

CASE 3288: Application of TENNECO
OIL CO. for directional drilling,
San Juan County, New Mexico.

CASE NO.

3288

Application,

TRANSCRIPTS,

SMALL Exhibits

ETC.

DEVIATION RECORDS FOR WELLS
DRILLED FROM MESAVERDE TO DAKOTA FORMATION
SAN JUAN COUNTY, NEW MEXICO

FLORANCE 37
1650' FNL 990' FEL
SECTION 6, T30N, R8W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
4600	3.50	28.0
4575	1.00	
4589	3.75	
4603	6.50	2.0
4638	6.75	4.1
4716	6.50	8.8
4917	5.25	18.3
5224	3.25	16.8
5493	2.50	11.7
5767	1.50	7.2
6064	3.00	15.6
6123	4.50	4.7
6242	5.00	10.4
6334	5.25	8.3
6423	5.50	8.3
6574	5.75	15.1
6663	6.25	9.7
6754	6.00	9.2
7023	4.75	22.2
7123	4.75	8.3
7203	4.75	6.6
7294	4.25	6.6
7505	4.25	15.6
TOTAL		237.7

Sidetracked @ 4572'

Shot w/1330 qts. SNG
Fish left in hole

FLORANCE 40
1650' FNL 1825' FEL
SECTION 21, T30N, R8W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
674	.25	2.9
4234	1.25	77.2
4267	5.50	3.2
4390	4.50	9.6
4695	4.50	29.4
4997	3.25	17.1
5300	2.75	14.5
5609	3.00	16.1
5915	2.75	14.6
6311	.50	3.5
6700	4.25	28.7
7131	8.00	55.5
TOTAL		272.3

Sidetracked @ 4235'

Shot w/1335 qts. SNG

DEVIATION RECORDS FOR WELLS
DRILLED FROM MESAVERDE TO DAKOTA FORMATION
SAN JUAN COUNTY, NEW MEXICO

FLORANCE 16
1010' FNL 990' FWL
SECTION 6, T30N, R9W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
1861	.75	24.1
2680	.75	10.7
2990	.50	2.7
3725	.75	8.4
4760	1.50	27.5
4775	4.75	.1
5398	1.25	13.5
5911	1.75	15.6
6187	5.00	24.0
6279	5.00	7.8
6399	5.50	11.5
6551	4.75	12.6
6764	5.25	19.5
6976	4.50	16.6
7276	5.50	28.7
7450	7.00	9.1
7490	7.00	4.9

TOTAL 237.3

Sidetracked @ 4494'

Shot w/1500 qts. SNG

MOORE 1
990' FSL 990' FWL
SECTION 8, T30N, R8W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
1220	.75	15.9
1780	.75	7.3
2490	.75	9.3
3000	.25	2.2
3850	.50	7.4
4510	.75	8.6
4760	.75	3.3
4774	2.00	.4
4792	1.00	.3
4854	4.25	4.6
4898	4.25	3.5
5141	3.25	13.7
5352	2.50	9.2
5540	2.25	7.4
5724	1.25	4.0
5932	1.00	3.6
6140	.50	1.8
6339	1.25	4.4
6398	1.75	1.8
6498	1.50	2.6
6650	1.75	4.6
6711	1.50	1.6
7293	4.50	45.5
7475	4.75	15.0
7558	5.00	6.3
7659	4.50	7.8
7751	4.25	6.8

TOTAL 198.9

Sidetracked @ 4763'

Shot W/600 qts. SNG
Frac - fish in hole

DEVIATION RECORDS FOR WELLS
 DRILLED FROM MESAVERDE TO DAKOTA FORMATION
 SAN JUAN COUNTY, NEW MEXICO

FLORANCE 8
 990' FSL 1650' FWL
 SECTION 14, T30N, R9W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
796	.25	3.1
1761	.25	4.1
2302	0.00	00.0
3000	.25	3.0
3500	.50	4.4
4494	1.00	17.4
4506	5.00	.1
4538	3.00	1.6
4597	2.50	2.6
4689	2.25	3.5
4881	2.25	7.5
5084	2.00	7.0
5351	1.75	8.1
5501	1.50	3.9
5651	1.75	4.6
5815	2.50	7.2
5857	3.00	2.2
6048	5.50	18.3
6110	5.25	5.7
6169	6.00	6.2
6227	6.50	6.6
6287	6.75	7.1
6379	6.50	10.5
6499	7.75	16.2
6682	8.00	25.4
6771	8.50	13.5
6862	9.25	14.5
6960	10.00	17.4
7040	10.50	14.5
7135	10.00	16.5
7245	9.50	18.2

TOTAL 270.9

Sidetracked @ 4506'

Shot w/700 qts. SNG

DEVIATION RECORDS FOR WELLS
DRILLED FROM MESAVERDE TO DAKOTA FORMATION
SAN JUAN COUNTY, NEW MEXICO

FLORANCE 37
1650' FNL 990' FEL
SECTION 6, T30N, R8W

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4600	3.50	28.0
4575	1.00	
4589	3.75	
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6242	5.00	10.4
6334	5.25	8.3
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6574	5.75	15.1
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Fish left in hole

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1650' FNL 1825' FEL
SECTION 21, T30N, R8W

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4390	4.50	9.6
4695	4.50	29.4
4997	3.25	17.1
5300	2.75	14.5
5609	3.00	16.1
5915	2.75	14.6
6311	.50	3.5
6700	4.25	28.7
7131	8.00	55.5

TOTAL 272.3

Sidetracked @ 4235'

Shot w/1335 qts. SNG

DRAFT
JMD/esr
Sept. 2, 1965

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CF Subj. _____

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

CASE No. 3288

Order No. R- 2963

APPLICATION OF TENNECO OIL COMPANY
FOR DIRECTIONAL DRILLING, SAN JUAN
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
August 11, 1965, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this day of September, 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, Tenneco Oil Company, seeks authority
plug back and
to directionally drill 20 wells in Townships 29 and 30 North, Ranges
8 and 9 West, NMPM, San Juan County, New Mexico, *and to recomplete said*
~~the~~ Mesaverde *wells*
formation or ~~to~~ the Mesaverde and Dakota formations. *in*

(3) That the applicant proposes to conduct deviation tests
to assure that each well is bottomed no nearer than 200 feet to
the outer boundary of the proration unit.

(4) That due to the method originally utilized to complete
in the Mesaverde formation,
the subject wells, conventional recompletion methods are imprac-
ticable.

(5) That the proposed method of recompletion will prevent the drilling of unnecessary wells, result in more efficient completions, and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tenneco Oil Company, is hereby authorized to directionally drill to the Mesaverde formation or to the Mesaverde and Dakota formations the following-described wells:

SAN JUAN COUNTY, NEW MEXICO
TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM
Florance No. 22, Unit H, Section 12 ✓

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM
Florance No. 39, Unit B, Section 35 ✓
Florance No. 45, Unit G, Section 22 ✓
Florance No. 29, Unit K, Section 25 ✓
Florance No. 37, Unit H, Section 6 ✓
Florance No. 40, Unit G, Section 21 ✓
Moore No. 1, Unit N, Section 8

TOWNSHIP 30 NORTH, RANGE 9 WEST, NMPM
Florance No. 2, Unit A, Section 20 ✓
Florance No. 3, Unit M, Section 22 ✓
Florance No. 4, Unit L, Section 10 ✓
Florance No. 6, Unit M, Section 23 ✓
Florance No. 13, Unit B, Section 18 ✓
Florance No. 20, Unit B, Section 24 ✓
Prichard No. 1, Unit M, Section 1 ✓
Riddle No. 1, Unit B, Section 21 ✓
Riddle No. 2, Unit N, Section 17 ✓
State No. 1, Unit M, Section 32 ✓
State No. 2, Unit M, Section 16 ✓
Florance No. 8, Unit N, Section 14 ✓
Florance No. 16-X, Unit A, Section 6 ✓

PROVIDED HOWEVER, that the applicant shall conduct a deviation test on each well and shall conduct a directional survey on any well that could be bottomed nearer than 200 feet to the outer boundary of the proration unit.

(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.

DEVIATION RECORDS FOR WELLS
DRILLED FROM MESAVERDE TO DAKOTA FORMATION
SAN JUAN COUNTY, NEW MEXICO

FLORANCE 6
990' FSL 990' FWL
SECTION 23, T30N, R9W

FLORANCE 29
1500' FSL 3730' FEL
SECTION 25, T30N, R8W

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
1890	.25	8.2
3270	.75	18.0
3900	1.00	10.9
3950	1.00	.8
4438	.75	7.6
4525	5.75	8.7
5204	3.00	35.4
5436	3.00	11.9
5629	2.75	9.2
5879	5.50	23.9
5995	9.00	17.8
6042	9.00	7.3
6099	9.50	9.4
6190	9.25	15.0
6343	9.75	25.9
6531	10.00	15.6
6592	10.25	10.7
6651	9.25	9.6
6712	9.00	9.4
6802	10.00	15.6
6893	11.00	17.2
6953	10.00	10.4
7043	12.00	18.7
7137	12.00	19.6
7238	10.00	17.4
7455	10.00	37.6

TOTAL 410.4

Sidetracked @ 4465'

Shot w/684 QTS SNG
Left fish in hole

Attempting clean out after shot

DEPTH	DEVIATION FROM VERTICAL	
	DEGREES	DISTANCE IN FEET
1856	1.25	40.5
3273	1.25	30.8
4370	1.50	28.6
4695	1.00	5.7
4710	2.50	.5
4722	.75	.2
4774	4.25	3.9
4836	3.50	3.8
5051	3.00	11.1
5538	1.50	12.7
5999	.50	4.0
6732	1.25	2.0
6823	1.25	2.0
6942	.75	1.5
7127	.75	2.4
7681	.75	7.2

TOTAL 170.8

Sidetracked @ 4695'

Shot w/1450 QTS SNG

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

CASE NO. 3288

990
410 from
590

DUAL COMPLETION SCHEMATIC

TENNECO OIL COMPANY
Durango District

WELL NAME: Florange
WELL NUMBER: 37
LOCATION: 1050' FNL 990' FEL
Sec. 6 T. 30W R. 8W
ELEVATION: _____
GL: 6078
DF: 6089
ZERO: _____

DUAL COMPLETION
BLANCO MESAVERDE
BASIN DAKOTA

TUBING: 2" EVE 4.6# Lock Seal
Set at 7270'

SURFACE: 13-3/8 - 48# at 134'
with 120 sx.

STAGE COLLAR: 4118'

LEGEND

SS - Sliding sleeve
LN - Type F landing nipple
SA - Seal Assembly
PT - Production tube

CEMENTING RECORD

1st stage w/ 380 sx Class "C" 50/50 Poz. 2% g
Top at 4118'
2nd stage w/ 250 sx. class "C" 12% gel
Top at Surface
and cemented with 22 sx.

7" 20 @ 23 # at: 4565'

80TK at: 7512' 4572'

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Appd EXHIBIT NO. 2
CASE NO. 3288

FRAC DAKOTA w/ 49,800 # 20/40 sand
and 66,780 gals. water

DAKOTA PERFORATIONS G.R. DEPTHS

7324 2 shots/ft.
7328 (.48" hole size)
7332 Total 24 holes
7354
7383
7386
7389
7448
7450
7458
7465 & 7468

CASING SET at 4-1/2" 11.6 # &
10.5 # J-55 at 7505'

MESAVERDE PERFORATIONS G.R. DEPTHS

4667	
4670	
4725	
4728	
4735	
4737	
4751	
4753	
4764	
4766	
4768	
4775	
4882	
4892	
4900	
4908	
4946	
4952	
4958	
4962	
4970	
4974	5180 (.48" hole
5104	5210 & 93 mie:
5106	5214
5161	5217
5172	5221

FRAC 2nd STAGE w/
60,000 # 10/20 sd
& 20,000 # 8/12 sd
& 102,000 gals.
water

FRAC 1st STAGE w/
60,000 # 10/20 sd
& 20,000 # 8/12 sd
& 98,120 gals.
water

BAKER MODEL D

PT 72" 1.5' SET at 7270'

PBTD 7482'

DATE: 6-25-65

SIGNED: [Signature]

August 11, 1965 Examiner Hearing

TOWNSHIP 30 NORTH, RANGE 9 WEST - Cont'd

Florance No. 6, Unit M, Section 23
Florance No. 13, Unit B, Section 18
Florance No. 20, Unit B, Section 24
Prichard No. 1, Unit M, Section 1
Riddle No. 1, Unit B, Section 21
Riddle No. 2, Unit N, Section 17
State No. 1, Unit M, Section 32
State No. 2, Unit M, Section 16
Florance No. 8, Unit N, Section 14
Florance No. 16-X, Unit A, Section 6

TOWNSHIP 30 NORTH, RANGE 8 WEST

Florance No. 39, Unit B, Section 35
Florance No. 45, Unit G, Section 22
Florance No. 29, Unit K, Section 25
Florance No. 37, Unit H, Section 6
Florance No. 40, Unit G, Section 21
Moore No. 1, Unit N, Section 8

All of the above wells are presently completed in the Blanco-Mesa-verde Pool. Applicant proposes to set a whipstock above the Mesa-verde producing interval and to directionally drill recompleting said wells in the Mesaverde formation, and in some instances, to further drill to the Dakota producing interval thereby permitting dual completion of the wells to produce gas from the Blanco-Mesa-verde and Basin-Dakota Gas Pools. Applicant further proposes to conduct appropriate deviation tests to ensure that none of the wells is completed nearer than 200 feet to the outer boundaries of its proration unit.

CASE 3289: Application of Kewanee Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Atoka-Grayburg Unit Area comprising 560 acres, more or less, of fee land in Sections 13 and 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

CASE 3290: Application of Kewanee Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Atoka-Grayburg Pool, Eddy County, New Mexico, by the injection of water into the Grayburg formation through two injection wells in Section 13, Township 18 South, Range 26 East.

CASE 3291: Application of Kewanee Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Atoka-San Andres Pool, Eddy County, New Mexico, by the injection of water into the San Andres formation through one injection well in Section 13, Township 18 South, Range 26 East.

CASE 3092 and CASE 3093 (Reopened):

In the matter of Case No. 3092 and Case 3093 being reopened pursuant to the provisions of Orders Nos. R-2756 and R-2757, which orders established 80-acre spacing units for the Osudo-Upper Bone Spring

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 11, 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 3283: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the adoption of a new "Manual of Back-Pressure Testing of Gas Wells" in the State of New Mexico, said manual being an adaptation of the test manual recently adopted by the Interstate Oil Compact Commission. Modification of several existing gas well test forms and adoption of several new forms will also be considered.

A copy of the proposed testing manual, complete with tables, charts, and specimens of the various forms, is available for inspection in the Santa Fe, Hobbs, Aztec, and Artesia offices of the Commission.

CASE 3284: Application of Foster Morrell for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Willow Draw Unit Area comprising 3840 acres, more or less, of State and Federal lands in Township 20 South, Range 26 East, Eddy County, New Mexico.

CASE 3285: Application of Richfield Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Avalon Unit Area comprising 11,154 acres, more or less, of Federal, State and Fee lands in Township 21 South, Ranges 25 and 26 East, Eddy County, New Mexico.

CASE 3286: Application of Skelly Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Skelly Penrose "B" Unit, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Queen formation through 33 injection wells in Sections 31 and 32, Township 22 South, Range 37 East, and Sections 4, 5, 6, 7, 8 and 9, Township 23 South, Range 37 East.

CASE 3287: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Langlie-Mattix Pool by the injection of water into the Queen formation through two wells in Section 21, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 3288: Application of Tenneco Oil Company for directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to recomplete by means of directional drilling the following wells:

TOWNSHIP 29 NORTH, RANGE 9 WEST
Florance No. 22, Unit H, Section 12

TOWNSHIP 30 NORTH, RANGE 9 WEST
Florance No. 2, Unit A, Section 20
Florance No. 3, Unit M, Section 22
Florance No. 4, Unit L, Section 10

August 11, 1965 Examiner Hearing

Pool and the Osudo-Lower Bone Spring Pool, Lea County, New Mexico, for a period of one year. The subject pools have apparently been depleted and these cases will be dismissed in the absence of evidence requiring other action.

CASE 3073: (Reopened and continued from the July 28, 1965 Examiner Hearing)

In the matter of Case No. 3073 being reopened pursuant to the provisions of Order No. R-2758, which order, as amended by Orders Nos. R-2758-A and R-2758-B, established 160-acre oil well spacing and 320-acre gas well spacing for the Tocito Dome Pennsylvanian "D" Oil Pool, San Juan 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 oil well spacing and 160-acre gas well spacing, or such other spacing as may seem proper.

CASE 3292: Application of Texaco Inc. for the creation of a new pool or in the alternative for a non-standard location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Bough "B" formation in Section 14, Township 12 South, Range 34 East, Ranger Lake Field, Lea County, New Mexico. Applicant, in the alternative, seeks authority to drill its State DA Well No. 1 at an unorthodox location within 150 feet of the center of Unit K, Section 14, Township 12 South, Range 34 East, Ranger Lake Pennsylvanian Pool, Lea County, New Mexico.

(Note: The above case, at the request of the applicant, will be dismissed.)

CASE 3281 (continued from the July 28, 1965 Examiner Hearing):

Application of Samuel G. Dunn for a two-well proration unit and an unorthodox location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill and produce the second well on the 160-acre oil proration unit comprising the SW/4 of Section 26, Township 26 North, Range 1 East, Puerto Chiquito-Gallup Oil Pool, Rio Arriba County, New Mexico, the 160-acre allowable to be produced from either well in any proportion. Said second well would be drilled at an unorthodox location 1720 feet from the South line and 460 feet from the West line of said Section 26. (The SW/4 of Section 26 is currently dedicated to a well in Unit M of said section.) In the alternative, applicant seeks the creation of two non-standard 80-acre proration units comprising the N/2 SW/4 and S/2 SW/4 of said Section 26 to be dedicated to the proposed well and the existing well, respectively.

August 11, 1965 Examiner Hearing

TOWNSHIP 30 NORTH, RANGE 9 WEST - Cont'd

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Florance No. 13, Unit B, Section 18
Florance No. 20, Unit B, Section 24
Prichard No. 1, Unit M, Section 1
Riddle No. 1, Unit B, Section 21
Riddle No. 2, Unit N, Section 17
State No. 1, Unit M, Section 32
State No. 2, Unit M, Section 16
Florance No. 8, Unit N, Section 14
Florance No. 16-X, Unit A, Section 6

TOWNSHIP 30 NORTH, RANGE 8 WEST

Florance No. 39, Unit B, Section 35
Florance No. 45, Unit G, Section 22
Florance No. 29, Unit K, Section 25
Florance No. 37, Unit H, Section 6
Florance No. 40, Unit G, Section 21
Moore No. 1, Unit N, Section 8

All of the above wells are presently completed in the Blanco-Mesa-verde Pool. Applicant proposes to set a whipstock above the Mesa-verde producing interval and to directionally drill recompleting said wells in the Mesaverde formation, and in some instances, to further drill to the Dakota producing interval thereby permitting dual completion of the wells to produce gas from the Blanco-Mesa-verde and Basin-Dakota Gas Pools. Applicant further proposes to conduct appropriate deviation tests to ensure that none of the wells is completed nearer than 200 feet to the outer boundaries of its proration unit.

CASE 3289: Application of Kewanee Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Atoka-Grayburg Unit Area comprising 560 acres, more or less, of fee land in Sections 13 and 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

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CASE 3291: Application of Kewanee Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Atoka-San Andres Pool, Eddy County, New Mexico, by the injection of water into the San Andres formation through one injection well in Section 13, Township 18 South, Range 26 East.

CASE 3092 and CASE 3093 (Reopened):

In the matter of Case No. 3092 and Case 3093 being reopened pursuant to the provisions of Orders Nos. R-2756 and R-2757, which orders established 80-acre spacing units for the Osudo-Upper Bone Spring

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A copy of the proposed testing manual, complete with tables, charts, and specimens of the various forms, is available for inspection in the Santa Fe, Hobbs, Aztec, and Artesia offices of the Commission.

CASE 3284: Application of Foster Morrell for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Willow Draw Unit Area comprising 3840 acres, more or less, of State and Federal lands in Township 20 South, Range 26 East, Eddy County, New Mexico.

CASE 3285: Application of Richfield Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Avalon Unit Area comprising 11,154 acres, more or less, of Federal, State and Fee lands in Township 21 South, Ranges 25 and 26 East, Eddy County, New Mexico.

CASE 3286: Application of Skelly Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Skelly Penrose "B" Unit, Langlie-Mattix Pool, Lea County, New Mexico, by the injection of water into the Queen formation through 33 injection wells in Sections 31 and 32, Township 22 South, Range 37 East, and Sections 4, 5, 6, 7, 8 and 9, Township 23 South, Range 37 East.

CASE 3287: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Langlie-Mattix Pool by the injection of water into the Queen formation through two wells in Section 21, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 3288: Application of Tenneco Oil Company for directional drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to recomplete by means of directional drilling the following wells:

TOWNSHIP 29 NORTH, RANGE 9 WEST
Florance No. 22, Unit H, Section 12

TOWNSHIP 30 NORTH, RANGE 9 WEST
Florance No. 2, Unit A, Section 20
Florance No. 3, Unit M, Section 22
Florance No. 4, Unit L, Section 10

August 11, 1965 Examiner Hearing

Pool and the Osudo-Lower Bone Spring Pool, Lea County, New Mexico, for a period of one year. The subject pools have apparently been depleted and these cases will be dismissed in the absence of evidence requiring other action.

CASE 3073: (Reopened and continued from the July 28, 1965 Examiner Hearing)

In the matter of Case No. 3073 being reopened pursuant to the provisions of Order No. R-2758, which order, as amended by Orders Nos. R-2758-A and R-2758-B, established 160-acre oil well spacing and 320-acre gas well spacing for the Tocito Dome Pennsylvanian "D" Oil Pool, San Juan 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 oil well spacing and 160-acre gas well spacing, or such other spacing as may seem proper.

CASE 3292: Application of Texaco Inc. for the creation of a new pool or in the alternative for a non-standard location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Bough "B" formation in Section 14, Township 12 South, Range 34 East, Ranger Lake Field, Lea County, New Mexico. Applicant, in the alternative, seeks authority to drill its State DA Well No. 1 at an unorthodox location within 150 feet of the center of Unit K, Section 14, Township 12 South, Range 34 East, Ranger Lake Pennsylvanian Pool, Lea County, New Mexico.

(Note: The above case, at the request of the applicant, will be dismissed.)

CASE 3281 (continued from the July 28, 1965 Examiner Hearing):

Application of Samuel G. Dunn for a two-well proration unit and an unorthodox location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill and produce the second well on the 160-acre oil proration unit comprising the SW/4 of Section 26, Township 26 North, Range 1 East, Puerto Chiquito-Gallup Oil Pool, Rio Arriba County, New Mexico, the 160-acre allowable to be produced from either well in any proportion. Said second well would be drilled at an unorthodox location 1720 feet from the South line and 460 feet from the West line of said Section 26. (The SW/4 of Section 26 is currently dedicated to a well in Unit M of said section.) In the alternative, applicant seeks the creation of two non-standard 80-acre proration units comprising the N/2 SW/4 and S/2 SW/4 of said Section 26 to be dedicated to the proposed well and the existing well, respectively.

MAIN CHANCE
'65 JUL 21 PM 3 23

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF TENNECO OIL COMPANY
TO RECOMPLETE TWENTY WELLS LOCATED
IN TOWNSHIP 30 NORTH, RANGE 9 WEST;
TOWNSHIP 30 NORTH, RANGE 8 WEST and
TOWNSHIP 29 NORTH, RANGE 9 WEST, SAN
JUAN COUNTY NEW MEXICO IN THE MESA
VERDE FORMATION BY DIRECTIONAL DRILLING.
APPLICANT FURTHER SEEKS AN EXCEPTION TO
RULE III REQUIRING DIRECTIONAL SURVEYS.

No. 3288

Comes now Tenneco Oil Company by its Attorneys White, Gilbert, Koch &
Kelly and shows the Commission:

1. That it is the owner of the following described wells located in
San Juan County, New Mexico, to-wit:

Township 29 N. Range 9 West

A Florance No. 22 located in the NE $\frac{1}{4}$ Sec. 12, 1690 feet from
North line and 900 feet from East line.

Township 30 N. Range 9 West

A Florance No. 2 located in the NE $\frac{1}{4}$ Sec. 20, 990 feet from the
North line and 990 feet from the East line.

M Florance No. 3 located in the SW $\frac{1}{4}$ Sec. 22, 990 feet from the
South line and 990 feet from the West line.

4 Florance No. 4 located in the SW $\frac{1}{4}$ Sec. 10, 1700 feet from the
South line and 990 feet from the West line.

M Florance No. 6 located in the SW $\frac{1}{4}$ Sec. 23, 990 feet from the
South line and 990 feet from the West line.

B Florance No. 13 located in the NE $\frac{1}{4}$ Sec. 18, 990 feet from the
North line and 1650 feet from the East line B

B Florance No. 20 located in the NE $\frac{1}{4}$ Sec. 24, 990 feet from the
North line and 1650 feet from the East line. B

M Prichard 1 located in the SW $\frac{1}{4}$ Sec. 1, 990 feet from the South line
and 840 feet from the West line. M

23 Riddle 1 located in the NE $\frac{1}{4}$ Sec. 21, 1220 feet from the North line
and 1620 feet from the East line. B

24 Riddle 2 located in the SW $\frac{1}{4}$ Sec. 17, 790 feet from the South line
and 1850 feet from the West line. N

25 State 1 located in the SW $\frac{1}{4}$ Sec. 32, 990 feet from the South line
and 990 feet from the West line. M

26 State 2 located in the SW $\frac{1}{4}$ Sec. 16, 990 feet from the South line
and 990 feet from the West line. M

27 Florance No. 8 located in SW $\frac{1}{4}$ Sec. 14, 990 feet from South line and
1650 feet from West line. N

28 Florance No. 16 located in NE $\frac{1}{4}$ Sec. 6, 1010 feet from North line
and 990 feet from East line. A

DOCKET MAILED

7-30-65
Doyle

WHITE, GILBERT, KOCH & KELLY
ATTORNEYS AT LAW
P. O. BOX 787
SANTA FE, NEW MEXICO

WHITE, GILBERT, KOCH & KELLY
ATTORNEYS AT LAW
P. O. BOX 787
SANTA FE, NEW MEXICO

Township 30 North, Range 8 West

Florance No. 39 located in NE $\frac{1}{4}$ Sec. 35, 990 feet from North line and 1650 feet from East line. B

Florance No. 45 in the NE $\frac{1}{4}$ Sec. 22, 1550 feet from North line and 1500 feet from East line. G

Florance No. 29 located in SW $\frac{1}{4}$ Sec. 25, 1500 feet from South line and 3730 feet from East line. K

Florance No. 37 located in NE $\frac{1}{4}$ Sec. 6, 1650 feet from North line and 990 feet from East line. H

Florance No. 40 in NE $\frac{1}{4}$ Sec. 21, 1650 feet from North line and 1825 feet from East line. G

Moore No. 1 located in SW $\frac{1}{4}$ Sec. 8, 990 feet from South line and 990 feet from West line. M N

1650 (See letter of June 16, 1965 in Well file)

2. That the wells described in paragraph No. 1 are presently completed in the Mesa Verde formation. In order to make these wells better gas producers, Applicant proposes to and in the case of some of the above-described wells has moved up structure and recompleted in the Mesa Verde formation by directional drilling.

3. Applicant proposes to and in some cases has completed these wells in the Dakota formation and has already applied to this Commission for administrative approval for said dual completions on some of the above-described wells. In order to receive a gas allowable in the Dakota formation, it is necessary to seek permission of the Commission to directionally drill these wells.

4. Applicant further proposes to conduct appropriate deviation tests to insure that none of the wells are completed nearer than 200 feet to the outer boundaries of the proration unit, and submits that correlative rights of adjoining operators will not be affected, and that to require applicant to furnish directional surveys for all of the above-referred to wells would be an excessive and unfair burden upon this applicant.

5. That the granting of this application will allow the more efficient production of gas from the Mesa Verde formation and will prevent waste.

WHEREFORE Applicant prays that its Application to recomplete in the Mesa Verde formation the above described wells by directional drilling be

1 approved and that it not be required to furnish directional surveys.
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WHITE, GILBERT, KOCH & KELLY

By W B Kelly
Attorneys for Trepaco Oil Company

WHITE, GILBERT, KOCH & KELLY
ATTORNEYS AT LAW
P. O. BOX 787
SANTA FE, NEW MEXICO

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Case 3288

Heard 8-11-65

Rec. 8-1-65.

1. Grant Dennis permission to deviate 16 listed wells (on application) thru the Mesquite and Lakota formations.
2. Deviation tests shall be made to insure that the wells shall be bottomed no closer than 200 ft from the ~~base line~~ proration unit on which the well is located.
3. If the deviation tests show that the well is bottomed closer than 200 ft to the proration unit ~~then~~ a directional survey shall be run to determine the location of the bottom of the well.

Wm. C. Dwyer

State of New Mexico
Oil Conservation Commission



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

September 13, 1965

Re: Case No. 3288
Order No. R-2963
Applicant:

TENNECO OIL COMPANY

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

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

Carbon copy of order also sent to:

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. 3288
Order No. R-2963

**APPLICATION OF TENNECO OIL COMPANY
FOR DIRECTIONAL DRILLING, SAN JUAN
COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on August 11, 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 13th day of September, 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, Tenneco Oil Company, seeks authority to plug back and directionally drill 20 wells in Townships 29 and 30 North, Ranges 8 and 9 West, NMPM, San Juan County, New Mexico, and to recomplete said wells in the Mesaverde formation or the Mesaverde and Dakota formations.
- (3) That the applicant proposes to conduct deviation tests to assure that each well is bottomed no nearer than 200 feet to the outer boundary of the proration unit.
- (4) That due to the method originally utilized to complete the subject wells in the Mesaverde formation, conventional recompletion methods are impracticable.
- (5) That the proposed method of recompletion will prevent the drilling of unnecessary wells, result in more efficient completions, and otherwise prevent waste and protect correlative rights.

-2-

CASE No. 3288
Order No. R-2963

IT IS THEREFORE ORDERED:

(1) That the applicant, Tenneco Oil Company, is hereby authorized to directionally drill to the Mesaverde formation or to the Mesaverde and Dakota formations the following-described wells:

SAN JUAN COUNTY, NEW MEXICO

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM

Florance No. 22, Unit H, Section 12

TOWNSHIP 30 NORTH, RANGE 8 WEST, NMPM

Florance No. 39, Unit B, Section 35

Florance No. 45, Unit G, Section 22

Florance No. 29, Unit K, Section 25

Florance No. 37, Unit H, Section 6

Florance No. 40, Unit G, Section 21

Moore No. 1, Unit H, Section 8

TOWNSHIP 10 NORTH, RANGE 9 WEST, NMPM

Florance No. 2, Unit A, Section 20

Florance No. 3, Unit M, Section 22

Florance No. 4, Unit L, Section 10

Florance No. 6, Unit M, Section 23

Florance No. 13, Unit B, Section 18

Florance No. 20, Unit H, Section 24

Prichard No. 1, Unit M, Section 1

Riddle No. 1, Unit B, Section 21

Riddle No. 2, Unit H, Section 17

State No. 1, Unit M, Section 32

State No. 2, Unit M, Section 16

Florance No. 8, Unit H, Section 14

Florance No. 16-X, Unit A, Section 6

PROVIDED HOWEVER, That the applicant shall conduct a deviation test on each well and shall conduct a directional survey on any well that could be bottomed nearer than 200 feet to the outer boundary of the proration unit.

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

-3-

CASE No. 3288

Order No. R-2963

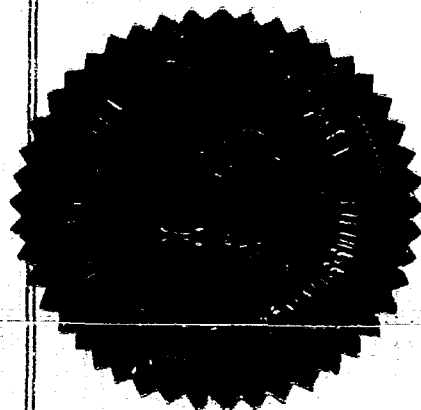
DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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





TENNECO OIL COMPANY • P. O. BOX 1714 • 835 SECOND AVENUE • DURANGO, COLORADO 81302

October 1, 1965

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

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

Gentlemen:

Re: Case No. 3288
Order No. R-2963

Due to an alteration in our plans for deepening current Mesaverde wells to the Dakota formation in Townships 29 & 30 North, Ranges 8 & 9 West, we respectfully request that the subject order be amended to include the below-listed wells:

Florance No. 24 Unit A Section 23, T29N, R9W
Florance No. 36 Unit H Section 3, T30N, R8W
Florance No. 35 Unit A Section 18, T30N, R8W
— Florance No. 5 Unit A Section 22, T30N, R9W
Mansfield No. 1 Unit P Section 19, T30N, R9W

In addition, it is requested that the following well be deleted from subject order.

— Florance No. 3 Unit M Section 22, T30N, R9W

Very truly yours,

TENNECO OIL COMPANY

R. E. Siverson
R. E. Siverson
District Production Superintendent

JHW:sg

cc: New Mexico Oil Conservation Commission
Aztec, New Mexico

*Advised Bookkeeper Kelly,
bearing records. He will
reconcile Tenneco.*

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PAGE 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 11, 1965

EXAMINER HEARING

IN THE MATTER OF:

Application of Tenneco Oil Company for
directional drilling, San Juan County,
New Mexico.

Case No. 3288

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3288.

MR. DURRETT: Application of Tenneco Oil Company for directional drilling, San Juan County, New Mexico.

MR. KELLY: Booker Kelly of White, Gilbert, Koch and Kelly on behalf of the applicant. We have one witness, and ask that he be sworn.

(Witness sworn.)

MR. UTZ: Are there other appearances? There were none, you may proceed.

LESLIE B. PLUMM

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, position and employer, please?

A Leslie B. Plumm, employed by Tenneco Oil Company as a petroleum engineer in Durango, Colorado.

Q Have you previously testified in front of the New Mexico Commission?

A Yes, I have.

MR. KELLY: Are his qualifications acceptable?

MR. UTZ: Yes.

Q Would you briefly state what Tenneco seeks by

this application?

A Tenneco seeks authority to recomplete the wells named in the application by means of directional drilling to allow recompletion in the Mesaverde and Dakota formations. This directional drilling is to be done in a random manner without attempt to control specifically the location of the total depth of the well.

Q Could you give the Examiner a little background on this field and why it's necessary to recomplete?

A The purpose in sidetracking and recompleting these wells is that on original completion in the Blanco-Mesaverde field, which occurred in the era of 1950 to 1954, the completion technique was to set casing on top of the Mesaverde formation, drill the hole completely through the Mesaverde, and then shoot the well with large charges of nitroglycerin. Then the well would be cleaned out to total depth if possible and tubing run to bottom and the well put on production.

Completion techniques since that time have been greatly improved through hydraulic fracturing. This has resulted in higher capacity wells and much better sustained production from the wells.

In order to improve the productive capacity of these wells, Tenneco wishes to recomplete them by the hydraulic fracturing method. It is a much superior method of completion

to go through a highly selective perforating and fracturing technique in the Mesaverde sands rather than to attempt to treat the entire Mesaverde section all at one time. Therefore, we wish to have a new well bore to run a new string of casing in order that we may selectively perforate the individual Mesaverde sand and selectively fracture treat in several treatment stages in order to obtain the most efficient possible completion.

It is necessary to directionally drill or to sidetrack these holes back, in many cases the cavity formed by the original nitroglycerin shot is of such a size that it does not permit selective perforating and fracking techniques. In any of this directional drilling there is no attempt made to direct the well in a specific direction in order to obtain any advantage of structural location or proximity to any other leases.

Q Now, does Tenneco also plan to go ahead and dually complete some of these wells to the Basin-Dakota?

A Yes. We wish to deepen these wells to the Dakota. This is for largely economic reasons, because the base of the Dakota lies only approximately 2500 feet below the base of the Mesaverde in this area. We are able to obtain a Dakota completion for an incremental cost of forty to forty-five thousand versus the cost of ninety thousand dollars for a new



Dakota well drilled from the ground to total depth.

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

Q Referring to what has been marked as Exhibit 1, could you show the Examiner what wells are presently completed in both formations?

A Yes. Starting in the upper left-hand corner in Section 6 of Township 30 North, Range 9 West, the wells indicated as Delhi on this map are the ones operated by Tenneco. It would be the Florance No. 16-X in Section 6, the Florance No. 37 in Section 6 of 30 North, 8 West, the Riddle Federal No. 2 in Section 17, the Riddle 2 is Section 17 of 30 North, 8 West; the State No. 2 in Section 16 of 30 North, 8 West; Florance No. 8 in Section 14, 30 North, 8 West, the Florance 29 in Section 25 of 30 North, 8 West, the Florance 40 in Section 21 of 30 North, 8 West, and the Florance No. 6 in Section 23, 30 North, 9 West.

These wells have been drilled through the Dakota formation and have been completed in both the Dakota and Mesaverde zones.

Q Now, referring to what has been marked as Exhibit 2--
MR. UTZ: How many wells does that involve?

A Nine.

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

Q (By Mr. Kelly) Referring to what has been marked

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PAGE 6

as Exhibit 2, a diagrammatic sketch, is this a typical installation of the proposed wells and the completed wells?

A Yes, this is a typical installation as shown. It represents the Florance No. 37. The well had the seven inch casing set at a depth of 4565; we then squeezed approximately 380 sacks of cement into the open hole Mesaverde section, then set a whip stock at a depth of 4572 feet. The well was then drilled to a total depth of 7482 feet, the casing was cemented from total depth to the surface, the Dakota formation was selectively perforated and fractured, a bridge plug was set in the hole.

The Mesaverde section was selectively perforated and fractured, the well was cleaned out to total depth, the production packer set at 7270 feet. Tubing was run to 7271. The well was then completed with the Dakota producing through the tubing and the Mesaverde producing through the casing tubing annulus.

Q Could you locate for the Examiner the location of the sketch which you have shown here, which well is it?

A It's the Florance 37 located in Section 6 of 30 North, 8 West.

Q And this, I believe, you stated would be a typical completion?

A Yes. This is the general procedure followed in all

these wells.

Q On the seven wells, you stated you have nine wells, I believe we have seven wells in which you have deviation testimony on?

A Yes.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q Referring to Exhibit 3, could you run down for the Examiner the extent of deviation that has occurred in the seven wells that have been dually completed to this point?

A Yes. Exhibit 3 represents the complete set of deviation records available on seven of the nine wells completed to date. The other two wells are recently completed and the data is not compiled on those wells to this date. On these wells the original drilling records were researched and the deviation records obtained therefrom were included in this tabulation.

It was assumed that the deviation, as recorded at any given point, would be the continuous deviation between that point and the next point of measurement. Then the amount of vertical, or rather, horizontal distance of the well from true vertical can be calculated; the deviation is normally 1.74 feet horizontally per hundred feet of hole drilled per degree of deviation.

The calculation was made for the incremental amount of hole drilled and the deviations recorded at each of the measured stations here; then the total amount of horizontal distance which the hole may have deviated from the vertical is then added up and the sum given at the bottom of the column there. This represents the worst accumulation of conditions that can exist. It assumes that the deviation of the hole is continuous in the same direction at all times.

This is not the standard way in which holes deviate, the normal way in which holes deviate. Normally the hole will deviate in a spiral manner, going counterclockwise. But this assumes that the deviation was continuous in the same direction at all times.

Q What is the most extreme deviation that you have encountered?

A The most extreme case was the Florance No. 6, located 990 from the South Line, 990 from the West Line of Section 23, 30 North, 9 West. This well has a total deviation possibly of 410 feet from the vertical. This would mean that it is possible that the total depth is then 580 feet from the nearest lease line.

Q Assuming you had a deviation that would bring you within 200 feet of the lease line, what degree of deviation would this require in a typical well in this area?

A It would require fifteen feet of, or excuse me, it would require a constant deviation of fifteen degrees in the same direction to get the bottom of the hole to a point 200 feet from the nearest lease line, assuming that the location is 990 feet from the lease line to begin with.

Q And that is far in excess of any deviation that you have encountered to date, is that correct?

A That is correct. These numbers assume that the amount of sidetracked hole will be 25 feet. This number is assuming that the median deviation point is 4500 feet, which leaves us 3,000 feet of sidetracked hole.

MR. UTZ: Let's get those figures straight. What were your figures again, 1500 degrees for 100 feet?

A No, it would take a constant deviation of fifteen degrees through 3,000 feet of hole to put the total depth of the well at a point 200 feet from the lease line, assuming that the location is 990 feet from the lease line at the surface.

MR. UTZ: Well, now, aren't many of these wells drilled closer than 990?

A Only one case where one of the wells is 650 feet from a lease line.

MR. KELLY: No, I think it's 790.

A Is it 790?

MR. UTZ: Unless it's an unorthodox --

MR. KELLY: It's Riddle No. 2.

A That's the only case where a well is closer than 990 feet to a lease line.

Q (By Mr. Kelly) You have completed actually nine wells now which are pretty well scattered through this area. Would you expect that you have encountered the range of structure and deviation that you can expect in any of these wells?

A Yes, we believe so. There are no subsurface formations which are likely to cause great deviation of the hole. The formations out here are nearly the same hardness and it's generally considered to be variations in hardness that cause excessive deviation.

Also, another cause of excessive deviation might be severe dip in the subsurface formations. Again we have no severe deviation in any of the severe dips in the formations encountered.

Q Assuming that a well was drilled and the total deviation did exceed or come closer than 200 feet to the lease line, what would Tenneco's position be?

A Well, we could run a directional survey at that point to determine the exact location of the bottom of the hole, and from that point we could request either a special

hearing for exception to the rules or follow whatever suggestions the Commission might bring forth.

Q If the total deviation did not bring you within 200 feet, would there be any purpose in a directional survey?

A No. If the deviation surveys taken in the normal manner don't indicate that we would be closer than 200 feet to the lease line, I see no purpose in running a directional survey to locate the exact bottom of the hole.

Q What would the cost of a directional survey be?

A The cost of a directional survey itself would be approximately \$650.00.

Q And what other means could be used to make sure you did not come within 200 feet of a lease line?

A We could directionally drill the well. That is to orient the whip stock to determine exactly which direction the well goes and to locate exactly the bottom of the hole within a specified target area. This, however, is a very costly process. It would involve an expense of approximately \$3500.00 in each well in order to put the well in a specified target area.

Q Well, then, in your expert opinion would adjoining operators be completely protected by Tenneco furnishing to the Commission the extent of deviation as you have done in the Exhibit No. 3?

A I believe so. We have had no indications that other operators were concerned about our procedures in any way, none of them has indicated that they feel that we may be approaching their lease lines.

Q Have you been in contact with any adjoining operators?

A Yes. I have had informal contact with several of the offset operators.

MR. UTZ: You haven't drilled into anybody else's hole yet that you know of?

A Not that we know of.

Q (By Mr. Kelly) In your opinion the granting of this application will permit efficient and economic production of the oil and protect correlative rights of all operators in the area?

A Yes, I believe so.

Q Were Exhibits 1 through 3 prepared by you or under your direction?

A Yes, they were.

MR. KELLY: I move their introduction.

MR. UTZ: Without objection the Exhibits 1 through 3 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits 1 through 3 were offered and admitted in evidence.)

MR. KELLY: That's all we have for direct.

CROSS EXAMINATION

BY MR. UTZ:

Q Is it your proposal then that you will submit these survey calculations on each well in which it's deviated?

A If that is desired we can do that. The information we have submitted to the Commission to date has been an affidavit showing the depth and the deviation measured as required by the Commission regulations.

Q The present rule. This \$3500.00 for directionally drilling a well, does that include directionally setting the whip stock as well as controlling the well bore from the whip stock on to total depth?

A Yes, it does.

Q What would be the cost of just directionally setting the whip stock?

A Approximately \$900.00.

Q Actually directionally setting a whip stock, setting it within say 45 degrees in the center of your, toward the center of your unit, would virtually eliminate any possibility of going off the lease, wouldn't it?

A Yes, it would. However, the data compiled here indicates that we don't approach the lease lines under the conditions now existing.

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Q Under the most adverse conditions?

A Yes.

Q It is my quick analysis if fifteen degrees at 3,000 feet, being no closer than 200 feet from the lease line on a 790 foot location, then would that be on the lease line, bottomed on the lease line providing the direction --

A From a 790 location?

Q Yes.

A Yes, it would probably be at the lease line boundary.

Q Is that why you have asked for the 200 feet, because of the 200 feet leeway in our spacing rules? See, it's 990 plus or minus 200 feet.

A I would have to assume that was the reason for including the 200 feet in the request.

Q How many of the -- well, first, how many wells are you requesting here in this application?

A There are sixteen wells included in this application.

Q How many of those wells have been drilled at the present time?

A Nine have been drilled at the present time.

Q All of those have been duals?

A Yes.

Q Is it reasonable to assume that all the rest will

be duals?

A All the rest included in this application, yes, will be duals.

Q Will, at any time, a greater depth be drilled below the whip stock than 3,000 feet?

A I would say safely that no greater than 3,500 feet at the most, depending on variations in surface elevation and subsurface depth of the Dakota formation.

Q Would you anticipate that possibly in some wells you can't set the whip stock low enough in order to avoid going more than 3,000 feet?

A We had only one instance where we know there would be a possibility that the whip stock would have to be set higher in the hole, and we are considering the possibility of drilling a new well on this location for this mitigating reason.

There was one point I would like to enter, that the consideration here in sidetracking the holes in the first place was that we considered the shot hole full of debris to be analogous to junk in the hole and that deviating around this situation was not the same as intentionally deviating the hole for purposes of gaining structural advantage or locating specifically the bottom of the hole.

Q Other than sloughing off, what debris did you have

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in the hole?

A Well, in several cases the records indicate that there was a fish left in the hole after an attempted cleanout, we assumed that in some cases, and we have been correct, that the tubing had been wedged in the hole by the debris falling in on it and that we couldn't pull it out, that we had to cut it off and leave it in the hole and that in many cases there is truly a fish in the hole. In some cases we pulled the tubing out completely and there was no fish, but in many cases there is a fish in the hole and we are deviating to get around junk.

Q Even in the cases where you could get the tubing and there was no fish, you wanted to drill a new hole so that you could have a better completion?

A Yes, that's right.

Q Selective fracking.

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

(Witness excused.)

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

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I N D E X

WITNESS

PAGE

LESLIE B. PLUMM

Direct Examination by Mr. Kelly

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Cross Examination by Mr. Utz

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EXHIBIT

MARKED

OFFERED AND
ADMITTED

Exhibit 1

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Exhibit 2

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Exhibit 3

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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 26th day of August, 1965.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3285, heard by me on 8-11, 1965.

Thomas A. W.
Examiner
New Mexico Oil Conservation Commission