CASE 2231: Application of HUMBLE for an oil-gas dual of its CHALK BLUFF DRAW UNIT "C" WELL NO. 1.

Case No.

2231

pplication, Transcript,

mall Exhibits, Etc.

OIL CONSERVATION COMMISSION

BOX 2045

HOBBS, NEW MEXICO

DATE March 10, 1961

OIL CONSERVATION COMMISSION
BOX 871
SANTA FE, NEW MEXICO

Re: Proposed NSP _____

Proposed NSL _____

Proposed NFO _____

Proposed DC X

Gentlemen:

I have examined the application dated March 8, 1961

for the Humble Oil & Ref. Co. Chalk Bluff Draw Unit "C", Well # 1, Unit G,
Operator Lease and Well No. S-T-R
Section 17-18-27E

and my recommendations are as follows:

O.K.

Yours very truly,

OIL CONSERVATION COMMISSION

M L Armstrong

M. L. Armstrong,
Supervisor, District No. 2

MLA/sa

Case 2231

Form A-228

COPY

HUMBLE OIL & REFINING COMPANY

HOUSTON 1, TEXAS

Hobbs, New Mexico
March 8, 1961

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

Gentlemen:

Humble Oil and Refining Company requests Administrative Approval to workover and recomplete its Chalk Bluff Draw Unit "C", Well 1, Bend gas well as a Dual Bend-gas Abo-oil producer. The well is located in Unit G; Section 17; T-18-S; R-27-E; Eddy County, New Mexico.

Attached is a diagrammatic sketch showing the proposed completion arrangement and also a proposed procedure for the workover.

If this request cannot be approved Administratively, please place it on schedule for hearing before the Commission.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth

R. R. Alworth

EKB/mcb

D27957 (7-55)

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name: Red Lake Penn		County: Eddy	Date: 3-9-61
Operator: Humble Oil & Ref Company		Lease: Chalk Bluff Draw Unit C	Well No.: 1
Location of Well: Unit G	Section 17	Township 18-S	Range 27-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual 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	Lower Zone
a. Name of reservoir	Abo	Bend
b. Top and Bottom of Pay Section (Perforations)	Proposed 5393' - 5454'	9446' - 9488'
c. Type of production (Oil or Gas)	Oil	Gas
d. Method of Production (Flowing or Artificial Lift)	Flow (Anticipated)	Flow (Csg Annulus)

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

yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, 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.

yes 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.

yes c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

yes 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.

Pan American Petroleum Corporation	401 W. Taylor	Hobbs, N.M.
Continental Oil Company	Rowley Building	Artesia, N.M.
Gulf Oil Corporation	Box 2167,	Hobbs, N.M.
Copy to: U.S.G.S.	Drawer U	Artesia, N.M.

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 3-9-61.

CERTIFICATE: I, the undersigned, state that I am the _____ of the _____ (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.

R.R. Alworth

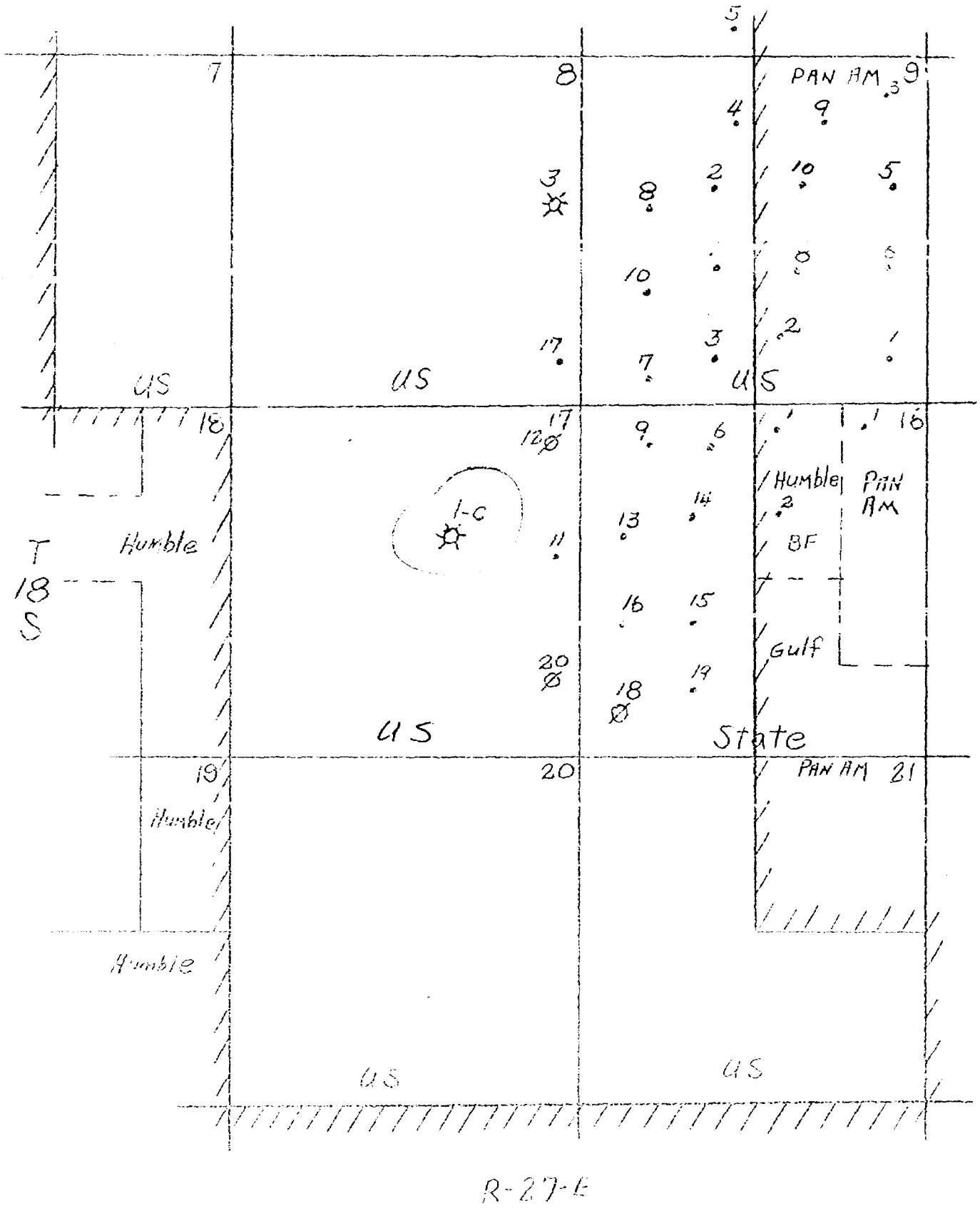
R.R. Alworth Signature

* 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 dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Exhibit 2-2-B1

HUMBLE OIL AND REFINING COMPANY
CHALK BLUFF DRAW UNIT
EDDY CO., NEW MEXICO



Chalk Bluff Draw Unit
Unit Participants:
Humble Oil & Refining Co.
Pan American Oil Co.
Gulf Oil Co.
Continental Oil Co.

Bend Gas Wells
Abo Oil Wells
Dry Holes

Gar 7231

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APRIL 5, 1961

EXAMINER HEARING

IN THE MATTER OF

CASE 2231: Application of Humble Oil & Refining Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Chalf Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will call Case 2231.

MR. MORRIS: Case 2231. Application of Humble Oil & Refining Company for an oil-gas dual completion.

MR. BRATTON: Howard Bratton, appearing on behalf of the applicant. We have one witness.

(Witness sworn)

WILLIAM S. DAVIS,

called as a witness, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BRATTON:

Q Please state your name, and by whom you are employed, and what capacity.

A William S. Davis. Humble Oil & Refining Company. I am a Senior Engineer in the Midland office.

Q You are familiar with Case 2231 and the area and the matters covered therein?

A Yes.

Q Have you previously testified before this Commission as an expert witness?

A Yes.

Q Mr. Davis, what is the nature of Humble's request in this case?

A We are requesting permission to dual an existing Red Lake-Pennsylvanian Gas Well with what we hope will be an extension of the Empire-Abo Field.

(Whereupon, Humble's Exhibit No. 1 was marked for identification.)

Q Now, referring to your Exhibit No. 1, which is a plat of the area, will you locate the well in question and its relation to the field and the Chalk Bluff Draw Unit?

A This plat includes the Chalk Bluff Draw Unit, and lies

at the western extension of the Empire-Abo Pool. The two gas wells shown in Section 17 and Section 8 are Red Lake-Pennsylvanian gas wells. The well in question is Well 1 "C", which is near the center of Section 17, and shown by a large arrow on your Exhibit. The other wells are Empire-Abo oil wells. You can see that there are oil wells, now. There is one oil well, now, in Section 17. Unfortunately, there are two dry holes in that section.

Q Those are dry holes in the Abo?

A In the Abo. They are recent failures in the Abo. It is possible that in Chalk Bluff Draw Unit 1 "C" we will be able to extend the Empire-Abo production. However, if we have found the edge of the field, we would like the experience to be as least costly as possible.

Q That is one purpose for this application, isn't it, Mr. Davis, the fact that you are getting well along to the edge of the field?

A It is. Chalk Bluff Draw Unit 1 "C" was completed back in July, 1959. It was tested at 6.6 million cubic feep open flow potential with a bottom hole pressure of 5138 pounds. It has been shut-in since that time for a lack of market. We are negotiating for a market now, and hope to put the well on production.

Q It is completed in the Pennsylvanian?

A Pennsylvanian -- Red Lake-Pennsylvanian.

Q Do you have anything further you care to state with reference to the field, in general, and the history of the develop-

ment there?

A No, other than there is one other Red Lake-Pennsylvanian well in the Chalk Bluff Unit, Chalf Bluff Unit 1. They have been producing limited volumes of gas, so we have some limited production on those two wells, although none on Well "C."

Q The outline of the Unit --

A The hashed line outline is the Chalk Bluff Draw Unit.

(Whereupon, Humble's Exhibit No. 2 was marked for identification.)

Q Refer, then, to your Exhibit No. 2, Mr. Davis, which is what your proposed installation will be.

A Exhibit 2 shows the casing program and the existing Pennsylvanian Bend actual perforations. At 9446 to 9488 the 5½-inch casing was set at 9621 and cemented only to 6300 feet. We propose to perforate the casing just above 6300 feet, circulate cement. Well, 600 sacks should cover approximately 3000 more feet of the annulus. Then refrac the Bend perforations through 3-inch frac tubing, complete in the Abo and the perforations shown on our Exhibit in 5393 to 5454. Separate these perforations by a permanent packer below the Abo perforations approximately 5500 feet and run a retrievable packer just above these perforations approximately 5350, and in the assembly with that retrievable packer with the standard Otis cross-over assembly, and we propose to run the cross-over tool to put the Abo oil into the tubing, and the Bend gas into the annulus. The Bend gas is sweet gas. Unfortunately,

it's extremely dry in the Chalk Bluff Draw Unit 3 north of there. For instance, the average gas condensate ratio has been in the order of two million to one. We anticipate that the annulus will be fairly safe.

Q You anticipate no corrosion problems in the annulus?

A No. Although Abo oil is corrosive at the surface, we have experienced no corrosion in the tubing. We have been checking that by caliper surveys.

MR. PORTER: You have a lot of paraffin trouble?

A Yes. At least, we don't have down-hole corrosion, so far. The Otis installation is corrosion resistant also. This is the standard Otis cross-over. We have an Exhibit to show the details of that, which was --

Q (By Mr. Bratton) Actually, those are Exhibits 3 and 4. I believe Mr. Nutter has the only copies of those. They're the actual catalog pages?

A Yes, these are two pages from the current Otis catalog which show the details of the actual installation from Page 4317 of the Otis 1960 catalog.

Q Have you had considerable experience with this type of installation?

A There are many, many installations of this type.

Q It is a standard --

A It's normal production to put lower production into the annulus.

Q This Otis type has cross-over as standard installation and is perfectly safe in this regard?

A Yes, indeed. It's the normal tool for this type of operation. I will merely refer to Exhibits 3 and 4, which show in one instance the flow patterns in more detail of dual completion of this type, and the diagram of the assembly itself, unless there's some question about it.

(Whereupon, Humble's Exhibits 3 and 4 were marked for identification.)

Q Do you have anything further you care to state with regard to your proposed installation, Mr. Davis?

A No. Well, I might add that this particular retrievable packer is capable of withstanding up to 5000 pounds differential pressure, and the bottom hole pressure differentials, prior to any production from the Bend zone, are roughly 1600 pounds. That pressure differential will decrease inasmuch as our experience in the other two gas wells has shown they draw down rather rapidly on production.

(Whereupon, Humble's Exhibit No. 5 was marked for identification.)

Q Your Exhibit No. 5, which Mr. Nutter has a copy of, is a letter consenting to this type of installation, is that correct?

A Yes. That's a waiver received from Gulf. There are three other participants in the Chalk Bluff Draw Unit whose acreage surrounds the location; Pan American, Gulf Oil and Continental. All

three have been notified. Pan American, as part interest owner of Section 17, has approved the proposed workover. Gulf was kind enough to send us a waiver, which we have submitted.

Q Is there anything further you care to state with regard to this request?

A I don't believe so. We might just emphasize that this dual will make it possible for us to test the Abo extension here at roughly one-third the cost of a new well. We feel like it's in accord with good standard operating practices in the industry, and we have experienced no objections from the other owners in the Chalf Bluff Draw Unit.

Q It's particularly advisable to minimize your cost in view of the two dry holes just to the east?

A Yes. We are only too well aware of those at the moment.

Q Were Exhibits 1 and 2 prepared by you or under your supervision?

A Yes, sir. They were prepared at my direction. 3 and 4 were provided by the Otis Company, from their catalog, and 5 was provided by Gulf.

MR. BRATTON: We would offer Exhibits 1 through 5 in evidence.

MR. NUTTER: Humble's Exhibits 1 through 5 will be admitted.

(Thereupon, Humble's Exhibits Nos. 1 through 5 were admitted in evidence)

MR. BRATTON: No further questions.

MR. NUTTER: Does anyone have any questions of this witness? Mr. Porter.

CROSS-EXAMINATION

BY MR. PORTER:

Q You say your gas liquid ratio is about two million to one?

A That has been our experience on Well No. 3. It has produced virtually no condensate.

Q You don't even have a measurable amount of liquid -- you don't sell any liquids from the well?

A They accumulate a little liquid out there, but they have reported -- I can quote you a number or two from our records here on the two producing gas wells. For instance, our Hobbs District in the month of January, 1961 reported 14 barrels of distillate and 22 million cubic feet of gas. On test, Chalk Bluff Draw 1 "C", the well in question, made no measurable liquid at all. Well No. 1 farther from there makes as a ratio of approximately 250,000 cubic feet per barrel of condensate.

MR. PORTER: Thank you.

MR. NUTTER: Mr. Payne.

BY MR. PAYNE:

Q That being the case, you don't anticipate any problems with annular flow?

A. Yes, except decreasing pressure in the life of the well.

I notice your exhibit shows non-retrievable at [illegible] feet. I believe you said that was a permanent type production packer.

A. Yes. It will be either a Baker Model "D" or Otis equivalent packer, type "TB."

MR. BUTTER: You have type "[illegible]" drillable underlined on Exhibit 3.

A. Is it "[illegible]," Mr. Butter:

MR. BUTTER: Yes, sir.

A. In that case, I stand corrected. Actually, the District's procedure submitted to us says Baker Model "D," and the Otis Company may be under the impression that they will be able to sell this particular type of retrievable packer. Baker does not make retrievable cross-over chokes. However, they do make equivalent packers of this type, and Baker is the most common packer. However, the Otis Company does make a comparable packer to the Baker Model "D" of the drillable non-retrievable type.

MR. BUTTER: Then, it may be a Baker or it may be an Otis for the permanent packer down hole, but the packer up above will be an Otis retrievable?

A. Mr. Butter, the District proposal includes an Otis retrievable with the Otis tools made on the installation.

MR. BUTTER: For the cross-over assembly?

A. Yes.

Q. (By Mr. P[illegible] You mentioned that the No. 1 Well was producing with a GOR of 2[illegible] to 1.

A Chalk Bluff Draw Unit 1 is in Section 5, which is not on this particular plat of the area.

MR. SUTTER: Where is that?

A It is located exactly 1980 feet from the South and West lines of Section 5, 18, 27.

Q (By Mr. Payne) That would be north, then, of your No. 3 Well, which is in Section 8?

A Yes, sir. The Chalk Bluff Draw Unit is a rather large unit, and stretches over considerable territory to the north of this immediate area.

Q Now, you said that the No. 3 has a ratio of two million to one, but that the No. 1 "C", on test, didn't measure any liquids.

A No, sir.

Q How about on production?

A 1 "C" has only been produced during the open flow potential test. It has been shut-in since that time while we were negotiating for a market. The recent development in that area has made a possibility of a market rather good now.

Q You have no production history on the 1 "C"?

A No. I was drawing the comparison with the northeast Red Lake No. 3. Those wells produced a small amount of gas; well, it was the Malco Refinery for fuel, so we have limited production history from the other two wells.

Q On your 5½-inch casing string, the top of the cement on the Pennsylvanian is 6300 feet?

A Yes.

Q You propose to perforate that casing just above 62[illegible] feet?

A Yes. 6280, and circulate 600 sacks of cement.

Q Circulate?

A Well, to cement with 600 sacks. It will not constitute circulation. The 600 brought it from 9621 to 6200 originally. If the conditions were the same, you would get another 3000 feet, roughly.

Q The minimum amount of cement would be sufficient to cover the Abo interval?

A We propose to run a temperature survey to check that. The Abo is definitely covered.

Q With this installation, is it possible to artificially lift the Abo, if that would become necessary?

A You can artificially lift down the 2-inch tubing.

Q Will a seating nipple be run in that string of tubing?

A Yes, we propose to run seating nipples with the installation; the retrievable cross-over, you can work on either side or circulate the annulus above the upper packer. In order to pull the upper packer, you can switch back and forth and run all the way through.

MR. NUTTER: Any further questions of Mr. Davis? He may be excused.

(Witness excused)

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

MR. BRATTON: No, sir.

MR. NUTTER: Does anyone have anything further they wish to offer in 2231? We will take the case under advisement, and take a fifteen-minute recess.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and Seal this, the 11th day of April, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My Commission expires:

June 19, 1963

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2231, heard by me on 4-5, 1961.

, Examiner
New Mexico Oil Conservation Commission

HUMBLE OIL & REFINING COMPANY

Hobbs, New Mexico
March 8, 1961

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

Gentlemen:

Humble Oil and Refining Company requests Administrative Approval to workover and recomplete its Chalk Bluff Draw Unit "C", Well 1, Bend gas well as a Dual Bend-gas Abo-oil producer. The well is located in Unit G; Section 17; T-18-S; R-27-E; Eddy County, New Mexico.

Attached is a diagrammatic sketch showing the proposed completion arrangement and also a proposed procedure for the workover.

If this request cannot be approved Administratively, please place it on schedule for hearing before the Commission.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

R. R. Alworth

EKB/mcb

DOCKET: EXAMINER HEARING - WEDNESDAY, APRIL 5, 1961

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

CASE 2229: Application of Amerada Petroleum Corporation for permission to commingle the production from two separate pools within the well-bore. Applicant, in the above-styled cause, seeks permission to commingle the oil production from the Warren-Connell Pool with the production from the Warren-McKee Pool by producing one allowable from the two pools through a common production string in its Turner Well No. 2, located in the NW/4 SW/4 of Section 17, Township 20 South, Range 38 East, Lea County, New Mexico.

CASE 2230: Application of El Paso Natural Gas Company for a gas-gas dual completion utilizing two strings of casing. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Huerfano Unit Well No. 113, located in Unit C, Section 33, Township 27 North, Range 10 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Angels Peak-Gallup Pool and the production of gas from the Basin-Dakota Pool through parallel strings of 2 7/8-inch casing cemented in a common well bore.

CASE 2231: Application of Humble Oil & Refining Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Chalk Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

CASE 2232: Application of The Atlantic Refining Company for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to install an automatic custody transfer system to handle the Bluitt Pennsylvanian Pool production from all wells presently completed or hereafter drilled on the Rutter-Federal lease comprising the SW/4 of Section 28, Township 8 South, Range 37 East, Roosevelt County, New Mexico.

DRAFT

RSM/esr
April 10, 1961

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. 2231

Order No. R-1941

APPLICATION OF HUMBLE OIL & REFINING COMPANY FOR AN OIL-GAS DUAL COMPLETION IN THE EMPIRE-ABO POOL AND IN THE RED LAKE-PENNSYLVANIAN GAS POOL, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 5, 1961, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this _____ day of April, 1961, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Humble Oil & Refining Company, is the owner and operator of the Chalk Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico.

(3) That the applicant proposes to dually complete said Chalk Bluff Draw Unit "C" Well No. 1 in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

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

(5) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, Humble Oil & Refining Company, is hereby authorized to dually complete its Chalk Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

PROVIDED HOWEVER, That the applicant shall complete, operate and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Empire-Abo Pool.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or the protection of correlative rights; upon failure of the applicant to comply with any requirement of this order, the Commission may terminate the authority herein granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

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

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

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

P. O. BOX 871
SANTA FE

April 18, 1961

Mr. Howard Bratton
% Hervey, Dow & Hinkle
Box 10
Roswell, New Mexico

Re: Case No. 2231
Order No. R-1941
Applicant:
Humble Oil & Refining Company

Dear Sir:

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

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

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. 2231
Order No. R-1941

APPLICATION OF HUMBLE OIL & REFINING
COMPANY FOR AN OIL-GAS DUAL COMPLETION
IN THE EMPIRE-ABO POOL AND IN THE RED
LAKE-PENNSYLVANIAN GAS POOL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 5, 1961, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 18th day of April, 1961, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Humble Oil & Refining Company, is the owner and operator of the Chalk Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico.

(3) That the applicant proposes to dually complete said Chalk Bluff Draw Unit "C" Well No. 1 in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

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

(5) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, Humble Oil & Refining Company, is hereby authorized to dually complete its Chalk Bluff Draw Unit "C" Well No. 1, located in Unit G, Section 17, Township 18 South, Range 27 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Empire-Abo Pool and the production of gas from the Red Lake-Pennsylvanian Gas Pool through 2-inch tubing and the casing-tubing annulus, respectively, by means of a crossover.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Empire-Abo Pool.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or the protection of correlative rights; upon failure of the applicant to comply with any requirement of this order, the Commission may terminate the authority herein granted and require the applicant or its successors and assigns to limit its activities to regular single-zone production in the interest of conservation.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

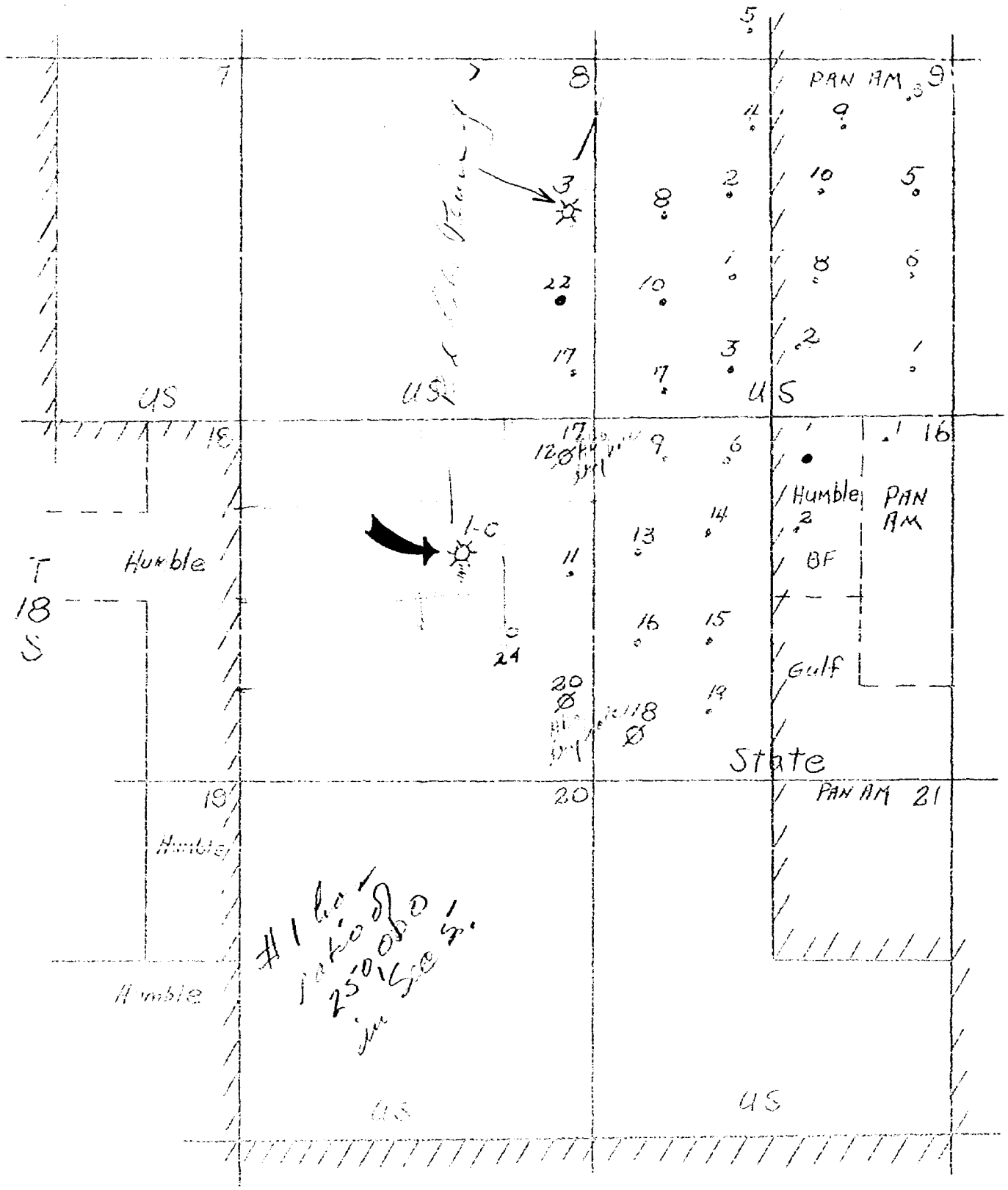
EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

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

esr/

HUMBLE OIL AND REFINING COMPANY
CHALK BLUFF DRAW UNIT
EDDY CO., NEW MEXICO



Chalk Bluff Draw Unit
Unit Participants:
Humble Oil & Refining Co.
Pan American Oil Co.
Gulf Oil Co.
Continental Oil Co.

Sand Gas Wells
Abo Oil Wells
Dry Holes

Appl Ex 2
Case 2231

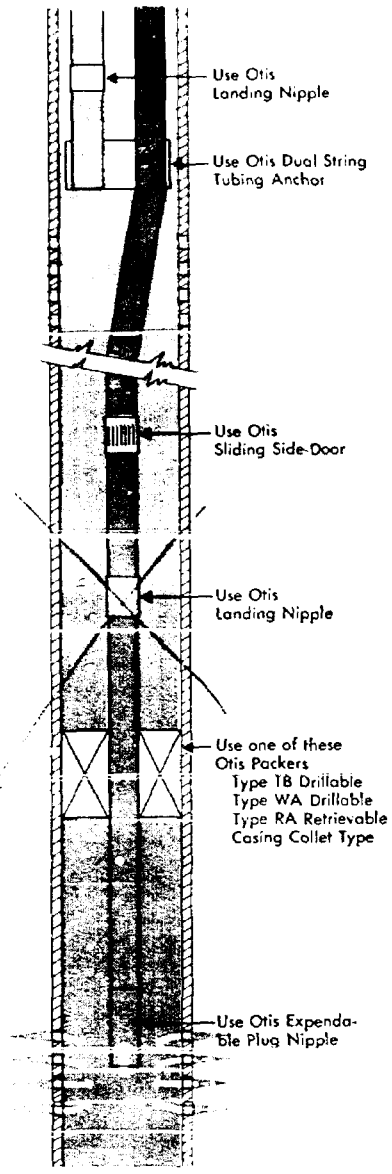
6280 cont w/ 600 A4

OTIS ENGINEERING CORPORATION

Dallas, Texas, U. S. A.

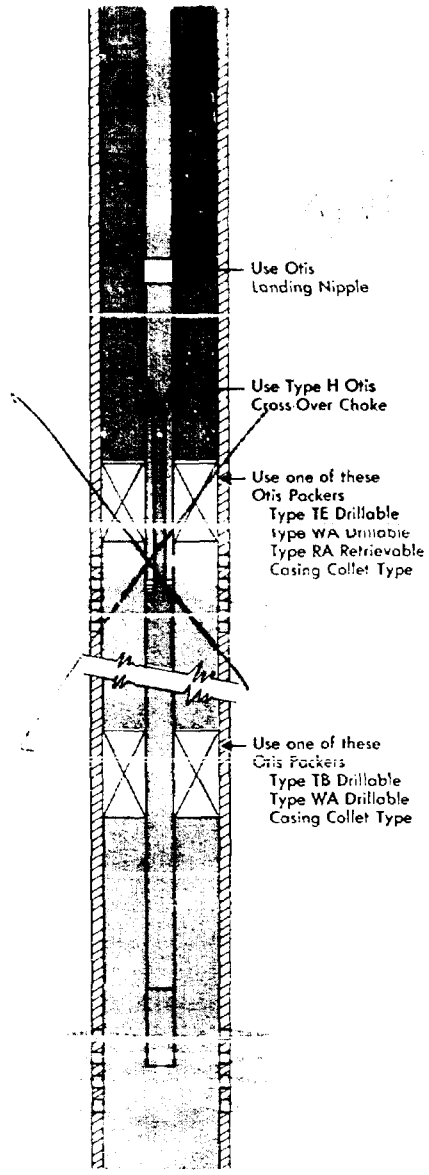
[redacted]

PARALLEL STRING PRODUCTION
DUAL ZONE SINGLE PACKER



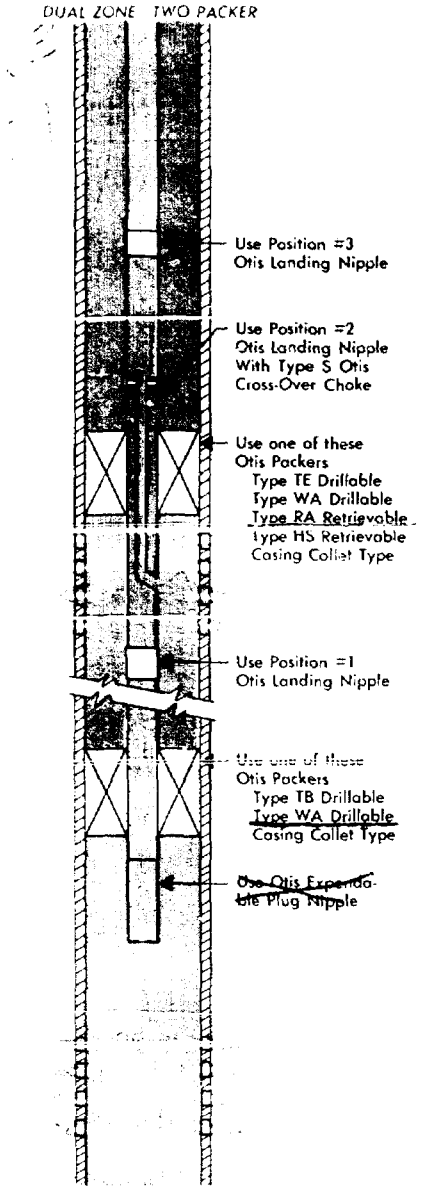
The landing nipple made up in the short string may be used to land an Otis Plug Choke or various other bottom-hole controls. The sliding side-door in the long string serves as a circulating device to wash around the long string, the short string, and the annular space. The landing nipple located below the sliding side-door in the long string is designed to accommodate a plug to permit the short string to be pulled without killing the lower zone. The long string remains full opening when Type S Otis Landing Nipples and Type A Otis Sliding Side-Doors are used.

TYPE H CROSS OVER
SELECTIVE TUBING ANNULUS PRODUCTION
DUAL ZONE TWO PACKER



This installation incorporates the Type H Otis Cross-Over Nipple Assembly to afford selective production of either zone through the tubing or annulus. This selectivity is possible through the use of two different retrievable chokes run or pulled under pressure with a wire line. The landing nipple above the Type H cross-over head is designed to accommodate any number of different Otis bottom-hole controls. In this type of installation the tubing is not full-opening with all chokes removed.

TYPE S CROSS OVER
FULL OPENING, PTWC OPTIONAL
ON LOWER ZONE
DUAL ZONE TWO PACKER



This installation utilizes the Type S Otis Cross-Over Nipple Assembly for P.T.W.C. and permits complete selectivity of production of either zone through the tubing or the annulus with the option of any type remedial work on the lower zone, using the Type S Otis Dual Test Tool and Extension Pipe. The landing nipples above and below the cross-over assembly may be used to land any number of different Otis bottom-hole controls. With the cross-over in place, and Otis Safety Valves in the nipples above and below the assembly, storm choke protection is afforded both the upper and lower zones. With all retrievable equipment out of the hole, the tubing is full-opening.

[redacted]

OTIS ENGINEERING CORPORATION

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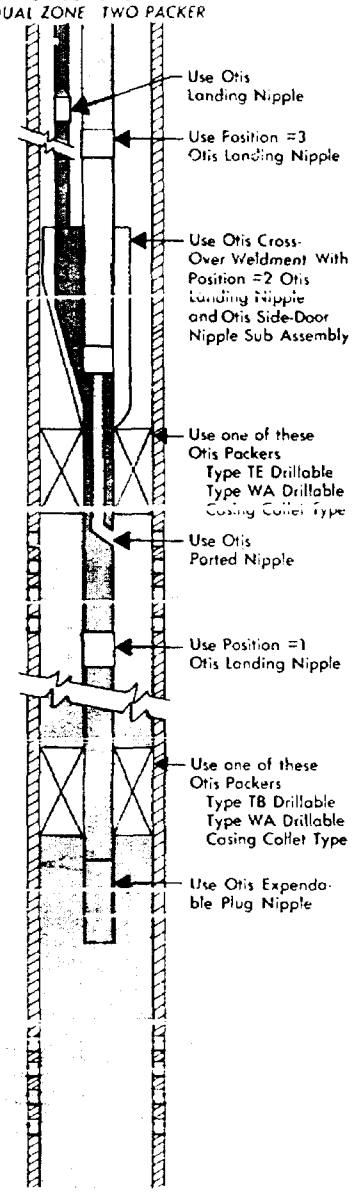
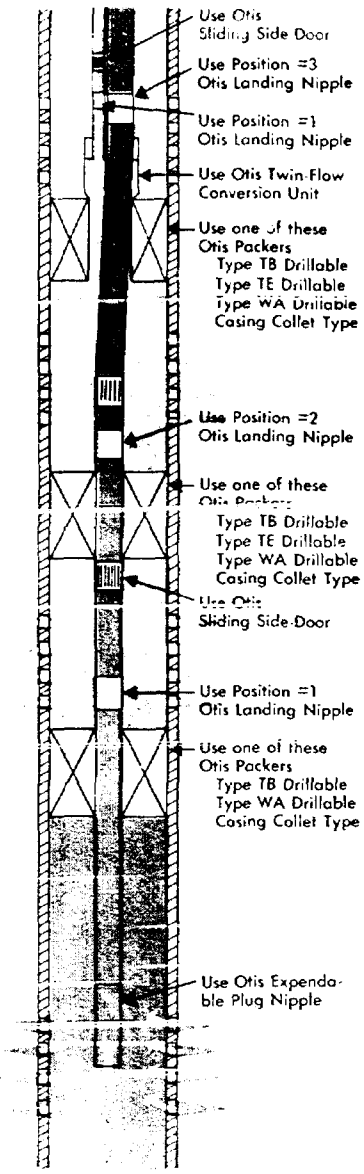
DUAL STRING CROSS OVER WELDMENT
FULL OPENING, PTWC OPTIONAL
ON LOWER ZONE
DUAL ZONE TWO PACKER



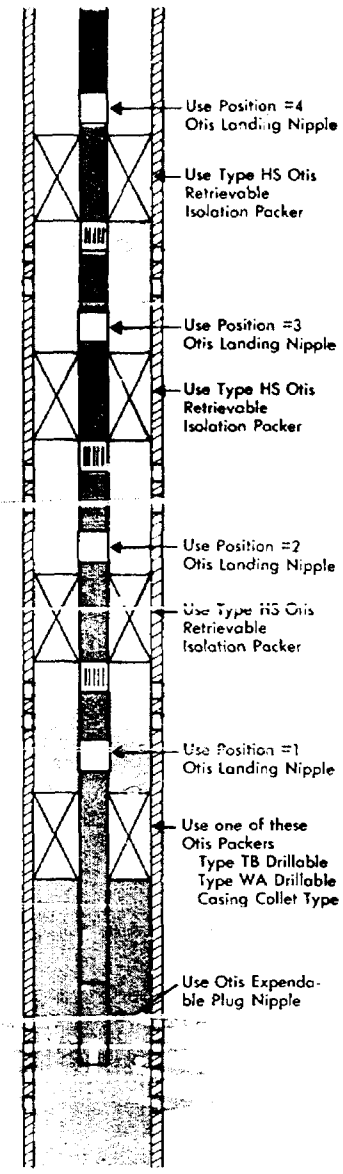
The Otis Dual String Cross-Over Weldment is available in three sizes—1¼" x 2", 1½" x 1½", and 2" x 2". It is designed to be used with two single string packers and offers selective production of either zone through either string. Complete remedial work on the lower zone is possible without pulling tubing. Otis bottom-hole controls may be set in either string as desired, utilizing the Otis landing nipples. The long string is full-opening in this type of completion.

DUAL STRING
ALTERNATE ZONE



This type of installation utilizes an Otis Twin-Flow Conversion Unit with two Otis Sliding Side-Doors. With this equipment, selective production of the middle and lower zone is possible through the long string while the upper zone is being produced through the short string. The sliding side-door in the long string opposite the upper zone may be used as a circulating device on initial completion or for remedial work. The sleeve in the short string also serves as a circulating device and by plugging the long string at the position No. 3 Otis Landing Nipple the short string may be pulled after killing the top zone without killing the other two zones. The long string is full-opening in this type of completion.

SINGLE STRING
ALTERNATE ZONE



This installation is designed to permit the production of any of the four zones through the long string at any time. Upon depletion of the bottom zone, it may be plugged off by setting a plug choke in the position No. 1 Otis Landing Nipple just above the bottom packer and the next zone produced by means of opening an Otis Sliding Side-Door. The upper landing nipples may be used to land and seat various Otis bottom-hole controls. The tubing is full-opening in this type of completion.

OTIS ENGINEERING CORPORATION

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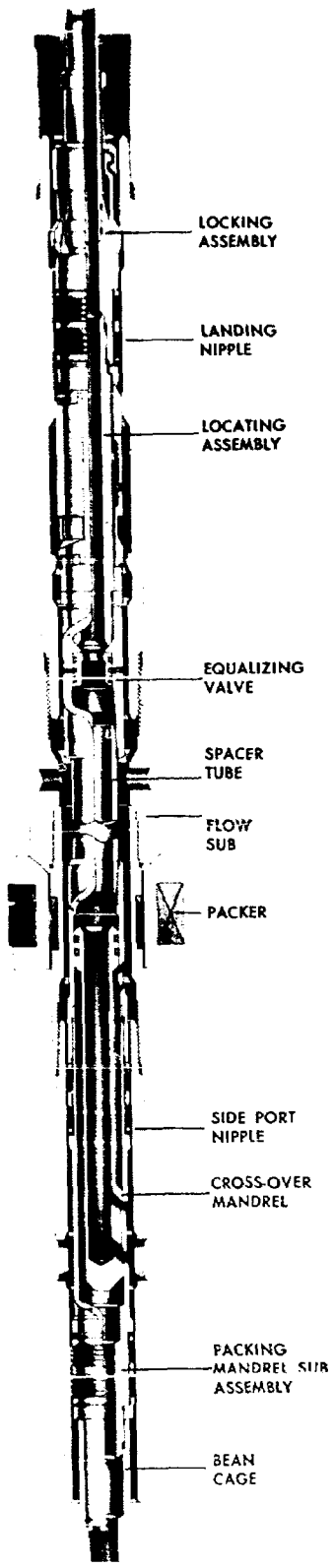
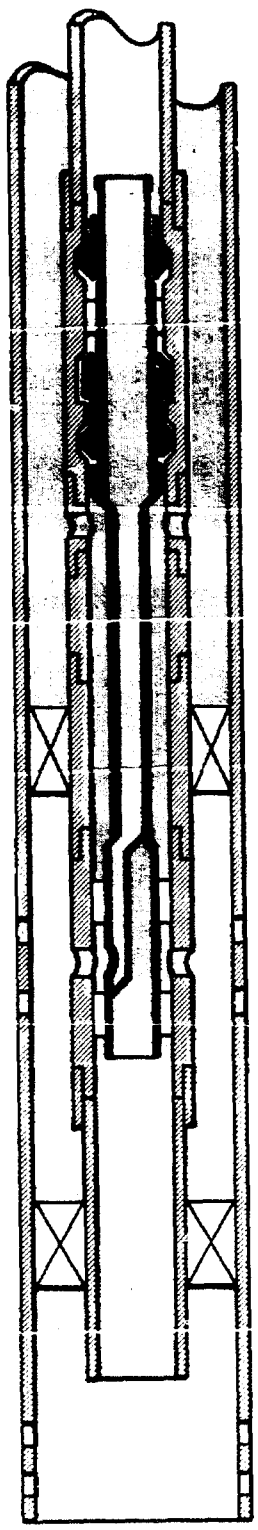
TYPE S OTIS DUAL CROSS-OVER CHOKE

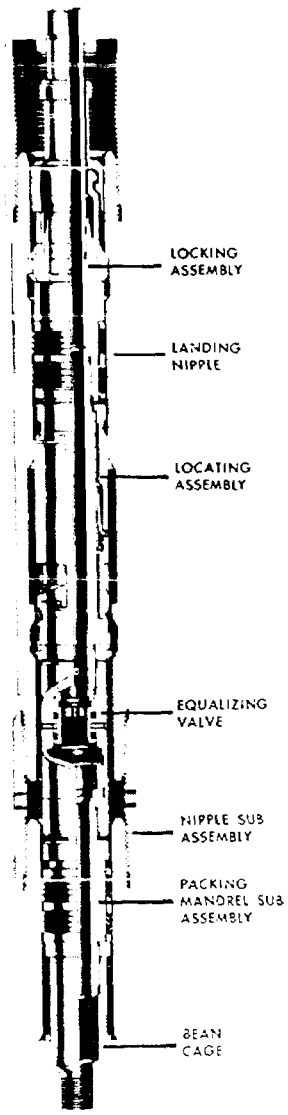


TYPE S OTIS DUAL CROSS-OVER CHOKE



A Type S Otis Dual Cross-Over Choke consists of a locking mandrel assembly, equalizing valve assembly (combination type), concentric cross-over mandrel assembly, and a bean cage. The tool is designed to land in a Type S Otis Landing Nipple with a side-door nipple sub-assembly and a side port nipple assembly.

With the dual cross-over choke assembly properly installed in the dual-completion landing nipple assembly, production from both zones of a dual-completion may be crossed over i.e., the upper zone produced through the tubing and the lower zone through the casing. Because this selection of flow courses is available by wire line methods, there is no need to disturb the packers by pulling the tubing string. The tools are designed to pack off above the lower ports and below the upper ports in the nipple assembly and to allow the two flow courses to be interchanged within the choke assembly. With the dual cross-over choke in the tubing string and Otis safety valves above and below the hookup, storm choke protection is afforded the annulus.



TYPE S OTIS SIDE-DOOR CHOKE

TYPE S OTIS SIDE-DOOR CHOKE

The Type S Otis side-door hookup is usually located above a single packer rather than straddling the upper packer as the dual side-door does. The Type S Otis side-door hookup can be used in a single completion, a conventional dual completion, a multiple string completion, or an alternate zone completion. It can be used to provide both the circulating ports and the extension hanger landing nipple for P. T. W. C. remedial work. (See Introduction to Otis Side-Doors & Separation Tools).

The Type S Otis Side-Door Choke can be run or pulled under pressure with a wire line and is designed to pack off ports in a Type S Side-Door Nipple hookup, thus eliminating communication from the tubing to the tubing-casing annulus. It is equipped with an equalizing sub, whereby any pressure differential may be equalized before the side-door is pulled, giving the installation an added safety factor. With the side-door choke out, the nipple hookup is full-opening and will pass all other types of wire line tools and equipment.

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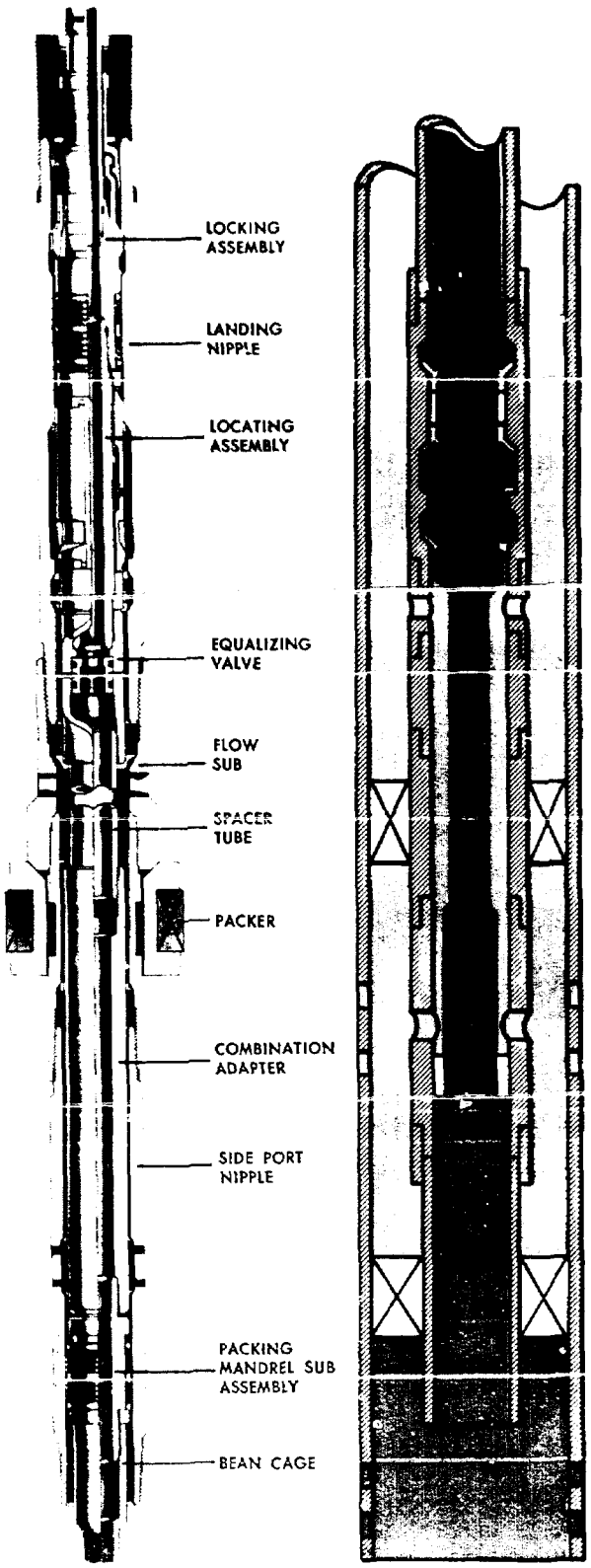
OTIS ENGINEERING CORPORATION

Dallas, Texas, U. S. A.

TYPE S OTIS DUAL REGULAR FLOW CHOKE

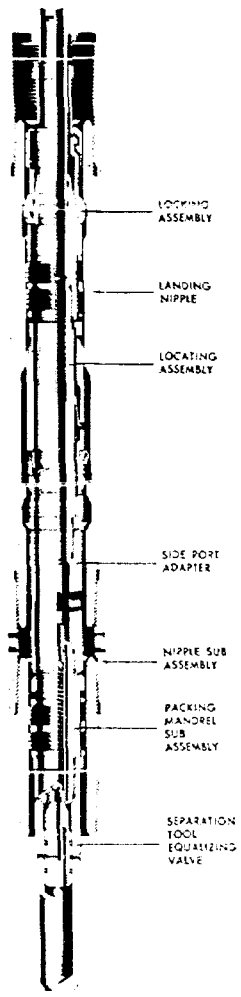


TYPE S OTIS DUAL REGULAR FLOW CHOKE

A Type S Otis Dual Regular Flow Choke consists of a locking mandrel assembly, locator mandrel assembly, equalizing valve assembly (combination type), bean cage, packing mandrel sub assembly, and a spacer sub. The tool is designed to seat in a Type S Landing Nipple with a side-door nipple sub-assembly and side-port mandrel assembly.

The tool serves to allow the flow of dually-completed wells to be produced parallel—i.e., the lower zone up the tubing in an uninterrupted course and the upper zone through the annulus, in the conventional manner. If it becomes necessary to cross over the flow courses, this choke may be removed by wire line methods and a cross-over flow tool run in its place.

TYPE S OTIS SEPARATION TOOL



TYPE S OTIS SEPARATION TOOL

The Type S Otis Separation Tool is designed to be exchanged with the Type S Side-Door Choke in a dual-completion if the bottom zone is to be blanked off and the upper zone is to be produced or merely unloaded through the tubing. The plug bottom on the separation tool is also an equalizing assembly which facilitates the wire line work involved in servicing the separation tool. Both the side-door and the separation tool utilize the same nipple hook-up and can be used in a single-completion, conventional dual-completion, alternate-zone completion, or multiple-string completion.

Appl Ex 5
Case 2231

Roswell, New Mexico
Place

March 15, 1961
Date

The undersigned, being an authorized representative of the offset operator, or participant in the Chalk Bluff Draw Unit, has been duly informed by Humble Oil and Refining Company of their intention to dual complete the Chalk Bluff Draw Unit "C" - 1, Bend gas well as a Bend-gas Abo-oil producer, located in Unit G; Section 17; T-18-S; R-27-E; Eddy County, New Mexico, hereby waives all objections to dually completing Chalk Bluff Draw Unit 1-C as a Bend-gas Abo-oil producer.

Land	WJK
Geol.	
Eng.	
Prod.	MJS

Gulf Oil Corporation
Name of Company

W A Shellshear
Representative of Company
District Manager

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name: Red Lake Penn		County: Eddy	Date: 3-9-61
Operator: Humble Oil & Ref Company		Lease: Chalk Bluff Draw Unit C	Well No.: 1
Location of Well: Unit G	Section 17	Township 18-S	Range 27-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual 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	Lower Zone
a. Name of reservoir	Abo	Bend
b. Top and Bottom of Pay Section (Perforations)	Proposed 5393' - 5454'	9446' - 9488'
c. Type of production (Oil or Gas)	Oil	Gas
d. Method of Production (Flowing or Artificial Lift)	Flow (Anticipated)	Flow (Csg Annulus)

4. Electrical logs are attached. (Please mark YES or NO)

yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, 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.

yes 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.

yes c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

yes 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.

Pan American Petroleum Corporation	401 W. Taylor	Hobbs, N.M.
Continental Oil Company	Rowley Building	Artesia, N.M.
Gulf Oil Corporation	Box 2167,	Hobbs, N.M.
Copy to: U.S.G.S.	Drawer U	Artesia, N.M.

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 3-9-61 .

CERTIFICATE: I, the undersigned, state that I am the _____ of the _____ (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.

R.R. Alworth
R.R. Alworth 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 dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

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