

CASE 3108: Application of MONSANTC  
for a dual completion of its  
DAGGER DRAW WELL NO. 1.

P. H. Anderson -

Monsanto Midland  
requests continuance  
of Case 3108 to  
Oct. 13.

Done  
9/23/69

CASE NO.

3108

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

MAIN OFFICE 000

'64 SEP 25 AM 8 00

# Monsanto C O M P A N Y

*Copy 3152*

HYDROCARBONS DIVISION

602 West Missouri Avenue  
Midland, Texas 79701

September 23, 1964

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico

Attention: Mr. D. S. Nutter

Re: Monsanto No. 1  
Dagger Draw  
Section 6, T-20S, R-25E  
Eddy County, New Mexico

Gentlemen:

Confirming the telephone conversation with Mr. Nutter of this date, Monsanto Company respectfully request that the Commission grant a continuance to October 13, 1964 pertaining to the application for dual completion of the Dagger Draw No. 1. It is our understanding that this will allow the hearing for both the Dagger Draw No. 1 and the Lowe State No. 1 to be held on the same date.

Your consideration in this matter is greatly appreciated.

Yours very truly,

*P. G. Anderson*  
P. G. Anderson

PGA:dm

DOCKET MAILED

Date 10-1-64

DOCKET: EXAMINER HEARING - TUESDAY - OCTOBER 13, 1964

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

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

CASE 3108: (Continued from the September 30, 1964 examiner hearing)

Application of Monsanto Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Dagger Draw Well No. 1, located in Unit O of Section 6, Township 20 South, Range 25 East, Eddy County, New Mexico, to produce gas from the Strawn and Morrow formations through the casing-tubing annulus and through tubing, respectively.

CASE 3115: Application of Monsanto Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Lowe-State Well No. 1 located in Unit F of Section 36, Township 21 South, Range 23 East, Eddy County, New Mexico, to produce gas from the Cisco Canyon and Lower Morrow formations through parallel strings of tubing.

CASE 3116: Application of Tex-Star Oil & Gas Corporation for force-pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Pearl-Queen Pool underlying the NW/4 NW/4 of Section 24, Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 3117: Application of Tex-Star Oil & Gas Corporation for force-pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Basin-Dakota Pool underlying the E/2 of Section 26, Township 30 North, Range 14 West, San Juan County, New Mexico.

CASE 3118: Application of Gulf Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Penrose Skelly Unit Area comprising 4,400 acres, more or less, of Federal, State and Fee lands in Township 22 South, Range 37 East, Penrose Skelly Pool, Lea County, New Mexico.

October 13, 1964 Examiner Hearing

CASE 3119: Application of Gulf Oil Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Penrose Skelly Pool in its South Penrose Skelly Unit Area by the injection of water into the Grayburg formation through six wells in Sections 5 and 6, Township 22 South, Range 37 East, Lea County, New Mexico.

CASE 3120: Application of Dr. Sam G. Dunn for a Review of the Commission's Directive of August 27, 1964, concerning salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks a review of the Commission's Directive of August 27, 1964, prohibiting the disposal of produced salt water in unlined pits after November 1, 1964, in the Linda-San Andres Pool and adjacent areas in Townships 6 and 7 South, Range 26 East, Chaves County, New Mexico. Applicant specifically requests an extension of the November 1st deadline and a determination that salt water disposal in unlined pits in Sections 26, 27, and 34, Township 7 South, Range 26 East, among other areas, does not constitute a hazard to fresh waters and should be excepted from the Commission's directive.

CASE 3121: Application of Dr. Sam G. Dunn for a water injection project, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a water injection project by the injection of water into the San Andres formation through one well located in Section 33, Township 6 South, Range 26 East, Linda-San Andres Pool, and by the injection of water into one well in Section 32 or 33, and one well in Section 27, Township 7 South, Range 26 East, all in Chaves County, New Mexico.

CASE 3122: Application of Continental Oil Company for an unorthodox location and a non-standard unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to complete its Meyer B-4 Well No. 27 at an unorthodox location 5,610 feet from the South line and 660 feet from the East line of Section 4, Township 21 South, Range 36 East, Oil Center Blinebry Pool, Lea County, New Mexico. Said well would be dedicated to a 53-acre non-standard unit comprising that portion of Lots 1 and 8 of said Section 4 which is productive from the Oil Center Blinebry Pool.

CASE 3123: Application of Continental Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules including a provision for 80-acre spacing and a gas-oil ratio of 6000 to 1 for the Monument-Tubb Pool in Township 20 South, Range 37 East, Lea County, New Mexico.

October 13, 1964 Examiner Hearing

- CASE 3124: Application of Continental Oil Company to amend Order No. R-2566, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Order No. R-2566, which authorized the Continental Baish-Yates Waterflood Project, to also provide authority for the injection into each well of approximately 500 barrels of LPG.
- CASE 3125: Application of Shell Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Antelope Ridge Unit Well No. 4-1 in Unit B of Section 4, Township 24 South, Range 34 East, Lea County, New Mexico, to produce gas from the Antelope Ridge Pennsylvanian and Antelope Ridge Devonian Gas Pools through parallel strings of tubing.
- CASE 3126: Application of Murphy Oil Corporation for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in the Many Rocks-Gallup Pool by the injection of water into the Gallup formation through five wells in Sections 17, 18 and 20, Township 32 North, Range 17 West, San Juan County, New Mexico. Applicant further seeks the promulgation of special rules for the operation of said project.
- CASE 2654: (Reopened)  
In the matter of Case No. 2654 being reopened pursuant to the provisions of Order No. R-2349, which order established temporary 320-acre gas proration units for the Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, for a period of two years. The Commission will consider indefinite extension of Order No. R-2349 in the absence of evidence to the contrary.
- CASE 3127: Application of Shell Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the China Canyon Unit Area comprising 7611 acres, more or less, of Federal, State and Fee lands in Township 23 South, Ranges 23 and 24 East, Eddy County, New Mexico.
- CASE 3128: Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Grama Ridge Unit Area comprising 3052 acres, more or less, of Federal and State lands in Townships 21 and 22 South, Range 34 East, Lea County, New Mexico.

PAGE -4-  
October 13, 1964 Examiner Hearing

CASE 3129: Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Wilson Deep Unit Area comprising 3360 acres, more or less, of State and Fee lands in Township 21 South, Range 34 East, Lea County, New Mexico.

ir/



Case 7108

Heard 10-13-64

Rec. 10-14-64

Grant Monsanto permission  
to finally complete their Dwyer  
~~point~~ Draw #1 unit 0 6-205-255.  
in. Undersized. Strawn & Morrow.  
Gas zones.

Shirley R.

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. 3108  
Order No. R-2785

APPLICATION OF MONSANTO COMPANY  
FOR A DUAL COMPLETION, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 13, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 21st day of October, 1964, 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 authority to complete its Dagger Draw Well No. 1, located in Unit O of Section 6, Township 20 South, Range 25 East, NMPM, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from an undesignated Strawn gas pool through the casing-tubing annulus and to produce gas from an undesignated Morrow gas pool through 2 3/8-inch tubing, with separation of zones by a packer set at approximately 8706 feet.

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

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

-2-

CASE No. 3108  
Order No. R-2785

IT IS THEREFORE ORDERED:

(1) That the applicant, Monsanto Company, is hereby authorized to complete its Dagger Draw Well No. 1, located in Unit O of Section 6, Township 20 South, Range 25 East, NMPM, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from an undesignated Strawn gas pool through the casing-tubing annulus and to produce gas from an undesignated Morrow gas pool through 2 3/8-inch tubing, with separation of zones by a packer set at approximately 8706 feet;

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

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for the Morrow formation.

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

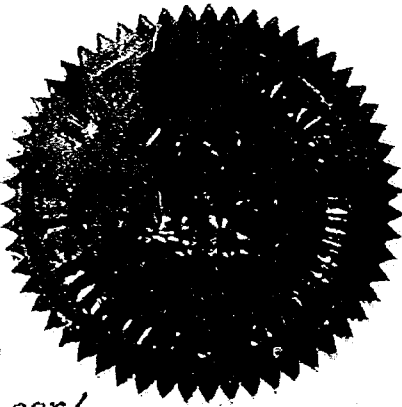
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*E. S. Walker*  
E. S. WALKER, Member

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



esr/

GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
E. S. JOHNNY WALKER  
MEMBER

P. O. BOX 2088  
SANTA FE

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

October 23, 1964

Mr. George H. Hunker, Jr.  
Attorney at Law  
Post Office Box 10  
Roswell, New Mexico

Re: CASE NO. 3108 and 3115  
ORDER NO. R-2785 and R-2786  
APPLICANT MONSANTO 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

RECEIVED

NOV 2 1964

O. C. C.  
ARTEBIA, OFFICE

PACKER SETTING AFFIDAVIT

I, R. A. Gaskill, being of lawful age  
Name of Party Making Affidavit  
and having full knowledge of the facts hereinbelow set out do state:

That I am employed by MONSANTO COMPANY in the  
capacity of engineer, that on 8-18, 1964,  
Date  
I personally supervised the setting of a Guiberson KVL-30 Packer  
Make and Type of Packer  
in MONSANTO COMPANY, Dagger Draw,  
Operator of Well Lease Name

Well No. 1 located in the Unnamed,  
Field  
Eddy County, New Mexico, at a subsurface depth of 8706  
feet, said depth measurement having been furnished me by Bateman-

Whitsitt, Inc.; that the purpose of setting this packer was to  
effect a seal in the annular space between the two strings of pipe where the  
packer was set so as to prevent the commingling, in the bore of this well, of  
fluids produced from a stratum below the packer with fluids produced from a  
stratum above the packer; that this packer was properly set and that it did,  
when set, effectively and absolutely seal off the annular space between the  
two strings of pipe where it was set in such manner as that it prevented any  
movement of fluids across the packer.

STATE OF TEXAS  
COUNTY OF Midland

Before me, the undersigned authority, on this day personally appeared  
R. A. Gaskill, known to me to be the person whose  
name is subscribed to this instrument, who after being by me duly sworn on  
oath, states that he has knowledge of all the facts stated above and that  
the same is a true and correct statement of the facts therein recited.

Subscribed and sworn to before me on this the 29th day  
of October, 1964.

Janette R. Phillips  
Notary Public in and for  
Midland County, Texas

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

5-1-61

## APPLICATION FOR MULTIPLE COMPLETION

MAIN OFFICE 000

220 3108

Operator MONSANTO COMPANY 7:50		County Eddy	Date August 21, 1964
Address Drawer 1829, Midland, Texas		Lease Dagger Draw	Well No. 1
Location of Well 0	Unit 0	Section 6	Township 20S
		Range 25E	

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

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Strawn		Morrow
b. Top and Bottom of Pay Section (Perforations)	8688-99'		9296-9305 9308-9312 9318-9326
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

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

- Yes a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and /or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- 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 multiple 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.

Northern Natural Gas Company, P. O. Box 1786, Midland, Texas

Superior Oil Company, P. O. Box 1900, Midland, Texas

Franco-Western Oil Company, 806 Wilco Building, Midland, Texas

Texas Pacific Oil Company, P. O. Box 1688, Hobbs, New Mexico

Atlantic Refining Company, P. O. Box 1978, Roswell, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO \_\_\_\_\_. If answer is yes, give date of such notification 8-21-64.

CERTIFICATE: I, the undersigned, state that I am the Reg. Prod. Supt. of the MONSANTO COMPANY (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.

DOCKET MAILED

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

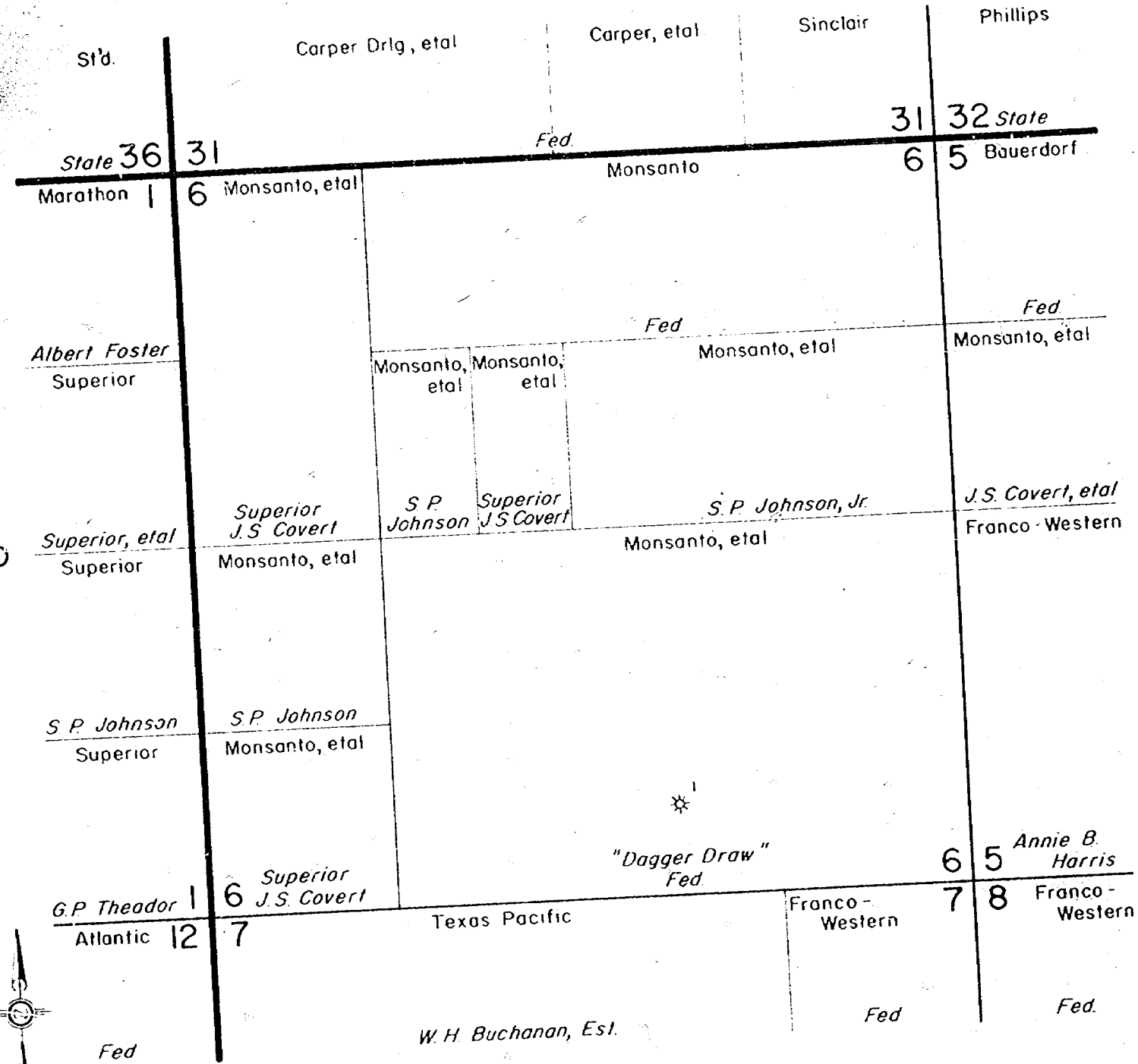
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R-24-E

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DAGGER DRAW AREA  
Eddy County, New Mexico  
SCALE: 1" = 1000'

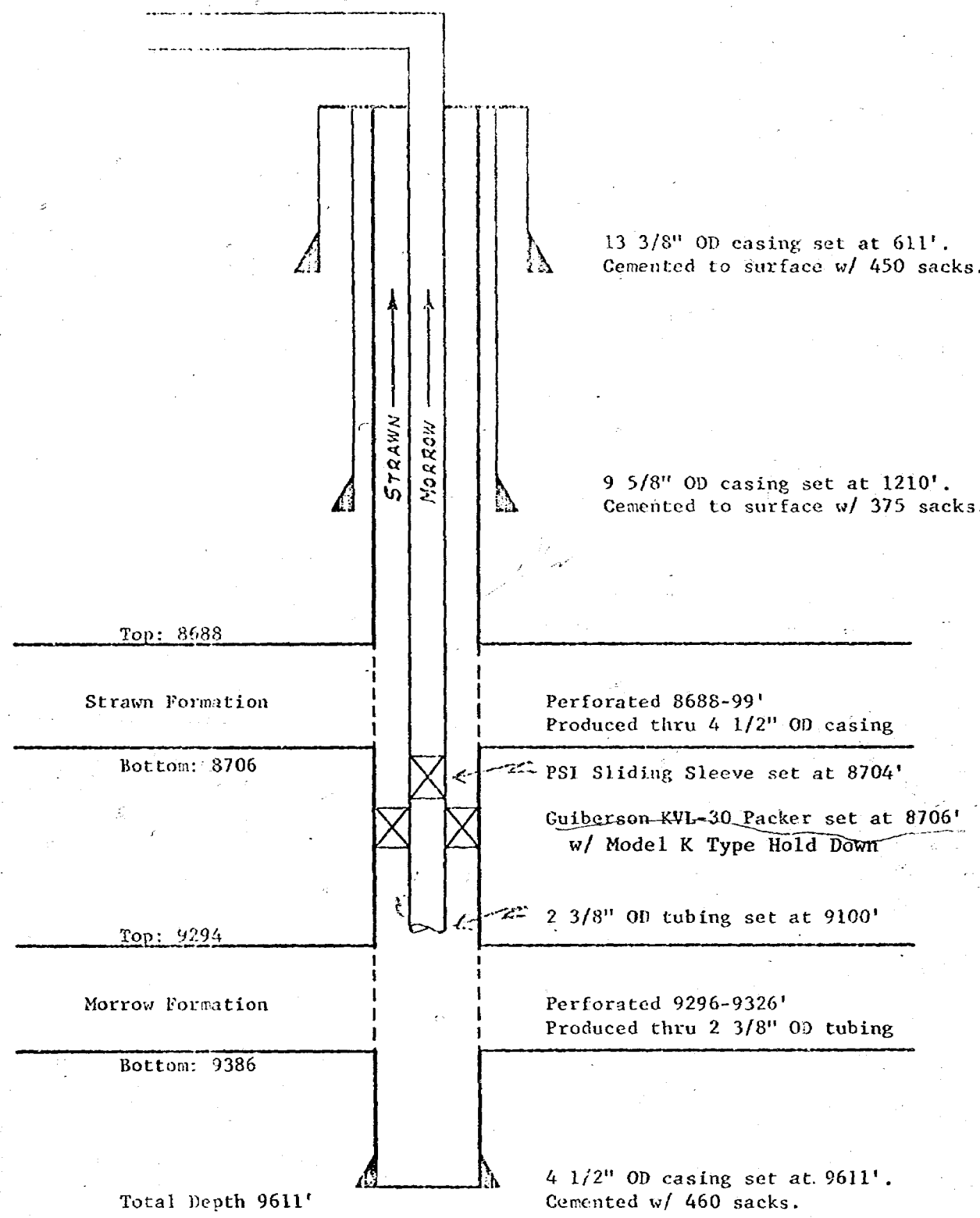
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PICTOGRAPHIC SKETCH SHOWING DUAL COMPLETION INSTALLATION  
OF MONSANTO COMPANY'S DAGGER DRAW #1, EDDY COUNTY, NEW MEXICO



R-24-E

R-25-E

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St'd.

Carper Drig, etal

Carper, etal

Sinclair

Phillips

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Marathon

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Monsanto, etal

Monsanto

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Bauerdorf

Albert Foster  
Superior

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Monsanto, etal

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SuperiorSuperior  
J.S. CovertS.P.  
JohnsonSuperior  
J.S. Covert

S.P. Johnson, Jr.

J.S. Covert, etal

Monsanto, etal

Monsanto, etal

Franco-Western

S.P. Johnson  
SuperiorS.P. Johnson  
Monsanto, etal"Dagger Draw"  
Fed.

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Annie B.  
HarrisG.P. Theodor  
Atlantic

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Superior  
J.S. Covert

Texas Pacific

Franco-  
Western

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Franco-  
Western

Fed.

W.H. Buchanan, Est.

Fed.

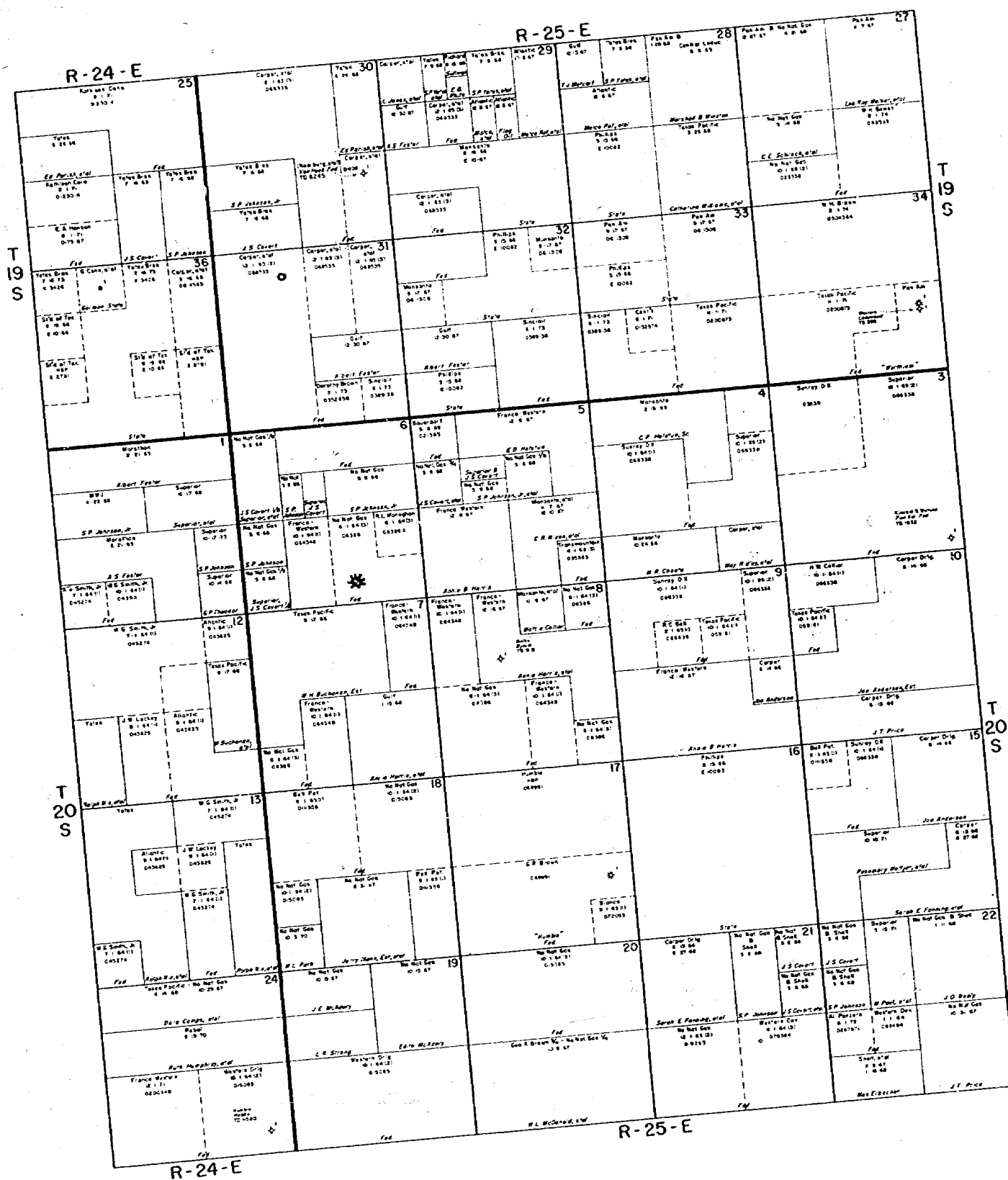
Fed.

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
A EXHIBIT NO. 1  
CASE NO. 3108

DAGGER DRAW AREA  
Eddy County, New Mexico  
SCALE: 1" = 1000'

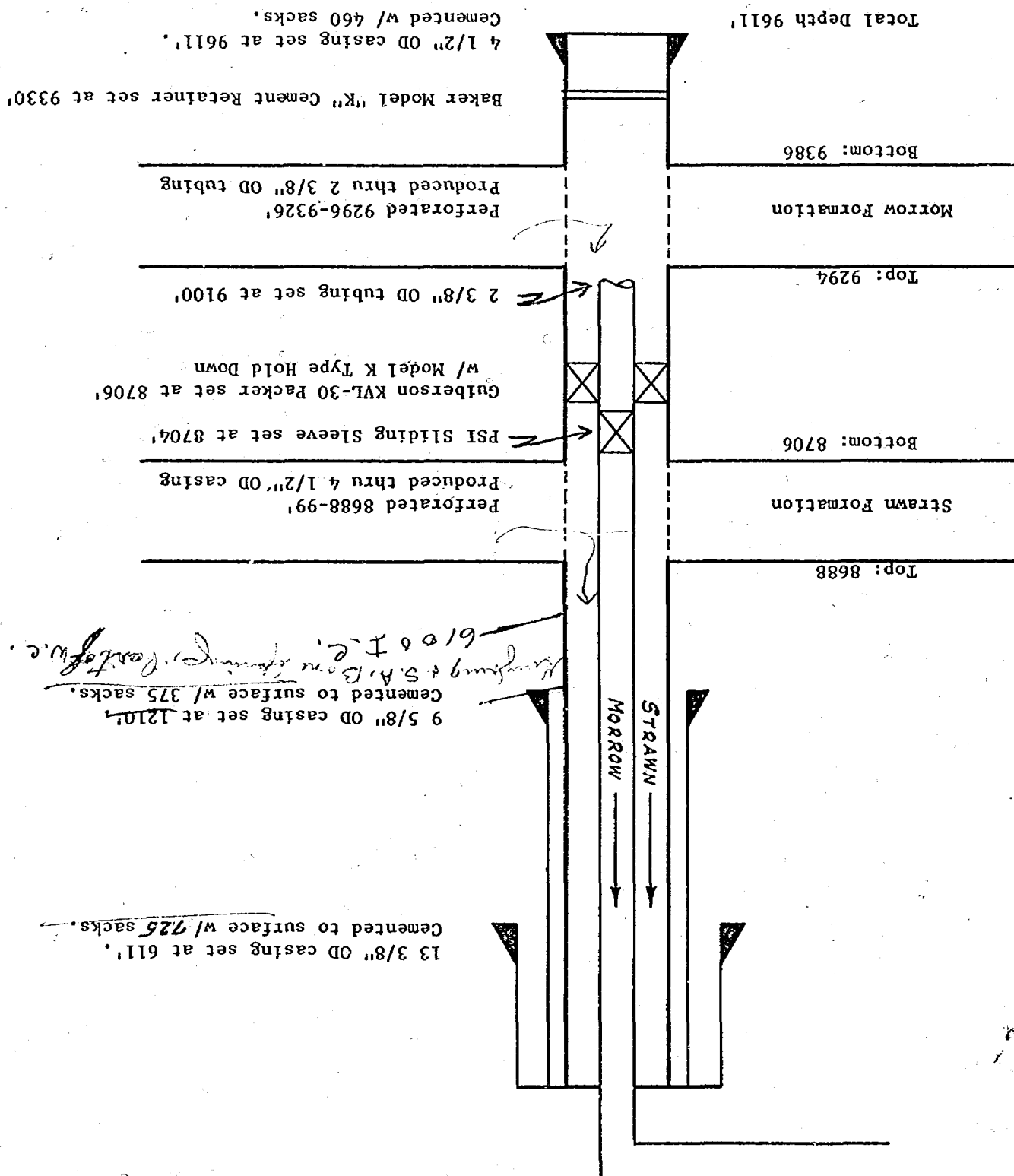
No. 7XL5

Region District  
State NEW MEXICO  
County EDDY  
Field Wildcat  
Date 10-7-64 Scale 1" = 4000'



BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 4  
CASE NO. 2108

DIAGRAMMATIC SKETCH SHOWING DUAL COMPLETION INSTALLATION  
OF MONSANTO COMPANY'S DAGGER DRAW #1, EDDY COUNTY, NEW MEXICO



dearnley-meier reporting service, inc.

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

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



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
October 13, 1964

EXAMINER      HEARING

IN THE MATTER OF: Application of Monsanto  
Company for a dual completion, Eddy County,  
New Mexico.

Case No. 3108

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The Hearing will come to order, please.

MR. HUNKER: If the Examiner please, I am George Hunker, Junior, Roswell, New Mexico, representing Monsanto Chemical Company. I would like to call Mr. R. A. Gaskill, and also have Applicant's Exhibit's One through Seven marked for identification.

(Whereupon, Applicant's Exhibit's One through Seven marked for identification.)

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

Will you stand and be sworn, please?

R. A. G A S K I L L, called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HUNKER:

Q Will you state your name, address and occupation?

A R. A. Gaskill of Midland, Texas.

Q What is your occupation?

A I am an engineer with Monsanto Company.

Q How long have you been employed as an engineer with Monsanto Company?

A Since January '58.

Q Will you tell the Examiner what college education you have had that qualifies you for the position that you occupy today with Monsanto?

A I graduated with a B.S. Degree from Oklahoma State



University in mechanical engineering with a petroleum option.

Q Have you worked for any other company other than Monsanto?

A No, sir, I haven't.

Q But you have been working for the last ten years with this company and you have been completing wells for them?

A Seven years.

Q Seven years.

MR. HUNKER: Is the Examiner satisfied with this witness' qualifications?

MR. UTZ: Yes, he is a well qualified witness.

Q (By Mr. Hunker) Are you familiar with the well in question and the matters under consideration in connection with this Application Number 3108?

A Yes, sir, I am.

Q Refer to Exhibit Number One, Mr. Gaskill, and tell the Examiner what this indicates.

A This Exhibit is a plat of our Dagger Draw Number One showing its location in a large scale; and the small scale plat which shows a greater area.

Q Is the Dagger Draw area located in the southwest or the southeast quarter of Section Six?

A That's correct.

Q Township 20, Range 25 east. Is your Company seeking a dual completion of this well?

A Yes, sir, we are.

Q Do you know whether any field rule has been established by the New Mexico Oil Conversation Commission for the two formations in which this Well is being completed?

A To my knowledge there are none in this area.

Q Are there any other wells in this area that are now similarly completed?

A No, sir, there are not.

Q I refer to Exhibit Number Two, Mr. Gaskill, and is this the form of Application for dual completion, indicating the reservoirs and the tops and the bottoms of the formations

A Yes, sir, it is.

Q -- of both zones?

A Yes, sir.

Q What are those zones?

A It is the Strawn Zone at 9628 to 99, and the lower zone, being the Morrow, from 9296 to 9326.

Q Turning to the logs, Mr. Gaskill, will you explain to the Examiner what these logs indicate and what is marked on them?

A Entered into evidence is this set of logs in which the induction electric log has been marked. The tops of the

formations, all drill stem test information, and completion or perforations are shown on this Exhibit.

Q Refer, if you will, to Exhibit Number Four, Mr. Gaskill, and tell the Examiner what this Exhibit shows.

A This is a schematic diagram showing the arrangement in which we have completed the Dagger Draw Number One as a dual tubing and casing annulus well, both zones being gas.

Q Is this the standard dual completion, Mr. Gaskill, or is there something unusual about it?

A This is a standard completion.

Q Is there any reason that your company would anticipate any production difficulties using the method of dual completion that you have used?

A No, there are not.

MR. HUNKER: If the Commission, please, would you like for him to go into some detail with regard to the packers that were used?

MR. UTZ: I would like for him to go into enough detail to show where the tops of these cements are on top of all the strings.

Q (By Mr. Hunker) Will you please explain to the Commission the tops on the cement and other features of the --

A On all strings the 13 and 3/8ths set at six hundred and eleven feet cemented to surface with seven hundred and



twenty-five sacks. We have string over 9 and 5/8ths surface, string set at 1210 feet cemented to surface with three hundred and seventy five sacks. We have four and a half casing set at 9611 cemented with 460 sacks. Let's see. I am trying to find the top of the cement here. The top of the cement is at 6100.

Q Turning now to Exhibit Five, is this your packer leakage test?

A Yes, sir, it is.

Q What does it show?

A It shows there is no packer -- or no leakage around the packer in this well.

Q Does it indicate that there is no communication between the two zones?

A It does.

Q Does it show gas-oil ratios?

A No, sir, it doesn't on this paritcular form.

Q Referring to Exhibit Numbers Six and Seven --

A Oh, I am sorry. May I regress here. It does 195 MCF per barrel.

Q Then referring to Exhibit Numbers Six and Seven, are these reports on your multiple point back pressure tests on the two formations?

A Yes, sir, it is.

Q Can you explain to the Examiner what these two Exhibits show?

A Well, this particular exhibit here is our four-point back pressure tests on the Morrow Zone with an indicated absolute potential of 3,900 MCF per day.

Q With regard to the Strawn Zone, Exhibit Number Six, what does that one indicate?

A This is the multiple point back pressure test on the Strawn with an indicated absolute potential of 1,925 MCF per day.

Q Mr. Gaskill, explain to the Examiner approximately what amount of money would be saved on this dual completion rather than having to drill two separate wells; how much can be saved?

A It is estimated around \$150,000.00.

Q Is there any reason in your opinion why the two gas reservoirs cannot be as efficiently and economically drained under a dual completion as with separate wells?

A No, there isn't. It should --

Q Were all of these Exhibits prepared by you or under your supervision or by others employed by Monsanto Company?

A Yes, sir, they were.

MR. HUNKER: I would like to offer into evidence as Applicant's Exhibits Numbers One through Seven.

dearnley-meier reporting service, inc.

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

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



MR. UTZ: Without objection, Exhibit's One through Seven will be admitted into the record of this Case.

(Whereupon, Exhibit's One through Seven were admitted into the record.)

MR. HUNKER: This is all of our case. If the Examiner has any questions --

CROSS EXAMINATION

BY MR. UTZ:

Q You stated the top of the cement was 6100 on four and a half. So that leaves open hole behind the pipe, four and a half inches from 1210 to 6100; do you know what formations are in that interval?

A Well, let's see. That leaves the Grayburg and San Andres, Bone Springs and a portion of the Wolfcamp, the top portion.

Q Are any of those oil-gas producing zones in this area?

A No, sir, they are not.

Q You didn't have any <sup>shows</sup> shells in any of these drills? <sup>stem tests</sup>

A We drill stemmed the Wolfcamp at 5100 with no show.

Q Is there any fresh water in this area?

A Yes, sir, there is. But it should all be behind the 9 and 5/8ths.

Q And in your opinion it wouldn't be any danger of waste



due to communication of these zones or other zones in any of these formations open behind the pipe?

A That is correct.

Q I note that the Strawn zone had a pretty low GOR: 195 to 1; is that -- it would be 195,000 to One; right? Do you have any idea what the GOR of the Morrow Zone was?

A No, sir, I don't. For the Morrow it's extremely high; there is very little fluid with this Morrow.

Q And is that one of your reasons for contending that you can produce gas through the annulus efficiently?

A Yes, sir.

Q The area, the cross sectional area of the annulus is considerably larger than the cross sectional area?

A That's correct.

Q So with dry gas it would make no difference, but with liquids you would have some problems; would you not?

A Yes, sir.

MR. UTZ: Are there any other questions of the witness?

(No response.)

MR. UTZ: The witness may be excused. Are there any other statements in this Case?

(No response.)

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

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

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PAGE 10

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

I, CHARLES FLOYD WALKER, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, I have affixed my hand and notarial seal this 21st day of October, 1964.

*Charles Floyd Walker*  
NOTARY PUBLIC

My Commission Expires:

March 25, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3105 heard by Es. op. Oct. 13, 1964.

*Thurman A. [Signature]*  
Examiner  
New Mexico Oil Conservation Commission

dearnley-meier reporting service, inc.

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# I N D E X

## WITNESS

## PAGE

R. A. GASKILL

Direct Examination by Mr. Hunker

2

Cross Examination by Mr. Utz

8

# E X H I B I T S

## NUMBER

## MARKED FOR IDENTIFICATION

## OFFERED

## ADMITTED

Exhibit's  
One through  
Seven

2

7

8



DRAFT

JMD/esr

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. 3108

Order No. R-2785

APPLICATION OF MONSANTO COMPANY  
FOR A DUAL COMPLETION, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on  
October 13, 1964, at Santa Fe, New Mexico, before Examiner  
✓ Daniel S. Nutter Elvin A. Utz.

NOW, on this        day of October, 1964, 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 authority to complete its Dagger Draw

Well No. 1, located in Unit 0 of Section 6, Township

20 South, Range 25 East, NMPM, Eddy County, New  
~~North~~ ~~West~~

Mexico, as a dual completion (conventional) ~~XXXX~~  
~~XXXX~~ ~~XXXX~~ to produce gas  
~~XXXX~~ ~~XXXX~~

an undesignated gas pool  
from the Strawn formation ~~Pool~~ through the casing-  
an undesignated gas pool  
tubing annulus and to produce gas from the Morrow formation through

2 3/8-inch tubing, with separation of zones by a packer set at  
approximately 8706 feet.

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

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Monsanto Company,  
is hereby authorized to complete its Dagger Draw  
Well No. 1, located in Unit 0 of Section 6, Township  
20 ~~North~~ South, Range 25 ~~West~~ East, NMPM, Eddy County, New  
Mexico, as a dual completion ~~(conventional)~~ ~~(combination)~~ ~~(tubingless)~~ xxxx to produce gas  
an undesignated gas pool  
from the Strawn formation ~~pool~~ through the casing-tubing  
annulus and to produce gas from an undesignated gas pool  
the Morrow formation through 2 3/8-inch  
tubing, with separation of zones by a packer set at approximately  
8706 feet,

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

PROVIDED FURTHER, that the applicant shall take packer-leakage  
~~zone segregation~~  
tests upon completion and annually thereafter during the Annual  
Shut-in Pressure  
Gas-Oil Ratio Test Period for the Morrow formation ~~Pool~~.  
Deliverability

(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 herein-  
above designated.



NEW MEXICO OIL CONSERVATION COMMISSION  
SOUTHEAST NEW MEXICO PACKER LEAKAGE TEST

SEP 14 1964

Operator Monsanto Chemical Company			Lease Dagger Draw			ARTESIA, OFFICE No. 1	
Location of Well	Unit 0	Sec 6	Twp 20S	Rge 25E	County Eddy		
Name of Reservoir or Pool			Type of Prod (Oil or Gas)	Method of Prod Flow, Art Lift	Prod. Medium (Tbg or Csg)	Choke Size	
Upper Compl	Strawn		Gas	Flow	Casing	11/64"	
Lower Compl	Morrow		Gas	Flow	Tubing	13/64"	

FLOW TEST NO. 1

Both zones shut-in at (hour, date): Upper: 4:00 PM, 8-20-64 Lower 10:00 AM, 8-21-64

Well opened at (hour, date): 10:00 AM on 9-4-64

	Upper Completion	Lower Completion
Indicate by ( X ) the zone producing.....		X
Pressure at beginning of test.....	2736	3030
Stabilized? (Yes or No).....	Yes	Yes
Maximum pressure during test.....	2755	3030
Minimum pressure during test.....	2736	2205
Pressure at conclusion of test.....	2755	2205
Pressure change during test (Maximum minus Minimum).....	19	825
Was pressure change an increase or a decrease?.....	Increase	Decrease

Well closed at (hour, date): 2:00 PM, 9-4-64

Oil Production Gas Production

During Test: 1.35 bbls; Grav. 52.0 ; During Test 263 MCF; GOR 195 MCF/bbl

Remarks The recorder hose on the Casing completion had to be taken off to take the Dead Weight Gauge readings, until a manifold was made.

FLOW TEST NO. 2

Well opened at (hour, date): 9:30 AM, 9-5-64

	Upper Completion	Lower Completion
Indicate by ( X ) the zone producing.....	X	
Pressure at beginning of test.....	2746	3025
Stabilized? (Yes or No).....	Yes	Yes
Maximum pressure during test.....	2746	3033
Minimum pressure during test.....	2137	3025
Pressure at conclusion of test.....	2137	3033
Pressure change during test (Maximum minus Minimum).....	609	8
Was pressure change an increase or a decrease?.....	Decrease	Increase

Well closed at (hour, date) 1:30 PM, 9-5-64

Oil Production Gas Production

During Test: 0 bbls; Grav. - ; During Test 151 MCF; GOR -

Remarks The 4 Point Potential was conducted as the flow test of each side to conserve gas.

Choke size shown is for the last rate.

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

Approved SEP 14 1964 19  
New Mexico Oil Conservation Commission

By [Signature]  
Title OIL AND GAS INSPECTOR

Operator Monsanto Chemical Company  
By R. W. Harrington  
West Texas Engineering Service, Inc.  
Title Field Petroleum Engineer  
Date September 9, 1964

3108

# WEST TEXAS ENGINEERING SERVICE, INC.

PHONE MU 2 5361

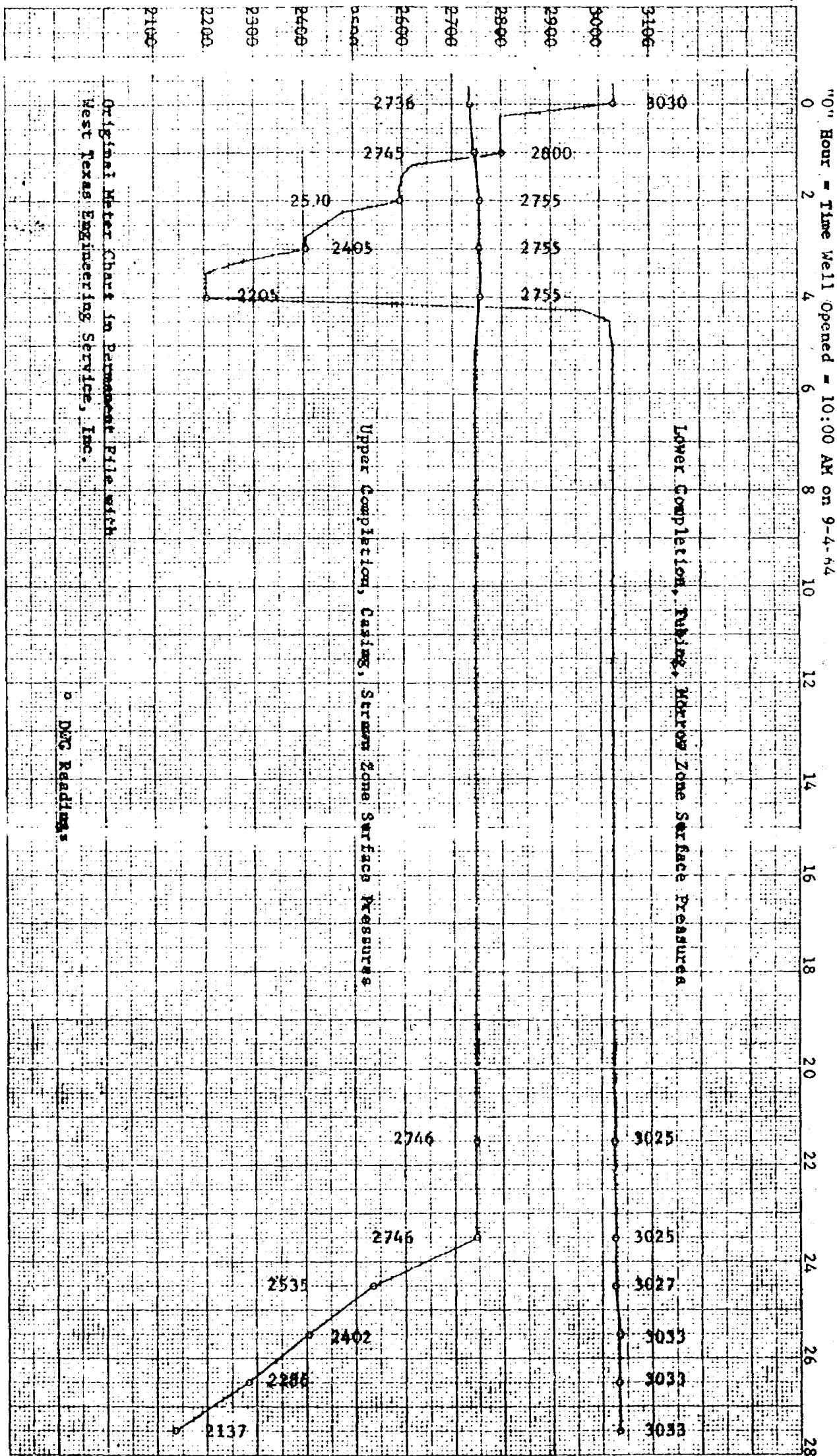
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SALES DIVISION 220 BY 100 MILLIMETERS 11 1/4 612 NC



OPERATOR Monsanto Chemical Co. LEASE Dagger Draw WELL NO 1  
POOL Wildcat COUNTY Eddy 3108

dearnley-meier reporting services, inc.

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

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PAGE 1

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 30, 1964

EXAMINER HEARING

IN THE MATTER OF: Application of Monsanto  
Company for a dual completion, Eddy County,  
New Mexico. Applicant, in the above-styled  
cause, seeks approval of the dual completion  
(conventional) of its Dagger Draw Well No. 1,  
located in Unit O of Section 6, Township 20  
South, Range 25 East, Eddy County, New Mexico,  
to produce gas from the Strawn and Morrow  
formations through the casing-tubing annulus  
and through tubing, respectively.

Case No. 3108

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

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

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

MR. DURRETT: If the Examiner please, we have received a letter in this case from Mansanto Company requesting a continuance to October 13, 1964.

MR. UTZ: Case 3108 will be continued to the October 13th Hearing.

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

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal  
this 5th day of October, 1964.

Notary Public - Court Reporter

My Commission Expires:  
June 19, 1967

I do hereby certify that the foregoing is  
a complete record of the proceedings of  
the Executive Session of Council  
heard on Sept. 30 1964 3108 64

New Mexico Oil Conservation Commission

## NEW MEXICO OIL CONSERVATION COMMISSION

CORRECTED COPY

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Wildcat Formation Morrow County Eddy  
 Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 9-4-64  
 Company Monsanto Company Lease Dagger Draw Well No. 1-T  
 Unit 0 Sec. 6 Twp. 20S Rge. 25E Purchaser None  
 Casing 4 1/2 Wt. 11.6 I.D. 4.000 Set at 9611 Perf. 9296 To 9326  
 Tubing 2 Wt. 4.7 I.D. 1.995 Set at 9100 Perf. Open To Ended  
 Gas Pay: From 9294 To 9336 L. 9311 xG \_\_\_\_\_ -GL \_\_\_\_\_ Bar.Press. 13.2  
 Producing Thru: Casing \_\_\_\_\_ Tubing X Type Well G. G. Dual  
 Date of Completion: 8-21-64 Packer 8706 Single-Bradenhead-G. G. or G.O. Dual  
 Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
					3030	80	Packer		
3"	2.00	232	4.5	86	2800	78	Packer		1.00
3"	2.00	222	13.0	70	2590	76	Packer		1.00
3"	2.00	320	14.0	70	2405	76	Packer		1.00
3"	2.00	390	15.5	70	2205	76	Packer		1.00

## FLOW CALCULATIONS

Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
27.52	33.217	245.2	.9759	.9567	1.020	871
27.52	55.296	235.2	.9905	.9567	1.022	1,474
27.52	69.299	333.2	.9905	.9567	1.031	1,836
27.52	79.054	403.2	.9905	.9567	1.033	2,160

## PRESSURE CALCULATIONS

Liquid Hydrocarbon Ratio 195,000 cf/bbl.  
 Gravity of Liquid Hydrocarbons 52.0 deg.  
 (1-e<sup>-s</sup>) \_\_\_\_\_ Specific Gravity Separator Gas .6556  
 Specific Gravity Flowing Fluid \_\_\_\_\_  
 P<sub>c</sub> 3777.2 P<sub>c</sub> 14,267

No.	P <sub>w</sub> P <sub>t</sub> (psia)	P <sub>t</sub> <sup>2</sup>	F <sub>c</sub> Q	(F <sub>c</sub> Q) <sup>2</sup>	(F <sub>c</sub> Q) <sup>2</sup> (1-e <sup>-s</sup> )	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup>	Cal. P <sub>w</sub>	P <sub>w</sub> P <sub>c</sub>
1.	3510.2					12,322	1,945	3510.2	92.9
2.	3262.2					10,642	3,625	3262.2	86.3
3.	3036.2					9,219	5,643	3036.2	80.3
4.	2836.2					8,044	6,223	2836.2	75.0
5.									

Absolute Potential: 3,900 MCFPD; n .726

COMPANY Monsanto Company

ADDRESS Box 1829 - Midland, Texas

AGENT and TITLE R. W. Harrington - Field Petroleum Engineer

WITNESSED \_\_\_\_\_

COMPANY West Texas Engineering Service, Inc.

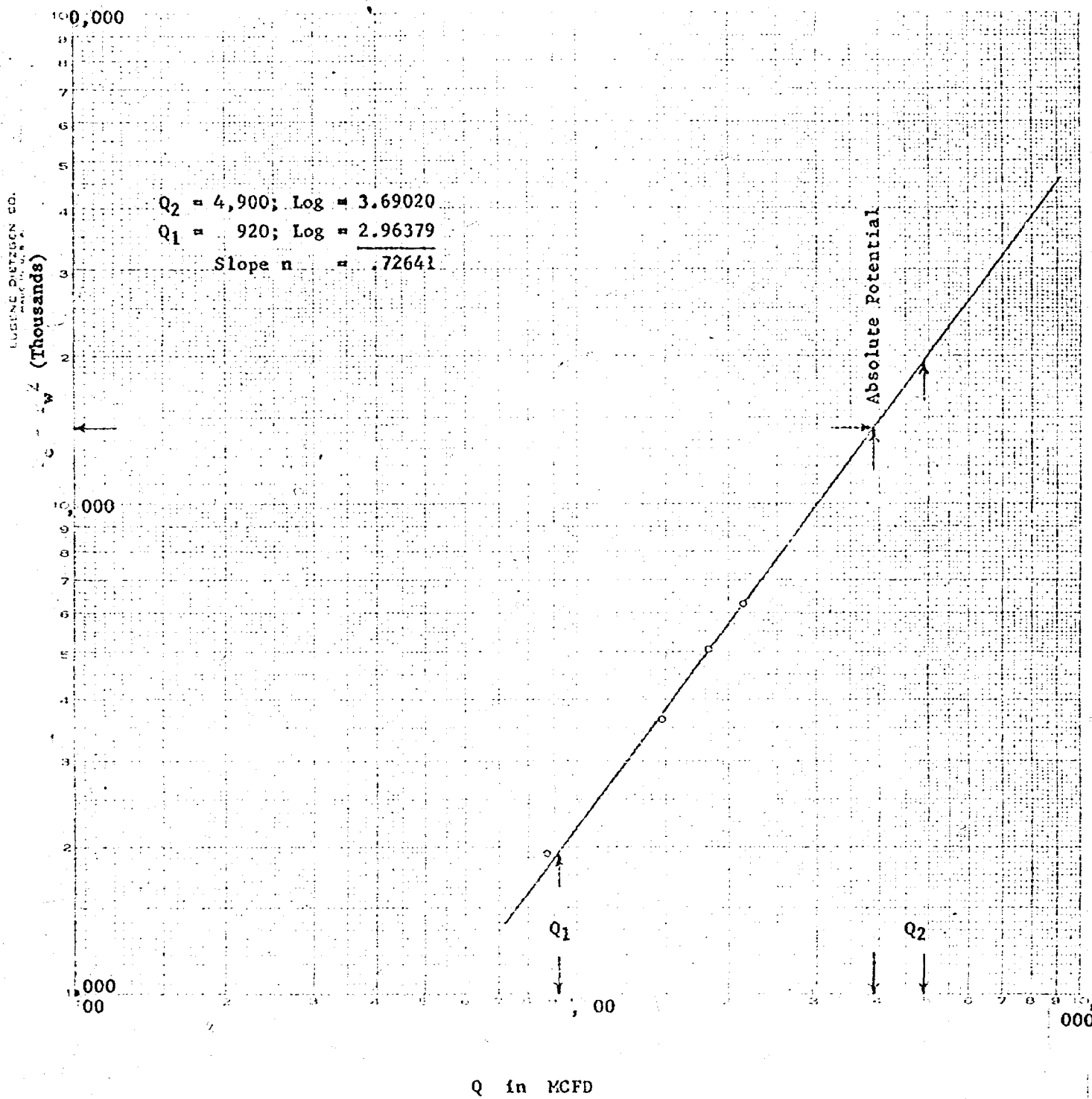
## REMARKS

P<sub>c</sub> and P<sub>g</sub> as shown are P<sub>g</sub> and P<sub>g</sub> as measured with an Amerada RFG-3 Instrument at 9311', Mid-Point of Casing Perforations. The instrument was run out of the open ended tubing to the perforation level.

BEFORE EXAMINER UTZ

COMPANY	Monsanto Company
WELL	Digger Draw No. 1-T
LOCATION	06-20S-25E
COUNTY	Eddy
DATE	9-4-64

CORRECTED COPY



XERO

XERO

XERO

XERO

## NEW MEXICO OIL CONSERVATION COMMISSION

CORRECTED COPY

Form C-122

## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Wildcat Formation Strawn County Eddy

Initial X Annual \_\_\_\_\_ Special \_\_\_\_\_ Date of Test 9-5-64

Company Monsanto Company Lease Dagger Draw Well No. 1-C

Unit 0 Sec. 6 Twp. 20S Rge. 25E Purchaser None

Casing 4 1/2 Wt. 11.6 I.D. 4.000 Set at 9611 Perf. 8638 To 8699

Tubing 2 Wt. 4.7 I.D. 2.375 Set at 9100 Perf. Below To Packer

Gas Pay: From 8638 To 8706 L 8638 xG .671 -GL 5830 Bar.Press. 13.2

Producing Thru: Casing X Tubing \_\_\_\_\_ Type Well G. G. Dual

Date of Completion: 8-21-64 Packer 3706 Single-Bradenhead-G. G. or G.O. Dual  
Reservoir Temp. \_\_\_\_\_

## OBSERVED DATA

Tested Through (Prover) (Choke) (Meter)Type Taps Flange

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h <sub>w</sub>	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI						Packer		2746	80	
1.	3"	1.250	262	18	94	Packer		2535	74	1.00
2.	3"	1.250	298	28	87	Packer		2402	74	1.00
3.	3"	1.250	247	43	85	Packer		2286	74	1.00
4.	3"	1.250	202	69	78	Packer		2137	74	1.00
5.										

## FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w P_f}$	Pressure psia	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Compress. Factor F <sub>pv</sub>	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.781	70.382	275.2	.9658	.9456	1.023	645
2.	9.781	93.347	311.2	.9750	.9456	1.027	865
3.	9.781	105.776	266.2	.9759	.9456	1.023	977
4.	9.781	121.856	215.2	.9831	.9456	1.020	1,130
5.							

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ cf/bbl.

Gravity of Liquid Hydrocarbons \_\_\_\_\_ deg.

$P_c = 3.355 (1-e^{-.5})$

Specific Gravity Separator Gas .671

Specific Gravity Flowing Fluid .671

$P_c = 2759.2$   $P_c = 7,613.2$

No.	$P_w$ P <sub>t</sub> (psia)	$P_t^2$	$F_c Q$	$(F_c Q)^2$	$(F_c Q)^2 (1-e^{-s})$	$P_w^2$	$P_c^2 - P_w^2$	Cal. P <sub>w</sub>	$\frac{P_w}{P_c}$
1.	2343.2	6,493	2.167	4.7	1.6	6,496.6	1,118.6	2540.5	92.4
2.	2615.2	6,880	2.962	8.8	2.8	6,885.3	1,777.4	2415.7	87.6
3.	2295.2	5,236	3.273	10.7	3.5	5,239.5	2,323.7	2295.9	83.4
4.	2150.2	4,623	3.795	14.4	4.3	4,627.8	2,965.4	2151.2	78.0
5.									

Absolute Potential: 1,925 MCFPD; n .571COMPANY Monsanto CompanyADDRESS Box 1629 - Midland, TexasAGENT and TITLE R. J. Harrington - Field Petroleum Engineer

WITNESSED

COMPANY West Texas Engineering Service, Inc.

REMARKS

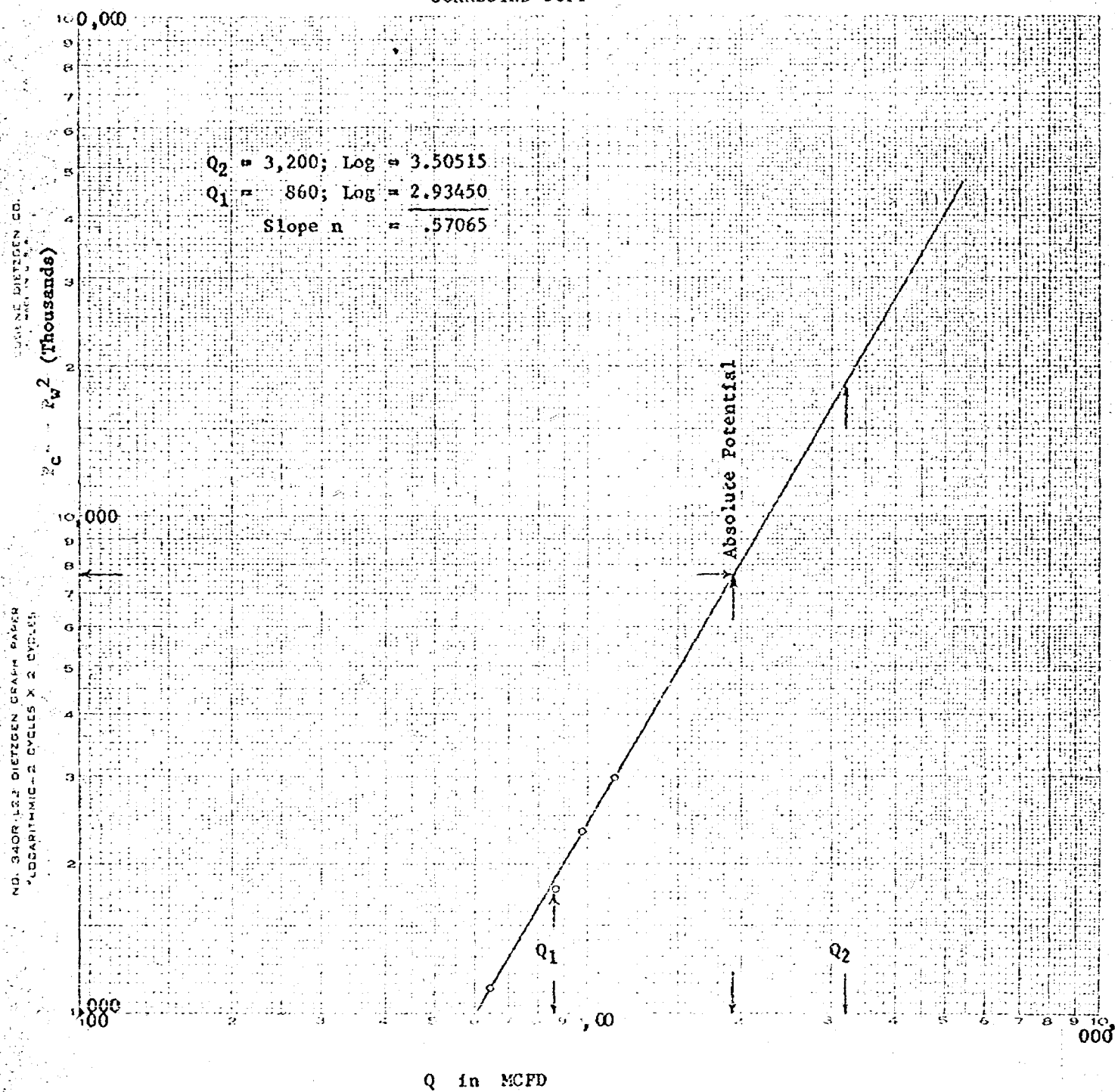
BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 6CASE NO. 3108

COMPANY	Montanto Company
WELL	Dagger Draw No. 1-C
LOCATION	06-20S-25E
COUNTY	Eddy
DATE	9-5-64

CORRECTED COPY



XERO COPY

XERO COPY

XERO COPY

XERO COPY



This form is not to be used for reporting packer leak-off tests in Northwest New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

SEP 14 1964

SOUTHEAST NEW MEXICO PACKER LEAKAGE TEST

Operator Monsanto Chemical Company			Lease Dagger Draw			ARTESIA, OFFICE No. 1	
Location of Well	Unit 0	Sec 6	Twp 20S	Rge 25E	County Eddy		
	Name of Reservoir or Pool		Type of Prod (Oil or Gas)	Method of Prod Flow, Art Lift	Prod. Medium (Tbg or Csg)	Choke Size	
Upper Compl	Strawn		Gas	Flow	Casing	11/64*	
Lower Compl	Morrow		Gas	Flow	Tubing	13/64*	

FLOW TEST NO. 1

Both zones shut-in at (hour, date): Upper: 4:00 PM, 8-20-64 Lower 10:00 AM, 8-21-64

Well opened at (hour, date): 10:00 AM on 9-4-64 Upper Completion Lower Completion

Indicate by ( X ) the zone producing..... X

Pressure at beginning of test..... 2736 3030

Stabilized? (Yes or No)..... Yes Yes

Maximum pressure during test..... 2755 3030

Minimum pressure during test..... 2736 2205

Pressure at conclusion of test..... 2755 2205

Pressure change during test (Maximum minus Minimum)..... 19 825

Was pressure change an increase or a decrease?..... Increase Decrease

Well closed at (hour, date): 2:00 PM, 9-4-64 Total Time On Production 4 Hours

Oil Production Gas Production

During Test: 1.35 bbls; Grav. 52.0; During Test 263 MCF; GOR 195 MCF/bbl

Remarks The recorder hose on the Casing completion had to be taken off to take the Dead Weight Gauge readings, until a manifold was made.

FLOW TEST NO. 2

Well opened at (hour, date): 9:30 AM, 9-5-64 Upper Completion Lower Completion

Indicate by ( X ) the zone producing..... X

Pressure at beginning of test..... 2746 3025

Stabilized? (Yes or No)..... Yes Yes

Maximum pressure during test..... 2746 3033

Minimum pressure during test..... 2137 3025

Pressure at conclusion of test..... 2137 3033

Pressure change during test (Maximum minus Minimum)..... 609 8

Was pressure change an increase or a decrease?..... Decrease Increase

Well closed at (hour, date) 1:30 PM, 9-5-64 Total time on Production 4 Hours

Oil Production Gas Production

During Test: 0 bbls; Grav. -; During Test 151 MCF; GOR -

Remarks \*The 4 Point Potential was conducted as the flow test of each side to conserve gas.

Choke size shown is for the last rate.

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

Approved SEP 14 1964 19  
New Mexico Oil Conservation Commission

By MR. AND GAS INSPECTOR  
Title

Operator Monsanto Chemical Company

By R. W. Harrington  
West Texas Engineering Service, Inc.

Title Field Petroleum Engineer

Date SEP 9, 1964

# WEST TEXAS ENGINEERING SERVICE, INC.

PHONE MU 2-5361

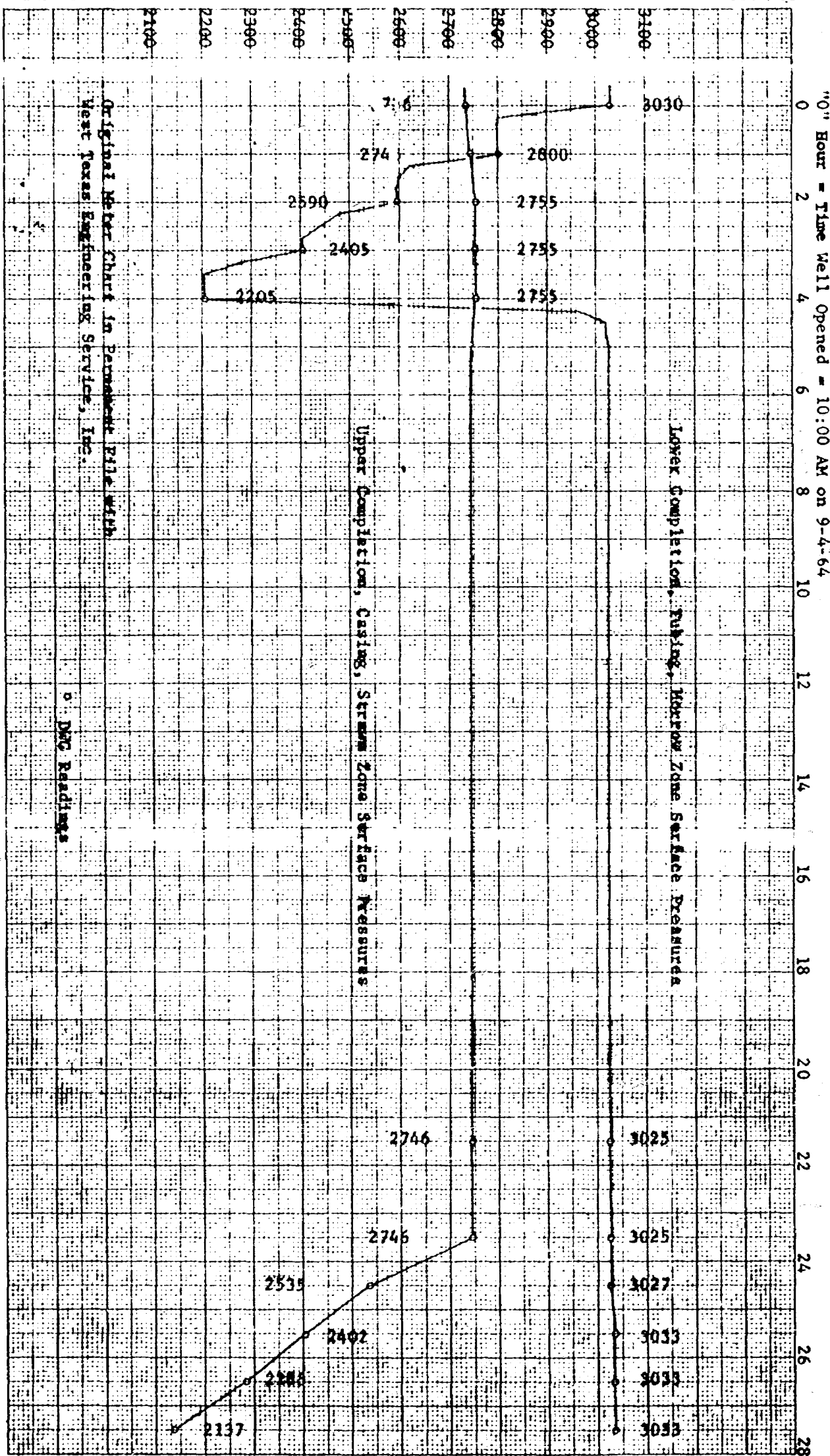
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NO. 319 MILLIMETERS 100 BY 220 DIVISIONS.

WIDE 220 BY 220 DIVISIONS.



OPERATOR Monsanto Chemical Co. LEASE Dagger Draw  
POOL Wildcat COUNTY Eddy  
WELL NO. 1  
DATE 9-4 & 5-64