

CASE 3210: Application of MONSANTO
CO. for creation of a new oil pool,
and for special pool rules.

CASE No.

3210

Application,

TRANSCRIPTS,

SMALL Exhibits

ETC.

State of New Mexico
Oil Conservation Commission



P. O. BOX 2088
SANTA FE

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. 3210
Order No. R-2881

APPLICATION OF MONSANTO COMPANY
FOR SPECIAL POOL RULES, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 24, 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 25th day of March, 1965, 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, Monsanto Company, seeks the promulgation of temporary special rules and regulations for the Dagger Draw-Upper Pennsylvanian Pool, Eddy County, New Mexico, including a provision for 160-acre spacing units.

(3) That the applicant has not established that one well in the Dagger Draw-Upper Pennsylvanian Pool can efficiently and economically drain and develop 160 acres.

(4) That the applicant has not established that approval of the subject application will prevent waste or protect correlative rights.

(5) That the subject application should be denied.

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CASE No. 3210

Order No. R-2881

IT IS THEREFORE ORDERED:

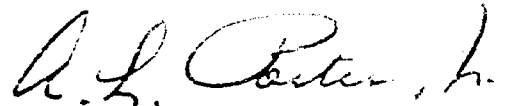
- (1) That the subject application is hereby denied.
- (2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


JACK M. CAMPBELL, Chairman


GUYTON B. HAYS, Member


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

ecr/

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF MONSANTO COMPANY
TO CREATE A NEW OIL POOL AND TO
ESTABLISH TEMPORARY SPECIAL RULES
AND REGULATIONS THEREIN AND THERE-
FOR INCLUDING A PROVISION FOR 160
ACRE WELL SPACING AND PRORATION
UNITS (OIL)

SECTION 31, TOWNSHIP 19 SOUTH,
RANGE 25 EAST, EDDY COUNTY,
NEW MEXICO

CASE NO. 3270

Comes now Monsanto Company by its attorney and applies to the New Mexico Oil Conservation Commission for an Order creating a new oil pool for Pennsylvanian production in the Dagger Draw (Upper Penn) Area, Eddy County, New Mexico and establishing temporary special field rules and regulations for said pool. In support of its application, Monsanto Company states:

1. Monsanto Company is the Operator and a Working Interest Owner in the Monsanto-Hondo Well No. 1 located 660 feet from the north line and 1,980 feet from the west line of Section 31, Township 19 South, Range 25 East, N.M.P.M., Eddy County, New Mexico.

2. The Monsanto-Hondo Well No. 1 has tested and found productive oil in the Pennsylvanian formation at an approximate depth of 7,765 feet.

3. Monsanto Company proposes the creation of a new oil pool for Pennsylvanian production based upon the completion of the Monsanto-Hondo Well No. 1 in this formation.

4. Monsanto Company proposes the establishment of temporary special rules and regulations in the said oil pool, including a

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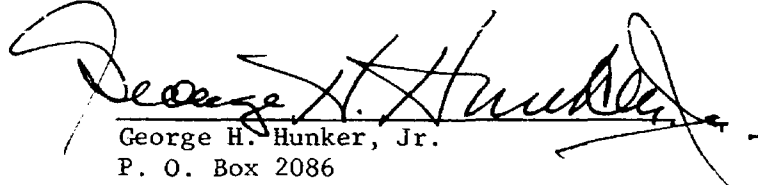
Date 2-12-43

provision in said special rules and regulations for 160 acre spacing units.

5. As a result of tests taken in the Pennsylvanian formation in the Monsanto-Hondo Well No. 1, the applicant states that in its opinion one well can efficiently and economically drain and develop an area of 160 acres.

6. The approval of this application will prevent waste and will not adversely affect correlative rights.

WHEREFORE, Monsanto Company requests that this application be set for hearing before one of the Commission's duly appointed Examiners at the last Examiner Hearing during the month of February, 1965 and that the Commission enter its Order approving this application.


George H. Hunker, Jr.
P. O. Box 2086
418 Hinkle Building
Roswell, New Mexico

Attorney for Monsanto Company,
Applicant

Case 3210

Heard. 2-24-64

Rec. 2-25-64

1. Grant Monsanto's request for special pool Rules for Haggerdram -
Dupper Penn. pool as noted on
the attached sheets:

Ernest D. J.

CASE No. 3073
Order No. R-2758

(12) That an administrative procedure should be established whereby the operators in the Tocito Dome-Pennsylvanian "D" Oil Pool would be permitted to conduct interference tests and to transfer allowables among producing wells on the same lease during the temporary one-year period in order to facilitate the gathering of information pertinent to reservoir characteristics.

(13) That this case should be reopened at an examiner hearing in July, 1965, at which time the operators in the subject pool should be prepared to appear and show cause why the Tocito Dome-Pennsylvanian "D" Oil Pool should not be developed on 40-acre oil well spacing and 160-acre gas well spacing.

IT IS THEREFORE ORDERED:

(1) That a new pool in San Juan County, New Mexico, classified as an oil pool for Pennsylvanian production, is hereby created and designated the Tocito Dome-Pennsylvanian "D" Oil Pool, consisting of the following-described area:

TOWNSHIP 26 NORTH, RANGE 18 WEST, NMPM

Section 17: S/2

Section 20: E/2

Section 21: SW/4

Section 28: N/2 and SE/4

(2) That temporary Special Rules and Regulations for the Tocito Dome-Pennsylvanian "D" Oil Pool are hereby promulgated, as follows:

SPECIAL RULES AND REGULATIONS
FOR THE

TOCITO DOME-PENNSYLVANIAN "D" OIL POOL

Deepest Series - Upper Pennsylvanian

RULE 1. Each well completed or recompleted in the Tocito Dome-Pennsylvanian "D" Oil Pool or in the Pennsylvanian formation within one mile of said pool, and not nearer to or within the limits of another designated Pennsylvanian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each oil well shall be located on a standard 160-acre unit comprising a governmental quarter section or on a non-standard unit consisting of less than 160 acres comprising a governmental quarter-quarter section or lot or governmental quarter-quarter sections or lots contiguous by common bordering sides and lying within a governmental quarter section.

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CASE No. 3073

Order No. R-2758

RULE 3. Each gas well shall be located on a standard ¹⁶⁰320-acre unit comprising a governmental half section or on a non-standard unit consisting of less than ~~320~~ acres comprising a governmental quarter-quarter section or lot or governmental quarter-quarter sections or lots contiguous by common bordering sides and lying within a governmental half section.

RULE 4. All wells shall be located within ~~150 feet of the center of a governmental quarter-quarter section.~~ ^{660 ft. 1/4, 330 ft. 1/2}

RULE 5. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

RULE 6. A standard oil proration unit (158 through 162 ^{3.33} acres) shall be assigned a 160-acre proportional factor of ~~2.77~~ for allowable purposes. The allowable assigned to a non-standard oil proration unit shall bear the same ratio to a standard oil proration unit allowable as the acreage in such non-standard unit bears to 160 acres.

RULE 7. The limiting gas-oil ratio shall be 2000 cubic feet of gas for each barrel of oil produced; a well with a gas-oil ratio of 20,000 to 1, or more, shall be classified as a gas well.

RULE 8. A standard gas proration unit ^(158 through 162 acres) ~~(316 through 324 acres)~~ shall be assigned an allowable in accordance with the following formula:

$$\text{Normal unit allowable} \times 2000 \times \frac{3.33}{2.77}$$

The allowable assigned to a non-standard gas proration unit shall bear the same ratio to a standard gas proration unit allowable as the acreage in such non-standard unit bears to ~~160~~ ¹⁶⁰ acres.

RULE 9. No gas shall be flared or vented on or after November 1, 1964, provided however, that any well completed in the

subject pool after August 31, 1964, shall be given 60 days in which to make beneficial use of the produced casinghead gas.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Pennsylvanian formation within the ~~Tecite Dome-Pennsylvanian "D"~~ Oil Pool or within one mile of said pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of said rule. The operator shall notify the ~~Aztec District~~ Office of the Commission in writing of the name and location of the well on or before August 15, 1964.
Mar 15 65

(2) That the allowable provisions of this order shall be effective ~~August 15, 1964~~ *Mar 15 65*; that any operator desiring to dedicate more than 40 acres to an ~~oil~~ well or more than 160 acres to a gas well presently drilling to or completed in the ~~Tecite Dome-Pennsylvanian "D"~~ Oil Pool shall file a new Form C-116 and a new Form C-128 with the Commission on or before August 15, 1964.
Mar 15 65

(3) That the Secretary-Director of the Commission is hereby authorized to approve interference tests and the transfer of allowables to wells on the same lease or, if in a unitized area, to wells in the same participating area, provided however, that any such authorization shall be limited to a period of six months, but may be renewed. No transfer well shall be permitted to receive, in addition to its own allowable, more than 50 per cent of one top unit allowable for the ~~Tecite Dome-Pennsylvanian "D"~~ Oil Pool.

To obtain administrative approval for interference tests and the transfer of allowable, the operator shall submit in triplicate a request for such authority describing in detail the proposed method of conducting such tests and transferring the allowable. The application shall be accompanied by a plat showing thereon all Pennsylvanian wells within a radius of two miles of the proposed shut-in well(s) and the transfer well(s). The plat shall also identify each lease or participating area as to ownership or operating rights. The application shall include evidence that all offset operators to the shut-in well(s) and the transfer well(s) have been furnished a complete copy of the application. It shall also be accompanied by Form C-116 for each shut-in well, showing the results of a pre-shut-in test to determine the amount of allowable to be transferred. The transferred allowable shall not exceed the volume of oil produced during the last 24 hours of a 72-hour period during which the well shall be produced at a constant rate.

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CASE No. 3073
Order No. R-2758

The Commission and offset operators to both the shut-in well(s) and the transfer well(s) may witness such tests if they so desire and shall be notified of the tests at least 48 hours prior to the commencement thereof.

The Secretary-Director of the Commission may grant approval of the interference tests and transfer of allowable upon receipt of waivers from all offset operators or upon expiration of a 20-day waiting period, provided no offset operator has objected to the proposed test and transfer.

(4) That this case shall be reopened at an examiner hearing in ~~May~~^{July}, 1964, at which time the operators in the subject pool may appear and show cause why the ~~Tocito Dome-Pennsylvanian~~^{Up} Oil Pool should not be developed on 40-acre oil well spacing and 160-acre gas well spacing.

(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

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

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

S E A L

esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 24, 1965

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

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

- CASE 2942: (Reopened and continued from the February 10, 1965 Examiner Hearing)
In the matter of Case No. 2942 being reopened pursuant to the provisions of Order No. R-2645, which order established temporary 160-acre spacing and fixed well locations for the Simanola-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.
- CASE 3195: (Continued from the January 27, 1965 Examiner Hearing)
Application of H & M Oil Company, et al for a waterflood project, Eddy County, New Mexico. Applicants, H & M Oil Company, Kincaid & Watson, N. E. Salsich, Jr., and Kersey, seek authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg and San Andres formations through six injection wells in Section 1, Township 17 South, Range 29 East, and one injection well in Section 6, Township 17 South, Range 30 East, Eddy County, New Mexico.
- CASE 3198: (Continued from the January 27, 1965 Examiner Hearing)
Application of Texaco Inc. for an amendment of Order No. R-2758, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Rules 6 and 8 of Order No. R-2758, which order promulgated special pool rules for the Tocito Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico. Applicant seeks a 160-acre proportional factor for said pool of 4.77 rather than a factor of 2.77 as previously established by the Commission.
- CASE 3210: Application of Monsanto Company for the creation of a new oil pool and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Upper Pennsylvanian production for its Monsanto-Hondo Well No. 1 located in Unit C of Section 31, Township 19 South, Range 25 East, Eddy County, New Mexico, and for the promulgation of special pool rules for said pool, including a provision for 160-acre spacing.
- CASE 3211: Application of Archie M. Speir for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Red Lake Grayburg Unit Area comprising 1442 acres, more or less, of State and Federal lands in Sections 35 and 36, Township 17 South, Range 27 East, and in Sections 1 and 2, Township 18 South, Range 27 East, Eddy County, New Mexico.
- CASE 3212: Application of Archie M. Speir for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Red Lake Pool by the injection of water into the Premier San-Grayburg formation through 18 injection wells in Sections 35 and 36, Township 17 South, Range 27 East, and in Sections 1 and 2, Township 18 South, Range 27 East, Eddy County, New Mexico.

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February 24, 1965 Examiner Hearing

CASE 3213: Application of International Oil & Gas Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Artesia Pool by the injection of water into the Grayburg and Queen formations through two injection wells in Sections 25 and 36, Township 17 South, Range 28 East, Eddy County, New Mexico.

Elvis

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. B. JOHNNY WALKER
MEMBER

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

P. O. DRAWER DD
ARTESIA, NEW MEXICO

February 8, 1965

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

Attention: Mr. Elvis Utz

Re: Case 3210

Dear Elvis:

Please note that Case 3209 paragraph (c) to be heard February 17, 1965, will be to consider the creation of the Dagger Draw - Upper Pennsylvanian Pool, NW/4 Sec. 31-T19S-R25E, Eddy County. This is for the same well for which the Monsanto Company is seeking a pool creation and special pool rules in Case 3210 to be heard February 24, 1965.

I thought I should call this to your attention in order to avoid the creation of two pools for one well.

Very truly yours,

OIL CONSERVATION COMMISSION

Dick
R. L. Stamets
Geologist

RLS/oh
cc: Mr. Jim Durrett
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

505 622-3405

LAW OFFICES
GEORGE H. HUNKER, JR.
418 HINKLE BUILDING
ROSWELL, NEW MEXICO

POST OFFICE BOX 2086

January 25, 1965

Mr. A. L. Porter, Jr.
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Monsanto Dagger Draw Upper Penn
Eddy County, New Mexico
T19S, R25E, Section 31

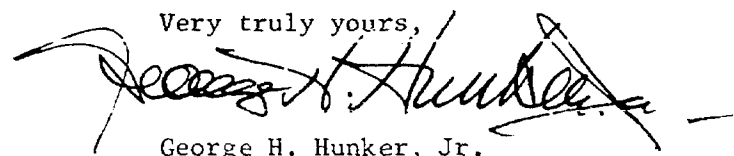
Dear Mr. Porter:

Monsanto Company has completed its No. 1 Hondo located in the center of the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 31, Township 19 South, Range 25 East in the Pennsylvanian formation. Some oil is produced with great quantities of water.

Monsanto Company has asked us to file, on their behalf, an Application to create a new oil pool and to establish temporary special rules and regulations therein and therefor including a provision for 160 acre well spacing and proration units. This Application is filed herewith. You will note that we have asked that this matter be set down before one of your Examiners at the last Hearing during the month of February.

If you or your staff has any question with regard to this matter, please advise.

Very truly yours,



George H. Hunker, Jr.

GHH:cd
Encl.

cc: Mr. A. W. Wood
Regional Production Superintendent
Monsanto Company
602 West Missouri Ave.
Midland, Texas 79701

DOCKET MAILED

Date 2-12-65

CARPER

DRILLING COMPANY, INC.

O I L P R O D U C T I O N A N D D R I L L I N G

STANLEY CARPER, PRESIDENT
MARSHALL ROWLEY, EXEC. VICE-PRES. & TREAS.
GLENN A. CASKEY, SECRETARY

ARTESIA, NEW MEXICO - 88210
CARPER BUILDING
PHONE 746-2783

February 18, 1965

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

Attention: Mr. A. L. Porter, Jr.

Re: Case No. 3210,
Examiner Hearing,
February 24, 1965.

Gentlemen:

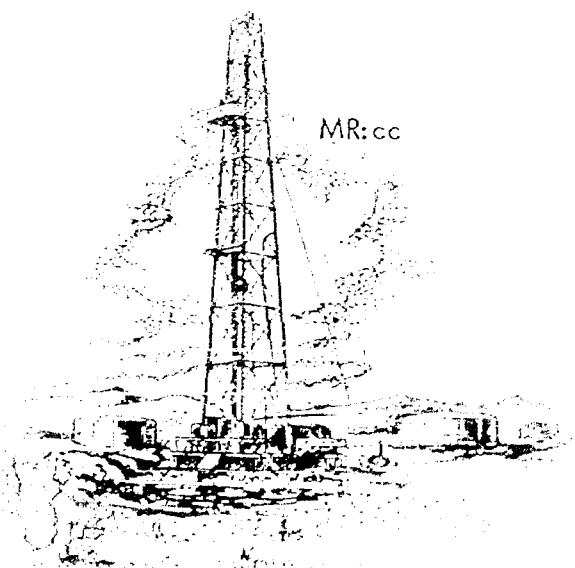
This is to advise that we concur with Monsanto's request
for 160 acre spacing for oil production from the upper Pennsylvanian
Formation in Section 31, Township 19 South, Range 25 East, Eddy County,
New Mexico.

Yours very truly,

CARPER DRILLING COMPANY, INC.

Marshall Rowley
Marshall Rowley

MR:cc





308 CARPER BUILDING
ARTESIA, NEW MEXICO - 88210

19 February 1965

S. P. YATES
PRESIDENT
HARVEY E. YATES
VICE PRESIDENT
MARTIN YATES, III
VICE PRESIDENT
JOHN A. YATES
SECRETARY
HUGH W. PARRY
TREASURER

RE: Case No. 3210
Hearing-February 24, 1965

Monsanto Company
602 West Missouri Avenue
Midland, Texas 79701

Attention: Mr. A. W. Wood
District Production Superintendent

Gentlemen:

In reference to the captioned and your request for 160-acre spacing, Yates Petroleum Corporation as owners of offsetting leases concur with your opinion that the Upper Pennsylvanian production from the Monsanto-Hondo Well No. 1 should be at the present time developed on 160-acre spacing.

Very truly yours,

YATES PETROLEUM CORPORATION


Martin Yates, III-Vice President

dp

cc: New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

dearnley-meier reporting service, inc.

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PAGE 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 24, 1965

Examiner HEARING

IN THE MATTER OF:

APPLICATION OF MONSANTO COMPANY FOR THE
CREATION OF A NEW OIL POOL AND FOR SPECIAL
POOL RULES, EDDY COUNTY, NEW MEXICO

Case No. 3210

BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING

MR. UTZ: Case Number 3210.

MR. DURRETT: Application of Monsanto Company for the creation of a new oil pool and for special pool rules, Eddy County, New Mexico.

MR. UTZ: Are there appearances in this case?

MR. HUNKER: Yes, sir, Mr. Examiner--George H. Hunker, Jr., Roswell, New Mexico, appearing on behalf of Monsanto; and I would like for Mr. Anderson to stand and be sworn.

MR. UTZ: Yes. Let the record show that there were no further appearances.

P. G. A N D E R S O N, the witness, having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HUNKER:

Q Mr. Anderson, will you state your name and address, and position.

A My name is P. G. Anderson, Midland, Texas; District Petroleum Engineer for Monsanto Company.

Q Have you testified before this Commission on a previous occasion?

A Yes, sir.

Q What is your background, Mr. Anderson, with respect to education and qualifications?

A I have a degree in Chemical Engineering from Texas

A&M University, and I have worked for fifteen years in various capacities as a petroleum engineer.

Q What is your position at present with Monsanto Company?

A My present position is District Petroleum Engineer.

Q How long have you had that position?

A For seven years.

MR. HUNKER: Are the qualifications of the witness satisfactory, Mr. Utz?

MR. UTZ: Yes, sir, they are.

MR. HUNKER: Mr. Anderson, I hand you what has been marked Exhibit 1, and ask you to tell Mr. Utz, the Examiner, what this instrument shows.

A Mr. Examiner, this exhibit Number 1 shows in yellow the acreage presently under lease to Monsanto Company in the vicinity of our Hondo Number 1 located in Section 31, Township 19 South, Range 25 East. The acreage in green is presently --Monsanto holds an option to lease this acreage, provided they meet certain requirements.

Q Will you tell the Examiner about this Hondo Number 1 well--when it was drilled and give us the completion information and so on with respect to that well.

A The Hondo Number 1 was drilled and completed in November of 1964. It was drilled to the Morrow formation;

however, the only commercial production encountered is in the upper Penn formation. It was completed for a potential of 360 barrels of oil per day and 480 barrels of water per day, with a gas-oil ratio of 1600 and 80 to 1.

Q What formation was this production from?

A This production was from the upper Penn formation.

Q What area do you feel has been reasonably proven to be productive by the drilling and completion of this well?

A I think that can best be shown by our Exhibit Number--

Q Well, we'll come to that in a little bit then, Mr. Anderson.

A Well, we can enumerate them. We think that there is a nine-section area surrounding and including Section 31.

Q Thank you. I hand you what has been marked Exhibit 2, and ask you to tell the Examiner what this instrument shows.

A Exhibit 2 is a well status map showing the various wells drilled in the vicinity of the Hondo Number 1. I might direct your attention to the various wells shown here; for example, in Section 5 of Township--I can't keep up with these townships, but--Township 18 South, Range 25 East--there is an active Cisco test currently being drilled by Monsanto. There is also one being drilled by Yates in Section 1, Township 18 South, Range 24 East.

MR. UTZ: Let's clarify that location. Which part of

this exhibit are you on?

WITNESS: West of--do you find Section 1 of Township--

MR. UTZ: You're speaking of Section 5 now, are you?

WITNESS: In Section 5 an active Cisco test is being drilled.

MR. UTZ: That's in 25, then.

MR. DURRETT: Why don't you mark in the townships there, so we can have the record straight?

MR. HUNKER: Let's start again, if you will, please, and explain about the well in Section 5, 20 South.

A I merely want to point out that there are some current developments being conducted in the area at the present time. One test is in Section 5, Township 20 South, Range 25 East. There is another active test in Section 1, Township 20 South, Range 24 East. In addition to the Hondo Number 1, Atlantic has a well in Section 24, Township 19 South, Range 24 East, which is an indicated upper Penn oil discovery. There is another upper Penn oil discovery located in Section 17, Township 19 South, Range 25 East. There are several more wells--there is also an upper Wolfcamp well in the area.

MR. UTZ: Is the upper Penn considered to be "Cisco"?

A That's a name our company uses to define this particular rise. I understand it isn't recognized by the State of New Mexico.

MR. UTZ: You consider it a section of the upper Penn, then, in other words?

A Yes, sir.

Q In other words, all these tests you have described here most recently are in the same horizon?

A Yes. I merely wanted to show, in other words, that there were several active tests going to the same horizon to which the Hondo is completed, and also to show some of the wells in this map are completed in other horizons also. For example, there's an upper Wolfcamp oil well in Section 36, Township 19 South, Range 24 East, and Monsanto also has a dual completion gas well in Section 6, Township 20 South, Range 25 East.

MR. HUNKER: Was the Cisco present in that well?

A The Cisco section was present, but it contained no hydrocarbons--it wasn't productive. It was tight; no porosity or permeability.

Q Is that all you have on that exhibit?

A Yes.

Q I hand you what has been marked Exhibit 3, and I will ask you to tell the Commission what that exhibit shows.

A Exhibit 3 is a structure map contoured on top of the Cisco dolomite--as previously pointed out, we consider the Cisco a section of the upper Penn formation. These are based on the--this structure map is based on the wells that have

dearnley-meier

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penetrated this formation, and represents at this time--are an interpretation of the producing area in and around the Hondo Number 1. I would like to point out the three wells which are currently producing or have indicated production from the Cisco zone. Of course, the first one is Monsanto Hondo Number 1, located in Section 31, Township 19 South, Range 25 East. You will notice that the initial potention on this was, as I pointed out before, 360 barrels of oil per day plus 480 barrels of water per day. The Atlantic well in Section 24, known as the Cone Federal Number 1, was also completed from the Cisco zone with a large amount of associated water production. In addition, the Atlantic well, Kincaid Federal Number 1 in Section 17, Township 19 South, Range 25 East, swabbed 15 barrels of fluid per hour, 20% oil. These three tests seem to indicate that a large amount of water is going to be associated with this oil production, regardless of the position on the structure.

Q By "a large amount of water," what do you mean, Mr. Anderson?

A Well, water cuts in the order of 70 to 90% seem to be prevalent.

MR. UTZ: 70 to what?

A 70 to 90%.

MR. HUNKER: Mr. Anderson, I hand you three logs that have been marked Exhibits 5a, 5b and 5c, and ask you to

dearnley-meier

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take Exhibit 5a and explain to the Examiner what this represents.

A If you will refer to the induction electrolog, which is marked Exhibit--

MR. HUNKER: The exhibits are marked on the front.

MR. UTZ: Don't you have Exhibit 4?

MR. HUNKER: Those are supposed to be 4--Exhibit 4. Mr. Anderson, referring to Exhibit 4, please explain--that is, Exhibit 4a, the induction electrolog. If you will open it to the five-inch scale--I mean to the seven-inch scale, excuse me, and explain that.

A Transcribed on this log are the results of several drill stem tests which were taken throughout the upper Penn formation--in fact, there were six tests taken altogether. You will notice on the first test in the upper Penn, at 7570 to 7643 only 30 feet of drilling mud was recovered. The second test, 7645 to 7685, recovered 15 feet of heavy mud-cut oil, 153 feet of heavy oil and gas-cut mud, 93 feet of heavy mud-cut oil, and 270 feet of brackish muddy water. Shut-in--both initial and final shut-in pressures were 3022, indicating that we did have communication with the reservoir with this test. The third test was a failure; however, the interval was re-tested on the fourth test--in fact, it was expanded by approximately 10 feet, this test, from 7712 to 7735, and we had gas to the surface in eight minutes, recovered 270 feet of free oil, 180 feet of heavy oil and gas-cut mud, 90 feet of mud-cut oil, 90 feet of muddy

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brackish water, and 180 feet of clear water with a slight sulphur odor. Here again, pressures were normal and the test was considered successful and conclusive. Another test was taken from 7757 to 7780. Similar results were obtained here, with various amounts of free oil, oil and gas-cut mud and brackish fresh sulphur water. The sixth test was 7788 to 7810. This test recovered 1860 feet of oil and gas-cut muddy fresh water, 1173 feet of slightly gas-cut brackish fresh water with a trace of oil, and again pressures were normal.

Q Go ahead, Mr. Anderson.

A This test indicated to us that the Cisco, where it is commercially productive of hydrocarbons, will also be associated with some water production, regardless of where you complete the well. Naturally, the deeper--below 7800 feet was practically 100% water productive. And in the course of our completion we attempted to complete the well at 7801 to -07, and this produced or tested 100% water from this interval, and it was subsequently squeezed off with 250 sacks of cement. The zone 7759 to -76 was perforated and this is the current completion interval in this well. The other logs which you have in front of you are a gamma neutron and an acoustic log. Both of them are indicative of the type of porosity that you will encounter throughout this interval, and it is a rather stratified reservoir with porosity zones coming and going throughout the

interval. From our logs and the drill stem tests we believe that this zone is connected to a considerable permeability or fracture system which will enable the well to recover officially the hydrocarbons associated with it.

Q Do you feel that one well on a 160-acre tract can efficiently and economically drain a 160-acre tract?

A From the information we currently have on the reservoir I feel that it is--that one well can effectively drain 160 acres.

Q Do you have anything else you wish to add?

A I don't believe so.

MR. HUNKER: Do you have any questions, Mr. Examiner, with respect to the logs?

MR. UTZ: No, not at this time. I may have some on cross-examination.

MR. HUNKER: Mr. Anderson, I hand you what has been marked Exhibit 5, and ask you to tell the Examiner what this report shows.

A Exhibit 5 is a tabulation of production tests from the perforations 7759 to 7776 in the Hondo Number 1. The first test, of course, is the initial potential that was reported on the well, and the remainder of the test indicates the productivity of the well as it has been tested during the past two months or two and a half months that it has been on production.

Q And what does this summary of production tests shown

on Exhibit 5 indicate to you?

A It indicates to me that we have a well that is capable of producing a rather large amount of fluid. However, oil production has shown some decline. The water production, although declined slightly, is not--did not to such an extent that the oil has. The pressure--there was a pressure taken on the well by a fluid level survey approximately one month after the well was placed on production. This pressure indicates no severe draw-down in the reservoir pressure has been experienced. These tests indicate to me that this would be typical of the life of this well.

Q How much did it cost Monsanto to drill and complete the Hondo Number 1?

A It cost Monsanto approximately \$175,000.00 to drill and complete the well in the upper Penn formation.

Q This cost does not include the cost for drilling to test the Morrow?

A No, sir, it does not.

Q Have you made a study of this area with respect to the future wells that may be drilled, and if you have, can you tell the Examiner what the results of this study have been.

A Well, we have studied it, of course, from the standpoint of attempting to develop the reservoir, and as pointed out previously, we currently have an active test to the Cisco being

drilled in Section 5, Township 20 South, Range 25 East. Of course our development plans will hinge greatly upon what type of spacing will be employed in this reservoir.

Q From an economic standpoint, have you made a study and comparison between 40-acre spacing and 160-acre spacing?

A Yes, sir, I have.

Q If you had to develop this area on a 40-acre basis would it be economical for you to do this?

A Based on our analyses of the current producing well, the Hondo Number 1, Monsanto could not develop this reservoir on 40-acre spacing.

Q What recommendation would you make to the Commission in regard to spacing of this particular area?

A I would recommend 160-acre spacing.

Q Are you familiar with Monsanto's application in connection with this case, Mr. Anderson?

A Yes, sir.

Q I hand you what has been marked Exhibit 6, and ask you to tell the Examiner if this exhibit represents your proposed rules for the Dagger Draw Upper Penn Field.

A Yes, sir, it does represent the rules which Monsanto proposes for the Dagger Draw Upper Pennsylvanian Field.

Q Will you summarize these rules, Mr. Anderson, for the Examiner.

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A Spacing, as previously mentioned, would be 160 acres, assigned to each Upper Penn well. Location of the well within the unit would be not closer than 660 feet to any quarter section line or closer than 330 feet to any quarter-quarter section line.

Q Has a provision been included for exceptions?

A An exception to the 160-acre spacing has been included and is carried under proposed Rule Number 4.

Q Will you read proposed Rule Number 5, please, Mr. Anderson.

A "A 160-acre proration unit. 158 to 162 acres in the Dagger Draw Upper Pennsylvanian Pool shall be assigned a 160-acre proportional factor of 5.33 for allowable purposes, and in the event that there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit in any proportion."

Q How did you arrive at the proportional factor of 5.33 for allowable purposes?

A This is arrived at from the normal--taking the normal 40-acre unit for wells completed between 7,000 and 8,000 feet and allowing an additional factor of one for each 40 acres.

MR. UTZ: A factor of 2.33?

A Yes, sir, and allowing an additional proportional factor of 1.00 for each additional 40 acres in the proration unit. Rule Number 6 is that the gas-oil ratio shall be 5,000

to 1.

MR. HUNKER: In connection with your proposal to the Commission to grant special field rules, is it your desire that these be of a temporary nature?

A Yes, sir.

Q For how long a period?

A For a period of two years, would be desirable.

Q Would one year be satisfactory if the Commission saw fit to only grant a year?

A It would have to be.

Q In connection with this matter, have you contacted other oil and gas lease operators in this area, and if so, tell the Examiner what the results of your letters to these companies were.

A We have contacted by letter all of the offset operators to the Hondo Number 1 in regard to 160-acre proration units and spacing for this reservoir.

Q Have any of these companies objected to the proposed 160-acre spacing?

A None of these companies have advised us of any objections.

Q Have any companies told you they were favorable?

A We have received three replies from offset operators which favor 160-acre spacing.

MR. HUNKER: Mr. Examiner, at this time I would like to offer in evidence Exhibits 1 through 6.

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

MR. HUNKER: This completes the examination I have of this witness, and completes my case.

CROSS-EXAMINATION

BY MR. UTZ:

Q Mr. Anderson, referring to Exhibit 3, is it my understanding that you had several wells on which to base this contour?

A Yes, sir, the points which were used to contour this are marked on here. Actually it consists basically of four points--the three wells which have been previously mentioned, the Monsanto Hondo Number 1 and the two Atlantic wells, and then a well and dry hole in Section 30 of Township 19 South, Range 25 East, which is denoted as the Carper Van Hook Federal Number 1. These four points or four wells consist of our control of the construction of this map.

Q Down into 20 South and 25 East, then, you actually didn't have any control, or did you, with your well in Section 6 of that township and range?

A The well in Section 6, the Dagger Draw--of course, we did examine the upper Penn as we drilled through it, and it wasn't commercial. The analyses by our geologists indicated

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that they thought the productive dolomite would lie to the north and east, and on the strength of that interpretation we are currently drilling a Foster Number 1 in Section 5.

Q So actually you had no control for your contouring in that township, other than an opinion?

A That is correct.

Q The Carper well in Section 3 of 19 South, 25 East actually went through the upper Penn?

A Yes, sir.

Q And it was dry?

A Actually this well was the one that kicked off the development in this area. They recovered a show of oil in the upper Penn and they also picked up a considerable amount of water, and at that time the operator didn't consider it to be commercially productive, and plugged the well. This of course-- now I think that it appears to be--could be that that acreage could be considered productive at this time, based on our efforts to complete in this formation.

Q Do you think the Carper people might consider it to be productive?

A They have participated in our Hondo Number 1; of course, they are well aware of the situation. What their plans are to re-enter that well I don't know. If it was a Monsanto well I feel reasonably sure that if the Hondo continued to be productive

we would consider trying to complete the well.

Q Referring to your Exhibit 5, I note that you have two GORs shown there for tests on 11/20 and 12/21, 1964, which show a GOR of 1680 and 1838, respectively. Are those production tests?

A Yes, sir.

Q And that is GOR taken at surface?

A Yes, sir.

Q Why are you asking for 5,000?

A We feel that in the course of producing this well, that this high ratio or a ratio of this order, and it possibly could go higher, will occur, due to the nature of the rock we are dealing with, and this thing is apparently a water-drive type of producing mechanism. but at the same time we have, I'm sure, a lot of tight rock from which we've got to drag this oil out, so to speak, and this we consider to be a natural phenomenon, that the gas-oil ratio will increase on this type operation. We have requested 5,000 to one as a means of more readily, for an operational--

Q --To take care of any increase in GOR which you might have, without suffering a decrease in allowable, is that right?

A Yes, sir.

Q The normal unit allowable in this area now, for this month, is 39 barrels, is that correct? Do you have that figure

available?

A I based it on 40--it was 210. I can evaluate it for you real quick-like.

Q That's close enough. You have said you think this is a water-drive pool, is that correct?

A Yes, sir.

Q And from what is shown on your drill stem tests on your Exhibit 4A, the water isn't too far down below the producing zone, is it?

A No, sir.

Q With an allowable of 210 barrels a day, do you think the water may be a little bit close to the producing area, and might cone?

A That's the purpose of bringing these drill stem tests. We encountered considerable water on each drill stem test as we drilled through the formation, and referring back to Exhibit Number 4, on every drill stem test we took which indicated that there was some hydrocarbon production, there was also a rather significant amount of water also in that test, so it is our opinion that regardless of where we complete in this interval or within the Cisco, we're going to be faced with producing considerable quantities of water, and I feel that coning at this time is not significant. Later producing operations may bear results otherwise.



Q Do you feel that the water you got in the interval from--your completion interval from 7759 to 7776 was water from the water drive blanket, or interstitial water?

A I believe it would be interstitial water.

Q Present in the formation, rather than coming up the hole?

A Yes, sir. I'd like to point out also--a thought just occurred to me. On this completion, we did not fract this well, we stimulated those producing formations with 500 gallons of mud acid, and this is the type of production that resulted, so the well has only been stimulated to a minor extent, and I don't feel that we have fractured in the water.

Q Do you have any interpretations as to the permeability of your pay zone, that you have taken from the logs? Did you core this well so you would have some interpretation?

A From our drill stem test analyses we have determined that permeability is on the order of 30 millidarcies. We did not core this well.

Q Do you intend to core the well you are drilling south of this well in Section 5?

A No, sir, our plans do not at this time include any provisions for coring.

Q Are you asking here for a permanent or temporary order?

A We are asking for a temporary order.

Q You don't think a core might be a pretty good bit of information to present at the time you come in for a permanent order?

A The core certainly would add to our knowledge of this reservoir--I would be the last to say it would not, but we are--I would think probably that if additional wells are drilled, the interference tests and history of this well plus those of the additional wells would be more conclusive information in that respect.

Q Since this pool is somewhat questionable economically --this well, as to the area that can be drained, being a water-drive pool, what would be your opinion as to the allowables being reduced somewhat for a temporary period, in order to stay on the safe side, until the pool is more completely evaluated?

A We would be agreeable to a reduction of the allowable, on the provision that should we encounter a better production rock in a subsequent well, we would be allowed to come back and ask for an increase in allowable.

Q In other words, on this well you can't produce your allowable anyway?

A Yes, sir. The point I might make is that we have perforated only a very small interval of this well--we are

currently contemplating additional perforations up above this zone that is within the upper Pennsylvanian, in hopes of increasing the well's oil productivity. This thing, as you can see--having increased oil and water from the first indication of production all the way down to 7800 feet, we're not completely sure ourselves just what type or what kind of well we have. At the present time this particular zone it's producing is certainly bordering on the marginal well, but if we can pick up additional productivity by perforating additional pay, we hope to be able to increase. But we had to satisfy ourselves that this thing was going to stay with us, and not just water out over-night.

MR. UTZ: Are there other questions?

MR. DURRETT: I have a question or two. You stated the well couldn't make the 160-acre allowable. What allowable can it make?

A At the present time it can make forty barrels a day.

Q Which is the normal unit allowable?

A That's not even the normal allowable.

Q Well, on the 160.

A For a well of this depth your allowable would be 93 barrels a day.

Q On the depth factor for 40-acre allowable, you're speaking of?

A Yes. We believe to protect correlative rights, and should productivity be better, they should be allowed to produce the normal 160-acre allowable.

MR. UTZ: Even if they're coned?

A Well, if they are coned they wouldn't be able to produce that very long.

MR. DURRETT: You are aware, are you, that the Commission can always amend any rules it sets up, Mr. Anderson?

A Yes, sir.

Q And by subsequent hearing they could increase the allowables or decrease the allowables, or increase the GOR, or do anything they want to if the evidence will support it? You are aware of that, I assume?

A Yes.

Q Moving to your rules, I have a question concerning your proposed rules--I believe it's Exhibit 6. I note here you have not put in any provision for non-standard location. Was that intentional, or do you think such provision would be appropriate?

A I believe Rule 4--doesn't it cover non-standard unit, or does it not? Maybe I'm mistaken.

Q It covers a non-standard unit. I'm speaking of non-standard locations. Do you feel that this is not necessary, or do you think the Commission should consider some type of

non-standard location rules?

A We would be agreeable to a provision for a non-standard well location, due to topography features.

Q Or re-entry?

A Or re-entry.

Q Are any wells completed now in this area such that they would be non-standard under Rule 2? Let's put that another way. Will all the wells that are completed now in this area comply with your well locations you propose in Rule 2?

A The Hondo Number 1 will comply with it and the Foster Number 1 will comply with it. I have not considered or even examined how this rule would fit with the two Atlantic wells.

MR. UTZ: If the two Atlantic wells in Sections 17 and 24 on Exhibit 3 were closer than 660 feet, or did not comply with the rules, would it be your recommendation that we accept them as standard units, or as exceptions to your rules--standard locations?

A YES, sir.

MR. DURRETT: I think that's all I have. Thank you.

MR. UTZ: Is there anything further? The witness may be excused. Do you have anything further?

MR. HOBKER: I don't have anything further.

MR. UTZ: Are there other statements to be made in

this case?

MR. DURRETT: I might state for the record that the Commission has received letters from Coor Drilling Company and Yates Petroleum Corporation, stating that they concur with the application in this case.

MR. UTZ: Did you have anybody that did not concur with the 160-acre spacing?

WITNESS: No, sir, we were not advised of any objection to it.

MR. UTZ: They didn't tell you, if they didn't agree with you?


WITNESS: No, sir. I would assume that they would sure appear, if they didn't.

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

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ELIZABETH K. HALE, Notary Public and Court Reporter, certify that proceedings in Case Number 3210 were taken and transcribed by me, and that the foregoing is a true and accurate transcript of proceedings to the best of my knowledge, skill and ability.


Notary Public

My commission expires
May 23, 1968.

I do hereby certify that the foregoing is
a complete report of the proceedings in
the hearing or hearing of Case No. 3210,
heard by me on Feb. 24, 1965.

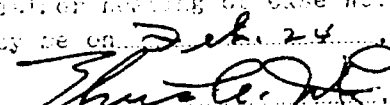

Examiner
New Mexico Oil Conservation Commission

Exhibit No. V

Production Tests
from Perforations 7759-7776'
Hondo No. 1 - Dagger Draw (Upper Penn) Field
Eddy County, New Mexico

Date	Length of Test	BOPD	BWPD	GOR	BHP
11-20-64	5 hrs.	360	480	1680	-
12-21-64	24 hrs.	99	351	1838	-
12-23-64	26 hrs. Shut in				3035
					by Fluid Level Survey
12-29-64	21 hrs.	66	260		
1-13-65	24 hrs.	58	220		
1-22-65	24 hrs.	66	280		
2-3-65	24 hrs.	47	264		
2-14-65	24 hrs.	38	297		

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	5
DATE NO.	

Proposed Rules for
Dagger Draw (Upper Pennsylvanian) Field

RULE 1. Each well completed or recompleted in the Dagger Draw (Upper Penn) Pool or in the Upper Penn formation within one mile of the Dagger Draw (Upper Penn) Pool, and not nearer to nor within the limits of another designated Upper Penn pool, shall be spaced, drilled, operated, and prorated in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Upper Penn Pool shall be located on a unit containing 160 acres, more or less, substantially in the form of a square, which is a quarter section being a legal subdivision of the United States Public Lands Survey.

RULE 3. Each well completed or recompleted in said pool shall not be drilled closer than 660 feet to any quarter section line nor closer than 330 feet to any quarter-quarter section line.

RULE 4. For good cause shown, the Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when the application is for a non-standard unit comprising less than 160 acres. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director of the Commission may approve the application if, after a period of 30 days, no offset operator has entered an objection to the formation of such non-standard unit.

The allowable assigned to any such non-standard unit shall bear the same ratio to a standard allowable in the Dagger Draw (Upper Penn) Pool as the acreage in such non-standard unit bears to 160 acres.

RULE 5. A 160-acre proration unit (158 through 162 acres) in the Dagger Draw (Upper Penn) Pool shall be assigned a 160-acre proportional factor of 6.33 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit in any proportion. 333

RULE 6. The limiting gas-oil ratio in the Dagger Draw (Upper Penn) Pool shall be

~~4000:1.~~
~~5000~~
2000

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
<i>Monsanto</i> SUBMIT NO. <u>6</u>
CASE NO. <u>3210</u>