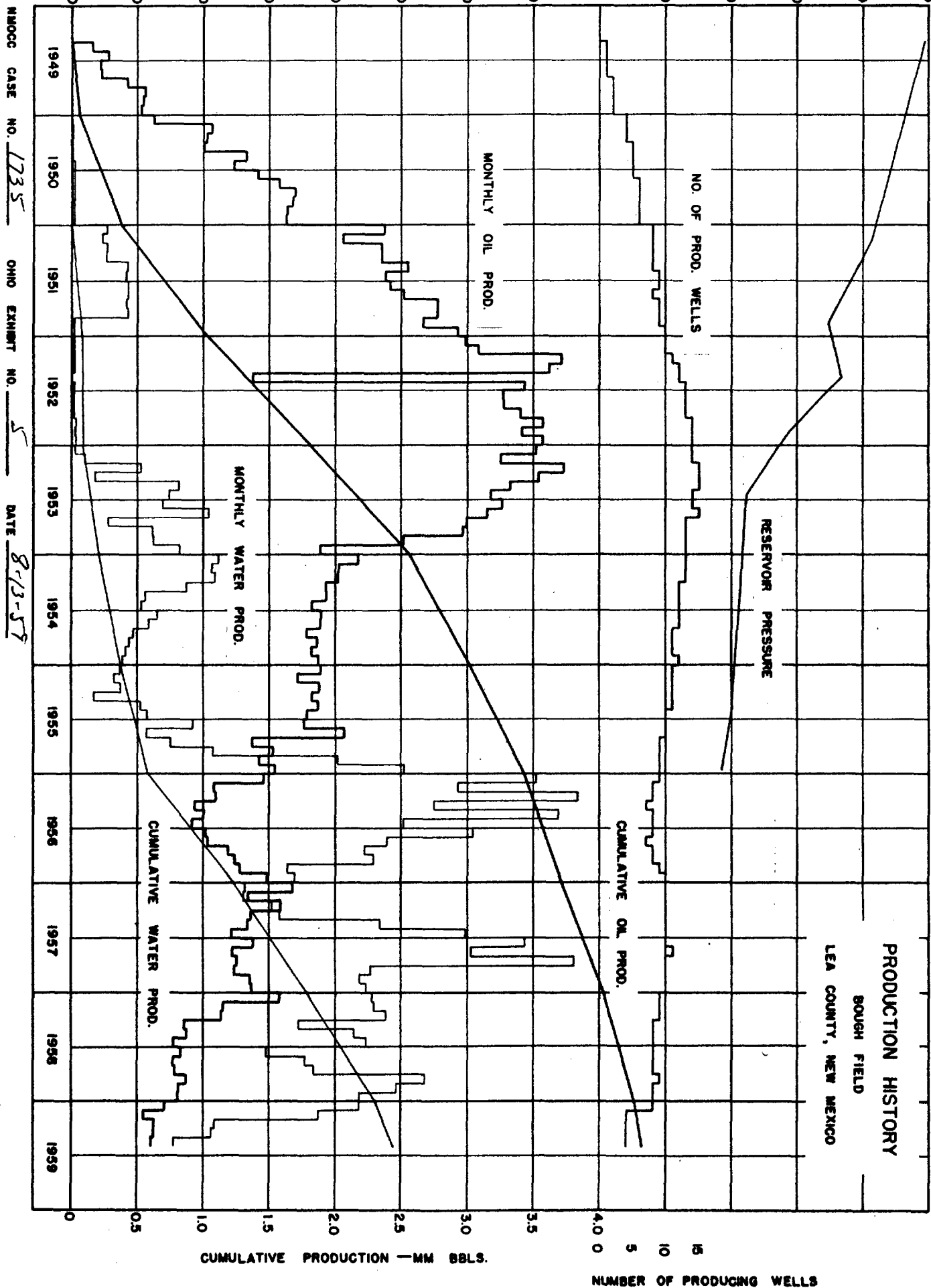


RESERVOIR PRESSURE PSIG AT -5450'

MONTHLY PRODUCTION - M BBLs.



COMPARISON OF BASIC DATA

BOUGH PENNSYLVANIAN AND BLUITT PENNSYLVANIAN POOLS

		<u>Bough</u>	<u>Bluitt</u>
Discovery Date		1949	1959
No. of Producing Wells Drilled		21	4
Weighted Average Permeability	(md.)	30	508
Range of Permeability	(md.)	0.1 to 522	0.6 to 6620
Weighted Average Porosity	(%)	6.54	5.93
Average Net Pay	(ft.)	15	14
Connate Water Saturation	(%)	25 est.	15
Formation Volume Factor		1.75 est.	1.762
Recovery Factor Assumed	(%)	50	50
VOLUMETRIC RECOVERABLE OIL (Bbls./Acre)		1631	1554

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VOLUMETRIC RECOVERABLE OIL RESERVES PER ACRE
BOUGH PENNSYLVANIAN AND BLUITT PENNSYLVANIAN POOLS

7758 Bbl/acre-foot X Porosity X (1-Water Saturation) X Net Pay X Recovery Factor
Formation Volume Factor

Bough Pennsylvanian Pool

$$\frac{(7758)(0.0654)(0.75)(15)(0.50)}{1.75} = 1631 \text{ Bbls/acre}$$

Bluitt Pennsylvanian Pool

$$\frac{(7758)(0.0593)(0.85)(14)(0.50)}{1.762} = 1554 \text{ Bbls/acre}$$

SUMMARY OF CORE ANALYSIS

Bluitt Pennsylvanian Pool
Two Wells

Weighted Average Porosity	5.93%
Weighted Average Permeability	508 md.
Range of Permeability	0.6-6620 md.

Bough Pennsylvanian Pool
Ten Wells

Weighted Average Porosity	6.54%
Weighted Average Permeability	30 md.
Range of Permeability	0.1-522 md.

SUPPORTING DATA - CORE ANALYSIS SUMMARY

Bluitt Pennsylvanian Pool

(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Core	Weighted		Weighted	
<u>Operator</u>	<u>Lease & Well No.</u>	<u>Analysis</u>	<u>Average</u>	<u>Perm.</u>	<u>Average</u>	<u>Porosity</u>
		<u>Net Pay</u>	<u>Perm.</u>	<u>Capacity</u>	<u>Porosity</u>	<u>Feet</u>
		(ft)	(md)	(md-ft)	(%)	(%-ft)
Ohio	Federal-Silver"A" #1	11.2	757.9	8488.9	6.5	73.3
Ohio	Federal McGrail #3	5.6*	7.4	41.7	4.7	26.4
		<u>16.8</u>		<u>8530.6</u>		<u>99.7</u>

$$\text{Weighted Average Permeability} = \frac{8530.6}{16.8} = 508 \text{ md}$$

$$\text{Weighted Average Porosity} = \frac{99.7}{16.8} = 5.93\%$$

Bough Pennsylvanian Pool

(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Core	Weighted		Weighted	
<u>Operator</u>	<u>Lease & Well No.</u>	<u>Analysis</u>	<u>Average</u>	<u>Perm.</u>	<u>Average</u>	<u>Porosity</u>
		<u>Net Pay</u>	<u>Perm.</u>	<u>Capacity</u>	<u>Porosity</u>	<u>Feet</u>
		(ft)	(md)	(md-ft)	(%)	(%-ft)
Magnolia	J. Markham #2	7.0	----	----	13.30	93.10
Magnolia	J. Markham #1	15.0	3.9	42.9	4.33	47.63
Magnolia	Betenbough "A" #2	27.0	76.0	2052.0	6.70	180.90
Magnolia	Federal-Matthews #1	23.0	16.1	362.3	3.46	77.85
Sharp	Federal-Yeckel #1	8.0*	3.1	24.8	2.35	18.80
Magnolia	Betenbough "B" #1	23.0	4.5	103.5	2.67	61.41
Magnolia	Betenbough "B" #2	22.5	68.0	1530.0	4.75	106.88
Magnolia	Federal-Capp #3	9.5	1.3	12.4	5.57	52.92
Magnolia	Federal-Davis #1	30.0	9.9	297.0	15.10	453.00
Magnolia	Federal-Walker #1	11.0	3.9	42.9	4.33	47.63
		<u>176.0</u>		<u>5123.9</u>		<u>1150.99</u>

$$\text{Weighted Average Permeability} = \frac{5123.9}{169.0} = 30 \text{ md.}$$

$$\text{Weighted Average Porosity} = \frac{1150.99}{176.0} = 6.54\%$$

*Core Analysis incomplete through Bough "C" formation

AVERAGE NET PAY DETERMINATION

BOUGH PENNSYLVANIAN AND BLUITT PENNSYLVANIAN POOLS

<u>Bough Pennsylvanian Pool</u>		<u>Location</u>		<u>Net Pay</u>
<u>Operator</u>	<u>Lease & Well No.</u>	<u>Unit</u>	<u>S-T-R</u>	<u>(ft)</u>
Magnolia	Betenbough "C" #1	N	11-9-35	--
Magnolia	Markham #2	O	11-9-35	7 *
Magnolia	Markham #1	P	11-9-35	15 *
Magnolia	Betenbough "A" #1	M	12-9-35	18
Magnolia	Betenbough "A" #2	N	12-9-35	27 *
Magnolia	Betenbough "A" #3	P	12-9-35	--
Magnolia	Federal-Matthews #1	C	13-9-35	23 *
J. R. Sharp	Federal-Yeckel #1	D	13-9-35	13 *I
Magnolia	Federal-Matthews #3	G	13-9-35	10
Magnolia	Capps-Federal #1	J	13-9-35	7
Magnolia	Capps-Federal #6	M	13-9-35	12
Magnolia	Capps-Federal #2-X	N	13-9-35	11
Magnolia	Capps-Federal #5	P	13-9-35	9
Magnolia	Betenbough "B" #1	A	14-9-35	23 *
Magnolia	Betenbough "B" #2	B	14-9-35	23 *
Gulf	John Allen "P" #1	C	14-9-35	7
Magnolia	Hobbs-Leonard #1	P	14-9-35	6
Magnolia	Capps-Federal #3	B	24-9-35	10 *
Magnolia	Federal-Davis #1	M	7-9-36	30 *
Magnolia	Walker-Federal #1	M	8-9-36	11 *
Forest	Federal-Warren #2	D	18-9-36	14
				<u>276</u>

Average Net Pay ($\frac{276}{19} = 14.52$) 15 feet

<u>Bluitt-Pennsylvanian Pool</u>		<u>Location</u>		<u>Net Pay</u>
<u>Operator</u>	<u>Lease & Well No.</u>	<u>Unit</u>	<u>S-T-R</u>	<u>(ft)</u>
Ohio	Federal McGrail #2	C	20-8-37	12
Ohio	Federal McGrail #1	F	20-8-37	24
Ohio	Federal McGrail #3	H	20-8-37	9 *I
Ohio	Federal Silver "A" #1	J	20-8-37	12 *
				<u>57</u>

Average Net Pay ($\frac{57}{4} = 14.25$) 14 feet

* Core Analysis Available

*I Core Analysis Incomplete

COMPARISON

OF

ACTUAL RECOVERY
FROM

BOUGH PENNSYLVANIAN POOL

CALCULATED RECOVERY
FROM

BLUETT PENNSYLVANIAN POOL

	<u>Bough</u>	<u>Bluett</u>
Area Considered Productive (acres)	2,720*	2,080 (acres)
Number of Producing Wells Drilled (wells)	21	26 (wells)
Well <u>Density</u> in the 2,720 acres (acres/well)	130	80 (acres/well)
Cumulative Oil Production to 6-1-59 (bbls.)	4,320,867	3,232,320 (bbls)
Average Recovery Per Well (bbls./well)	205,756	124,320 (bbls./well)
Cumulative Recovery Per Acre (bbls./acre)	1,589	1,554 (bbls./acre)

Area Reasonably Expected to be Productive

Number of Wells Required for full Development of 80-acre Density

Well Density with Proposed Spacing

Expected Ultimate Oil Reserves in the 2,080 acres

Average Expected Recovery per 80-acre Well on the 2,080 acres

Expected Recovery Per Acre

* 4,440 acres are included within the Horizontal Pool Limits.

NMOCC Case No. 1735
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Date 8-13-59

COMPARATIVE ECONOMICS
FOR
COMPLETE DEVELOPMENT
OF
BLUITT PENNSYLVANIAN POOL

40-ACRE SPACING VS. 80-ACRE SPACING

Area Reasonably Expected to be Productive	2,080 acres
Wells Required with 40 Acre Spacing	52 wells
Wells Required with 80 Acre Spacing	26 wells
<u>Investment @ \$190,000 Per Well</u>	
For 40 Acre Spacing (52 wells)	\$9,880,000
For 80 Acre Spacing (26 wells)	\$4,940,000
<u>Ultimate Reserves</u>	
Oil	3,232,320 bbls.
Gas @ 1500 cu.ft.per bbl.	4,848,480 MCF
<u>W.I. Net Operating Income Per Gross Bbl. of Oil Produced</u> <u>Including Income From Gas Produced with Oil</u>	
Value	
Bbl. of oil (47° API)	\$2.95
1500 cu.ft. of gas	.12
Total Gross Value	\$3.07
<u>Costs</u>	
Severance & Advalorem Taxes	\$0.21
Royalty	0.36
Lifting Costs	0.24
	\$0.81
Net operating income per gross bbl.	\$2.26
<u>W.I. Total Net Operating Income</u>	
3,232,320 bbl. X \$2.26/bbl.	\$7,305,043
Net <u>Economic Loss</u> for 40-Acre Spacing	\$2,574,957
Net <u>Economic Loss</u> per well	\$49,518
Net <u>Profit</u> for 80-Acre Spacing	\$2,365,043
Net <u>Profit</u> per well	\$90,963
Cost of the 26 additional wells required for full development on 40-Acre Spacing	\$4,940,000
Increased total recovery needed to repay the cost of those 26 additional wells (\$4,940,000/\$2.26)	2,185,841 bbls.
Increased recovery needed from each 80-Acre Tract to repay cost of second well (\$190,000/\$2.26)	84,071 bbls.

NMOCC Case No. 1735
Ohio Exhibit No. 8
Date 8-13-59

DOCKET: REGULAR HEARING AUGUST 13, 1959

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

- Allowable: (1) Consideration of the oil allowable for September, 1959.
- (2) Consideration of the allowable production of gas for September, 1959, from six prorated pools in Lea County, New Mexico, also consideration of the allowable production of gas from seven prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico.

CASE 1668:

(Rehearing)

In the matter of the rehearing requested by Phillips Petroleum Company for reconsideration by the Commission of Case No. 1668 which was an application for an order promulgating temporary special rules and regulations for the Ranger Lake-Pennsylvanian Pool and certain adjacent acreage in Lea County, New Mexico, to provide for 80-acre proration units. The rehearing will be limited to a brief and argument on the legal propositions raised in the petition for rehearing and their application to the facts heretofore presented in said case.

NEW CASES

CASE 278:

Application of Duval Sulphur and Potash Company for an extension of the Potash-Oil Area as set forth in Order R-111-A. Applicant, in the above-styled cause, seeks an order extending the Potash-Oil Area as defined in Order R-111-A, to include additional acreage in Townships 18, 22 and 23 South, Range 30 East, Eddy County, New Mexico.

CASE 278:

Application of United States Borax & Chemical Corporation for an extension of the potash-oil area as defined in Order No. R-111-A. Applicant, in the above-styled cause, seeks an extension of the potash-oil area as defined in Order No. R-111-A to include additional acreage in Townships 21 and 22 South, Ranges 29 and 30 East, NMPM, Eddy County, New Mexico.

CASE 1735:

Application of The Ohio Oil Company for an order promulgating special rules and regulations for the Bluitt-Pennsylvanian Pool in Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks an order promulgating special rules and regulations governing the drilling, spacing and production of wells in the Bluitt-Pennsylvanian Pool in Roosevelt County, New Mexico, including the establishment of 80-acre spacing for wells in said pool. Applicant further seeks an exception from the proposed spacing requirements for a well to be drilled in the NE/4 of Section 20, Township 8 South, Range 37 East.

CASE 1736:

Application of Texas Crude Oil Company for 80-acre spacing for its State H N Well No. 1, producing from an undesignated Atoka pool and located 660 feet from the South line and 1982 feet from the West line of Section 16, Township 11 South, Range 33 East, Lea County, New Mexico.

CASE 1737:

Southeastern New Mexico nomenclature case calling for an order creating and extending existing pools in Eddy and Lea Counties, New Mexico.

- (a) Create a new oil pool for San Andres production, designated as the Eagle Creek-San Andres Pool, and described as:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
Section 14: SE/4

- (b) Create a new oil pool for San Andres production, designated as the Jenkins-San Andres Pool, and described as:

TOWNSHIP 9 SOUTH, RANGE 35 EAST, NMPM
Section 30: SE/4

- (c) Create a new oil pool for Yates production, designated as the Maljamar-Yates Pool, and described as:

TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM
Section 5: NE/4

- (d) Create a new oil pool for Paddock production, designated as the North Paddock Pool, and described as:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM
Section 2: Lots 1-2-7-8

- (e) Create a new oil pool for Tansill production, designated as the Parallel-Tansill Pool, and described as:

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM
Section 25: NW/4

- (f) Extend the Crosby-Devonian Gas Pool to include therein:

TOWNSHIP 26 SOUTH, RANGE 37 EAST, NMPM
Section 4: NW/4

- (g) Extend the Empire-Abo Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 3: NW/4

- (h) Extend the West Henshaw-Grayburg Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 30 EAST, NMPM
Section 2: Lots 11-12-13-14

- (i) Extend the High Lonesome Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM
Section 13: NE/4 & SW/4
Section 14: SE/4
Section 15: SE/4

- (j) Extend the Justis Blinbry Pool to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 24: SW/4