

A That is correct. So it will be in a blanked-off position.

Q So that it wouldn't be necessary to operate these chokes very often?

A No, sir. With good luck maybe once in the lifetime of a well. However, it was necessary in a completion of this type to try to be prepared for everything on down the road so that you do not have to go in and start killing these wells, especially if you produce the Strawn for several years and had to go in with the higher pressure then on the Morrow and the Strawn in the depleted condition, why the Strawn could take your kill fluids and then here the Morrow would start flowing

back at you and cause a very dangerous situation. So these type wells need to be flanged up if at all possible to where they can be produced to abandonment without having to round-trip any of that lower stuff. Of course, we are in a position here with permanent packers in there where we can do that.

Q What type of gas is the Morrow gas, is it sweet?

A Essentially dry gas. It's just a very little bit of liquids in it and sweet condition.

Q Then you wouldn't anticipate there being much corrosion on your bottom plug?

A No, sir.

Q Have you ever had any problem with these corroding up where in several years you couldn't open them?

A No, sir, and we do have enough space there if we could not retrieve that bottom plug, say, due to some sand falling in on it or something, that we could at that time perforate the tubing to still get the Morrow gas out of the well.

Q Once you perforated it there would be no shutting it off?

A There would be no shutting it off, that is correct. It could only be done at the time after you closed off the sleeves to abandon the Strawn and perforate at that point and go ahead and, as I say, it's a low volume gas, it might be

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long-lived.

Q I believe you said somewhere in your testimony that this was an ordinary completion. This is not a very ordinary completion in New Mexico?

A Not in New Mexico. I pointed that out.

Q As a matter of fact, this is probably the first one?

A It's the first time to my knowledge in New Mexico.

MR. UTZ: Any other questions?

MR. STAMETS: Richard Stamets. Yes, I have a couple.

CROSS EXAMINATION

BY MR. STAMETS:

Q If I understand it correctly, the Morrow zone will be blanked off, for a number of years will not be produced?

A Right.

Q And the sliding sleeves will not be operated during that time?

A This one in 4a will be in the open position.

Q Do you feel that there would be any necessity to test this system during that time to insure that there is separation between the Strawn and the Morrow, and if there is, what type of test would you recommend? The only test that I know of that you could run at any time through there is to check your pressures, close the sliding side door, retrieve the plug and see if you have a change in pressure.

Q How difficult an operation is that?

A This is approximately a four-hour job with an Otis wire line unit and at a charge of some \$100.

Q If there were a leak in this upper packer or in the Otis 11 ES Type E choke plug, that would be apparent by the gas-oil ratio on the Delaware zone, would it not?

A Yes, sir. Of course, again, I would like to point out, and to help prevent this we put two packers between the top of the Strawn perforations and the bottom of the Delaware so we would have to have two complete failures on two separate packers before that would happen. We couldn't afford to have that danger of the low pressure gas against our high pressure pumping equipment.

MR. STAMETS: That's all I have.

CROSS EXAMINATION

BY MR. UTZ:

Q Is it your proposal that you run an annual packer leakage test on this at all?

A I have made no comments at all to Mr. Yates about any future leakage tests at all. I did work with him real close to assure that it was put in in such a manner that we were in good control of it at this time. I was not familiar enough with the laws here in New Mexico to be in a position to tell him what he should do in the future.

MR. UTZ: We do require packer leakage tests annually in this area, do we not?

MR. STAMETS: Yes, we do, but, however, there is nothing like this to take a packer leakage test on at this time. In other words, this would seem to be an entirely different situation. Packer leakage tests required on producing wells.

Q (By Mr. Utz) This is producing as a dual, isn't that correct?

A Yes, sir.

Q I would presume that in the absence of any request that you would be required to run an annual packer leakage test, if approved?

A Well, that should present no problem at all, some four hours' work.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in this case? It will be taken under advisement.

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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.

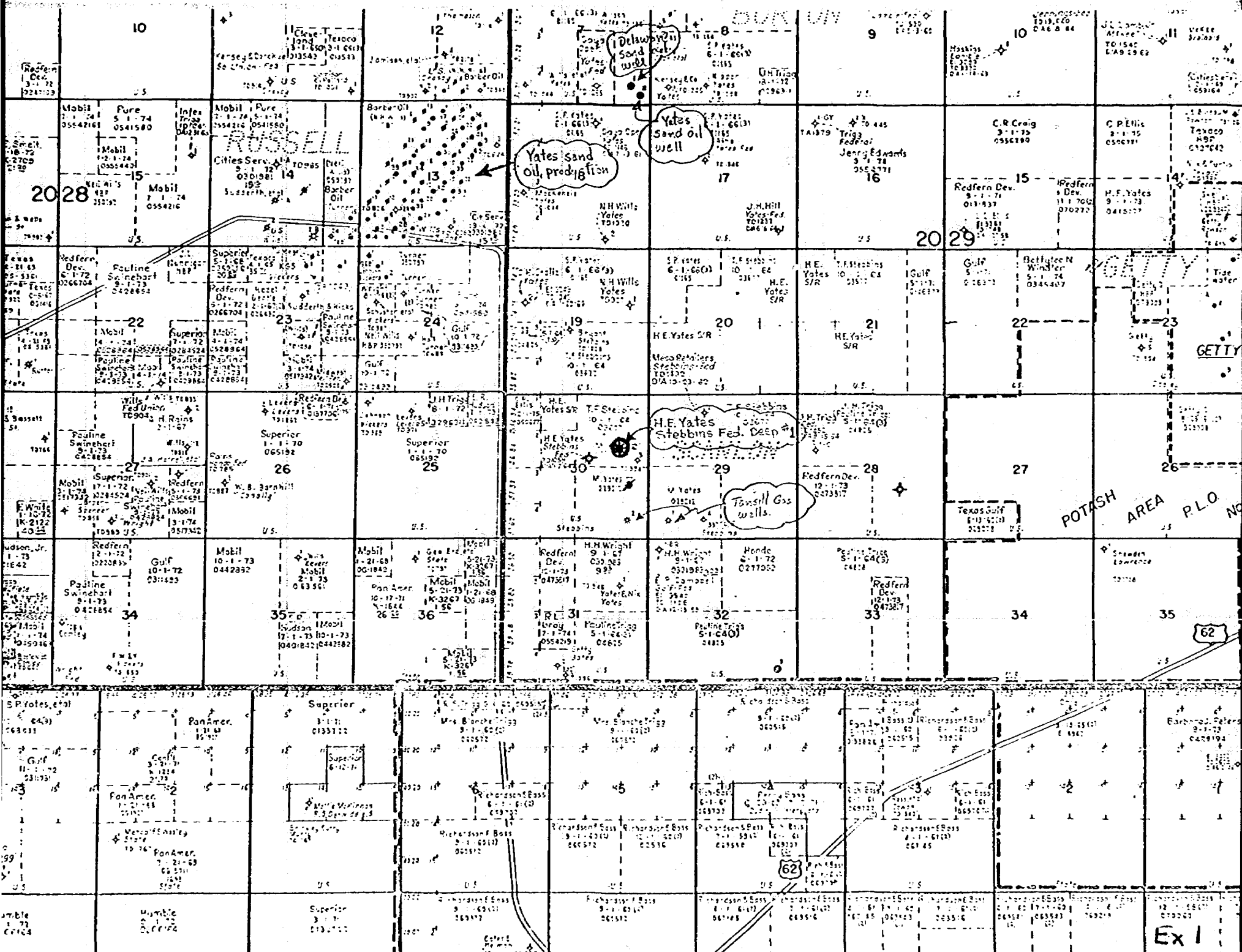
Witness my Hand and Seal this 28th day of June, 1967.

  
NOTARY PUBLIC

My Commission Expires:

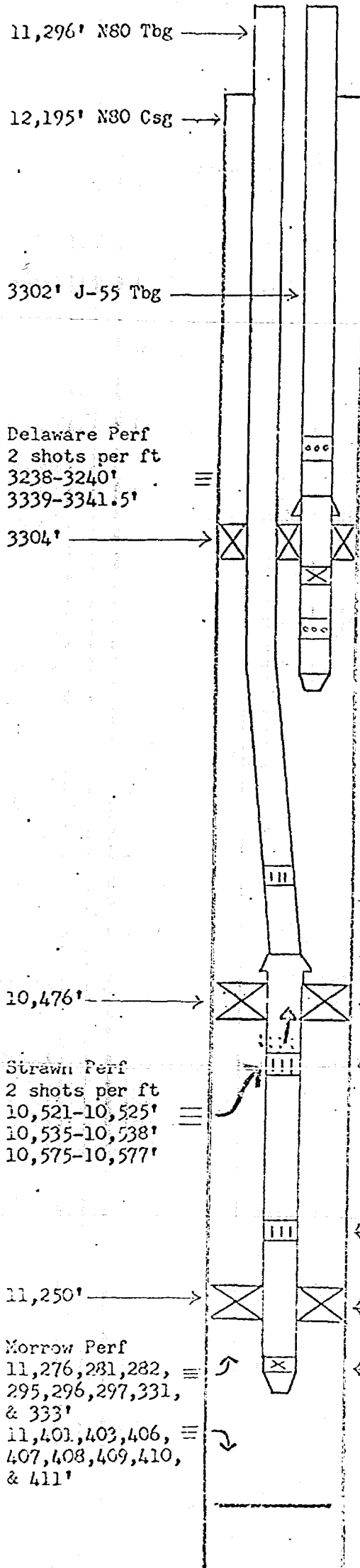
June 19, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the ~~foregoing~~ hearing of Case No. 3.5.25. signed by me on June 28, 1967.  
  
Ada Dearnley, Notary Public  
for the State of New Mexico



HARVEY E. YATES  
STEEBING DEEP FEDERAL NO. 1  
SECTION 30-20-29, EDDY COUNTY, NEW MEXICO

SITUATION #2



Note: The long string is designed to flow either zone, selectivity

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 32  
CASE NO. 3575

Delaware Perf  
2 shots per ft  
3238-3240'  
3339-3341.5'

3304'

10,476'

Strawn Perf  
2 shots per ft  
10,521-10,525'  
10,535-10,538'  
10,575-10,577'

11,250'

Morrow Perf  
11,276, 281, 282,  
295, 296, 297, 331,  
& 333'  
11,401, 403, 406,  
407, 408, 409, 410,  
& 411'

DESCRIPTION

ITEM NO.

Perf and seating nipple

Otis RHJ latch

Otis RDH Dual (12 RDH 7007) ..  
Hydraulic packer

Otis 11 ES Type E choke plug

Perf nipple

Bull plug

Otis 121xA 1 SS D sliding side door

Otis J slot seal w/OS tubing seal  
divider w/N nipple

Otis WA permanent (212 WA 7008)  
3 1/2" bore packer

Otis 121 x A 3 sliding side door

Otis 121 X A SS D sliding side door

Otis WA permanent (212 WA 7008)  
3 1/2" bore packer w/10' seal assm  
in place

1 1/2" Otis "N" nipple w/1 1/2" mule  
shoe below

7  
6

4a

5  
1a

3a

4a

4

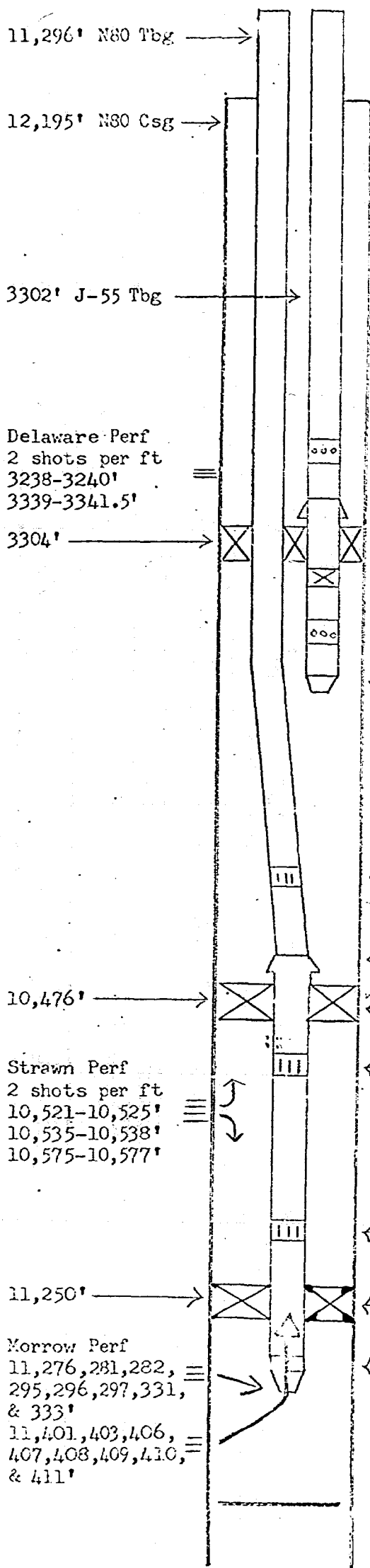
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HARVEY E. YATES  
 STRABING DEEP FEDERAL NO. 1  
 SECTION 30-20-29, EDDY COUNTY, NEW MEXICO

SITUATION #1



Note: The long string is designed to flow either zone, selectivity

BEFORE EXAMINER UTZ  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 3  
 CASE NO. 3575

DESCRIPTION

ITEM NO.

- ← Perf and seating nipple
- ← Otis RMJ latch
- ← Otis RDH Dual (12 RDH 7007) Hydraulic packer
- ← Otis 11 ES Type E choke plug
- ← Perf nipple
- ← Ball plug
- ← Otis 121xA 1 SS D sliding side door
- ← Otis J slot seal w/OS tubing seal divider w/N nipple
- ← Otis WA permanent (212 WA 7008) 3 1/2" bore packer
- ← Otis 121 x A 3 sliding side door
- ← Otis 121 X A SS D sliding side door
- ← Otis WA permanent (212 WA 7008) 3 1/2" bore packer w/10' seal assm in place
- ← 1 1/2" Otis "W" nipple w/1 1/2" mule shoe below

EQUIPMENT DESCRIPTION

Otis "WA" Packer --- A permanent (drillable) packer that was set by Lane Wells electric wire line. Pressure rating 10,000 psi differential pressure and 350° F. It is comparable to Baker's Model "D" packer.

Otis Seal Unit----- Used to effect a seal between the bore of the "WA" packer and the tubing. The seal element used to effect a seal in the upper "WA" is a continuous group of seals of the same type used on the seal unit. The unit is N-80 grade plus with a working pressure rating of 13,000 psi.

Otis "RDH" Packer--- This packer is a hydraulic set, retrievable production packer that set by applying pressure. It is rated for 7,500 psi differential.

Otis Sliding Side Door --- This tool was installed in the tubing string (items 4 and 4a). It was run to allow selective production and to displace fluids after Christmas tree installation. It is rated at 10,000 psi working pressure. The comparable tool is Baker psi Model "L".

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
Appl	45
CASE NO.	3575

NEW MEXICO OIL CONSERVATION COMMISSION  
SOUTHEAST NEW MEXICO PACKER LEAKAGE TEST

Operator Harvey E Yates			Lease Stebbins Deep Federal			Well No. 1	
Location of Well	Unit H	Sec 30	Twp 20s	Rge 2e	County Eddy		
Name of Reservoir or Pool			Type of Prod (Oil or Gas)	Method of Prod Flow, Art Lift	Prod. Medium (Tbg or Csg)	Choke Size	
Upper Compl	Strawn		Gas	Flow	Tbg		
Lower Compl	Morrow		Gas	Flow	Tbg		
Third Compl	Deleware		Oil	Pump	Tbg		

FLOW TEST NO. 1

Both zones shut-in at (hour, date): 3-31-67

Well opened at (hour, date): 9:30 PM 4-2-67

	Upper Completion	Lower Completion
Indicate by ( X ) the zone producing.....		X
Pressure at beginning of test.....	2300	2013
Stabilized? (Yes or No).....		
Maximum pressure during test.....		
Minimum pressure during test.....		450
Pressure at conclusion of test.....		450
Pressure change during test (Maximum minus Minimum).....	See Remarks	
Was pressure change an increase or a decrease?.....		
Well closed at (hour, date): <u>12:00 PM 4-3-67</u>	Total Time On Production <u>14 1/2</u>	
Oil Production	Gas Production	
During Test: <u>1</u> bbls; Grav. <u>53</u>	During Test <u>120</u> MCF; GOR	
Remarks <u>See supplement copy of packer leakage test</u>		

FLOW TEST NO. 2

	Upper Completion	Lower Completion
Well opened at (hour, date): <u>12:00 PM 4-4-67</u>		
Indicate by ( X ) the zone producing.....	X	
Pressure at beginning of test.....	2300	2013
Stabilized? (Yes or No).....		yes
Maximum pressure during test.....		
Minimum pressure during test.....	800	
Pressure at conclusion of test.....	800	
Pressure change during test (Maximum minus Minimum).....		-0-
Was pressure change an increase or a decrease?.....		
Well closed at (hour, date) <u>6:00 PM 4-4-67</u>	Total time on Production <u>6 Hrs.</u>	
Oil Production	Gas Production	
During Test: <u>3</u> bbls; Grav. _____	During Test <u>560</u> MCF; GOR	
Remarks <u>Flow 15 bbls. Treating water. zone not cleaned up.</u>		

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

Approved \_\_\_\_\_ 19\_\_\_\_\_  
New Mexico Oil Conservation Commission

Operator \_\_\_\_\_  
By Marshall Menis

By \_\_\_\_\_  
Title \_\_\_\_\_

Title \_\_\_\_\_  
Date \_\_\_\_\_ Ex 6

SUPPLEMENT TO PACKER LEAKAGE TEST

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
<i>Appl</i>	EXHIBIT NO. <u>6</u>
CASE NO.	<u>3575</u>

TEST NO. 1

To arrive at situation #1 as shown on the diagram, the following items were used: 2, 3, 4, 4a and 3a. The packers 3 and 3a had been set and tested. Sliding side doors 4 and 4a were closed. This contained the Strawn in the tubing-casing annular space. The Morrow was allowed to flow up the LT as follows:

2013.2 psi shut in pressure, Open on .625 choke for 20 minutes to lower tubing pressure to 900#, continued to lower pressure four hours stabilizing period. Stabilize pressure 500. Dead weight test ran on pressure recorder. Flow this zone 15 hrs.

TEST NO 2.

When situation #2 was run, an Otis "PN" plug was run and set in the "N" nipple (item 1). This blanked off the Morrow zone. The sliding door (item 4a) was opened so that the Strawn could flow up the LT as follows:

2300 psi (when sliding door item 4a) was opened. Flow 20 minutes with .75 size choke, lower tubing pressure 800 psi. Stabilize with 15 bbls. Treating water return. Six hr. flow period.

TEST NO. 3

The casing stabilized @117.2 psi during test which was Leakage test on the Delaware zone. This zone is isolated from the Strawn by packer (item 7) plug choke (item 6) and packer (item 3a). The casing zone is being produced as shown in situation #1 through the ST.