

CASE 5256: Application of MONSANTO
FOR DIRECTIONAL DRILLING, EDDY
COUNTY, NEW MEXICO.

CASE No.

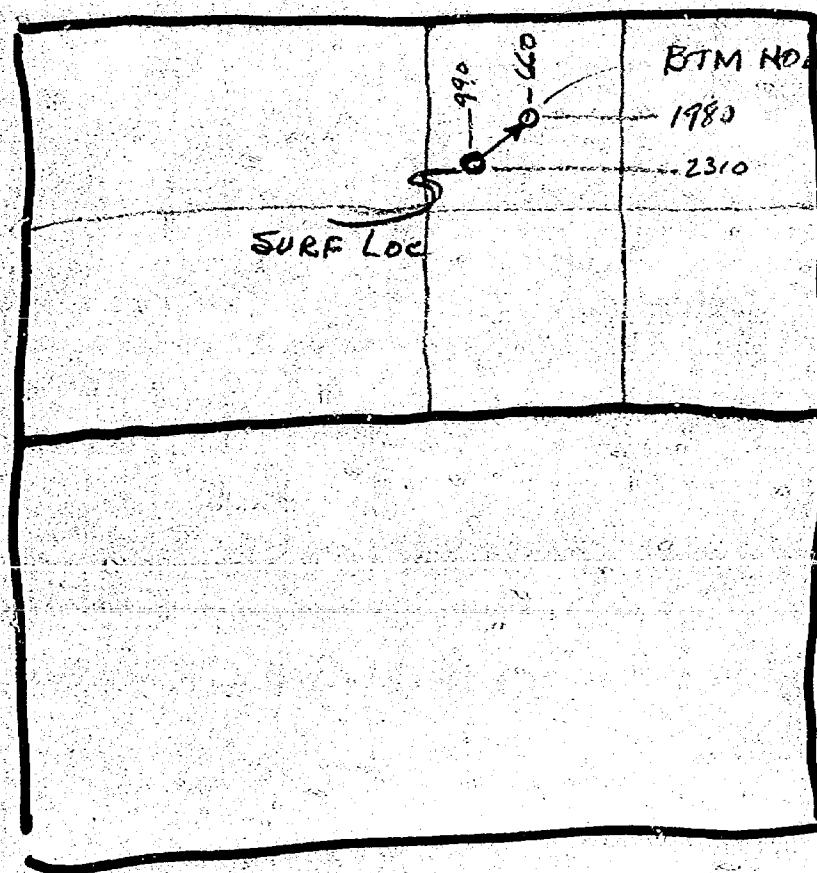
5256

Application,

Transcripts,

Small Exhibits

ETC.



BTM HOLE LOC AFTER
DIRECTIONAL
DRILLING

SURF LOC

1980

2310

990

070-60

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date

JUNE 19, 1974

TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Alan A. Wicks	Texas Pacific Oil Co.	Midland, Tex.
Henry Weigel	Monsanto Co.	Midland, Tex.
James E. Hinkle	" "	Roswell
John F. Russell	T P	Roswell
John B. Somers	Petrochems Corp	Denver, Colo.
John J. Mahaffey	Reading & Bates	Tulsa, Okla.
Daniel R. Hensley	Reading & Bates	Tulsa, Okla.
D. B. Campbell	Reading & Bates	TULSA
Henry Snodgrass	" "	Roswell
Terry Long	Western Oil & Minerals Corp	Jamestown
Quayle, M. Lotz	U.S.G.S.	DURANGO
Martin E. Dehlinger	New Energy Federal, etc	Santa Fe
Eddie E. Daniel	Pierce & Dehlinger	Midland
Donald H. Stearns	Read & Stevens, Inc.	Roswell
Tom Kellin	" "	Santa Fe
A.E. SNYDER	Kellblin & Fox	Santa Fe
	AMERICA HESS	SEMINOLE, TEX.

BEFORE THE
CO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 19, 1974

EXAMINER HEARING

IN THE MATTER OF:

Application of Monsanto Company for
directional drilling, Eddy County,
New Mexico.

Case No.
5256

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Thomas Derryberry, Esq.
Legal Counsel for the
Commission
State Land Office Bldg.
Santa Fe, New Mexico

For the Applicant:

Clarence Hinkle, Esq.
HINKLE, BONDURANT, COX &
EATON
Hinkle Building
Roswell, New Mexico

THE NYE REPORTING SERVICE
STATE-WIDE DEPOSITION NOTARIES
225 JOHNSON STREET
SANTA FE, NEW MEXICO 87501
TEL. (505) 982-0386

CASE 5256

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I N D E X

PAGE

HENRY WEIGEL

Direct Examination by Mr. Hinkle
Cross Examination by Mr. Stamets

3
11

E X H I B I T S

Marked

Admitted

Applicant's Exhibit Nos.
1 through 5

--

11

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WEIGEL-DIRECT

CASE 5256

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MR. STAMETS: We'll call the next case, Case 5256.

MR. DERRYBERRY: Case 5256. Application of Monsanto Company for directional drilling, Eddy County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, Cox & Eaton, appearing on behalf of Monsanto. We have one witness and five exhibits.

MR. STAMETS: Are there any other appearances in this Case? The Witness will stand and be sworn, please.

(Witness sworn.)

HENRY WEIGEL

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence, and by whom you are employed?

A Henry Weigel, 4506 Andrews Highway, Midland, Texas, and I am employed by Monsanto.

Q What is your position with Monsanto?

A District Petroleum Engineer.

Q Have you previously testified before the Commission?

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A No.

Q State briefly your educational background and experience as a Petroleum Engineer?

A I graduated from LSU in 1956; went to work for Monsanto at that time, and I've been with them ever since.

Q Has your work been in New Mexico, some of it, a good deal of it?

A Right. Since 1967 I have been working a good bit in New Mexico.

Q Are you familiar with the area that is involved in this Case?

A I am.

Q The well that is under consideration?

A Yes.

MR. HINKLE: Are his qualifications sufficient?

MR. STAMETS: What was your degree from LSU?

MR. WEIGEL: BS in Petroleum Engineering.

MR. STAMETS: Yes, they are acceptable.

BY MR. HINKLE:

Q Have you prepared, or has there been prepared under your direction, certain exhibits for introduction in this Case?

A Yes, I have.

Q They are the ones that have been marked Exhibits 1 through 5. Are you familiar with the Application of Monsanto in this Case?

A I am.

Q What is Monsanto seeking to accomplish.

A Seeks authority to plug back Arco Federal No. 2 located 990 feet from the North line, 2310 feet from the East line of Section 13, Township 21 South, Range 26 East, Burton Flats Field, Eddy County, New Mexico, to a depth of 9314 feet and directionally drill the Well in such a manner as to bottom it in the Morrow formation within a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of Section 13.

Q Refer to Exhibit No. 1 and explain what this is and what it shows.

A This is just a plat showing the Arco No. 2, which is the red arrow in Section 13 there, the furthest one to the west, and the other arrow shows Monsanto's Avalon Hills No. 1, which is the only other Morrow producer within two miles of the --

Q (Interrupting) Are there any other producers shown on this plat, gas producers?

A There is a well about over in Section 15, it's

a Cisco Well, which is just barely two miles away from the Arco No. 2.

Q This completed its gas well in what formation?

A The Cisco.

Q Cisco?

A Yes.

Q What is the character of the well which you referred to there in Section 7?

A That's a gas well in the Morrow; it's a potential 25 million.

Q And that is Monsanto's well?

A That is Monsanto's well.

Q Now refer to Exhibit No. 2 and explain this.

A This is just a copy of the location and acreage dedication plat and it shows the present surface location of the Arco No. 2, and then it shows the proposed bottomhole location, which would be 1980 feet from the East line and 660 feet from the North line.

Q Now, explain briefly the history of this well the time it was commenced, the depth it was drilled to, and so forth?

A Well, to begin with, we staked the thing originally at 660 from the North and 1980 from the East. There is a

black-top road going through there, up to the Avalon reservoir.

Q That's shown on Exhibit 1?

A It is shown on Exhibit 1, but the location of it is not exactly accurate. It fell just to the east of a location of 660 from the North and 1980 from the East. The road would have been just to the west of it, excuse me, and, in fact, we were supposed to drill it but we couldn't drill the pad there so we moved the location 330 feet West and 330 feet South down to its present location, and drilled the well. We spudded it on March 26th this year and drilled it a total depth of 11,475 feet on the 16th of May, and we logged it, tested the Morrow. We found some sands in the Morrow. It had porosity, but it was tagged; it didn't have any permeability. We ran a DST just a week ago. We didn't get any recovery out of the Morrow to speak of.

Q So that is when you decided to directionally drill the well?

A That's correct.

Q Explain what you did do with respect to plugging it back and directional drilling?

A Well, we plugged it back; we cement plugged it back

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to about 9100 feet and then we drilled the soft cement on the top and kicked it off at 9314 feet with a Dyna-Drill.

Q Was the original hole that was drilled virtually a vertical hole, or was there any deviation in that?

A On the next Exhibit here, which is Exhibit 3, is an Eastman Survey of the original hole, and at a total depth of 11,475 feet we had moved over 62.89 feet in a direction North 79 degrees, 25 minutes West, so we're only just under 62 feet away from the surface location back to the West, almost due West.

Q Now, refer to Exhibit 4 and explain that.

A Well, Exhibit 4 shows the last point on the Exhibit 3 here, which was 11,475 feet, shows the displacement in the direction at the total depth, and then we have another point there, 11,532 feet, which is the target well we're heading the directional hole for, which would be 330 feet North and 330 feet East of the present surface location. Then, from there on down we have a point in 9400 feet which came off of Exhibit 3 and shows the location of it, and then from there on down these are the single-point-shot surveys that we were taking while drilling the hole, down to the last one there at 11,398 feet, which is the last one we've taken. We're still in the process of drilling the hole.

Q About how far are you from completion now?

A This morning we were drilling at 11,477 feet. As you can see back here on the target, the projected depth is 11,532 feet, to drill all the way through the Morrow, is what it amounts to.

Q It should be completed shortly?

A It should be fairly shortly, yes.

Q Do you have any reason to believe that this drilling at this location might prove to be productive rather than the original location?

A We do. You see, originally we started drilling here and we feel like due to the nature of the Morrow sands up there, since we did encounter the sands and they did have porosity, we feel like if we can get over and get into some permeability we can get back into the main reservoir, which would be the same reservoir that they have on Hills, No. 1 over in Section 7.

Q Now, refer to Exhibit No. 5 and explain that.

A Well No. 5 is just a diagram of what we propose to do and it has plotted on it what we have done to date. The diagram on the left is a vertical cross section showing the displacement on the present location over to the projected location. The one on the right shows the

surface location, actually it would be a top view of the surface location and the projected bottomhole location and then the penciled-in line on the Exhibit shows the points that we've taken survey on from where we kicked-off to the present point.

Q Do you have any reason to believe that the hole will be bottomed other than at the projected location or within a radius of 50 feet thereof?

A I think we're going to be awfully close to it. We're right on target to date.

Q Have you had any objections to the drilling of these wells?

A No, we haven't.

Q From the off-set owners or anybody?

A No.

Q Now, is it the projected bottom location will be, in fact, the vertical location of the original intended location, is that right?

A Right. Where we originally staked the well, this would be the bottomhole location that we --

Q (Interrupting) That if it had been drilled vertical at that location?

A Right.

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CROSS

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Q And it is a standard location?

A It is a standard location.

MR. HINKLE: We would like to offer into evidence Exhibits 1 through 5.

MR. STAMETS: Without objection Exhibits 1 through 5 will be admitted.

(Whereupon, Applicant's Exhibits Nos. 1 through 5 were admitted into evidence.)

MR. HINKLE: That's all we have.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Weigel, your kick-off point is at 9314?

A That is correct.

Q And you would propose to run a survey of this hole upon completion to determine the bottomhole location?

A Well, we have run a directional survey and its just a single-point survey, at each one of these points shown on the map, it has the angle, well that would be Exhibit 4--each one of those points was run and it does have direction in the angle of deviation and the displacement, of course, was calculated from that. It's just a continuation of the multi-point survey that was run through the entire hole.

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WEIGEL-CROSS

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Q It appears to be in intervals of something less than 100 feet for most of them?

A Right.

Q Is this adequate for determining bottomhole location?

A We feel that it is.

MR. STAMETS: Any other questions of the Witness? He may be excused. Anything further in this Case?

MR. HINKLE: That's all we have.

MR. STAMETS: We'll take the Case under advisement.

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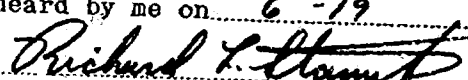
CASE 5256

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STATE OF NEW MEXICO)
)
COUNTY OF SANTA FE) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.


RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5256 heard by me on 6-19 1977.

Richard L. Nye, Examiner
New Mexico Oil Conservation Commission

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OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

June 25, 1974

I. R. TRUJILLO

CHAIRMAN

LAND COMMISSIONER

ALEX J. ARMIJO

MEMBER

STATE GEOLOGIST

A. L. PORTER, JR.

SECRETARY - DIRECTOR

Mr. Clarence Hinkle
Hinkle, Bondurant, Cox & Eaton
Attorneys at Law
Post Office Box 10
Roswell, New Mexico 88201

Re: CASE NO. 5256

ORDER NO. R-4817

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

ALP/ir

Copy of order also sent to:

Hobbs OCC	<u>x</u>
Artesia OCC	<u>x</u>
Aztec OCC	

Other _____

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 5256
Order No. R-4817

APPLICATION OF MONSANTO COMPANY
FOR DIRECTIONAL DRILLING,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 19, 1974, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 25th day of June, 1974, 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, is the owner and operator of the Arco Federal Well No. 2, located 990 feet from the North line and 2310 feet from the East line of Section 13, Township 21 South, Range 26 East, NMPM, Burton Flats Field, Eddy County, New Mexico.
- (3) That the subject well was originally drilled to a total depth of 11,475 feet into the Morrow formation but was not productive of gas in commercial quantities from that formation.
- (4) That the applicant proposes to plug back the well to a depth of 9314 feet and directionally drill to the Morrow formation within a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of said Section 13.
- (5) That a well drilled to the Morrow formation at said subsurface location may penetrate one or more zones in said formation productive of hydrocarbons.
- (6) That the applicant has determined the subsurface location of the "kick off" point by means of a continuous multishot directional survey.
- (7) That the applicant should be required to determine the subsurface location of the bottom of the hole by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling.

-2-

CASE NO. 5256
Order No. R-4817

(8) That approval of the subject application will prevent the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the application of Monsanto Company to directionally drill its Arco Federal Well No. 2, the surface location of which is 990 feet from the North line and 2310 feet from the East line of Section 13, Township 21 South, Range 26 East, NMPM, Burton Flats Field, Eddy County, New Mexico, and to bottom said well in the Morrow formation within a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of said Section 13 is hereby approved.

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe Office of the Commission, Box 2088, Santa Fe, New Mexico 87501, and that the operator shall notify the Commission's Artesia District Office of the date and time said survey is to be commenced.

(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



I. R. Trujillo
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

S E A L

jr/

Docket No. 17-74

Dockets Nos. 19-74 and 20-74 are tentatively set for hearing on July 16 and July 24. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 19, 1974

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 5256: Application of Monsanto Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to plug back its Arco Federal Well No. 2 located 990 feet from the North line and 2310 feet from the East line of Section 13, Township 21 South, Range 26 East, Burton Flats Field, Eddy County, New Mexico, to a depth of 9314 feet and to set a whipstock and directionally drill said well in such a manner as to bottom it in the Morrow formation within a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of said Section 13.

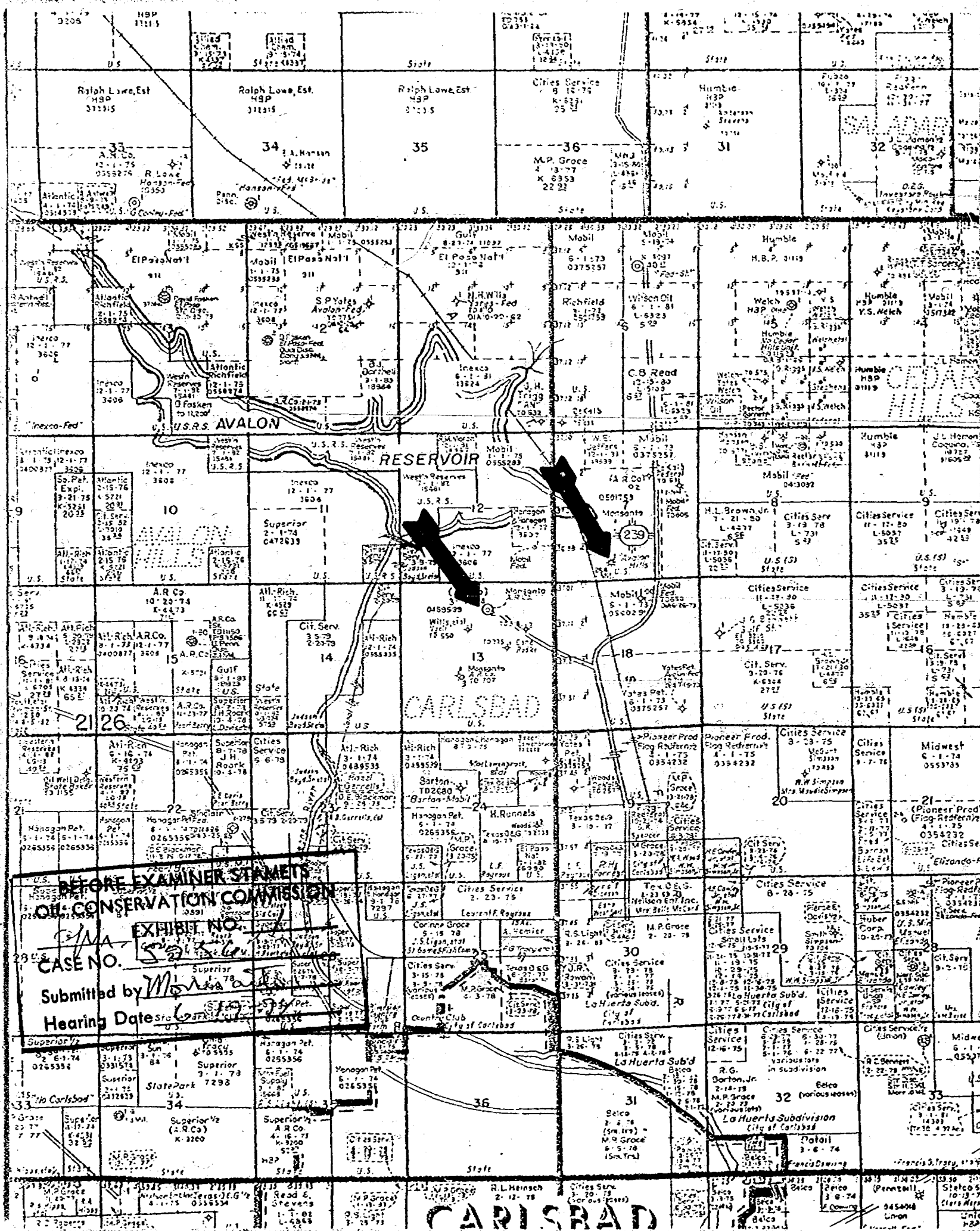
CASE 5257: Application of Mobil Oil Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal 12 Com Well No. 1 to be drilled to the Morrow formation at a point 1300 feet from the South line and 660 feet from the East line of Section 12, Township 21 South, Range 26 East, Eddy County, New Mexico, the E/2 of said Section 12 to be dedicated to the well.

CASE 5258: Application of Texas Pacific Oil Company for two waterflood projects and downhole commingling or dual completions, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its State "A" Act. 1 Well No. 42 located in Unit A of Section 4, Township 23 South, Range 36 East, Lea County, New Mexico, for the purpose of injecting water into the Upper Seven-Rivers formation of the Jalmat Pool and the Lower Seven-Rivers formation of the Langlie-Mattix Pool for the purpose of secondary recovery. Applicant further seeks approval for the downhole commingling in the wellbore of Jalmat and Langlie-Mattix production in the off-setting wells Nos. 44, 45, and 87, located in Units B, H, and G, respectively, of said Section 4; in the alternative applicant seeks approval for the dual completion of the aforesaid three wells to produce oil from said pools through parallel strings of tubing.

CASE 3608: (Reopened)

In the matter of Case No. 3608 being reopened pursuant to the provisions of Order No. R-3282, which order established temporary rules for the Carlsbad Permo-Penn Gas Pool, Eddy County, New Mexico, including a provision for 640-acre spacing. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

- CASE 5259: Application of Read & Stevens, Inc. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location for a well proposed to be drilled 660 feet from the South line and 990 feet from the East line of Section 30, Township 20 South, Range 25 East, Eddy County, New Mexico, in exception to the pool rules for the Indian Basin-Morrow Gas Pool or the Cemetery-Morrow Gas Pool, whichever is applicable.
- CASE 5260: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit R & G Drilling Company and all other interested parties to appear and show cause why Order No. DC-1026, which authorized dual completion in the Blanco-Mesaverde and Basin-Dakota Pools, should not be rescinded and the Hammond Well No. 47 located in Unit K, Section 35, Township 27 North, Range 8 West, San Juan County, New Mexico, be recompleted as a single zone well.
- CASE 5261: Application of Amerada Hess Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation through the openhole interval from 11,160 feet to 11,230 feet of its H. C. Posey "A" Well No. 1 located in Unit O of Section 11, Township 12 South, Range 32 East, East Caprock-Devonian Pool, Lea County, New Mexico.
- CASE 5262: Application of Petro-Lewis Corporation for pool contraction, creation, and special pool rules, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the Media-Entrada Oil Pool by the deletion of the NW/4 of Section 22, Township 19 North, Range 3 West, Sandoval County, New Mexico, and the creation of a new pool for Entrada production comprising said lands. Applicant further seeks the promulgation of special rules for said pool, including a provision for 160-acre proration units and the establishment of a special depth bracket allowable for said pool of up to 750 barrels per day.
- CASE 5263: Application of Reading & Bates Oil and Gas Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location for a well proposed to be drilled at a point 660 feet from the South and West lines of Section 8, Township 18 South, Range 26 East, Eddy County, New Mexico, the S/2 of said Section 8 to be dedicated to the well.
- CASE 5251: (Continued from the June 5, 1974, Examiner Hearing)
- Application of Pierce & Dehlinger for the Amendment of Order No. R-4560, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4560 to provide for an extension of time in which to comply with the schedule set forth in said order for the drilling and completion of the third well covered by said order, to be located in the NE/4 of Section 24, Township 9 South, Range 33 East, Vada-Pennsylvanian Pool, Lea County, New Mexico.



NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-55

All distances must be from the outer boundaries of the Section.

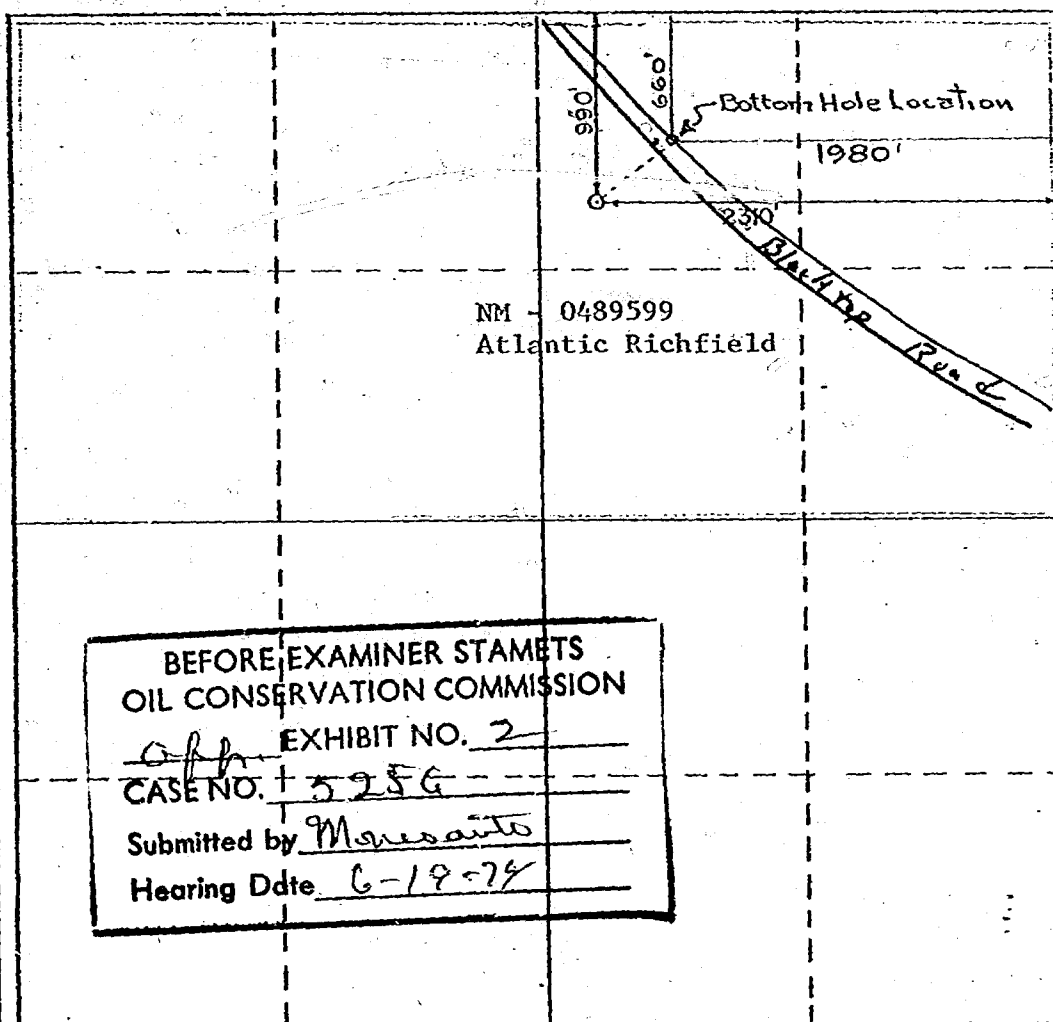
Operator MONSANTO COMPANY		Lease Arco		Well No. 2	
Unit Letter B	Section 13	Township 21-S	Range 26-E	County EDDY	
Actual Footage Location of Well: 990' feet from the North line and 2310' feet from the East line					
Ground Level Elev. 3294'	Producing Formation Norow	Pool Undesignated	Dedicated Acreage: 320 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

A. W. Wood

Name
A. W. Wood
Position
District Production Mgr.
Company
Monsanto Company
Date
March 20, 1974

I hereby certify that the well location shown on this plat was plotted from field notes of actual survey made by me or under my supervision, and that the same are true and correct to the best of my knowledge and belief.

RECEIVED
MAR 21 1974
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO
March 19, 1974
Date Surveyed
Richard B. Duniven
Registered Professional Engineer
and/or Land Surveyor

Richard B. Duniven
Certificate No. _____

EASTMAN OIL WELL SURVEY COMPANY

SHEET

COMPANY W. M. M. Co.
 WELL 1000
 LOCATION 1000 DISTRICT 1000
 TYPE OF SURVEY 1000

JOB NO. 1000 DATE 5-17-24
 FIELD CREW 1000
 COMPUTATIONS 1000 FILM 1000
 M.S. 1000 UNIT 1000 BBL 1000

1/3

A. D.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH	COURSE DEV.	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES			
								NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
1	200	200	1/4	200											
	400		1/2	200		1 74	S 45 W		1 23		1 23		1 23		1 23
	600		1/4	200		88	S 84 E		29	76			1 32		37
	800		1/2	200		1 74	N 09 E	1 72		27		110			10
	1000		1/2	200	1000 00	1 74	S 110 W		1 33		1 12		93		1 22
	1200		1/2	200		1 74	S 35 E		1 13	1 00			2 36		22
	1400		1/2	200		1 74	N 10 E	1 71		20			1 5	08	
	1600		3/4	199 98		2 62	N 05 W	2 61			23	1 76			15
	1800		1°	199 96		3 50	N 04 E	3 49		24		S 15		09	
	2000		3/4	199 98	1999 92	2 62	N 03 W	2 62			14	8 07			35
	2200		1/2	200		1 74	N 06 E	1 72			21	9 29			29
	2400		1/4	200		88	N 60 E	114		76		10 23		47	
	2600	200	1/2	200		1 74	N 68 E	65		1 61		10 38		2 08	
	2750	150	1/2	150	2749 92	1 31	N 83 E	16		1 30		11 04		3 38	
	2850	100	3/4	99 99	2849 91	1 97	S 53 E		1 29	1 49		9 75		4 37	
	3000	150	1/4	150 00		1 6	S 10 E		65	11		9 10		4 93	
	3200	200	1°	199 96		3 50	S 57 E		1 71	2 94		7 19		7 92	
	3400		1/2	200 00		1 74	S 35 E		99	1 44		6 22		9 36	
	3600		1°	199 96		3 50	S 57 W		1 71		2 54	4 31		6 42	
	3800		1°	199 96	3799 79	3 50	S 71 W		1 74		3 74	3 17		3 11	

EASTMAN OIL WELL SURVEY COMPANY

SHEET

COMPANY _____

JOB NO. _____ DATE _____

WELL _____

FIELD CREW _____

LOCATION _____ DISTRICT _____

COMPUTATIONS _____ FILM _____

TYPE OF SURVEY _____

M.S. _____ UNIT _____ BBL _____

2/3

STA. NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH	COURSE DEV.	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES			
								NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	4000	200	1°	199 96		3 50	N 31 W	3 00			1 80	6 17		1 31	
	4200		1/2°	200 00		1 74	N 11 W	1 71			32	7 88		98	
	4400		3/4°	199 98		2 62	N 64 E	1 14		2 35		9 02		3 33	
	4600		1°	199 96		3 50	N 17 E	3 35		1 02		12 37		4 35	
	4800		1°	199 96	4199 65	3 50	N 28 W	3 47			49	15 84		3 86	
	5000		1 1/2°	199 94		5 24	S 83 W		59		5 24	15 75			1 28
	5200		2°	199 98		6 78	N 49 W	4 58			5 26	20 33			6 64
	5400		1 1/4°	199 90		6 10	N 67 W	2 38			5 62	22 71			12 26
	5600		1 1/2°	199 94		5 24	N 11 W	2 54			4 58	25 25			16 84
	5800		1 3/4°	199 90	5199 31	10 10	N 41 W	4 60			4 00	29 85			20 24
	6000		1 1/2°	199 94		5 24	N 59 W	2 70			4 49	32 55			21 37
	6200		3/4°	199 98		2 62	N 77 W	2 59			36	35 14			21 73
	6400		1°	199 96		3 50	N 22 E	3 24		1 31		38 38			20 42
	6600		3/4°	199 98		2 62	N 77 W	2 59			41	40 17			20 83
	6800		3/4°	199 98	6799 05	2 62	S 12 E		2 56	54		38 41			20 24
	7000		1 1/2°	199 94		5 24	S 83 W		2 54		1 09	35 87			21 38
	7200		2°	199 98		6 78	S 56 W		3 90		5 79	31 97			21 17
	7400		1°	199 96		3 50	S 51 W		1 70		3 16	30 77			30 23
	7600		1°	199 96		3 50	S 47 E		2 75	1 02		26 92			29 21
	7800	200	1°	199 96	7798 85	3 50	S 75 W		41		2 76	26 01			32 59

EASTMAN OIL WELL SURVEY COMPANY

SHEET

COMPANY _____
 WELL _____
 LOCATION _____ DISTRICT _____
 TYPE OF SURVEY _____

JOB NO. _____ DATE _____
 FIELD CREW _____
 COMPUTATIONS _____ FILM _____
 M S _____ UNIT _____ DBL _____

3/3

NO.	MEASURED DEPTH	COURSE LENGTH	DRIFT ANGLE	VERTICAL DEPTH	TRUE VERTICAL DEPTH	COURSE DEVI.	DRIFT DIRECTION	COORDINATE DIFFERENCES				RECTANGULAR COORDINATES			
								NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	8000	200	1 1/2°	199 94			N 59 2'	2 70			4 48	28 71			37 07
	8200	1	1°	199 96			N 59 2'	1 35			3 25	30 07			40 29
	8400	1	3/4°	199 93			N 70 E	2 37		1 22		32 39			57 07
	8600	1	3/4°	199 92			S 92 E		1 62	2 04		30 77			37 01
	8800	1	1°	199 96	898 67		S 26 W		2 82		2 04	27 95			39 07
	9000	1	1 1/2°	199 96			S 50 E		2 80	3 34		25 75			35 15
	9200	1	1°	199 96			S 93 E		3 52	1 15		21 67			35 57
	9400	1	1°	199 96			S 82 W		1 84		2 91	19 83			38 53
	9600	1	1/2°	700 00			S 15 W		1 74		1 11	18 09			22 71
	9800	1	1°	199 96	9773 51		N 51 E	2 20			2 72	20 29			41 43
	10000	1	1 1/2°	199 94			S 57 W		3 16		4 15	17 15			45 61
	10200	1	1 1/2°	199 94			N 67 W	1 96			0 26	19 09			50 47
	10400	1	1°	199 96			N 77 W	2 08			2 69	21 37			53 11
	10600	1	1°	199 96			N 75 W	1 90			2 92	23 27			56 03
	10800	1	1°	199 96	10793 27		S 71 W		2 74		9 1	19 91			56 97
	11000	1	1/2°	700 00			N 62 W	57			1 54	20 73			58 53
	11200	1	1 1/4°	199 96			S 15 E		1 20		1 12	16 57			59 65
	11400	200	1°	199 96			S 97 W		2 15		4 1	14 05			60 07
	11600	195	1°	74 98	11473 17		S 32 W		2 51		1 70	11 54			61 83
							N 79° 25' W	62.89'							

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION

Off. EXHIBIT NO. 3

CASE NO. 5256

Submitted by M. Merantz

Hearing Date 6-19-74

MONSANTO COMPANY
ARCO NO. 2

Measured Depth Feet	True Vertical Depth Feet	Deviation Angle Degrees	Direction Degrees	Displacement Feet
11,475' (Orig. T.D.)			N79°25'W	11.54N 61.83W (62.89')
11,532' (Target)			N 45 E	330 N 330 E (466.70')
9,400				19.83N 83.53W
9,405		1	N 25 E	
9,478		4 3/4	N 64 E	
9,522		6	N 63 E	
9,599		6	N 63 E	29.70N 31.46W
9,707	9,704	5	N 77 E	31.81N 22.28W
9,768		6 3/4	N 70 E	34.26N 16.54W
9,830		8	N 65 E	
9,893	9,888.55	8 1/2	N 63 E	42.14N 0.42W
9,954		8 3/4	N 54 E	
10,047	10,040	8 1/2	N 52 E	55.52N 18.28E
10,139	10,131.28	10 1/2	N 51 E	66.07N 31.31E
10,201		12	N 50 E	74.35N 41.18E
10,262		13 1/2	N 49 E	83.35N 51.51E
10,353	10,332.37	14	N 47 E	94.06N 62.88E
10,424	10,418.24	14 1/2	N 48 E	110.65N 81.31E
10,516	10,497.17	14 3/4	N 48 E	126.04N 98.40E
10,610	10,538.20	14 1/2	N 50 E	140.57N 116.43E
10,696	10,671.55	14 1/4	N 51 E	153.90N 132.88E
10,792	10,762.60	14 1/4	N 52 E	169.68N 150.47E
10,884	10,853.96	13 3/4	N 52 E	183.15N 167.71E
10,932	10,900.63	13 1/2	N 52 E	190.05N 176.55E
10,998	10,964.19	14	N 50 E	200.27N 188.74E
11,085	11,049.09	14 1/4	N 48 E	214.37N 204.86E
11,180	11,140.96	14 3/4	N 46 E	231.17N 221.82E
11,274	11,232.83	14 3/4	N 46 E	247.97N 239.22E
11,398	11,351.64	15	N45E	270.49N 261.74E

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
Offh. EXHIBIT NO. 4
CASE NO. 5256
Submitted by M. Monsanto
Hearing Date 6-19-74

CLARENCE E. HINKLE
W. E. BONDURANT, JR.
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
STUART D. SHANOR
C. D. MARTIN
PAUL J. KELLY, JR.

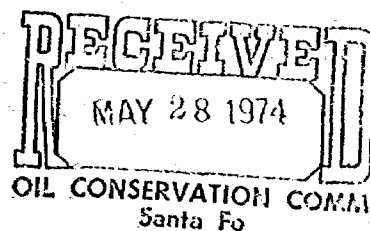
LAW OFFICES
HINKLE, BONDURANT, COX & EATON
600 HINKLE BUILDING
POST OFFICE BOX 10
ROSWELL, NEW MEXICO 88201

TELEPHONE (505) 622-6510

Case 5256

MIDLAND, TEXAS OFFICE
521 MIDLAND TOWER
(915) 683-4661

May 27, 1974



Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

We enclose application of Monsanto Company for
directional drilling which we would appreciate your
placing on the first available examiner's docket.

Yours very truly,

HINKLE, BONDURANT, COX & EATON

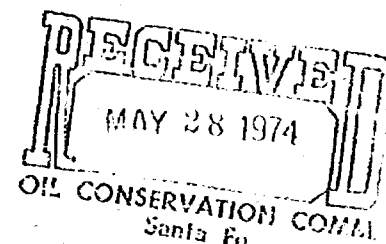
By Clarence E. Hinkle *CS*

CEH:cs
Enc.
cc: Monsanto Company

DOCKET MAILED

Date 6-7-74

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO



APPLICATION OF MONSANTO COMPANY
FOR APPROVAL OF DIRECTIONAL
DRILLING IN ACCORDANCE WITH RULES
111(b) IN CONNECTION WITH MONSANTO
ARCO NO. 2 FEDERAL LOCATED 990 FEET
FROM THE NORTH LINE AND 2,310 FEET
FROM THE EAST LINE OF SECTION 13,
TOWNSHIP 21 SOUTH, RANGE 26 EAST,
BURTON FLATS POOL, EDDY COUNTY, NEW
MEXICO.

Case 5256

Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Comes Monsanto Company, acting by and through the undersigned attorney, and hereby makes application for approval of directional drilling in accordance with Rule 111(b) in connection with Monsanto Arco No. 2 Federal located 990 feet from the north line and 2,310 feet from the east line of Section 13, Township 21 South, Range 26 East, Burton Flats Pool, Eddy County, New Mexico, and in support thereof respectfully shows:

1. Applicant drilled its Arco No. 2 Federal well located 990 feet from the north line and 2,310 feet from the east line of Section 13, Township 21 South, Range 26 East to a total depth of 11,475 feet, but failed to encounter gas in paying quantities.

Applicant proposes to plug said well back to a depth of 9,314 feet and to set a whipstock and directionally drill said well so that the same will be bottomed 1980 feet from the east line and 660 feet from the north line of said Section 13.

2. Applicant proposes to directionally drill said well in accordance with applicable rules and regulations of the Commission so that the same will be bottomed at the location above indicated and it is anticipated that the well has a good chance of encountering gas in paying quantities in the Pennsylvanian formation.

3. Applicant believes that the directional drilling of said well will be in the interest of conservation, the prevention of waste and will protect correlative rights.

4. Applicant requests that this matter be included on the first available examiner's docket.

Respectfully submitted,

MONSANTO COMPANY

BY Clarence E. Hinkle
HINKLE, BONDURANT, COX & EATON *ed*
P.O. Box 10
Roswell, New Mexico 88201
Attorneys for Applicant

DRAFT

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. 5256

Order No. R-4817

APPLICATION OF MONSANTO COMPANY
FOR DIRECTIONAL DRILLING,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 19, 1974,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of June, 1974, 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, is the owner and
operator of the Arco Federal Well No. 2, located 990 feet from the
North line and 2310 feet from the East line of Section 13, Township
21 South, Range 26 East, NMPM, Burton Flats Field, Eddy County,
New Mexico.

-2-

CASE NO. 5256

Order No. R-

(3) That the subject well was originally drilled to a total depth of 11,475 feet into the Morrow formation but was not productive of gas ^{in commercial quantities} from that formation.

(4) That the applicant proposes to plug back the well to a depth of 9314 feet ^{and directionally drill to the} ~~and set the well in the~~ Morrow formation ~~within~~ a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of said Section 13.

~~(5) That the applicant has obtained a waiver of objection from the affected offsetting operator.~~

(5) That a well drilled to the Morrow formation at said subsurface location may penetrate ~~and form~~ one or more productive zones in ~~the~~ said formation productive of hydrocarbons.

(6) That the applicant ~~has~~ ^{"kick off"} determined the subsurface location of the ~~whipstock~~ point by means of a continuous multishot directional survey, ~~conducted prior to the hearing of this case and that~~

(7) That the applicant should be required to determine the subsurface location of the bottom of the hole by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling, ~~if said well is to be completed as a producing well.~~

(8) That approval of the subject application will prevent the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the application of Monsanto Company to directionally drill its Arco Federal Well No. 2, the surface location of which is 990 feet from the North line and 2310 feet from the East line of Section 13, Township 21 South, Range 26 East, NMPM, Burton Flats Field, Eddy County, New Mexico, and to bottom said well in the Morrow formation within a 50-foot radius of a point 660 feet from the North line and 1980 feet from the East line of said Section 13 is hereby approved.

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the ~~whipstock~~ ^{Kick-off} point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe Office of the Commission, Box 2088, Santa Fe, New Mexico 87501, and that the operator shall notify the Commission's Artesia District Office of the date and time said survey is to be commenced.

(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.