

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

ILLEGIBLE

Company **THE BRITISH-AMERICAN OIL PRODUCING COMPANY** Formation **SEE BELOW** Page **1** of **1**
 Well **WARREN NO. B-1** Cores **NO. 6 DIAMOND** File **RP-3-250**
 Field **WILDCAT** Drilling Fluid **WATER BASE MUD** Date Report **4-27-66**
 County **SAN JUAN** State **NEW MEXICO** Elevation **6815' KB** Analysts **GAH:LE**
 Location **S18-T27N-R12W** Remarks **SERVICE NO. 8**

CORE ANALYSIS RESULTS
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS		POROSITY PERCENT	RESIDUAL SATURATION		PRODUCIBLE FRACTION	REMARKS
		HORIZONTAL	VERTICAL		OIL VOLUME % PORE	TOTAL WATER % PORE		
								SANASTEE FORMATION(5373-75)
1	5373.5	10		4.2	45.3	40.5	(2)	Shaly sand.
2	5374.5	0.0		1.3	38.5	30.8	(2)	Shaly sand.
3	5375.5	0.0		1.6	43.7	25.0	(2)	Shaly sand. DAKOTA FORMATION
4	5853.5	0.0		5.2	25.0	59.6	(2)	VERTICAL FRACTURE, Sandstone, very fine-grain, gray.
5	5857	0.0		4.6	0.0	58.7	(2)	Sandstone, very fine-grain, gray.
6	5904.5	0.0		5.3	3.9	21.5	(2)	Sandstone, very fine-grain, white to gray.
7	5907.5	0.0		7.0	0.0	18.6	(2)	Sandstone, very fine-grain, white to gray.
8	5910.5	0.0		7.9	0.0	21.5	(2)	Sandstone, white to gray, inter-bedded with carbonaceous matter.
9	5913.5	0.0		4.3	4.7	48.8	(2)	Sandstone, fine-grain, white to gray.
10	5916.5	0.0		5.8	0.0	25.9	(2)	Sandstone, fine-grain, white to gray.
11	5918.5	0.0		9.9	0.0	38.4	(2)	Sandstone, fine-grain, white to gray.
12	5919.5	0.0		7.3	0.0	21.9	(2)	Sandstone, fine-grain, white to gray.
13	5920.5	0.0		8.1	6.2	30.9	(2)	Sandstone, fine-grain, white to gray.
14	5921.5	0.0		5.6	0.0	37.5	(2)	Sandstone, fine-grain, white to gray.
15	5922.5	0.0		3.8	13.2	68.4	(2)	Siltstone, gray.
16	5923.5	0.0		5.3	7.6	58.5	(2)	Sandstone, carbonaceous, white to gray.
17	5926.5	0.0		7.9	2.5	30.4	(2)	Sandstone, very fine-grain, gray.
18	5942.5	0.0		7.3	5.5	65.7	(2)	Sandstone, fine-grain, carbonaceous, gray.
19	5943.5	0.0		11.0	3.6	22.7	(2)	Sandstone, fine-grain, carbonaceous, gray.
20	5944.5	0.0		12.6	3.2	34.1	(2)	Sandstone, fine-grain, carbonaceous, gray.
21	5945.5	0.0		5.1	15.7	60.8	(2)	Sandstone, fine-grain, carbonaceous, gray.

NOTE:

(*) REFER TO ATTACHED LETTER.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE DESCRIPTION - NAVAJO #1

ILLEGIBLE

CORE #1

4880-4881.5 Sh, blk, piker chip.
4881.5-4885 Sh, Blk w/intlam slt stgrs.
4885-4885.5 Transition from predom sh as above to vfg ss w/occ sh stgr.
4885.5-4887 ss, vfg - 75% - w/intlam blk sh.
4887-4888 Sh, Blk - 90% - w/occ slt stgr.
4888-4889.5 Ss, vfg - 95% - w/occ blk sh stgr, good odor.
4889.5-4890 Ss as above, good odor, bleeding oil.
4890-4891.5 Ss as above, grading to fg at base w/incr in sh, good odor.
4892-4894 Ss, s&p, fg, ti, good stn & odor.
4894-4894.3 Sh, blk w/slt stgrs.
4894.3-4894.6 Ss, s&p, fg, ti, good stn & odor.
4894.6-4895 Sh, blk w/slt stgrs, NS.
4895-4896.5 Ss, s&p, f-mg, sl perm & por, good stn & odor.
4896.5-4897 Ss, fg, s&p, good odor & stn, intlam w/50 percent blk sh.
4897-4897.5 Ss, fg, s&p, good stn & odor, ti.
4897.5-4898 Ss, vfg, ti & 50 percent sh lam, ss has stn & odor.
4898-4899 Ss, vf-fg, good stn & odor, ti.
4899-4900 Transition from ss as above to predom blk sh & intlam slt, 60 % ss w/good odor & stn.
4900-4905 Ss, vfg, 50% w/intlam sh, ti, fnt odor & occ sli stn.
4905-4913.5 Ss, vfg, 40% w/intlam blk sh, no stn, occ very fnt to no odor.
4913.5-4914.5 Ss, vfg, 50% w/intlam blk sh, very sli odor, no stn.
4914.5-4917.5 Ss as above, no stn or odor.
4917.5-4918.5 Ss, fg, v calc, wh, ti, NS, many sh incl at base.
4918.5-4924 Ss, vfg, ti w/60% blk sh.
4924-4927 Ss, vfg-fg, ti 50% blk sh, sli apparent stn, no odor.
4927-4933 Ss, vfg & 60% intlam blk sh, NS.

CORE #2

4933-4940 Fg, gry-wht S&P ss, poor-fair por, scatt lt stn, scatt sh ptgs, appears rew, no odor.
4953-4956 Fg, gry-wht shly ss, poor por, tr v lt stn, no odor, 50% sh incl, rew.
4956-4957 Fg, gry-wht ss, poor por, even v lt stn, few sh incl, rew, fair odor.
4957-4962 Same, even fair stn, good odor.
4962-4963 Fg, gry-wht s&p ss, fnt stn, poor por, abdt sh incl, v fnt odor.
4963-4966 Same as 4957-62 except little tighter and shallier.
4966-4967.5 Fg gry-wht hd dns ss; sl fract, nor por, bleeding oil along fract, occ 1/4" sh ptgs.
4967.5-4970 Same as 4963-66.
4970-4973.5 Fg gry-wht hd ss, frequent sh incl, lt stn, fnt odor, v tight.
4973.5-4974.5 Fg gry-wht hd dns shly ss, no odor.
4974.5-4976 Fg gry-wht hd dns ss, fnt odor & stn.
4976-4976 Fg gry-wht hd dns ss, no odor or stn, abdt sh incl & ptgs, rew throughout.

ILLEGIBLE**CORE ANALYSIS RESULTS**

BRITISH AMERICAN OIL PRODUCING COMPANY
 WEST KUTZ SAN JUAN N. MEXICO 6352 KB
 DAKOTA
 DIAMOND CONVENTIONAL OIL EMULSION MUD
 SECTION 22 27N 11W
 RP-3-1089
 10-13-59
 ENGLISH

Lithological Abbreviations

SAMPLE NO.		DEPTH		GRAIN SIZE		PERCENT WATER		PERCENT SAND		PERCENT CLAY		PERCENT SILT		PERCENT TOTAL SAND		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		SANDSTONE, FINE-GRAIN.		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CORE ANALYSIS RESULTS

BRITISH-AMERICAN OIL PRODUCING COMPANY	DAKOTA	RP-3-1089
SCOTT NO. 8	DIAMOND CONVENTIONAL	10-13-59
WEST KUTZ	OIL EMULSION MUD	ENGLISH
SAN JUAN N. MEXICO 6352 KB	SECTION 22 27N 11W	

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	WATER CONTENT PERCENT	DRY WEIGHT POUNDS	WET WEIGHT POUNDS	VOLUME CUBIC FEET	GRAVITY SPECIFIC	DESCRIPTION OF SAMPLE AND REMARKS
37	6619-20	<0.01	7.2	6.9	62.6	(2)	Sandstone, Fine-Grain, Shaly.
38	6620-21	<0.01	8.9	5.6	39.3	(2)	Sandstone, Fine-Grain.
39	6621-22	<0.01	11.4	4.4	35.9	(2)	Sandstone, Fine-Grain, Shaly.
40	6622-23	<0.01	9.7	2.1	22.7	(2)	Sandstone, Fine-Grain.
41	6623-24	<0.01	2.3	22.2	74.1	(2)	Sandstone, Fine-Grain, Shaly, Vertical Fracture.
42	6624-25	<0.01	4.9	10.2	81.6	(2)	Sandstone, Fine-Grain, Shaly, Vertical Fracture.
43	6625-26	<0.01	4.7	14.9	78.7	(2)	Sandstone, Fine-Grain, Shaly, Vertical Fracture.
44	6626-27	<0.01	3.9	18.0	74.3	(2)	Sandstone, Fine-Grain, Shaly, Vertical Fracture.
45	6627-28	<0.01	5.0	14.0	80.0	(2)	Sandstone, Fine-Grain, Shaly.
46	6628-29	<0.01	6.1	8.2	78.7	(2)	Sandstone, Fine-Grain, Shaly.
47	6629-30	<0.01	4.6	10.9	80.4	(2)	Sandstone, Fine-Grain, Shaly.
48	6630-31	<0.01	2.6	0.0	84.6	(2)	Sandstone, Fine-Grain, Vertical Fracture.
49	6634-35	<0.01	2.2	0.0	95.6	(2)	Sandstone, Medium-Grain, Vertical Fracture.
50	6635-36	<0.01	2.0	0.0	95.2	(2)	Sandstone, Medium-Grain, Vertical Fracture.
51	6636-37	<0.01	4.2	11.9	85.8	(2)	Sandstone, Medium-Grain, Shaly.
52	6652-53	0.02	2.5	20.0	60.2	(2)	Sandstone, Medium-Grain, Shaly.
53	6653-54	<0.01	5.0	0.0	69.9	(2)	Sandstone, Medium-Grain, Shaly.
54	6654-55	0.09	2.4	0.0	79.2	(2)	Sandstone, Medium-Grain, Shaly.
55	6655-56	<0.01	5.3	9.5	79.3	(2)	Sandstone, Medium-Grain, Shaly.

(2) Service No. 8 - No interpretation of results.

CORE ANALYSIS RESULTS

The British American
Oil Producing Company
Well FULLERTON #5
Field WILDCAT
County SAN JUAN State NEW MEX. EL 6336 KB Location SEC 15-27N-11W
Formation DAKOTA
Core Type DIA. CONV.
Drilling Fluid WBM.
File RP-3-907
Date Report 1-18-59
Analysts KH

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS			
				Oil	TOTAL WATER				
1	6640-41	0.08	9.9	5.0	30.3	Sandstone, shly carb.			
2	41-42	0.06	11.7	6.0	44.4	"	"	"	
3	42-43	0.04	10.1	5.0	32.7	"	"	"	
4	43-44	0.06	11.0	4.5	49.2	"	"	"	
5	44-45	0.15	9.5	5.3	54.8	"	"	"	
6	45-46	0.06	10.4	4.8	50.0	"	"	"	
7	46-47	0.09	12.5	4.0	35.2	"	"	"	
8	47-48	0.10	12.0	4.2	35.0	"	"	"	
9	48-49	0.05	8.9	5.6	37.0	"	"	"	
10	49-50	0.05	11.2	4.5	43.7	"	"	"	
11	50-51	0.02	10.7	4.7	50.5	"	"	"	
12	51-52	0.10	11.1	4.5	45.0	"	"	"	
13	52-53	0.07	9.1	7.7	61.4	"	"	"	
14	53-54	<0.01	7.7	6.5	72.7	"	"	"	
15	6654-55	0.02	8.3	6.0	61.5	"	"	"	

Service # 8 No Interpretation

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company **The British American Oil Producing Company** Formation **Dakota** File **RP-3-907**
 Well **Fullerton # 5** Core Type **Diamond Conv.** Date Report **1-21-59**
 Field **Wildcat** Drilling Fluid **Water Base Mud** Analysts **English**
 County **San Juan** State **New Mexico** **6336 KB** Location **Sec15 27N 11W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARIES	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
16	6668-69	0.02	5.9	3.4	76.4	Vertical Fracture
17	69-70	0.01	5.6	0.0	75.2	Vertical Fracture
18	70-71	0.04	4.9	0.0	79.6	
19	6672-73	0.01	2.8	0.0	89.3	Vertical Fracture
20	6677-78	0.01	4.2	11.9	81.1	Vertical Fracture
21	6697-98	0.03	6.3	3.2	84.3	

Service # 8 No Interpretation

ILLEGIBLE

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.** Location **DAKOTA** File **RP-3-1036**
Well **U.S.A. HARGRAVE "J" NO. 1** Core Type **DIAMOND CONVENTIONAL** Date Report **7-21-59**
Field **ANGEL PEAK DAKOTA** Drilling Fluid **OIL EMULSION MUD** Analysts **ENGLISH**
County **SAN JUAN** State **N.MEXICO** Loc. **6132 RDB** Location **SECTION 3 27N 10W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARREYS	DENSITY PERCENT	RESIDUAL SATURATION PER CENT PORE TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS
		Max. 90°			
1	6345-47.0	0.5	0.1	8.142-44 (3' corr.)	(2) Sandstone, Vertical Fracture.
2	6347.0-48.5	0.7	<0.1	7.941-45 1/2	(2) Sandstone, Vertical Fracture.
3	6348.5-50.5	<0.1	<0.1	5.345-47 1/2	(2) Sandstone, Vertical Fracture.
4	6350.5-52.3	0.4	0.2	7.347 1/2-49.3	(2) Sandstone, Vertical Fracture.
5	6352.3-54.0	0.2	0.1	7.849.3-51	(2) Sandstone, Vertical Fracture.
6	6354.0-55.8	0.1	0.1	7.551-52.8	(2) Sandstone, Vertical Fracture.
7	6355.8-57.1	0.5	0.4	6.752.8-54.1	(2) Sandstone, Vertical Fracture.
8	6357.1-58.8	<0.01*		6.754.1-55.8	(2) Sandstone, Vertical Fracture.
9	6358.8-60.6	0.1	<0.1	5.955.8-57.6	(2) Sandstone, Vertical Fracture.
10	6360.6-62.5	0.3	0.1	7.257.6-59.6	(2) Sandstone.
11	6362.5-64.5	0.6	0.3	5.259-61.5	(2) Sandstone.
12	6364.5-66.3	0.3	0.1	4.161-63.3	(2) Sandstone, Vertical Fracture.
13	6366.3-68.1	0.1	<0.1	5.463-65.1	(2) Sandstone, Vertical Fracture.
14	6368.1-69.9	<0.1	<0.1	5.965.1-66.9	(2) Sandstone.
15	6369.9-71.7	<0.1	<0.1	5.566.9-68.7	(2) Sandstone.
16	6371.7-73.5	0.01*		5.968.7-70.5	(2) Sandstone, Vertical Fracture.
17	6373.5-75.3	<0.01*		5.670.5-72.3	(2) Sandstone, Vertical Fracture.
18	6375.3-76.6	<0.1	<0.1	6.972.3-73.8	(2) Sandstone, Vertical Fracture.
19	6376.6-78.4	0.1	<0.1	8.873.6-75.4	(2) Sandstone.
20	6378.4-80.0	0.3	0.1	9.275.4-77	(2) Sandstone.
21	6380.0-81.7	0.1	0.1	5.877-78.7	(2) Sandstone.
22	6381.7-83.1	<0.1	<0.1	5.178.7-80.1	(2) Sandstone, Vertical Fracture.
23	6383.1-84.8	0.2	0.1	4.280.1-81.8	(2) Sandstone, Vertical Fracture.
24	6384.8-86.5	<0.01*		3.281.8-83.5	(2) Sandstone, Vertical Fracture.
25	6386.5-88.0	<0.01*		2.893.5-85	(2) Sandstone, Vertical Fracture.
26	6388.0-90.0	<0.01*		4.185-87	(2) Sandstone, Vertical Fracture.
27	6390.0-91.7	0.2	0.2	4.487-88.7	(2) Sandstone, Vertical Fracture.
28	6391.7-93.0	0.3	0.1	4.158.7-90	(2) Sandstone, Vertical Fracture.
29	6393.0-94.6	0.01*		5.890-91.6	(2) Shale, Sandy.
30	6394.6-96.5	<0.01*		8.391.6-93.5	(2) Shale, Sandy.
31	6396.5-98.5	0.02*		3.993.5-95.5	(2) Shale, Sandy.
32	6398.5-6600.1	0.01*		4.295.5-97.1	(2) Shale, Sandy.
33	6600.1-01.9	0.01*		4.997.1-98.9	(2) Shale, Sandy.
34	6601.9-02.8	0.02*		6.198.9-99.8	(2) Shale, Sandy.
35	6626.0-27.7	1.3	<0.1	6.424-25.7 (corr 2')	(2) Sandstone, Shaly.
36	6627.7-29.1	0.2	0.1	6.325.7-27.1	(2) Sandstone, Shaly.
37	6636.0-37.2	0.01*		5.834-35.2	(2) Shale, Sandy.
38	6637.2-38.5	<0.1	<0.1	5.835.2-36.5	(2) Shale, Sandy.
39	6638.5-40.0	0.2	0.2	8.136.5-38	(2) Shale, Sandy.

These analyses, opinions or interpretations are based on observations and are intended for the client to whom, and for whom, they are made and confidential use. This report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. All errors, omissions excepted, but Core Laboratories, Inc. and its subsidiaries and employees assume no liability for any loss or damage, whether direct or indirect, resulting from the use of the product or the report or from the failure of any of the equipment or materials used in the analysis or from the failure of any of the equipment or materials used in the analysis or from the failure of any of the equipment or materials used in the analysis.

ILLEGIBLE

CORE ANALYSIS RESULTS

Company	PAN AMERICAN PETROLEUM CORP.	Estimation	DAKOTA	File	RP-3-1036
Well	U.S.A. HARGRAVE "J" NO. 1	Core Type	DIAMOND CONVENTIONAL	Date Report	7-21-59
Field	ANGEL PEAK DAKOTA	Drilling Fluid	OIL EMULSION MUD	Analysts	ENGLISH
County	SAN JUAN	State	N.MEXICO	Block	6132 RDB
		Section	SECTION 3 27N 10W		

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARREYS Max.	POROSITY PERCENT 90 ⁰	RES. SAT. RATION PERCENT POR. DATA WATER	SAMPLE DESCRIPTION AND REMARKS
40	6640.0-41.0	0.02*	8.9 38-39	(2)	Shale, Sandy.
41	6648.0-49.8	5.5	1.8 9.5 46-47.8	(2)	Shale, Lignitic.
42	6657.0-58.9	1.8	0.1 8.6 55-56.9	(2)	Sand, Shale.
43	6658.9-60.5	6.0	1.0 9.8 56.9-58.5	(2)	Sand, Shale.

(2) Service No. 8 - No interpretation of results.

AZTEC OIL & GAS COMPANY

920 MERCANTILE SECURITIES BLDG.

DALLAS 1, TEXAS

December 6, 1962

LAND DEPARTMENT

H. L. SNIDER, JR., MANAGER
KENNETH A. SWANSON, ATTORNEY
GORDON E. COE, ATTORNEY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Re: Case No. 2504, Application of
Consolidated Oil & Gas, Inc.
to Change Basin-Dakota Gas Pool
Allocation Formula, San Juan,
Rio Arriba and Sandoval Counties,
New Mexico

Response to Ruling on Motions to
Quash Subpoenas Duces Tecum

Dear Mr. Porter:

Mr. James M. Durrett, Jr. advised earlier this week that at the December 19, 1962 hearing date, to which the subject case has been continued, the Commission plans to receive all core analysis reports and all electric and radioactivity logs concerning any and all wells that have been cored in the Basin-Dakota Gas Pool by the respective companies upon whose officers or employees subpoenas duces tecum have been served. After these items have been produced, the subject case will then be continued until February 14, 1963.

Mr. Durrett further advised that the Commission would deem the subpoena duces tecum served on L. M. Stevens satisfied if the information mentioned above with respect to any well or well cored by Aztec in the Basin-Dakota Gas Pool was delivered by mail to the Commission on or before December 19, 1962.

Please note enclosed, therefore, copies of the following relating to the Aztec Oil & Gas Company-Richardson No. 6 Well, located in the SE $\frac{1}{4}$ of Section 22, T-31-N, R-12-W, San Juan County, New Mexico:

- 1) Schlumberger Induction Electric Log dated May 13, 1960
- 2) Schlumberger Gamma Ray-Sonic Log dated May 14, 1960

Mr. A. L. Porter, Jr.

-2-

December 6, 1962

- 3) Core Laboratories Core Analysis dated May 27, 1960
- 4) Core Laboratories Coregraph dated May 4-12, 1960

The Richardson No. 6 Well is the only well Aztec has cored in the Basin-Dakota Gas Pool.

The above items are provided in response to the subpoena duces tecum; it will not be necessary to return them to Aztec.

Should Mr. Stevens' presence be desired by the Commission at the December 19, 1962 hearing, he will be happy to appear.

Yours very truly,

Kenneth A. Swanson

KAS/et
Enclosures

- Loes Comm.
copy
1. ✓ Allison #1
 2. ✓ Canyon Largo #29 (Superior-Sealey Government #1)
 3. ✓ Canyon Largo #89
 4. ✓ Case #8
 5. ✓ Filan #5
 6. ✓ English #1
 7. ✓ Gartner #9
 8. ✓ Huerfano #92
 9. ✓ Huerfano #106
 10. ✓ Huerfano #110
 11. ✓ Huerfano #125
 12. ✓ Huerfano #135
 13. ✓ Jicarilla #92-2
 14. ✓ Ludwick #15 (Delhi Taylor-Delhi Ludwick #1)
 15. ✓ Michner #3 (Delhi Taylor-Michner #1)
 16. ✓ Moore #8
 17. ✓ Mudge #18
 18. ✓ Rincon #1
 19. ✓ Rincon #57
 20. ✓ Rincon #127
 21. ✓ Rincon #136
 22. ✓ Rincon #159
 23. ✓ San Juan 27-4 #22
 24. ✓ San Juan 27-5 #1
 25. ✓ San Juan 28-4 #24-26
 26. ✓ San Juan 28-5 #35
 27. ✓ San Juan 28-6 #98
 28. ✓ San Juan 28-7 #12

- 29. ✓ San Juan 28-7 #109
- 30. ✓ San Juan 29-4 #18-33
- 31. ✓ San Juan 29-5 #32-29
- 32. ✓ San Juan 29-5 #45-22
- 33. ✓ San Juan 29-6 #35
- 34. ✓ San Juan 29-6 #62
- 35. ✓ San Juan 30-5 #27-20
- 36. ✓ San Juan 30-5 #28-23 X
- 37. ✓ San Juan 30-6 #31
- 38. ✓ San Juan 31-6 #16-33
- 39. ✓ San Juan 32-7 #22-29
- 40. ✓ San Juan 32-7 #37
- 41. ✓ San Juan 32-8 #35
- 42. ✓ San Juan 32-9 #70 X
- 43. ✓ Rincon # 31

THE BRITISH-AMERICAN OIL PRODUCING COMPANY

Production & Engineering
Departments
P. O. Drawer 330
Farmington, New Mexico

December 10, 1962

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr., Secretary & Director

Gentlemen:

Re: NMOCC Case No. 2504 - Rehearing

We are forwarding your office this date, by registered mail, the data which we are required to submit in connection with subject case. This data is as follows:

- (1) Fullerton No. 5 - NE/4 Sec. 15-27N-11W
San Juan County, New Mexico
 - (a) Dakota Core analysis
 - (b) Schlumberger I-ES and ML
 - (c) Lane Wells Gamma Ray Log
- (2) Scott No. 8 - NE/4 Sec. 22-27N-11W
San Juan County, New Mexico
 - (a) Dakota Core analysis
 - (b) Schlumberger I-ES and ML
- (3) Navajo No. 1 - NW/4 Sec. 15-26N-14W
San Juan County, New Mexico, Dry hole, P&A
 - (a) Dakota Core analysis
 - (b) Schlumberger I-ES and ML
- (4) Warren B-1 - NW/4 Sec. 18-27N-12W
San Juan County, New Mexico, Dry hole, P&A
 - (a) Dakota Core Analysis
 - (b) Schlumberger ES, Laterolog and ML

Yours very truly,

THE BRITISH-AMERICAN OIL PROD. COMPANY


Nae R. Stone, Field Superintendent

CML:s

cc: Mr. Thomas M. Hogan

PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 480, Farmington, New Mexico
December 5, 1962

File: N-1463-986.510.1

Subject: Core Data and Logs on Wells
Cored in the Basin Dakota Pool
By Pan American Petroleum Corporation

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

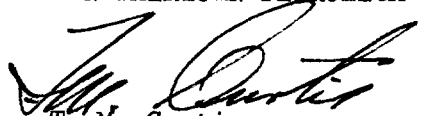
Dear Sir:

With regard to the core data and logs on the wells cored by Pan American Petroleum Corporation in the Basin Dakota Pool, we have been advised by Mr. Durrett that it will be entirely satisfactory to send these data by mail rather than deliver them in person on December 19, 1962, as specified in the Commission's ruling on the subpoenas duces tecum. Accordingly, enclosed with this letter are the core data and the logs on the ten wells which have been cored by Pan American Petroleum Corporation in the Basin Dakota Pool.

Although only electrical and radio activity logs were specified in the Commission's ruling on the subpoenas duces tecum, some of the wells have been logged with additional surveys and, where such is the case, all logs run have been included.

Yours very truly,

PAN AMERICAN PETROLEUM CORPORATION


T. M. Curtis
District Superintendent

GWE:ep
Enclosure

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

May 27, 1960

REPLY TO
734 PATTERSON BLDG
DENVER, COLORADO

Aztec Oil & Gas Company
Box 786
Farmington, New Mexico

Attention: Mr. Joe Salmon

Subject: Core Analysis
Richardson No. 6 Well
San Juan County, New Mexico
Location: Sec. T31N-R12W

Gentlemen:

Graneros formation analyzed from 7062 to 7111 feet and Dakota formation from 7126 to 7175 feet exhibit low permeability and/or low porosity and the matrix of these intervals is considered essentially non-productive. There is evidence of a good fracture system which could be the reservoir and the means of passage to the well bore for fluids within these fractures. Further testing should be done to evaluate the fracture system.

Formation from the intervals, 7175 to 7179, 7197 to 7204, 7207 to 7222 and 7234 to 7238 feet, exhibits residual fluid saturations indicative of gas productive formation. Summaries have been prepared for the gas productive formations where sufficient permeability and porosity exist. A formation treatment will be necessary in order to obtain satisfactory rates of flow. The vertical fractures should increase the effective permeability.

The remaining analyzed formation is considered to be essentially non-productive.

Thank you for this opportunity to be of service.

Very truly yours,

Core Laboratories, Inc.

J D Harris

J. D. Harris,
District Manager

JDH:HC:ds

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Page 1 of 1 File RP-3-1175

Well Richardson No. 6

CORE SUMMARY AND CALCULATED RECOVERABLE OIL**FORMATION NAME AND DEPTH INTERVAL:** Dakota 7197.0-7222.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	25.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	46.2
FEET OF CORE INCLUDED IN AVERAGES	16.0	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE (c)	46
AVERAGE PERMEABILITY: MILLIDARCY	0.07	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-Feet	1.1	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	5.8	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	2.8	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

FORMATION NAME AND DEPTH INTERVAL: Dakota 7234.0-7238.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL	4.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	46.0
FEET OF CORE INCLUDED IN AVERAGES	4.0	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE (c)	46
AVERAGE PERMEABILITY: MILLIDARCY	3.2	OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-Feet	13	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT	6.7	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE	5.4	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

RICHARDSON #6
CORE DESCRIPTION

Core 7179-7234: Cut 55', recovered 55'

7179-82	<u>Sh</u> , blk
7182-94	<u>Ss</u> , shly, tite, vert. fracs
94-96	<u>Ss</u> , fi grn'd
96-97.5	<u>Sh</u> , arenaceous
7197.5-7205	<u>Ss</u> , white to gray, fi to med grn'd, fair porosity, bleeding gas
7205-09.5	<u>Ss</u> , fi grn'd, shale partings
09.5-24	<u>Ss</u> , wh, med. grn'd, good porosity, paper thin sh partings
24-27	<u>Interbed ss and sh</u>
27-28	<u>Sh</u> , blk
28-32	<u>Ss</u> , wh to gry, fi to med grn'd, poor porosity, bleeding gas
32-33.5	<u>Ss</u> , wh, med grn'd, good porosity, bleeding gas from titer portions
33.5-34	<u>Sh</u> , blk

ILLEGIBLE

LOGICAL DEPARTMENT	V T
DMH	Well File
HJS	Land
RAM	Legal
G Zell	ATTORNEY
	RICHARDSON

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No 1

CORE ANALYSIS RESULTS

Formation **GRANEROS** File **RP-3-1175**
Core Type **DIAMOND CONV.** Date Report **5/5/60**
Drilling Fluid **ENGLISH**
Field **UNNAMED**
County **SAN JUAN** State **N.MEXICO** Elev **6157** Gr Location **Sec22 T31N R12W**

Lithological Abbreviations

SAND SD SHALE SH LIME LM	DOLOMITE DOL CHERT CH GYPSUM GYP	ANHYDRITE ANHY CONGLOMERATE CONG FOSSIL FERROUS FOSS	SANDY SBT SHALY SHY CLAY CLY	FINE FN MEDIUM MED COARSE CSE	CRYSTALLINE XLN GRAIN GRN GRANULAR GRNL	BROWN BRN GRAY GRV VUGGY VUG	FRACTURED FRAC LAMINATION LAM STYLOLITIC STY	SLIGHTLY SL/ VERY V WITH W/
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
1	7062-63	0.11	5.9	20.3	37.2	Vertical Fracture
2	63-64	0.01	4.9	34.7	51.0	" "
3	64-65	0.01	5.0	24.0	43.9	" "
4	65-66	0.01	6.4	28.1	39.1	" "
5	66-67	0.01	5.0	14.0	83.9	" "
6	67-68	0.01	6.6	36.4	40.9	" "
7	68-69	0.01	6.5	38.5	43.1	" "
8	69-70	0.01	5.8	12.0	86.2	" "
9	70-71	0.01	3.4	14.7	82.4	" "
10	71-72	0.01	4.8	29.2	64.6	" "
11	72-73	0.01	5.6	25.0	71.4	" "
12	73-74	0.01	6.9	39.1	45.0	" "
13	74-75	0.01	7.1	40.8	35.2	" "
14	75-76	0.01	4.8	10.4	87.6	" "
15	76-77	0.01	4.3	4.7	93.1	" "
16	77-78	0.01	3.8	0.0	97.3	" "
17	78-79	0.01	3.6	0.0	97.2	" "
18	79-80	0.01	3.8	0.0	94.6	" "
19	80-81	0.01	4.7	10.6	85.1	" "
20	81-82	0.01	1.7	29.4	64.7	" "
21	82-83	0.01	3.4	0.0	91.4	" "
22	83-84	0.01	3.2	0.0	96.9	" "
23	84-85	0.01	5.0	10.0	88.0	" "
24	85-86	0.01	3.8	0.0	97.4	" "
25	86-87	0.01	4.7	10.6	85.1	" "
26	87-88	0.01	4.0	12.5	82.4	" "
27	88-89	0.01	4.1	12.2	85.5	" "
28	89-90	0.01	4.8	10.4	87.5	" "
29	90-91	0.01	4.3	0.0	97.6	" "
30	91-92	0.01	4.8	10.4	87.5	" "
31	92-93	0.01	4.0	12.5	84.9	" "
32	93-94	0.01	3.6	0.0	97.1	" "
33	94-95	0.01	3.6	5.6	91.7	" "
34	95-96	0.01	4.1	4.9	92.7	" "
35	96-97	0.01	3.9	0.0	97.4	" "

7062-7097 low porosity and low permeability show the matrix of this interval to be essentially non-productive. There is evidence of a good fracture system, which could be the reservoir and the means of passage to the well bore for fluids within these fractures. Further testing should be done to evaluate the fracture system.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 2

CORE ANALYSIS RESULTS

Company: **AMERICAN OIL & GAS COMPANY** Formation: **DAKOTA** File: **EP-3-1175**
Well: **RICHARDSON** Core Type: **DIAMOND CONV.** Date Report: **5/7/60**
Field: **UNNAMED** Drilling Fluid: **WATER BASE MUD** Analysts: **ENGLISH**
County: **SAN JUAN** State: **N. MEXICO** Elev: **6157** Or. Location: **Sec 22 T31N R12W**

Lithological Abbreviations

SAND SH SHALE SH LIME LM	DOLomite DO CHERT CH GYPSUM GY	ANHYDRITE ANHY CONGLOMERATE CONG FOSSILIFEROUS FOR	SANDY SH SHALE SH LIME LM	FINE FN MEDIUM MD COARSE CS	CRYSTALLINE CLN GRAIN GRN BRANULAR BRNL	BROWN BRN GRAY GR JUSBY JUSY	FRACTURED FRAC LAMINATION LAM STYOLITIC STY	SLIGHTLY SL VERY V WITH W
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE OIL	TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS		
36	7101-02	<0.01	8.5	8.3	89.7	Vertical Fracture		
37	02-03	<0.01	4.3	4.7	93.1	"	"	
38	03-04	<0.01	3.8	5.3	92.2	"	"	
39	04-05	<0.01	4.1	12.2	85.6	"	"	
40	05-06	<0.01	4.9	10.2	71.5	"	"	
41	06-07	<0.01	3.8	5.3	87.0	"	"	
42	07-08	<0.01	3.2	6.2	84.5	"	"	
43	08-09	<0.01	3.5	0.0	97.2	"	"	
44	09-10	<0.01	3.4	0.0	97.0	"	"	
45	10-11	<0.01	3.5	0.0	97.4	"	"	
46	7126-27	0.02	5.3	9.4	75.4	"	"	
47	27-28	<0.01	5.7	8.8	75.5	"	"	
48	28-29	<0.01	1.6	31.2	37.5	"	"	
49	29-30	0.01	4.6	10.9	67.5	"	"	
50	30-31	<0.01	5.2	13.4	71.1	"	"	
51	31-32	<0.01	4.1	12.2	70.7	"	"	
52	32-33	<0.01	3.8	13.1	58.0	"	"	
53	33-34	<0.01	6.3	7.9	77.9	"	"	
54	34-35	0.06	5.0	10.0	82.1	"	"	
55	35-36	0.04	5.2	9.5	79.0	"	"	
56	36-37	<0.01	4.1	12.2	61.1	"	"	
57	37-38	<0.01	4.1	18.9	44.5	"	"	
58	38-39	0.22	3.6	5.6	66.9	"	"	
59	39-40	<0.01	3.4	5.9	70.6	"	"	
60	40-41	<0.01	2.9	0.0	69.0	"	"	
61	41-42	<0.01	3.4	0.0	58.9	"	"	
62	42-43	<0.01	4.7	0.0	51.0	"	"	
63	43-44	<0.01	3.5	5.7	82.9	"	"	
64	44-45	<0.01	5.0	0.0	70.1	"	"	
65	45-46	<0.01	3.6	0.0	72.2	"	"	
66	46-47	<0.01	3.1	0.0	77.5	"	"	
67	47-48	<0.01	3.3	10.0	73.5	"	"	
68	48-49	<0.01	3.4	0.0	64.8	"	"	
69	49-50	<0.01	4.1	0.0	56.1	"	"	
70	50-51	<0.01	4.0	0.0	82.6	"	"	

7101-7151 The samples analysed within this interval are essentially non-productive. There is evidence of a fracture system, which could be the reservoir and the means of passage to the well bore for fluids within these fractures. Further testing should be done to evaluate the fracture system.

CORE ANALYSIS RESULTS

Formation

DAKOTA

Core Type

DIAMOND CONV.

Drilling Fluid

WATER BASE MUD

File

RP-3-1175

Date Report

5/9/60

Analysts

ENGLISH

Lithological Abbreviations

BANK ST
SHALE SH
LIME LMDOLOMITE DO
CHERT CH
GYPSUM GPANHYDRITE ANHY
CONG. OPERATE CONG
FOSSILIFEROUS FOSSSANDY SOY
SHALE SHY
LM LMVFINE FN
MEDIUM MED
COARSE COECRYSTALLINE CRY
GRAIN GRN
GRANULAR GRNLBROWN BBN
GRAY GRV
VUGGY VGYFRACTURED FRAC
LAMINATION LAM
STYLOLITIC STYSLIGHTLY SL/
VERY V
WITH W

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
71	7153-54	0.08	2.2	0.0	59.1	Vertical Fracture
72	54-55	0.02	2.4	8.3	54.2	" "
73	55-56	0.26	3.4	0.0	47.1	" "
74	56-57	<0.01	2.6	7.7	88.4	" "
75	57-58	<0.01	3.7	5.4	91.9	" "
76	58-59	<0.01	4.7	4.3	89.4	" "
77	59-60	0.02	3.7	5.4	89.1	" "
78	60-61	<0.01	3.6	5.6	88.9	" "
79	61-62	<0.01	4.4	11.4	84.2	" "
80	62-63	<0.01	5.9	3.4	95.1	" "
81	63-64	<0.01	3.7	5.4	78.6	" "
82	64-65	<0.01	2.0	0.0	60.1	" "
83	65-66	<0.01	1.4	0.0	64.2	" "
84	66-67	<0.01	3.9	5.1	79.6	" "
85	67-68	0.02	4.5	4.4	93.4	" "
86	68-69	<0.01	4.7	4.3	93.6	" "
87	69-70	0.13	2.9	0.0	93.1	" "
88	70-71	<0.01	3.2	15.6	78.1	" "
89	71-72	<0.01	4.8	14.5	83.4	" "
90	72-73	<0.01	1.7	0.0	94.2	" "
91	73-74	<0.01	2.0	1.0	85.1	" "
92	74-75	<0.01	3.3	6.1	87.9	" "
93	75-76	<0.01	5.4	0.0	44.4	" "
94	76-77	<0.01	5.2	0.0	30.8	" "
95	77-78	0.02	6.1	0.0	37.8	" "
96	78-79	<0.01	4.2	0.0	47.6	" "

7153-7175 This interval is essentially non-productive . Further testing should be done to evaluate the fracture system .

7175-7179 This interval has low porosity (5.2% average) and low permeability (0.01 md./ft. average) . The saturations (residual oil ~~51.4~~ 0.0% average and total water 38.9% average) show the interval to be capable of low-capacity gas production .

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Petroleum Reservoir Engineering
DALLAS, TEXAS

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CORE ANALYSIS RESULTS

Company	AZTEC OIL & GAS COMPANY	Location	DAKOTA	File	RP-3-1175
Well	REINHARDSON # 6	Core Type	DIAMOND CONV.	Date Report	5/11/60
Field	UNNAMED	Depth (Feet)	WATER BASE MUD	Analysis	ENGLISH
County	SAN JUAN	State	N. MEXICO	Core No.	SEC22 T31N R12W
		Core Gr.	6157 Gr. 1		

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERCENTAGE OF SAND	PERCENTAGE OF SILT	PERCENTAGE OF CLAY	PERCENTAGE OF WATER	SAMPLE DESCRIPTION AND REMARKS
97	7179-80	<0.01	5.5	9.1	82.1	Vertical Fracture
98	80-81	<0.01	4.7	10.6	87.2	
99	81-82	<0.01	3.8	0.0	97.4	
100	82-83	<0.01	3.5	0.0	97.2	
101	83-84	<0.01	3.2	0.0	96.9	
102	84-85	<0.01	3.5	0.0	97.2	
103	85-86	<0.01	4.0	5.0	92.5	
104	86-87	<0.01	2.8	7.1	89.2	
105	87-88	<0.01	3.0	0.0	96.7	
106	88-89	<0.01	3.4	5.9	91.1	
107	89-90	<0.01	2.2	9.1	86.4	
108	90-91	<0.01	2.3	0.0	91.2	
109	91-92	<0.01	3.5	14.3	82.9	
110	92-93	<0.01	3.7	0.0	64.8	
111	93-94	<0.01	2.8	7.1	89.2	
112	94-95	<0.01	3.7	13.5	83.8	
113	95-96	<0.01	1.8	0.0	94.6	
114	96-97	0.01	4.5	11.1	77.8	
115	97-98	0.02	5.0	4.0	66.4	
116	98-99	0.01	5.2	9.6	63.2	
117	99-7200	0.01	4.8	10.4	64.6	
118	7200-01	0.70	5.7	3.5	51.0	
119	01-02	0.07	5.0	4.0	52.1	
120	02-03	0.01	6.3	7.9	41.3	
121	03-04	0.01	4.4	0.0	50.0	
122	04-05	0.01	1.1	0.0	72.7	
123	05-06	<0.01	1.0	0.0	70.0	
124	06-07	<0.01	1.3	0.0	53.9	
125	07-08	0.01	4.5	0.0	53.4	
126	08-09	0.12	9.0	2.2	32.2	
127	09-10	0.04	7.9	2.5	29.2	
128	10-11	0.02	4.3	0.0	46.4	
129	11-12	0.02	6.6	0.0	37.9	
130	12-13	0.03	7.6	0.0	30.2	
131	13-14	<0.01	5.3	0.0	56.6	
132	14-15	0.02	8.0	0.0	31.3	
133	15-16	<0.01	2.3	8.7	43.5	
134	16-17	0.03	1.9	1.0	59.9	
135	17-18	0.12	7.2	0.0	31.3	
136	18-19	<0.01	7.8	2.5	25.3	
137	19-20	<0.01	10.1	2.0	18.7	
138	20-21	<0.01	5.6	3.8	51.9	

CORE ANALYSIS RESULTS

Company AT&T OIL & GAS COMPANY Formation DAKOTA File RP-3-1175
Well RICHARDSON # 6 Core Type DIAMOND CONV. Date Report 5/11/60
Field UNWAMED Drilling Fluid WATER BASE MUD Analysts ENGLISH
County SAN JUAN State N. MEXICO Loc. 6157 Cr. Location SEC22 T31N R12W

Lithological Abbreviations

SAND SH	DOLOMITE DOG	ANhydrite ANH	CLAY SH	SILT SH	CLAYE LINE FLN	BROWN BRN	FRAC. LIND. FRAC	SL. SHLY SL
SHALE SH	CHERT CH	COND. UNKPT. E. DOG	CLAYE SH	MEDIUM MED	GRAN. BRN	GRAY GR	LAMINATION LAM	VERY V
CLAYE SH	GYPSUM GY	FASS. FEROUS FCS	CLAYE SH	ONRES SE	GRANULAR GRNL	YUGGY YGY	STALO. TIL. STY	WITH W
SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MD. DARTON	PER. ENT.	RESIDUAL SATURATION PER. CENT. OIL	TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS		
139	7221-22	<0.01	5.0	4.0	36.0	Vertical Fracture		
140	22-23	0.03	3.8	13.1	84.2	good prod. shale		
141	23-24	<0.01	3.9	5.1	89.9	good prod. shale		
142	24-25	0.06	3.2	6.2	91.6	shale		
143	25-26	<0.01	6.0	3.3	93.4	shale		
144	26-27	0.01	4.0	5.0	87.6	shale		
145	27-28	<0.01	3.5	5.7	82.9	shale		
146	28-29	0.53	3.4	5.9	91.2	shale		
147	29-30	<0.01	2.9	6.9	89.8	shale		
148	30-31	0.02	3.1	16.1	71.0	shale		
149	31-32	<0.01	4.7	4.3	40.4	shale		
150	32-33	<0.01	4.2	11.9	78.6	shale		
151	33-34	<0.01	3.7	13.9	75.7	shale		

7179-7197 This interval is essentially non-productive .

7197-7204 This interval has low porosity (5.2% average) and low permeability (0.12 md./ft. average) . The saturations (residual oil 5.6% average and total water 55.5% average) show the interval to be capable of producing gas . The vertical fracture system should increase the effective permeability .

7204-7207 This interval is essentially non-productive .

7207-7223 This interval has low porosity (6.2% average) and low permeability (0.02 md./ft. average) . The saturations (residual oil 1.8% average and total water 39.8% average) show the interval to be capable of producing gas . The vertical fractures should increase the effective permeability .

7223-7235 This interval is essentially non-productive .

ILLEGIBLE

CORE ANALYSIS RESULTS

Company: AZTEC OIL & GAS COMPANY Location: DAKOTA
Well: RICHARDSON # 6 Core ID: DIAMOND COIV.
Grid: UNNAMED Date: 5-12-60
Country: SAN JOSE, N.MEX. Sec 22 T31N R12W
Language: ENGLISH

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARMS	RESIDUAL SATURATION PERCENT PORE	TOTAL WATER	SAMPLE DESCRIPTION AND REMARKS
152	7234-35	.35	5.8	8.6	53.5 VERTICAL FRAC
153	35-36	1.1	6.7	7.5	49.4
154	36-37	.17	6.5	3.1	35.4
155	37-38	11.0	7.4	2.5	45.5

7234-7238 This interval has low porosity(6.6% average) and fair permeability(3.13md./ft. average). The saturations(residual oil 5.4% average and total water 45.9% average) show the interval to be capable of producing gas. The vertical fractures should increase the effective permeability.

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CORE ANALYSIS RESULTS

Company **AZTEC OIL & GAS COMPANY** Formation **DAKOTA** File **RP-3-1175**
Well **RICHARDSON # 6** Core Type **DIAMOND CONV.** Date Report **5/13/60**
Field **UNPAVED** Drilling Fluid **WATER BASE MUD** Analyst **ENGLISH**
County **SAN JUAN** State **N.MEXICO** Elev **6157** Loc. Location **Sec22 T31N R12W**

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARMS	POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
196	7281-82	0.05	3.4	0.0	76.3	Vertical Fracture

This sample is interpreted to be essentially non-productive .

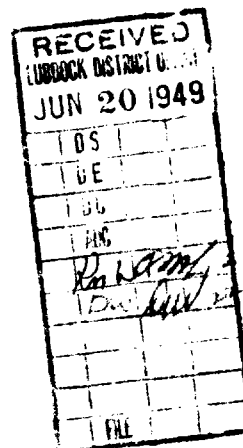
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OLIND OIL AND GAS COM.
RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

WELL Hess Unit #1 LAB. NO. 2690
FIELD Hess, Rio Arriba County, New Mexico DATE REPORTED 6-7-49
LOCATION Sec. 11 T4P-11-R6-W DATE RECEIVED 6-1-49
FORMATION ANALYZED Dakota - Unknown ELEV. 3362'

CORING DATA

ZONE	7941-8056	8058-62
START CORING	7941	8056
TOP OF SAND	7860	8056
BOTTOM OF SAND	8056	8068
STOPPED CORING	8056	
TOTAL FEET CORED	81 *	12
TOTAL FEET OF FORMATION	196	
RECOVERY, FEET OF FORMATION	82	12
RECOVERY, % OF FORMATION	41.8	



TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD) Gel-Chem

FILTRATE LOSS (CC. PER 30 MIN. API) 9

* Does not include drilling interval of 34'

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
		MAX.	MIN.	WTD. AVG.	
7941-8056	52	1.5	1.1	2.3	26.2
8058-62	4	4.1	3.4	3.8	48.0

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

ZONE	FEET OF NET SAND	MILLIDARCYS			CAPACITY FEET X M. D.
		MAX.	MIN.	WTD. AVG.	
7941-8056	52	1.58	.05	.47	24.44
8058-62	4	1.08	.45	.77	3.04

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN"; ">" INDICATES "GREATER THAN"

Letter of transmittal by H. L. Norton, dated 5-26-49, file: 251.1.002
with graphical core analysis log.

cc: Lewis Finch, Jr.
H. T. Morley (2)
C. F. Bedford
J. E. Weston
H. L. Norton

ILLEGIBLE

BY J. W. Guelbeck

SHOVLIND OIL AND GAS COMPANY RESEARCH DEPARTMENT CORE ANALYSIS SUMMARY

WELL Rosa Unit Well #1 LAB. NO. 2409
FIELD Wildcat, Rio Arriba County, New Mexico DATE REPORTED 5-6-49
LOCATION Sec. 11 TWP 31 N - R6W DATE RECEIVED 5-16-49
FORMATION ANALYZED Lakota Sand ELEV. 6362'

CORING DATA

ZONE	7878-7931	7932-36
START CORING	7874	7932
TOP OF SAND	7868	7932
BOTTOM OF SAND	7932	---
STOPPED CORING	7932	7938
TOTAL FEET CORED	25 *	6
TOTAL FEET OF FORMATION	64	---
RECOVERY, FEET OF FORMATION	21-1/2	4
RECOVERY, % OF FORMATION		---

TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD) Gel Chem
FILTRATE LOSS (CC. PER 30 MIN. API) 9

* Does not include drilling interval of 33'

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
		MAX.	MIN.	WTD. AVG.	
7878-7931	20	6.5	2.9	4.1	4.6
7932-36	4	4.1	4.1	4.1	2.8

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

ZONE	FEET OF NET SAND	MILLIDARCYS			CAPACITY FEET X M. D.
		MAX.	MIN.	WTD. AVG.	
7878-7931	20	.59	<.05	.17	3.40
7932-36	4	<.05	<.05	<.05	.20

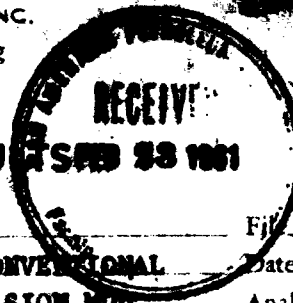
*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES
" < " INDICATES "LESS THAN"; " > " INDICATES "GREATER THAN":

Letter of transmittal not signed, dated 4-30-49, file 251.1.002
with graphical core analysis log.
Please attach to Report #2690, dated 2-16-49

cc: Louis Finch, Jr.
H. T. Morley (2)
C. F. Bedford
J. L. Weston
A. L. Norton

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS



CORE ANALYSIS RESULTS

Company PAN AMERICAN PETROLEUM CORPORATION Information GRANEROS File RP-3-1365
Well JICARILLA 155 # 12 Core Type DIAMOND CONVENTIONAL Date Report 2-11-61
Field JICARILLA Drilling Fluid OIL EMULSION MUD Analysts MC COMAS
County RIO ARriba State NEW MEX. Elev. 6469 KB Location SECTION 32 - 26N - 5W

Lithological Abbreviations

SAND-SD SHALE-SH LIM-LS
DOLomite-DOL
CHERT-CH
GYPSUM-GYP
ANHYDRITE-ANHY
CONGLOMERATE-CONG
FOSSILIFEROUS-FOSS
SANDY SDY
SHALY-SHY
LIMY-LMY
FINE-FN
MEDIUM-MED
COARSE-CSE
CRYSTALLINE-CLN
GRAIN-GRN
GRANULAR-GRNL
BROWN-BRN
GRAY-GY
VUGGY-VGY
FRACTURED-FRAC
LAMINATION-LAM
STYLOLITIC-STY
SLIGHTLY-SL/
VERY-V/
WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
1	6903-04	0.01	2.4			Sandstone, shaly, vertical fracture
2	6904-05	0.01	2.1			Sandstone, shaly, vertical fracture
3	6905-06	0.02	4.4			Sandstone, shaly, vertical fracture
4	6906-07	0.02	3.3			Sandstone, shaly, vertical fracture
5	6907-08	0.02	3.4			Sandstone, shaly, vertical fracture
6	6908-09	0.08	2.7			Sandstone, shaly, vertical fracture
7	6909-10	0.23	6.9			Sandstone, shaly, vertical fracture
8	6910-11	0.02	4.2			Sandstone, shaly, vertical fracture
9	6911-12	0.16	4.3			Sandstone, shaly, vertical fracture
10	6912-13	0.08	9.3			Sandstone, shaly, vertical fracture
11	6913-14	0.03	10.5			Sandstone, shaly, vertical fracture
12	6914-15	0.13	10.5			Sandstone, shaly, vertical fracture
13	6915-16	0.02	12.4			Sandstone, shaly, vertical fracture
14	6916-17	0.04	6.3			Sandstone, shaly, vertical fracture
15	6917-18	0.01	7.0			Sandstone, shaly, vertical fracture
16	6918-19	0.07	9.9			Sandstone, shaly, vertical fracture
17	6919-20	0.03	8.3			Sandstone, shaly
18	6920-21	0.12	7.1			Sandstone, shaly
19	6921-22	0.04	10.8			Sandstone, shaly
20	6922-23	0.01	7.5			Sandstone, shaly
21	6923-24	0.01	8.7			Sandstone, shaly
22	6924-25	0.02	9.4			Sandstone, shaly
23	6925-26	0.01	11.3			Sandstone, shaly
24	6926-27	0.08	4.6			Sandstone, shaly
25	6927-28	0.01	4.7			Sandstone, shaly, vertical fracture
26	6928-29	0.03	4.0			Sandstone, shaly, vertical fracture
27	6929-30	24	3.9			Sandstone, shaly, vertical fracture
28	6930-31	0.68	7.9			Sandstone, shaly, vertical fracture
29	6931-32	16	13.9			Sandstone, shaly
30	6932-33	0.11	9.8			Sandstone, shaly
31	6933-34	0.09	9.3			Sandstone, shaly
32	6934-35	0.62	7.5			Sandstone, shaly
33	6935-36	2.2	6.6			Sandstone, shaly
34	6936-37	14	4.6			Sandstone, shaly
35	6937-38	0.23	4.0			Sandstone, shaly

FARMINGTON DISTRICT		
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SERVICE NO. 8 NO INTERPRETATION OF RESULTS

ILLEGIBLE

Interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive use, they are made. Core Laboratories, Inc. (all employees, officers, and employees) assume no responsibility and make no warranty or representation, as to the accuracy or completeness of the data or other mineral well or other connection with which such report is used or relied upon.

SOLIND OIL AND GAS COMPANY

RESEARCH DEPARTMENT

LAB. NO. 3708

CORE ANALYSIS DATA RECORD

DATE 9-5-57

WELL Jicarilla Contract 146 No. 9

FIELD Otero Graneros

STATE New Mexico

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARCY'S		PERMEABILITY-MILLIDARCY'S	EFFECTIVE POROSITY	SATURATION		
			LARGE CORE HORIZONTAL				REGULAR CORE	% PORE SPACE	
			MAXIMUM	90° FROM MAX	HORIZONTAL	VERTICAL	%	OIL	WATER
P	7354	55	SN	.47	.42			4.0	
Q	7355	56	"	2.84	1.63			3.6	
R	7356	57	"	121.40	6.34			2.3	
S	7357	58	"	6.55	.91			2.7	
T	7358	59	"	.25	.23			4.8	
U	7359	60	"	9.30	6.04			2.5	
V	7360	61	SNXFR	21.48*				4.1*	
W	7361	62	SN	.36	.16			1.5	
X	7362	63	"	.94	.73			1.6	
Y	7363	64	"	.38	.29			1.8	
Z	7364	65	"	.76	.60			3.5	
AA	7365	66	"	22.20	11.79			4.5	
AB	7366	67	"	2.66	1.47			1.7	
AC	7367	68	"	.89	.68			3.2	
AD	7368	69	"	21.80	.77			3.2	
AE	7369	70	"	2.12	.38			2.8	
AF	7370	71	"	1.94*				5.7*	
AG	7371	72	"	2.34	2.06			4.7	
AH	7372	73	"	.22	.20			2.0	
AI	7373	74	"	.29	.25			3.7	
AJ	7374	75	"	1.06	.41			3.3	
AK	7375	76	"	.49	.29			3.3	
AL	7376	77	"	1.19	.58			3.5	
AM	7377	78	"	.53*				3.1*	
AN	7378	79	"	.27	.21			3.8	
AO	7379	80	"	.10	.10			4.4	
AP	7380	81	"	.84	.62			4.3	
AQ	7381	82	"	.15	.10			4.7	
AR	7382	83	"	42.30	.20			3.8	
AS	7383	84	"	21.40	.44			4.0	
AT	7384	85	"	.08	.07			4.8	
AU	7385	86	"	.20	.19			4.1	
AV	7386	87	"	.17	.16			5.1	
AW	7387	88	"	.20	.17			5.6	
AX	7388	89	"	.10	.10			3.2	
AY	7389	90	"	.16	.12			3.9	
AZ	7390	91	"	.62	.41			4.0	
BA	7391	92	"	.57	.37			4.7	
BB	7392	93	"	.57	.47			5.8	
BC	7393	94	SHYSN	2.50	2.34			6.3	
BD	7394	95	"	.67	.58			4.7	

ILLEGIBLE

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Reported saturation, acid solubility, salinity and sieve analysis data are obtained from portion of core horizontally sectioned within two inches vertically at position on which permeability and porosity tests are made.

BY

D. W. Reed

ANOLIND OIL AND GAS COMPANY RESEARCH DEPARTMENT CORE ANALYSIS DATA RECORD

LAB. NO. 3705

DATE 2-5-57

WELL Vicerilla Contract 146 No. 9

FIELD Otter Creek

STATE New Mexico

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY - MILLIDARIES		PERMEABILITY - MILLIDARIES	EFFECTIVE PERMEABILITY	WATER SATURATION	GAS SATURATION
			LARGE CORE - HORIZONTAL					
			MINIMUM	90° FROM MAX.	HORIZONTAL			
BE	7395	96	.17	.12			1.5	
BF	7396	97	.08	.08			1.2	
BG	7397	98	<.05	<.05			1.3	
BH	7398	99	.05	.05			1.7	
BI	7399	7400	.09	.08			1.6	
BJ	7400	01	.09	.09			1.6	
BK	7401	02	.07	.06			1.9	
BL	7402	03	.17	.14			1.1	
BM	7403	04	.22	.21			2.3	
SN Sand								
SH Shale								
I Iron								
FR Fracture								
GC								

ILLEGIBLE

ILLEGIBLE

CONGLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

LAB. NO. 3678
DATE 5-12-57

WELL Jicarilla Contract 148 No. 9

FIELD Cere Graneros

STATE New Mexico

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY, MILLIDARCY		PERMEABILITY, MILLIDARCY	EFFECTIVE POROSITY, %	SATURATION, % PORE SPACE	
			LARGE CORE HORIZONTAL				SMALLER CORE HORIZONTAL	VERTICAL
			MAXIMUM	AVERAGE	PERMEABILITY, MILLIDARCY			
AO	7259	60	SN	.33	.20		9.5	
AP	7260	61	SN	.19	.19		6.7	
AQ	7261	62	SN	.27	.25		9.9	
AR	7262	63	SN	.35	.25		8.5	
AS	7263	64	SN	.13	.11		6.4	
AT	7264	65	SN	.10	.09		6.9	
AU	7265	66	SN	.14	.13		7.5	
AV	7266	67	SN	.14	.13		3.2	
AW	7267	68	SN	.12	.09		1.6	
AX	7268	69	SN	.07	.07		2.5	
AY	7269	70	SN	.12	.11		5.4	
AZ	7270	71	SN	.22	.13		2.8	
BA	7271	72	SHY SN	.34	.17		2.9	
BB	7272	73	SHY SN	.14	.11		2.3	
BC	7273	74	SHY SN	.27	.20		1.9	
BD	7274	75	SHY SN	<.05	<.05		3.0	
BE	7275	76	SHY SN	.06	.05		2.7	
BF	7276	77	SHY SN	.11	.10		4.2	

SN SAND
SHY SHALY

ILLEGIBLE

W. H. Reed

STANOLIND OIL AND GAS COMPANY RESEARCH DEPARTMENT CORE ANALYSIS SUMMARY

WELL Jicarilla Contract 146, No. 9
FIELD Otero Graneros Rio Arriba, N. Mexico
LOCATION 1090 FSL / 1090 FWL SW1/4 Sec 10 T25N
FORMATION ANALYZED Otero Graneros /R-5-W

LAB. NO. 3708
DATE CURED 8-13, 14, 15, 1957
DATE ANALYZED 9-5-57
ELEV. 6945' RDB

CORING DATA

CORE INTERVAL 7354 - 7404
START CORING 4025
TOP OF SAND 7354
BOTTOM OF SAND 7404
STOPPED CORING 7404

TOTAL FEET CORED 50
TOTAL FEET OF FORMATION 50
RECOVERY, FEET OF FORMATION 50
RECOVERY % OF FORMATION 100

TYPE OF DRILLING FLUID ~~WATER BASED~~ WATER BASED Gas
FILTRATE LOSS (CC. PER 30 MIN. API)

SUMMARY OF CORE ANALYSIS

INTERVAL	NET FEET OF CORE	TYPE OF ANALYSIS	POROSITY			AVERAGE OIL SAT. %
			MAX.	MIN.	WTD. AVG.	
7354 7404	47	Large core only	6.3	1.1	3.3	-
7354 7404	50	Large core + plugs	6.3	1.1	3.4	-

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE

INTERVAL	NET FEET OF CORE	TYPE OF ANALYSIS	PERMEABILITY - MILLIDARCY'S *			CAPACITY FEET X M. D.
			MAX	MIN	WTD. AVG.	
7354 7404	47	Large core max.	121.40	<.05	5.75	270.25
7354 7404	47	L.C. 90° from max.	11.79	<.05	.93	43.71
7354 7404	50	L.C. max. + plugs	121.40	<.05	5.88	294.00

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN" ">" INDICATES "GREATER THAN"

Lewis Finch, Jr. Attn.: R. H. Smith
H. T. Morley (2)
E. V. Hewitt C. L. Kelley
W. J. Nolte L. O. Speer, Jr.

Letter of transmittal by L. O. Speer, Jr.,
8-16-57, file: B2297-341. Data indicated by
asterisks were obtained on small plugs due to
insufficient sample for large core analysis.

ILLEGIBLE

SHELL OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

WELL Jicarilla Contract 148 No. 9
FIELD Otero Graneros, Rio Arriba New Mexico
LOCATION 1145 FSL 1650' FWL Sec. 12-T2N-R6W
FORMATION ANALYZED Graneros

CAS NO. 3678
DATE CORED 2-12-57
DATE ANALYZED 3-12-57
FLUID 6843 RDB

RECEIVED	
MAR 21 1957	
FARMINGTON AREA	
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CORING DATA

CORE INTERVAL 7214 - 7277
START CORING 7182
TOP OF SAND --
BOTTOM OF SAND --
STOPPED CORING 7277

TOTAL FEET CORED 95
TOTAL FEET OF FORMATION --
RECOVERY FEET OF FORMATION --
RECOVERY PERCENT OF FORMATION --

TYPE OF DRILLING FLUID OIL OR WATER BASE MUD (Oil Emulsion (Water Base))
PERCENT LOSS OF FLUID TO MIN. API 4

SUMMARY OF CORE ANALYSIS

INTERVAL	NO. OF FEET OF CORE	TYPE OF ANALYSIS	PERMEABILITY			AVERAGE OIL SAT.
			MAX.	MIN.	WTG. AVG.	
7214 - 7277	49	Large Core Only	11.9	1.6	6.5	-
7214 - 7277	50	Large Core + Plugs	11.9	1.6	6.5	-

NOTE: COMPARATIVE PERMEABILITY DATA TO BE USED IN ESTIMATING OIL IN PLACE

INTERVAL	NO. OF FEET OF CORE	TYPE OF ANALYSIS	PERMEABILITY - MILLIDARREYS *			CAPACITY FEET X M. D.
			MAX.	MIN.	WTG. AVG.	
7214 - 7277	49	Large Core Max.	6.72	<.05	.62	30.38
7214 - 7277	49	L.C. 90° From Max.	1.06	<.05	.30	14.70
7214 - 7277	50	Large Core + Plugs	6.72	<.05	.76	44.08

*UNLESS NOTED OTHERWISE PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN" ">" INDICATES "GREATER THAN"

Lewis Pinch, Jr.
Attn.: R. H. Smith
E. T. Morley (2)
E. T. Hewitt
W. J. Nolte
C. L. Kelley
L. C. Speer, Jr.

Letter of Transmittal by L.C. Speer, Jr. 2-12-57,
File P-2033-341. Data indicated by asterisks
were obtained on small plugs due to insufficient
sample for large core analysis.

ILLEGIBLE

Lawrence

DATE **3-12-57**

New Mexico

ILLEGIBLE

Reported saturation, acid solubility, density and sieve analysis data are assumed to represent the core horizontally, adjacent to or within two inches vertically of partition on which permeability and porosity tests are made.

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.** Formation **DAKOTA** File **RP-3-1011**
 Well **MILLER GAS UNIT NO.1** Core Type **DIAMOND CONV.** Date Report **6/16/59**
 Field **WILDCAT** Drilling Fluid **WATER BASE MUD** Analysts **CLIFFORD**
 County **SAN JUAN** State **NEW MEXICO** Elev. **5516 KB** Location **SEC 20 30N 13W**

Lithological Abbreviations

SANDY SD SHALE SH LIME-LM DOLOMITE DOL CHERT CN GYPSUM GYP ANHYDRITE ANHY CONGLOMERATE CONG FOSN'LIFEROUS FOSN' SANDY SDY SHALY SHY LIMY LMY FINE-FN MEDIUM-MED COARSE-CSE CRYSTALLINE-XLN GRAIN-GRN GRANULAR-GRNL BROWN-BRN GRAY-GY VUGGY-VGY FRACTURED FRAC LAMINATION-LAM STYLOLITIC STYL SLIGHTLY-SL VERY-V/ WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY MAX	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
1	5968.2-70.2	0.1	2.8			
2	70.2-72.0	0.6	4.7			

SERVICE NO. 8-A PERMEABILITY & POROSITY ONLY

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JUN 17 1959		
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	FC	
3	FE	742
	SPE	742
1	AFC	
	DE	
	FMS	

ILLEGIBLE

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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JUN 18 1959
FARMINGTON
AREA

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FMS	
SEC 20	30N 13W

Page No. 1

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.**
Well **MILLER GAS UNIT NO.1**
Field **WILDCAT**
County **SAN JUAN**

Formation **DAKOTA**
Core Type **DIAMOND CONV.**
Drilling Fluid **WATER BASE MUD**
Elev **5516 KB**

File **RP-3-1011**
Date Report **6/17/59**
Analysts **CLIFFORD**

State **NEW MEXICO**

Location

Lithological Abbreviations

SAND - SD SHALE - SH LIME - LM	DOLOMITE - DO CHERT - CH GYPSUM - GYP	ANHYDRITE - ANHY CONGLOMERATE - CONG FOSSILIFEROUS - FOSS	SANDY - SDY SHALY - SHY LIMY - LMY	FINE - FN MEDIUM - MED COARSE - CSE	CRYSTALLINE - XLM GRAIN - GRN GRANULAR - GRNL	BROWN - BRN GRAY - GY VUGGY - VGY	FRACTURED - FRAC LAMINATION - LAM STY. OLITIC - STY	SLIGHTLY - SL/ VERY - V/ WITH - W/
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SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MAX		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
					OIL	TOTAL WATER	
3	5972.0-73.8	0.1	0.1	6.9			
4	73.8-75.5	0.1	0.0	7.0			
5	75.5-77.3	0.1	0.0	6.3			
6	77.3-78.9	0.1	0.1	6.1			
7	78.9-80.7	0.1	0.1	6.7			
8	80.7-82.4	0.0	0.0	7.4			
9	82.4-84.1	0.02*		7.8			VERTICAL FRACTURE
10	84.1-86.0	0.01*		8.4			VERTICAL FRACTURE
11	86.0-87.7	0.01*		7.2			VERTICAL FRACTURE
12	87.7-90.0	0.02*		7.0			VERTICAL FRACTURE
13	90.0-91.4	0.01*		9.8			VERTICAL FRACTURE
14	91.4-93.4	0.02*		8.4			
15	93.4-95.2	0.1	0.0	6.6			
16	95.2-97.2	0.1	0.0	6.7			
17	97.2-98.9	0.0	0.0	6.1			
18	5998.9-00.8	0.0	0.0	5.8			
19	6000.8-02.7	0.1	0.0	3.8			
20	02.7-04.5	0.1	0.0	3.8			
21	04.5-06.3	0.1	0.1	3.9			
22	06.3-08.3	0.1	0.0	4.9			
23	08.3-10.2	0.0	0.0	4.8			
24	10.2-12.0	0.1	0.0	5.2			
25	12.0-13.8	0.0	0.0	4.7			
26	13.8-15.6	0.0	0.0	4.5			
27	15.6-17.3	0.0	0.0	4.2			
28	17.3-19.5	0.01*		3.9			VERTICAL FRACTURE
29	19.5-21.3	0.03*		4.2			VERTICAL FRACTURE
30	21.3-23.2	0.1	0.0	4.2			
31	23.2-25.0	0.1	0.1	4.1			
32	25.0-26.8	0.1	0.1	4.0			
33	26.8-28.4	0.1	0.0	4.3			
34	28.4-30.0	0.02*		4.9			VERTICAL FRACTURE
35	30.0-31.0	0.04*		11.2			VERTICAL FRACTURE

* MATRIX PERMEABILITY

SERVICE NO. 8-A PERMEABILITY & POROSITY ONLY

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

JUN 22 1959

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Page No. 1

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.**
Well **MILLER GAS UNIT NO.1**
Field **WILDCAT**
County **SAN JUAN**

Formation **DAKOTA**
Core Type **DIAMOND CONV.**
Drilling Fluid **WATER BASE MUD**

State **NEW MEX.** Elev **5516 KB** Location **SEC 20 30N 13W**

FS
FC
FE
S.E.
AIC
PF
FMS

File **RP-3-1011**
Date Report **6/19/59**
Analysts **CLIFFORD**

Lithological Abbreviations

SAND SD
SHALE SH
LIME LM
DOLOMITE DOL
CHERT CH
GYPSUM GYP
ANKYRITE ANK
CONGLOMERATE CONG
FOSSILIFEROUS FOSS
SANDY SH
SHALY SHY
MUDY MUDY
FINE FN
MEDIUM MED
COARSE COE
CRYSTALLINE XLN
GRAIN GRN
GRANULAR GRNL
BROWN BRN
GRAY GY
LUGGY VGY
FRACTURED FRAC
LAMINATION LAM
STYLOLITIC STY
SLIGHTLY SL/
VERY V
WITH W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY		POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		MAX	90°		OIL	TOTAL WATER	
36	6031.0-33.2	0.03*		12.6			VERTICAL FRACTURE
37	33.2-34.8	0.1	<0.1	12.3			
38	34.8-36.4	0.1	<0.1	7.8			
39	36.4-38.4	<0.01*		5.9			
40	38.4-40.0	<0.1	<0.1	5.8			
41	40.0-41.8	<0.1	<0.1	4.8			
42	41.8-43.5	0.9	0.6	4.3			
43	43.5-45.3	<0.01*		4.7			
44	45.3-47.0	<0.01*		6.1			
45	47.0-48.8	0.1	<0.1	8.3			
46	48.8-50.9	<0.1	<0.1	8.1			
47	50.9-52.5	0.1	<0.1	9.5			
48	52.5-54.0	0.1	<0.1	9.1			
49	54.0-56.0	<0.1	<0.1	8.5			
50	56.0-57.8	0.1	<0.1	8.1			
51	57.8-59.5	0.5	0.3	7.3			
52	59.5-61.4	<0.1	<0.1	8.9			
53	61.4-63.0	0.1	<0.1	8.3			
54	63.0-65.0	0.1	<0.1	7.4			
55	65.0-66.7	<0.1	<0.1	4.8			
56	66.7-68.3	0.1	<0.1	4.3			
57	68.3-70.1	<0.1	<0.1	3.9			
58	70.1-71.9	<0.01*		4.6			VERTICAL FRACTURE
59	71.9-74.0	<0.1	<0.1	3.6			
60	74.0-75.5	<0.01*					VERTICAL FRACTURE

* MATRIX PERMEABILITY

SERVICE NO.8-A PERMEABILITY & POROSITY ONLY

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

RECEIVED
JUN 22 1959
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File RP-3-1011
Date Report 6/19/59
Analyst CLIFFORD

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UREN

Page No. 1

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.**
Well **MILLER GAS UNIT NO.1**
Field **WILDCAT**
County **SAN JUAN**

Formation **DAKOTA**
Core Type **DIAMOND CONV.**
Drilling Fluid **WATER BASE MUD**
Elev. **5516 KB** Location **SEC 20**

State **NEW MEX.**

Lithological Abbreviations

SAND S SHALE SH
LIME LM DOLOMITE DO
CHERT CH GYPSUM GYP
ANhydrite ANHY
ONdOMERATE OND
POSSILTEROUS POSS

SANDY SD
SHALY SHY
LIMY LMV

FINE FN
MEDIUM MED
COARSE CSE

CRYSTALLINE XLN
GRAIN GRN
GRANULAR GRNL

BROWN BRN
GRAY GY
VUGGY VGY

FRACTURED FRAC
LAMINATION LAM
STYLOITIC STY

SLIGHTLY SL/
VERY V
WITH W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MULTIPLY		POROSITY PERCENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		MAX	90°		OIL	TOTAL WATER	
61	6076.0-77.7	<0.01*		4.9			VERTICAL FRACTURE
62	77.7-79.4	<0.01*		4.3			VERTICAL FRACTURE
63	79.4-81.0	0.03*		5.2			VERTICAL FRACTURE
64	81.0-83.0	<0.01*		4.9			VERTICAL FRACTURE
65	83.0-84.4	<0.01*		5.2			VERTICAL FRACTURE
66	84.4-86.0	0.05*		7.0			VERTICAL FRACTURE
67	86.0-87.7	<0.01*		6.3			VERTICAL FRACTURE
68	87.7-89.8	<0.01*		6.4			VERTICAL FRACTURE
69	89.8-90.8	<0.01*		6.8			VERTICAL FRACTURE
70	90.8-92.0	0.04*		7.4			VERTICAL FRACTURE

* MATRIX PERMEABILITY

SERVICE NO.8-A PERMEABILITY & POROSITY ONLY

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

RECEIVED
 JUN 22 1959
 FAI N
 Page No. 1
 RP-3-1011
 Date Report 6/22/59
 FMS Analysts CLIFFORD

UREN

CORE ANALYSIS RESULTS

Company **PAN AMERICAN PETROLEUM CORP.** Formation **DANIEL**
 Well **MILLER GAS UNIT NO. 1** Core Type **DISCARDED CONV.**
 Field **WILDCAT** Drilling Fluid **WATER BASE MUD**
 County **SAN JUAN** State **NEW MEX.** Elev **5516 KB** Location **SEC 20 30N 13W**

Lithological Abbreviations

SAND-SD SHALE-SH LIME-LM DOLOMITE-DOL CHERT-CH GYPSUM-GYP ANHYDRITE-ANHY CONGLOMERATE-CONG FOSSILIFEROUS-FOSS SANDY-SOY SHALY-SHY LIMY-LMY FINE-FN MEDIUM-MED COARSE-CSE CRYSTALLINE-XLN GRAY-GRN GRANULAR-GRNL BROWN-BRN GRAY-GY VUGGY-VGY FRACTURED-FRAC LAMINATION-LAM STYLOLITIC-STY SLIGHTLY-BL/ VERY V/ WITH-W/

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY ML/D		POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
		MAX	90°S		OIL	TOTAL WATER	
71	6140.5-42.3	0.7	0.3	8.6			
72	42.3-44.1	0.7	0.2	9.0			
73	44.1-45.8	2.1	1.4	8.3			
74	45.8-47.7	0.8	0.5	7.5			
75	47.7-49.4	0.1	0.1	7.8			
76	49.4-51.2	0.6	0.3	9.1			
77	51.2-53.0	0.5	0.1	9.9			
78	53.0-54.7	0.2	0.2	9.7			
79	54.7-56.5	0.2	0.1	9.3			
80	56.5-58.3	0.5	0.3	10.5			
81	58.3-60.3	0.7	0.1	10.3			
82	60.3-62.1	0.9	0.3	8.6			
83	62.1-64.0	0.1	0.1	5.8			

SERVICE NO.8-A PERMEABILITY & POROSITY ONLY

ILLEGIBLE

S. ANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

ILLEGIBLE

WELL	Barfano Unit #4	LAB. NO.	2872
FIELD	Wildcat, San Juan County, New Mexico	DATE REPORTED	4-30-51
LOCATION	Sec. 24 T26N R10W	DATE RECEIVED	2-2-51
FORMATION ANALYZED	Dakota Sand - Unknown	ELEV	6636'

CORING DATA

	<u>Dakota Sand</u>	<u>Unknown</u>
ZONE	6705-6873	6914-6984
START CORING	6705	---
TOP OF SAND	6635	---
BOTTOM OF SAND	6873	---
STOPPED CORING	6873	6984
TOTAL FEET CORED	134*	56**
TOTAL FEET OF FORMATION	168	---
RECOVERY. FEET OF FORMATION	134	56
RECOVERY. % OF FORMATION	79.8	---

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FILE	

TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD) Gel Chemical (Water Base)
FILTRATE LOSS (CC. PER 30 MIN. API) 7 CC

*This depth does not include 34' drilling interval
**This depth does not include 14' drilling interval

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

	ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
			MAX.	MIN.	WTD. AVG.	
Large Core Only	6704-6873	78	15.5	2.2	8.6	-----
Large Core and Small plug	6704-6873	92	15.5	2.2	8.2	-----
Large Core Only	6914-6977	14	25.0	1.1	9.6	-----
Large Core and Small Plug	6914-6984	16	25.0	1.1	8.9	-----

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

	ZONE	FEET OF NET SAND	MILLIDARCS			CAPACITY FEET X M. D.
			MAX.	MIN.	WTD. AVG.	
Large Core Maximum	6704-6873	78	886.00	.11	20.81	1623.18
L.C. 90° From Max.	6704-6873	78	284.10	.01	5.54	432.12
L.C. Max. & Plug	6704-6873	92	886.00	.01	17.73	1630.16
Large Core Maximum	6914-6977	14	99.10	.27	20.65	289.10
L.C. 90° From Max.	6914-6977	14	63.60	.13	11.08	155.12
L.C. Max. & Plug	6914-6984	16	99.10	.27	18.09	289.44

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN"; ">" INDICATES "GREATER THAN";

Letter of transmittal by W. C. Wunnicke, Dated: 1-10-51, no file number
With graphical core analysis log. 1-19-51 no file number
1-26-51 no file number

Due to the core being unsuitable for large core analysis the data indicated by asterisks were obtained on small plug samples.
Vertical permeabilities determined for cores from interval 6914'-6984' at request of D. H. Reno of Research Laboratory.
Results of Resistivity Formation Factor Tests to follow this report as a supplement.

cc: W. M. Elias
Attn: Lewis Finch, Jr.
H T Mueller (2)

W. J. Nolte
M. M. Montgomery
R. L. Hendrickson

BY J. W. Spurlock

ILLEGIBLE

PAN AMERICAN PETR CORP
O. H. RAYMOND
SAN JUAN
SECTION 10
RP-3-870
11-30-58
ENGLISH
PERMEABILITY & POROSITY ONLY
WHOLE CORE ANALYSIS

Max. 90°

Dakota Formation

1	6250-51.8	0.3	0.1	9.6	(2)	Sandstone, Shaly.
2	6251.8-54	2.4	0.2	6.5	(2)	Sandstone, Shaly.
3	6254-55.8	0.2	0.2	9.7	(2)	Sandstone, Shaly.
4	6255.8-57.5	0.2	0.1	12.7	(2)	Sandstone, Shaly.
5	6257.5-59.5	0.1	0.1	10.5	(2)	Sandstone, Shaly.
6	6259.5-61.2	<0.1	<0.1	8.6	(2)	Sandstone, Shaly.
7	6261.2-63.1	<0.1	<0.1	9.3	(2)	Sandstone, Shaly.
8	6263.1-65	0.3	0.3	8.9	(2)	Sandstone, Shaly.
9	6263-66.8	0.1	<0.1	8.5	(2)	Sandstone, Shaly.
10	6266.8-68.8	<0.1	<0.1	7.6	(2)	Sandstone, Shaly.
11	6268.8-70.3	<0.1	<0.1	7.8	(2)	Sandstone, Shaly.
12	6270.3-72.1	0.03	*	8.5	(2)	Sandstone, Shaly.
13	6272.1-74	0.06	*	10.3	(2)	Sandstone, Shaly.
14	6274-76	0.08	*	11.7	(2)	Sandstone, Shaly.
15	6276-78	0.05	*	8.9	(2)	Sandstone, Shaly.
16	6278-80	0.1	<0.1	4.5	(2)	Sandstone, Shaly.
17	6292-94	0.14	*	4.0	(2)	Sandstone, Shaly.
18	6294-95	0.02	*	4.9	(2)	Sandstone, Shaly.
19a	6298.5-99	0.9	0.6	4.7	(2)	Sandstone.
19b	6303.0-04.8	0.4	0.3	9.4	(2)	Sandstone, Shaly.
20	6304.8-06.6	0.4	0.2	8.1	(2)	Sandstone, Shaly.
21	6306.6-07.6	<0.1	<0.1	3.3	(2)	Sandstone, Shaly, Vertical Fracture.
22	6307.6-09.0	0.3	0.1	6.1	(2)	Sandstone, Shaly, Vertical Fracture.
23	6311.0-13.1	0.04	*	4.4	(2)	Sandstone, Shaly.
24	6313.1-14.9	<0.1	<0.1	3.7	(2)	Sandstone, Shaly.
25	6314.9-17.0	0.1	<0.1	5.5	(2)	Sandstone, Shaly.
26	6317.0-19.0	1.5	0.0	4.5	(2)	Sandstone, Shaly.
27	6322.0-24.2	0.2	0.1	9.0	(2)	Sandstone, Shaly.
28	6324.2-25.6	0.1	0.1	5.7	(2)	Sandstone, Shaly.
29	6325.6-27.5	0.1	0.1	7.3	(2)	Sandstone, Shaly.

NOTE:
(*) REFER TO ATTACHED LETTER.
(1) INCOMPLETE CORE RECOVERY--INTERPRETATION RESERVED.
(2) OFF LOCATION ANALYSES--NO INTERPRETATION OF RESULTS.
These analyses, opinions or interpretations are based on other data and materials furnished by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees assume no responsibility or liability for any errors or misstatements as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

Company **PAN AMERICAN PETROLEUM CORP.** Formation **AS NOTED** Page **2** of **2**
 Well **O. H. BANDEL "B" NO. 1** Cores **DIA. CONV.** File **RP-3-870**
 Field **UNDESIGNATED DAKOTA** Drilling Fluid **WATER BASE MUD** Date Report **11-30-58**
 County **SAN JUAN** State **NEW MEXICO** Elevation **6343 KB** Analysts **CLIFFORD**
 Location **SECTION 10 26N 11W** Remarks **SERVICE NO. 8 - PERMEABILITY & POROSITY ONLY**

CORE ANALYSIS RESULTS
(Figures in parentheses refer to footnote remarks)

WHOLE CORE ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs		POROSITY PERCENT	FLUIDS		REMARKS
		HORIZONTAL	VERTICAL		WATER	HYDROCARBON	
		Max. 90°					
30	6327.5-29.0	0.1	0.0	7.8			(2) Sandstone, Shaly.
31	6329.0-30.8	0.02	*	4.7			(2) Sandstone, Shaly.
32	6330.8-32.0	0.0	0.0	5.7			(2) Sandstone, Shaly.
33	6336.0-37.5	0.0	*	4.4			(2) Sandstone, Shaly.
34	6347-49	0.2	<0.1	5.0			(2) Sandstone, Shaly.
35	6349-51	8.7	0.3	4.8			(2) Sandstone, Shaly.
36	6353-55	0.1	<0.1	8.6			(2) Sandstone, Shaly.
37	6355-57	0.1	<0.1	12.2			(2) Sandstone, Shaly.
38	6367.5-69	0.3	0.1	6.7			(2) Sandstone, Shaly.
39	6369-70.5	0.3	0.2	15.4			(2) Sandstone.
40	6370.5-72	1.1	0.9	12.3			(2) Sandstone.
41	6401.0-03.0	1.6	1.5	12.8			(2) Conglomerate.
42	6403.0-05.0	0.8	0.6	11.8			(2) Conglomerate.
43	6405.0-06.5	4.9	4.2	10.7			(2) Conglomerate.
44	6406.5-08.0	0.2	0.2	9.3			(2) Conglomerate.
45	6408.0-09.6	5.6	4.7	11.2			(2) Conglomerate.
46	6409.6-11.0	0.1	0.0	10.3			(2) Conglomerate.
47	6411.0-13.0	0.1	0.1	12.1			(2) Conglomerate.
48	6413.0-15.0	2.1	1.6	11.3			(2) Sandstone, Fine-grain.
49	6415.0-17.0	1.5	1.0	10.8			(2) Sandstone, Fine-grain.
50	6417.0-19.0	3.4	1.1	12.2			(2) Sandstone, Fine-grain.
51	6419.0-21.0	2.2	1.4	11.0			(2) Sandstone, Fine-grain.
52	6421.0-22.5	2.3	1.5	14.3			(2) Sandstone, Fine-grain.
53	6422.5-24.5	2.6	1.9	17.8			(2) Sandstone, Fine-grain.
54	6424.5-27.0	2.4	1.3	16.1			(2) Sandstone, Fine-grain.

6427 - Top of Morrison Formation.

6394-6401 - Drilled.

* Matrix Permeability.

NOTE:

(*) REFER TO ATTACHED LETTER.

(†) INCOMPLETE CORE RECOVERY--INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES--NO INTERPRETATION OF RESULTS.

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1	653	0.23	5.3	(2) Sandstone, Shaly.
2	6255	0.01	1.4	(2) Sandstone, Shaly.
3	6256	0.16	9.1	(2) Sandstone, Shaly.
4	6279	0.02	0.6	(2) Sandstone, Shaly.

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CORE LABORATORIES, INC.

Petroleum Research Engineering

DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company: PAN AMERICAN PETROLEUM CORP. (72) DAKOTA
 Well: O. H. RANDEL "B" NO. 1 DIA. CONV.
 Field: UNDESIGNATED DAKOTA WATER BASE MUD
 County: SAN JUAN N. MEXICO 6343 KB SECTION 10 26N 11W
 RP-3-870
 11-24-58
 ENGLISH

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERCENT SAND	PERCENT SILT	PERCENT CLAY	REMARKS
1	6253	0.23	5.3	(2)	Sandstone, Shaly.
2	6255	<0.01	1.4	(2)	Sandstone, Shaly.
3	6256	0.16	9.1	(2)	Sandstone, Shaly.
4	6279	0.02	0.6	(2)	Sandstone, Shaly.

(2) Service No. 8 Conventional Analysis - No Interpretation of Results.
 Permeability and Porosity Only.

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CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page No. 2**CORE ANALYSIS RESULTS**

Company PAN AMERICAN PETROLEUM CORP. Formation DAKOTA File RP-3-1668
 Well ABRAMS GAS UNIT "E" Core Type DIAMOND CONV. Date Report 9/1/62
 Field BASIN DAKOTA Drilling Fluid OIL EMULSION MUD Analysts DEPPE
 County SAN JUAN State NEW MEX. Elev. 5535 KB Location SEC 30 T29N R10W

Lithological Abbreviations

SAND - SD SHALE - SH LIME - LM	DOLOMITE - DOL CHERT - CM GYPSUM - GYP	ANHYDRITE - ANHY CONGLOMERATE - CONG FOSSILIFEROUS - FOSS	SANDY - SDY SHALY - SHY LIMY - LMY	FINE - FNE MEDIUM - MED COARSE - COE	CRYSTALLINE - XLN GRAIN - GRN GRANULAR - GRNL	BROWN - BRN GRAY - GY VUGGY - VGY	FRACTURED - FRAC LAMINATION - LAM STYLOLITIC - STY	SLIGHTLY - SL/ VERY - V/ WITH - W/
--------------------------------------	--	---	--	--	---	---	--	--

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
36	6211-12	<0.01	2.1			SHALE, SANDY
37	6212-13	<0.01	3.2			SHALE, SANDY
38	6240-41	0.03	5.0			SHALE, SANDY
39	6241-42	<0.01	4.4			SANDSTONE
40	6242-43	0.19	5.3			SANDSTONE
41	6243-44	0.03	6.5			SANDSTONE
42	6244-45	0.03	6.7			SANDSTONE
43	6245-46	0.03	3.8			SANDSTONE
44	6246-47	0.04	3.9			SANDSTONE,
45	6247-48	0.05	4.0			SANDSTONE
46	6248-49	<0.01	3.6			SANDSTONE
47	6249-50	0.01	4.6			SANDSTONE
48	6250-51	0.08	8.8			SANDSTONE
49	6251-52	0.38	9.7			SANDSTONE
50	6252-53	0.13	8.9			SANDSTONE

Service No. 8 No interpretation of results.

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page No. 1

CORE ANALYSIS RESULTS

Company PAN AMERICAN PETROLEUM CORP.	Formation DAKOTA	File RP-3-1668
Well ABRAMS GAS UNIT "E"	Core Type DIAMOND CONV.	Date Report 8-30-62
Field ASIN DAKOTA	Drilling Fluid OIL EMULSION MUD	Analysts DEPPE
County SAN JUAN State NEW MEX	Elev. 5535 KB Location SEC 30 T29N R10W	

Lithological Abbreviations

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYs	POROSITY PER CENT	RESIDUAL SATURATION PER CENT PORE		SAMPLE DESCRIPTION AND REMARKS
				OIL	TOTAL WATER	
1	6176-77	0.01	2.0			SANDSTONE VERTICAL FRACTURE
2	6177-78	0.01	2.6			SANDSTONE VERTICAL FRACTURE
3	6178-79	0.13	14.5			SANDSTONE VERTICAL FRACTURE
4	6179-80	0.16	14.4			SANDSTONE VERTICAL FRACTURE
5	6180-81	0.03	7.2			SANDSTONE VERTICAL FRACTURE
6	6181-82	0.05	7.6			SANDSTONE VERTICAL FRACTURE
7	6182-83	0.02	5.2			SANDSTONE VERTICAL FRACTURE
8	6183-84	<0.01	4.2			SANDSTONE VERTICAL FRACTURE
9	6184-85	<0.01	1.9			SANDSTONE VERTICAL FRACTURE
10	6185-86	<0.01	3.4			SANDSTONE VERTICAL FRACTURE
11	6186-87	0.01	3.6			SANDSTONE, SHALEY VERTICAL FRACTURE
12	6187-88	0.02	3.3			SANDSTONE, SHALEY VERTICAL FRACTURE
13	6188-89	<0.01	3.8			SANDSTONE, SHALEY VERTICAL FRACTURE
14	6189-90	<0.01	3.7			SANDSTONE, SHALEY VERTICAL FRACTURE
15	6190-91	0.03	2.7			SANDSTONE, SHALEY VERTICAL FRACTURE
16	6191-92	0.02	3.7			SANDSTONE, SHALEY VERTICAL FRACTURE
17	6192-93	<0.01	4.2			SANDSTONE, SHALEY VERTICAL FRACTURE
18	6193-94	<0.01	4.0			SANDSTONE, SHALEY VERTICAL FRACTURE
19	6194-95	0.01	4.2			SANDSTONE, SHALEY VERTICAL FRACTURE
20	6195-96	<0.01	3.5			SANDSTONE, SHALEY VERTICAL FRACTURE
21	6196-97	<0.01	2.8			SANDSTONE, SHALEY VERTICAL FRACTURE
22	6197-98	<0.01	3.0			SANDSTONE, SHALEY VERTICAL FRACTURE
23	6198-99	0.01	3.4			SANDSTONE, SHALEY VERTICAL FRACTURE
24	6199-6200	<0.01	3.1			SANDSTONE, SHALEY VERTICAL FRACTURE
25	6200-01	<0.01	2.8			SANDSTONE, SHALEY
26	6201-02	<0.01	2.7			SANDSTONE, SHALEY
27	6202-03	<0.01	2.6			SANDSTONE, SHALEY
28	6203-04	<0.01	2.6			SANDSTONE, SHALEY
29	6204-05	<0.01	2.8			SANDSTONE, SHALEY VERTICAL FRACTURE
30	6205-06	<0.01	3.1			SANDSTONE, SHALEY VERTICAL FRACTURE
31	6206-07	<0.01	3.7			SANDSTONE, SHALEY VERTICAL FRACTURE
32	6207-08	0.01	4.0			SANDSTONE, SHALEY VERTICAL FRACTURE
33	6208-09	0.02	3.4			SANDSTONE, SHALEY VERTICAL FRACTURE
34	6209-10	<0.01	3.0			SANDSTONE, SHALEY VERTICAL FRACTURE
35	6210-11	<0.01	2.6			SANDSTONE, SHALEY VERTICAL FRACTURE

Service No. 8 No interpretation of results.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity or other operations.

Ohio Oil Co.

Ohio Gov't No. 26 E, P-26 28, 11

SAN JUAN BASIN
DAKOTA GAS RESERVOIR
PRODUCING WELLS

Tract De- scription & Designation	Acreage	*Initial Reservoir Pressure	Average Total	* Net Gas Sat.	Average Perme- ability	** Initial Absolute Open Flow Potential	Deliverability Initial Recent	Gross Gas Pay	Net Gas Pay	*** Gas Reserves At 6/1/62
(Acres)	(PSIG)	(%)	(%)	(Md.)	(MCFD)	(MCFD)	(MCFD)	(Ft.)	(Ft.)	(MCF)

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- * State source of data, measured or estimated.
- ** Standard New Mexico one-point method
- *** Utilize following assumptions:
Base pressure = 14.4 PSIA
Abandonment pressure = 270 PSIA
Reservoir temperature - 180° F.



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY AZTEC OIL & GAS COMPANY

WELL RICHARDSON # 6

FIELD UNNAMED

COUNTY SAN JUAN

LOCATION SEC22 T31N R12W

DATE ON 5/4/60

DATE OFF 5/12/60

FORMATION AS NOTED

DRLG FLD. WATER BASE MUD

REMARKS SAMPLED BY CLIENT

FILE NO. RP-3-1175

ENGRS. ENGLISH

ELEV. 6157' Gr.

CORES DIAMOND

SAND

LIMESTONE

CONGLOMERATE

CHERT

SHALE

DOLOMITE

VERTICAL
FRACTURE

COAL

These analyses, numbers and interpretations are based on observations and material supplied to the firm by whom and for whose exclusive use this report is made. The interpretations and opinions expressed represent the best judgment of Core Laboratories, Inc. and its officers and employees. Core Laboratories, Inc. and its officers and employees assume no responsibility for errors or omissions or for the production of gas, oil or other mineral well or sand in connection with which this report is used or relied upon.

COMPLETION COREGRAPH

PERMEABILITY $\circ-\circ$
MILLIDARIES

TOTAL WATER $\circ-\circ$
PERCENT PORE SPACE

5 4 3 2 1 0

80 60 40 20

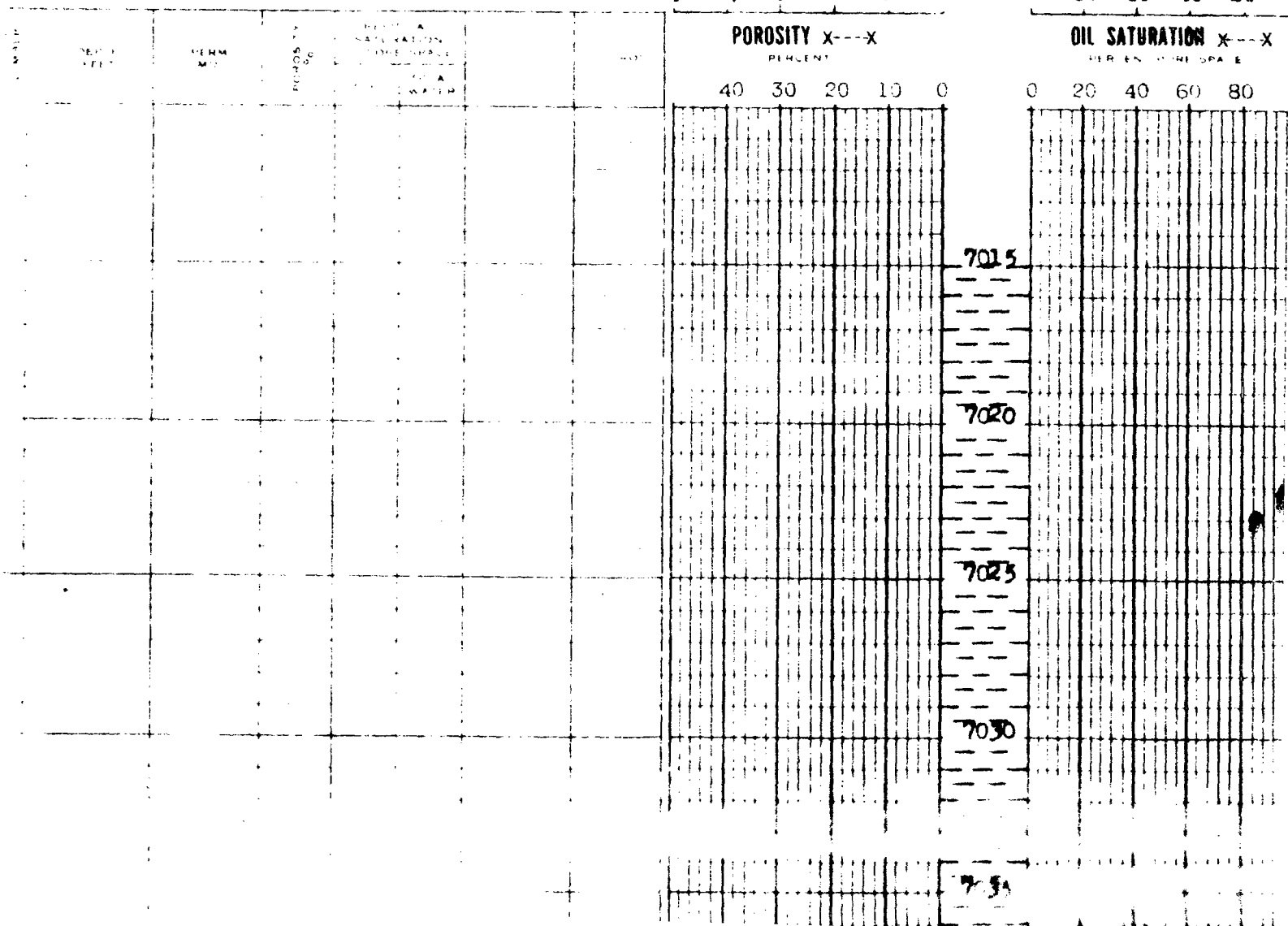
POROSITY $x---x$
PERCENT

OIL SATURATION $x---x$
PERCENT PORE SPACE

40 30 20 10 0

0 20 40 60 80

TABULAR DATA and INTERPRETATION



ILLEGIBLE

STAROLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

WELL Angel Peak Unit #1 LAB. NO. 2035
FIELD Wildcat, San Juan County, New Mexico DATE REPORTED 10-11-51
LOCATION 990' From N & E Ls. of Sec. 15 T27N R10W DATE RECEIVED 10-23-51
FORMATION ANALYZED Dakota - Morrison ELEV. 6322'

CORING DATA.

ZONE	6658-6829	6829-6877
START CORING	6658	6829
TOP OF SAND	6558	6829
BOTTOM OF SAND	6829	---
STOPPED CORING	6829	6877
TOTAL FEET CORED	171	34*
TOTAL FEET OF FORMATION	271	---
RECOVERY, FEET OF FORMATION	107	19
RECOVERY, % OF FORMATION	39.5	---

TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD) Water Base
FILTRATE LOSS (CC. PER 30 MIN. API) 3.0

*Does not include drilling interval of 14'

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

	ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
			MAX.	MIN.	WTD. AVG.	
Large Core Only	6658-6829	85	15.0	<.5	7.4	---
C. & Plugs	6658-6829	95	15.0	<.5	7.0	---
Large Core Only	6829-6877	12	21.0	1.0	7.8	---
C. & Plugs	6829-6877	19	21.0	1.0	9.1	---

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

	ZONE	FEET OF NET SAND	MILLIDARCYs			CAPACITY FEET X M. D.
			MAX.	MIN.	WTD. AVG.	
Large Core Maximum	6658-6829	85	>20,000.00	.09	247.00	20,995.00
C. 90° From Max.	6658-6829	85	87.00	.06	3.91	332.35
C. Max. & Plug	6658-6829	95	>20,000.00	<.05	221.27	21,020.65
Large Core Maximum	6829-6877	12	241.90	.33	27.79	339.48
C. 90° From Max.	6829-6877	12	241.20	.28	25.37	304.44
C. Max & Plug	6829-6877	19	2,100.00	<.05	279.87	5,317.53

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN"; ">" INDICATES "GREATER THAN"

Letter of transmittal by L. O. Speer, dated: 10-15-51, File: LOS-456-251.1 thru
LOS-460-251.1 and LOS-465-251.1

Data indicated by asterisks were obtained on small plugs due to samples being
unsuitable for large core analysis.

Results of permeation factor tests to follow as supplementary report.
With graph to large core analysis log.

W. M. Elias
Attn: Lewis R. ...
W. C. Morley

W. J. Lolte
S. A. Montg...
W. C. Speer, Jr.

C. F. Bedford

10-23-51

STANOLIND OIL AND GAS COMPANY

341.999

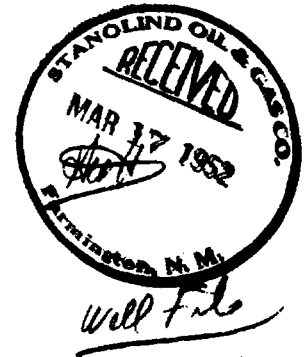
Large Core

RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

well file #1
 WELL Angel Peak Unit #1 LAB. NO. 3035
 FIELD Wildcat, San Juan County, New Mexico DATE REPORTED 2-22-52
 LOCATION 990' fr. N & E Lines of Sec. 15 T27N. R10W DATE RECEIVED 1-18-52
 FORMATION ANALYZED Morrison Entrada ELEV. 5116 4322'

CORING DATA

ZONE	6990-7510	7798-7843
START CORING	6990	7758
TOP OF SAND	6829	7745
BOTTOM OF SAND	7745	7920
STOPPED CORING	7510	7843
TOTAL FEET CORED	130*	17
TOTAL FEET OF FORMATION	901**	175
RECOVERY, FEET OF FORMATION	130	11
RECOVERY, % OF FORMATION	14.4%	6.3%



TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD)

FILTRATE LOSS (CC. PER 30 MIN. API)

*Note: This depth does not include 625' drilling interval

**Note: This depth does not include 15' Shale

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

	ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
			MAX.	MIN.	WTD. AVG.	
Large Core Only	6990-7510	85-1/2	17.1	1.0	7.5	----
C. and Plugs	6990-7510	126	17.1	<.5	7.8	----
Large Core Only	7798-7843	6	21.6	15.9	18.0	----
C. and Plugs	7798-7843	11	21.6	1.1	15.2	----

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

	ZONE	FEET OF NET SAND	MILLIDARCYS			CAPACITY FEET X M. D.
			MAX.	MIN.	WTD. AVG.	
Large Core Maximum	6990-7510	85-1/2	96.90	.20	10.43	391.77
C. 90° From Max.	6990-7510	85-1/2	86.65	.17	8.00	684.00
C. Max. & Plugs	6990-7510	126	492.00	<.05	20.80	2,620.80
Large Core Maximum	7798-7843	6	64.00	1.12	28.67	172.02
C. 90° From Max.	7798-7843	6	64.00	1.06	28.03	168.18
C. Max. & Plugs	7798-7843	11	136.90	1.06	33.40	367.40

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

" < " INDICATES "LESS THAN"; " > " INDICATES "GREATER THAN";

Letter of transmittal by L. O. Speer, Jr., date: 1-14-52, File: 108-54-251.1
With graphical core analysis log.

Formation Factor Tests Attached

Data indicated by asterisks were obtained on small plugs due to samples being unsuitable for large core analysis.

Please attach to Core Report dated: 10-24-51.

: Lewis Finch, Jr.
 Attn: R. H. Smith
 H. T. Morley (2)
 C. F. Bedford

W. J. Nolte
 M. M. Montgomery
 L. O. Speer, Jr.

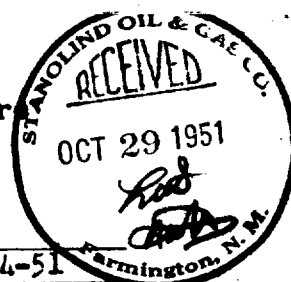
ILLEGIBLE

D. W. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS SUMMARY

Y 341.999

Large Core



Martin Gas Unit No. 1

WELL Angel Peak Unit #1 LAB. NO. 3035
FIELD Wildcat, San Juan County, New Mexico DATE REPORTED 10-24-51
LOCATION 990' From N & E Ls. of Sec. 15-T27N R10W DATE RECEIVED 10-15-51
FORMATION ANALYZED Dakota Sand ELEV. 6319'

CORING DATA

ZONE 6565-6658
START CORING 6565
TOP OF SAND 6560
BOTTOM OF SAND ----
STOPPED CORING 6658

TOTAL FEET CORED 93
TOTAL FEET OF FORMATION ----
RECOVERY, FEET OF FORMATION 93
RECOVERY, % OF FORMATION ----

TYPE OF DRILLING FLUID (OIL OR WATER BASE MUD) Water base
FILTRATE LOSS (CC. PER 30 MIN. API) 3.8

SUMMARY OF CORE ANALYSIS

OIL CONTENT (BY EXTRACTION)

	ZONE	FEET OF NET SAND	POROSITY			AVERAGE OIL SAT. %
			MAX.	MIN.	WTD. AVG.	
Large Core Only	6565-6658	57	10.7	<.5	3.7	----
Large Core and Small Plug	6565-6658	93	11.3	<.5	3.7	----

*FOR COMPARATIVE PURPOSES ONLY. NOT TO BE USED IN ESTIMATING OIL IN PLACE.

PERMEABILITY*

	ZONE	FEET OF NET SAND	MILLIDARCYS			CAPACITY FEET X M. D.
			MAX.	MIN.	WTD. AVG.	
Large Core Maximum	6565-6658	57	4.42	.09	.59	33.63
Large Core 90° From Maximum	6565-6658	57	1.73	.03	.27	15.39
Large Core Maximum and Small Plug	6565-6658	93	4.82	<.05	.51	47.43

*UNLESS NOTED OTHERWISE, PERMEABILITIES ARE PARALLEL TO BEDDING PLANES

"<" INDICATES "LESS THAN" ">" INDICATES "GREATER THAN"

Letter of transmittal by L. C. Speer, dated: 10-10-51, File: LOS-429-251.1

Data indicated by asterisks were obtained on small plugs due to samples being unsuitable for large core analysis.

Results of formation factor tests to follow as supplementary report.

With graphical core analysis log.

cc. W. K. Elias
Attn: Lewis Finch, Jr.
H. T. Morley (2)
C. F. Bedford

W. J. Nolte
M. M. Montgomery
L. C. Speer

ILLEGIBLE

BY D. W. Reed

TANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Peak Unit #1 FIELD Wildcat STATE New Mexico DATE 2-13-52 LAB. NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY, mD		SOLUBLE IN 15% NCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			Horizontal	Vertical			
LN	7801-02	Sand	3.80	1.17	17.2		
LO	7802-03	"	1.12	1.06	17.9		
LP	7803-04	"	1.40*		18*		
LQ	7838-39	"	39.15	39.15	17.4		
LR	7839-40	"	64.00	64.00	17.2		
LS	7840-41	"	39.10*		17.2*		
LT	7841-42	"	9.48	9.27	15.9		
LU	7842-43	"	10.19*		12.3*		

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The reported saturation, mininity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Saturation Test.

by H. V. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Peak Unit #1 FIELD Wilcogat STATE New Mexico DATE 8-13-52 LAB. NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY		MINI-MAX RANGE	ACTIVE GRAVITY %	SATURATION %			% SOLUBLE IN 15% HCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			VERTICAL	HORIZONTAL			OIL	WATER	TOTAL			
Jv	7438-39	Sand	Maximum	Maximum	90% from	8.9*						
Ja	7439-40	"	1.66*			5.5						
JY	7440-41	"	.59	.40		5.5						
Jz	7441-42	"	1.11*	.55	.28	7.4						
Ka	7442-43	"	.40			7.0*						
Kb	7443-44	"	1.04*	.68		5.5						
Kc	7444-45	"	.90	4.31		6.6						
Kd	7445-46	"	5.46			6.6*						
Ke	7446-47	"	.62*			11.3*						
Kf	7447-48	"	1.23*			9.8*						
Kg	7448-49	"	.81*			7.4						
Kh	7449-50	"	1.61	1.45		6.6						
Ki	7450-51	"	.62	.45		6.9						
Kj	7451-52	"	1.67	1.27		4.0						
Kk	7452-53	"	.93	.71		4.7						
Kl	7453-54	"	.28	.22		3.5						
Km	7454-55	"	.43	.21		5.1						
Kn	7455-56	"	.39	.53		4.8						
Ko	7456-57	"	.91	.76		5.9						
Kp	7457-58	"	.69	.51		4.2						
Kq	7458-59	"	1.13	.53		6.4*						
Kr	7459-60	"	.21	.62		3.3						
Ks	7460-61	"	.71	.46		7.4*						
Kt	7461-62	"	.47			9.3						
Ku	7462-63	"	1.47*			9.3						
Kv	7463-64	"	.76	.69		8.4						
Kw	7464-65	"	4.14	.30		4.6						
Kx	7465-66	"	1.39	1.00		8.1*						
Ky	7466-67	"	1.42*			7.9*						
Kz	7467-68	"	1.50*	1.29		4.1						
La	7500-01	"	1.52			10.1*						
Lb	7501-02	"	3.62*			11.2*						
Lc	7502-03	"	11.11*			11.3*						
Ld	7503-04	"	6.81*			11.9						
Le	7504-05	"	5.64	3.51		11.1						
Lf	7505-06	"	7.98	6.41		7.1						
Lg	7506-07	"	32.90	31.90		16.6*						
Lh	7507-08	"	97.45*			17.6*						
Li	7508-09	"	50.00*			14.6						
Lj	7509-10	"	12.40	11.61		15.8						
Lk	7798-99	Sand	64.70	62.20		1.6						
Ll	7799-7800	"	54.45	53.55		13.6*						
Lm	7800-01	"	236.90*			1.1*						
			7.90*									

ILLEGIBLE

The reported saturation, salinity and flow analysis data are obtained from portion of core horizontally adjacent to or within two inches vertical portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Saturation Test.

E. W. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Peak Unit 1 FIELD Willcat STATE New Mexico DATE 2-13-52 LAB. NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY, DARCYS		EFFECTIVE POROSITY %	SATURATION %		GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			Maximum	From		OIL	WATER		
Ic	7189-90	Silicious Quartz Sand w/shale	1.31	.51	6.8				
If	7190-91	"	.31	.24	5.4				
Ig	7191-92	"	.71	.69	6.4				
Ih	7192-93	"	.85	.75	5.1				
Ii	7193-94	"	.57	.27	3.7				
Ij	7194-95	"	<.05*		6.8*				
Ik	7195-96	"	61.50	.37	5.2				
Il	7196-97	"	1.45	.85	5.4				
Im	7197-98	"	1.02	.71	3.2				
In	7198-99	"	.48	.33	5.6				
Io	7199-7200	"	.80	.38	4.2				
Ip	7200-01	"	.61	.60	8.3				
Iq	7201-02	"	.37	.36	3.5				
Ir	7202-03	"	.58	.48	6.0				
Is	7203-04	"	.47	.38	6.1				
It	7204-05	"	.46	.42	6.4				
Iu	7205-06	"	.39	.35	7.1				
Iv	7206-07	"	.34	.20	4.9				
Iw	7207-08	"	.22	.21	3.8				
Ix	7208-09	"	1.48	.74	4.9				
Iy	7209-10	"	.83	.71	6.2				
Iz	7210-11	"	.69	.41	5.5				
Ja	7211-12	"	.49	.44	5.9				
Jb	7212-13	"	2.51	1.70	9.2				
Jc	7213-14	"	1.67	1.16	10.6				
Jd	7214-15	"	.98	.69	7.5				
Je	7215-16	"	2.32	1.41	6.5				
Jf	7216-17	"	1.24	1.22	5.2				
Jg	7217-18	"	.92	.67	6.0				
Jh	7218-19	"	.53	.38	5.1				
Ji	7219-20	"	6.82	6.25	3.3				
Jj	7220-21	"	.66	.48	6.3				
Jk	7221-22	"	2.06	.33	4.2				
Jl	7222-23	"	1.81	1.52	3.3				
Jm	7223-24	"	2.54	2.22	3.8				
Jn	7224-25	"	1.63	.98	6.6				
Jo	7225-26	"	.63	.43	4.9				
Jp	7226-27	"	<.05*		2.0*				
Jq	7227-28	"	1.78*		4.0*				
Jr	7228-29	"	.49	.32	1.0				
Js	7229-30	"	.62*		1.8*				
Jt	7230-31	"	.20*		7.4*				
Ju	7436-37	Sand	11.10	9.68	13.1				
Jv	7437-38	"	2.46*		12.4*				

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Saturation Test.

J. W. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL - Angel Peak Unit #1 FIELD - Wildcat STATE - New Mexico DATE - 2-13-52 LAB. NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY - MILLIDARCS		EFFECTIVE POROSITY %	SATURATION %		% SOLUBLE IN 15% MCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			MAX	MIN		OIL	WATER			
GM	6990-91	Sand	Maximum	From Maximum	7.3*					
GN	6991-92		.62*		15.1*					
GO	6992-93		492.00*		16.1*					
GP	6993-94		388.00*		16.2*					
GQ	6994-95		163.10*		15.6					
GR	6995-96		76.90	59.40	13.5*					
GS	6996-97		65.20*		12.8					
GT	6997-98		31.85	25.55	15.0					
			92.30	85.90						
			<.05*		<.5*					
GU	6998-99	"	17.32	15.83	13.5					
GV	6999-7000		5.99*		10.2*					
GW	7000-01		32.80	19.39	12.8					
GX	7001-02		24.30	11.06	12.7					
GY	7002-03		43.95	42.45	12.8					
GZ	7003-04		96.90	86.65	14.6					
HA	7004-05		49.05	16.20	14.6					
HB	7005-06		44.40	36.40	14.4					
HC	7006-07		206.00*		13.2*					
HD	7007-08		146.90*		14.9*					
HE	7008-09	"	62.60	59.20	15.2					
HF	7009-10		18.26	16.07	11.5					
HG	7010-11		4.60*		14.1*					
HH	7011-12		8.98	7.91	13.1					
HI	7012-13		12.17	12.17	13.8					
HJ	7013-14									
HK	7014-15		39.00*		15.1*					
HL	7015-16		13.63	13.45	12.8					
HM	7016-17		.31*		7.6*					
HN	7017-18		3.69*		9.9*					
HO	7018-19	"	<.05*		9.2*					
HP	7019-20		<.05*		1.9*					
HQ	7020-21		<.05*		2.0*					
HR	7021-22		<.05*		1.1*					
HS	7179-80	Sand w/shale	.24	.23	3.1					
HT	7180-80-1/2		<.05*		3.1*					
HU	7180-1/2-81		2.10	1.52	2.4					
HV	7181-82		.52	.26	1.6					
HW	7182-82-1/2		21.95*		3.2*					
HX	7182-1/2-83		31.20*		3.1*					
HY	7183-84		<.05*		1.5*					
HZ	7184-85		<.05*		1.1*					
IA	7185-86	Silicious Quartz Sand w/shale	.31	.26	3.8					
IB	7186-87		.20	.17	4.8					
IC	7187-88		1.33	1.13	8.7					
ID	7188-89		.81	.52	10.3					

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portions of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Interpretation Test.

BY J. L. Reed

STANJLIND OIL AND GAS COMPANY

RESEARCH DEPARTMENT

CORE ANALYSIS DATA RECORD

FORM 683 1-49

WELL Angel Peak Unit #1 FIELD Wildcat STATE New Mexico DATE 10-31-51 LAB. NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY - MILLIDARIES		EFFECTIVE POROSITY %	SATURATION %		TOTAL	% SOLUBLE IN 15% HCL	GRAVITY OF OIL CAP @ 60° F	MINIMUM WATER SATURATION %
			Maximum	From 90°		OIL	WATER				
FT	6858-59	Sand	2.88	2.02	5.7						
FU	6859-60	"	2.48	.93	1.1						
FV	6860-61	"	<.05*		2.2*						
FW	6861-62	"	<.05*		3.5*						
FX	6862-63	"	15.55	1.49	1.8						
FY	6863-64	"	.61	.44	3.6						
FZ	6864-65	"	1.82	.90	5.2						
GA	6865-66	"	3.47	1.19	5.6						
GB	6866-67	"	.33	.28	5.7						
GC	6867-68	"	3.54	.43	7.4						
GD	6868-69	"	2.20	1.51	1.0						
GE	6869-70	"	6.37	2.27	10.9						
GF	6870-71	"	502.00*		15.8*						
GG	6871-72	"	281.90	211.90	21.0						
GH	6872-73	"	12.29	11.05	16.1						
GI	6873-74	"	1910.00*		13.7*						
GJ	6874-75	"	1100.00*		21.7*						
GK	6875-76	"	434.00*		3.0*						
GL	6876-77	"	35.00*		11.5*						

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Saturation Test.

BY SA. N. Reed

STA. OLIND OIL AND GAS COMPANY

RESEARCH DEPARTMENT

CORE ANALYSIS DATA RECORD

WELL Angel Peak Unit #1 FIELD Wildcat STATE New Mexico DATE 10-31-51 LAB NO. 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARIES		EFFECTIVE POROSITY %	SATURATION %		GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			VERTICAL	HORIZONTAL		OIL	WATER		
			Maximum	Minimum					
EE	6720-21	sand v/shale	3.30	2.94	7.5				
EF	6721-22	"	5.27	1.17	7.9				
EG	6722-24	"	1.09	.50	8.9				
EH	6724-25	"	4.75	.59	11.0				
GI	6725-26	"	3.15	2.36	6.7				
GJ	6726-28	"	3.12	2.25	5.5				
EK	6727-29	"	.92	.60	7.3				
EL	6729-30	"	1.40	.81	7.7				
EM	6730-31	"	4.05*		9.2*				
EN	6731-32	"	4.20	1.05	5.2				
EO	6732-33	"	1.36	1.56	9.2				
EF	6735-36	"	>20,000.00	87.00	12.9				
EA	6736-37	"	6.97	1.17	12.1				
EB	6737-38	"	4.29	3.92	13.2				
EC	6738-39	"	5.53	3.56	8.3				
ED	6748-49	Gravelly sand	5.08	.97	5.7				
EU	6749-50	"	12.72	1.24	8.7				
EV	6750-52	"	19.42	1.20	7.3				
EW	6772-79	Sand	4.83	2.77	4.0				
EA	6779-80	"	1.38	.73	10.6				
EY	6780-81	"	3.24	1.30	9.3				
EZ	6781-82	"	44.60	11.32	11.9				
FA	6782-83	"	1.37	.38	10.8				
FB	6783-84	"	1.99	1.00	12.4				
FC	6784-85	"	.97	.62	11.5				
FD	6786-86	"	5.64	3.94	10.6				
FE	6786-88	"	3.24	1.33	10.5				
FF	6788-89	"	2.11	1.75	11.2				
FG	6792-93	Sand w/shale	4.95	1.24	4.4				
FH	6793-94	"	3.18	3.04	4.5				
FI	6794-95	"	.09	.06	5.5				
FJ	6795-96	"	8.01	6.08	6.4				
FK	6796-97	"	14.42	3.95	11.4				
FL	6797-99	"	5.78	4.13	1.9				
FM	6799-6800	"	1.72	1.54	4.6				
FN	6818-19	Sand	10.23	6.14	4.2				
FO	6819-20	"	6.30	4.73	6.3				
FP	6824-25	"	2.14	1.28	5.1				
FQ	6825-26	"	7.21	3.52	15.0				
FR	6826-27	"	5.34	.80	12.5				
FS	6827-28	"	9.22	3.79	12.2				

ILLEGIBLE

The Reported Saturation, Salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches of portion on which permeability, porosity and acidizing tests are made

*From Capillary Pressure Saturation Test.

By J. H. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Leak Unit #1 FIELD Wildcat

STATE New Mexico

DATE 10-31-51

LAB NO. 4035

SAMPLE NO	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARIES		SATURATION %	OIL	WATER	TOTAL	% SOLUBLE IN 15% HCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION
			VERTICAL	HORIZONTAL							
			90° POOR								
			Maximum	Maximum							
CN	6658-60	Sand	4.10	1.60							
CN	6660-61	"	13.71								
CO	6661-62	"	1.14	1.33							
CI	6662-64	"	3.47	4.06							
CL	6664-66	"	13.92	10.00							
CM	6666-67-1/2	"	1.14								
CO	6667-1/2-69	"	4.00	1.84							
CP	6669-70	"	10.67	3.04							
CQ	6670-72	"	4.93	2.00							
CV	6672-73	"	9.00	2.47							
CW	6673-74	"	.99	.87							
CX	6674-75	"	7.95	4.76							
CY	6675-76	"	.79	.53							
CZ	6676-77	"	2.61	2.40							
DA	6677-78	"	1.62	1.02							
DE	6678-79	"	.48	.40							
DF	6679-80	"	1.01	.45							
DG	6680-81	"	29.02	17.36							
DH	6681-82	"	11.19	4.42							
DI	6682-83	"	.79	.56							
DJ	6683-84	"	1.04*								
DK	6684-85	"	1.34	.14							
DL	6685-86	"	3.11	.69							
DM	6686-87	"	.053								
DN	6686-88	"	2.05*								
DO	6688-89	"	65.20	1.32							
DP	6689-90	"	4.05*								
DQ	6690-91	"	.09*								
DR	6691-92	"	9.46	5.72							
DS	6692-93	"	57.15	8.52							
DT	6693-94	"	.30*								
DU	6694-95	"	4.05*								
DV	6695-96	"	3.16	1.91							
DW	6696-97	"	4.41	4.14							
DX	6697-98	"	28.30	7.14							
DY	6711-12	Sand w/shale	136.40	3.16							
DZ	6712-13	"	12.31	7.62							
EA	6713-14	"	5.41	3.17							
EB	6714-15	"	24.62*								
EC	6715-16	"	215.00	5.44							
ED	6716-17	"	8.70	.65							
EE	6717-18	"	19.19	15.24							
EF	6718-19	"	4.05*								
EG	6719-20	"	1.63	.37							

ILLEGIBLE

The reported saturation salinity and water saturation data are obtained from portion of core horizontally adjacent to or within two inches of portion on which permeability porosity and density tests are made

*From Capillary Pressure Saturation Test

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Leak Unit #1 FIELD Wildcat STATE New Mexico DATE 10-24-51 LAB NO 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY, DARCYS		EFFECTIVE POROSITY %	SATURATION %		% SOLUBLE IN 15% MCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			MAXIMUM	FROM		OIL	WATER			
AS	6610-11	Shaley Sand	.35	.21	11.5					
AT	6611-13	"	.17	.17	11.1					
AU	6613-14	"	.17	.15	11.4					
AV	6614-15	"	.14	.07	11.0					
AW	6615-16	"	1.54	.5*	3.0					
AX	6616-17	"	.5*	.26	3.1					
AY	6617-18	"	.19*		.8*					
AZ	6618-19	"	.13*		2.3*					
EA	6619-20	"	.09*		3.3*					
EB	6620-21	"	.19*		.7*					
EC	6621-22	"	.62	.31	1.1					
ED	6622-23	"	.44	.21	5.1					
EE	6623-24	"	.11	.03	.6					
EF	6624-25	"	.23	.22	.8					
EG	6625-26	"	.30	.29	4.3					
EH	6626-27	"	.43	.15	2.2					
EI	6627-28	"	.17*		3.4*					
EJ	6628-29	"	.31*		2.2*					
EK	6629-30	"	.18*		2.8*					
EL	6630-31	"	.15*		4.6*					
EM	6631-32	"	.32	.24	.8					
EN	6632-33	"	.10*		1.4*					
EO	6633-34	"	3.97*		1.0*					
EP	6634-35	"	.15	.06	2.5					
EQ	6635-36	"	.24	.16	5.0					
ER	6636-37	"	.70	.14	1.1					
ES	6637-38	"	.18	.12	.9					
ET	6638-39	"	.30	.16	5.7					
EU	6639-40	"	.38	.11	4.2					
EV	6640-41	"	.10	.10	4.1					
EW	6641-42	"	.34	.16	3.8					
EX	6642-43	"	.06*		1.5*					
EY	6643-44	"	.10*		1.5*					
EZ	6644-46	"	.29	.24	3.7					
CA	6645-47	"	.19		1.5*					
CB	6646-48	"	.46*		1.0*					
CC	6648-49	Sand	.19		3.4*					
CD	6649-50	"	.13	.04	4.4					
CE	6650-51	"	.30	.23	.6					
CF	6651-52	"	4.82	1.7*	6.1					
CG	6652-53	"	.13	.12	7.7					
CH	6653-54	"	1.74	.14	7.3					
CI	6654-55-1/2	"	.40	.39	8.6					
CJ	6655-1/2-56	"	.76	.49	10.3					
CK	6656-57	"	.73	.28	7.7					
CL	6657-58	"	1.30	.39	6.1					

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.

From Capillary Pressure Saturation Test.

BY E. W. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Angel Peak Unit #1 FIELD Willacet STATE New Mexico DATE 10-24-51 LAB NO 3035

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARIES		EFFECTIVE POROSITY %	SATURATION %		% SOLUBLE IN 15% MCL	GRAVITY OF OIL (API @ 60° F)	MINIMUM WATER SATURATION %
			Maximum	90° From Maximum		OIL	WATER			
A	6565-66	Sand	.85*		11.3*					
B	6566-67	"	.20*		9.3*					
C	6567-68	"	.43*		9.1*					
D	6568-69	"	.40*		7.0*					
E	6569-70	"	.33*		4.8*					
F	6570-71	"	2.13	.06	5.7					
G	6571-72	"	.13*		5.2*					
H	6572-73	"	.39	.24	1.4					
I	6573-74	"	.20*		7.1*					
J	6574-75	"	.09	.05	3.1					
K	6575-76	"	.39*		5.0*					
L	6576-77	"	.26	.23	4.1					
M	6577-78	"	.52	.20	5.2					
N	6578-79	Shaley Sand	.20*		7.1*					
O	6579-80	"	1.18	1.10	.7					
P	6580-81	"	.85	.15	1.7					
Q	6581-82	"	1.51	.38	2.0					
R	6582-83	"	.66	.50	1.6					
S	6583-84	"	2.60*		2.2*					
T	6584-85	"	.35	.17	1.9					
U	6585-86	"	1.78	.61	1.2					
V	6586-87	"	.09	.05	1.4					
W	6587-88	"	.30	.25	.8					
X	6588-89	"	.40*		1.1*					
Y	6589-90	"	.09*		.8*					
Z	6590-91	"	.19*		2.6*					
AA	6591-92	Sand	.19*		1.4*					
AB	6592-93	"	.89	.32	.2					
AC	6593-94	"	.74	.64	2.6					
AD	6594-95	"	.44*		6.3*					
AE	6595-96	"	.55	.53	3.7					
AF	6596-97	"	<.05*		3.9*					
AG	6597-98	"	.19*		2.8*					
AH	6598-99	"	.15*		4.9*					
AI	6599-6600	"	.23	.19	2.5					
AJ	6600-01	"	.19*		3.8*					
AK	6601-02	"	.46	.34	.0					
AL	6602-04	"	.21	.16	10.7					
AM	6604-05	Shaley Sand	.21	.17	4.7					
AN	6605-06	"	.13*		5.4*					
AO	6606-07	"	.20	.08	4.2					
AP	6607-08	"	.25	.11	3.6					
AQ	6608-09	"	1.55	.38	5.4					
AR	6609-10	"	.14*		2.4*					

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches of portion on which permeability, porosity and acidizing tests are made.

*From Capillary Pressure Saturation Test.

J. H. Reed

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Donna Field Well #1 FIELD Wildecat STATE Arkansas DATE 5-6-49 LAB NO. 2690

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARCS		POROSITY	SATURATION % PORE SPACE		% SOLUBLE IN 15% HCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			VERTICAL	HORIZONTAL		OIL	WATER			
J	7876-79	Shaly Sand	0.03		10					
K	7912-14	Sand	0.34		10	6.5	20.6			
L	7914-16	"	0.05		10	13.4	6.5			
M	7916-23	"	0.1		10	34.0	15.1			
N	7923-28	"	0.09		10	27.8	34.0			
O	7928-30	"	0.05		10	20.5	43.2			
P	7930-31	"	0.05		10	21.1	24.8			
	7932-36	-420	0.05		10	21.1	21.1			
						24.0	26.8			

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of portion on which permeability, porosity and acidizing tests are made.
From Capillary Pressure Saturation Test.
BY J. H. Sparlock

STAROLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Rock Hill #1 FIELD Wildcat STATE Arkansas DATE 5-6-49 LAB. NO. 2690

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARCS		EFFECTIVE POROSITY %	SATURATION % PORE SPACE		% SOLUBLE IN 15% HCL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			VERTICAL	HORIZONTAL		OIL	WATER			
J	7876-79	Shaly Sand	<.05	<.05	5.0	2.1	18.5	20.6		
K	7912-14	"	<.05	<.05	4.8	0.0	6.5	6.5		
L	7914-16	"	.34	.34	6.5	1.7	13.4	15.1		
M	7916-23	"	<.05	<.05	2.9	0.0	34.0	34.0		
N	7923-28	"	.18	.18	3.8	25.4	27.8	43.2		
O	7928-30	"	.59	.59	4.5	4.3	20.5	24.8		
P	7930-31	"	<.05	<.05	5.4	0.0	21.1	21.1		
	7932-36	CLAY	<.05	<.05	4.1	2.8	24.0	26.8		

ILLEGIBLE

The reported saturation, salinity and sieve analysis data are obtained from portion of core horizontally adjacent to or within two inches vertically of 1

From Capillary Pressure Saturation Test.

J. W. Spurlock

STANDARD OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Reese Unit #1 FIELD Reese STATE Mississippi DATE 6-7-49 LAB. NO. 2690

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY-MILLIDARCY		EXPANSIVE POROSITY %	SATURATION % PORE SPACE		% SOLUBLE IN 10% NGL	GRAVITY OF OIL @ 60° F	MINIMUM WATER SATURATION %
			VERTICAL	HORIZONTAL		OIL	WATER			
R	7941-47	Sand		<.05	1.1	0.0	32.6			
S	7947-49	Shaly Sand		<.05	1.5	22.3	16.4			
T	8012-50	Sand		.38	1.8	27.3	72.7			
U	8020-50	Shaly Sand		<.05	1.1	21.9	48.1			
V	8030-40	Sand		1.58	1.0	22.5	78.2			
W	8040-45	Shaly Sand		.57	1.2	16.3	59.2			
X	8045-50	"		<.05	1.7	10.2	47.5			
Y	8050-56	"		.27	6.5	54.2	45.8			
Z	8098-60	Shaly Sand		1.08	4.1	38.2	58.8			
AA	8060-62	"		.45	3.4	57.7	34.6			
ILLEGIBLE										

This report, tabulation, listing and core analysis data are obtained from portion of core heretofore obtained to or within two inches vertically of the bottom of the well. The data are not to be used for any other purpose than the purpose for which they were obtained.

J. N. [Signature]

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA

WELL Huerfano Unit #4 FIELD Wildcat

DATE 4-30-51 LAB NO 2872

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY (CENTIDARREYS)		GRAVITY OF OIL @ 60° F	% SOLUBLE IN 15% HCL	MINIMUM WATER SATURATION %
			MAXIMUM	90° FFW			
CJ	6950-51	Siltstone	2.44				
CK	6965-66	"	5.46				
CL	6970-71	"	20.74	8.1			
CM	6976-77	"	1.24	1.18			
CN	6983-84	"	* < .05				

ILLEGIBLE

The reported saturation, salinity and above analysis data are obtained from portion of core horizontally adjacent to or within two inches of the surface on which permeability, porosity and acidizing tests are made.

Officer Captain Eugene S. Sorenson

J. W. Spurlock

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

Well: Marfano Unit #4 FIELD: Wildcat STATE: New Mexico DATE: 4-30-51 LAB. NO: 2872

Core No.	DEPTH	DESCRIPTION	PERCENTAGE WATER	PERCENTAGE SOLIDS	PERCENTAGE HYDROCARBONS	PERCENTAGE GAS	PERCENTAGE TOTAL	PERCENTAGE WATER	PERCENTAGE SOLIDS	PERCENTAGE HYDROCARBONS	PERCENTAGE GAS	PERCENTAGE TOTAL	GRAVITY OF OIL @ 60° F	WATER SATURATION
A	6705-07	Sand	1.1	1.6	.08		2.79	5.8	11.6					
B	6707-09	"	1.1	1.6	.09		2.80	7.5	15.0					
C	6710-11	"	1.1	1.6	.01		2.82	8.6						
D	6711-12	Sand w/shale	1.1	1.6	.37		2.84	9.9						
E	6712-13	"	2.52	1.4	.49		4.51	8.8						
F	6713-14	"	2.44	1.25	.25		4.94	5.7						
G	6714-15	Sand	6.00	1.1	.11		7.22	5.1						
H	6715-17	Sand w/coal streak	.29	.58	.28		1.15	6.3						
I	6717-19	"	7.57	1.14	2.72		11.43	7.6						
J	6719-20	"	2.21	2.00			4.21	6.9						
K	6720-21	"	4.77	3.28			8.05	3.4						
L	6721-22	"	1.99	.31			2.30	6.3						
M	6722-24	"	1.80	1.65			3.45	2.2	4.4					
N	6724-25	Sand w/fracture	1.19	1.15			2.34	6.2						
O	6725-26	"	*1.23	---	---		1.23	*2.3						
P	6726-27	Sand	36.18	.50			36.68	6.9						
Q	6727-28	"	.53	.49			1.02	6.8						
R	6728-29	"	1.05	.86			1.91	8.4						
S	6729-30	"	.34	.30			.64	9.8						
T	6730-31	Sand w/shale	*.20	---	---		.20	*6.5						
U	6731-32	"	1.55	.41			1.96	6.1						
V	6732-33	"	1.32	.17			1.49	4.6						
W	6733-34	"	.50	.42			.92	6.5						
X	6734-36	"	.76	.57			1.33	8.3	12.6					
Y	6736-37	"	3.96	.41			4.37							
Z	6737-38	"	*1.21	---	---		1.21							
AA	6738-40	"	1.12	.41			1.53		16.6					
AB	6740-42	"	1.08	.93			2.01		12.9					
AC	6742-44	Sand	*.16	---	---		.16		9.0					
AD	6744-45	Sand w/shale	.79	.75			1.54							
AE	6745-46	"	*.16	---	---		.16							
AF	6746-47	Sand	*.18	---	---		.18							
AG	6747-48	"	*.59	---	---		.59							
AH	6769-70	"	2.62	1.92			4.54		25.5	6.08				
AI	6770-71	"	1.41	.30			1.71		4.2					
AJ	6771-72	"	1.40	.30			1.70							
AK	6791-92	"	6.14	1.72			7.86		97.5					
AL	6792-93	"	*.14	---	---		.14		4.2					
AM	6793-94	"	.71	.71			1.42							
AN	6794-96	"	.51	.51			1.02							
AO	6796-98	"	.34	.34			.68							
AP	6798-99	"	.22	.22			.44							
AQ	6799-8000	"	.40	.40			.80							
AR	6800-01-1/2	"												

ILLEGIBLE

This report contains summary data and core analysis data obtained from portion of core horizontally adjacent to or within two inches of portion on which permeability, density and solubility tests are made.

STANOLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

J. W. Spurlock

SLIND OIL AND GAS COMPANY
RESEARCH DEPARTMENT
CORE ANALYSIS DATA RECORD

WELL Huerfano Unit #4 FIELD Wildcat STATE New Mexico DATE 4-30-51 LAB. NO. 2872

SAMPLE NO.	DEPTH	DESCRIPTION	PERMEABILITY - MILLIDARCY		EFFECTIVE POROSITY %	SATURATION %		% SOLUBLE IN 15% NCL	GRAVITY OF FLUID @ 60° F	MINIMUM WATER SATURATION %
			Horizontal	Vertical		Oil	Water			
AS	6801-1/2-03	Sand	Maximum							
AT	6803-04		* .54		*9.					
AU	6823-24		* .29		*3.					
AV	6824-25		*1.49		*9.					
			* .24		*3.					
AW	6825-26		4.87		11.					
AX	6826-27		1.72		14.					
AY	6832-33		.32		14.0					
AZ	6833-34		.64		13.3					
BA	6834-35		.77		15.5					
BB	6835-36		580.00		14.7					
BC	6836-37		4.50		14.3					
BD	6837-38		1.46		14.6					
BE	6838-39		3.30		14.1					
BF	6839-40		886.00		13.5					
BG	6840-41		.58		14.5					
BH	6841-42		1.57		14.4					
BI	6842-43		1.85		11.8					
BJ	6843-44		8.06		12.8					
BK	6844-46		2.84		13.7					
BL	6846-47		26.25		12.0					
BM	6847-49		2.54		13.1					
BN	6849-50		9.00		11.0					
BO	6856-57		726.00		10.3					
BP	6857-59		.34		9.8					
BQ	6859-60		3.17		13.3					
BR	6866-67		27.38		7					
BS	6867-68		3.39		9					
BT	6868-69		2.38		7					
BU	6869-70		2.45		9					
BV	6870-71		1.91		7					
BW	6871-72		.76		2					
BX	6872-73		1.91		2					
BY	6914-15	Siltstone	4.68		8					
BZ	6917-18		* .28		4					
CA	6919-20		.27		9					
CB	6920-21		.87		8					
CC	6921-22	Sandstone	16.10		7					
CD	6923-24		2.28		9					
CE	6924-25		52.40		7					
CF	6925-26		73.70		0					
CG	6927-28	Siltstone	99.10		6					
CH	6940-41		9.50		0					
CI	6946-47		.29		7					

Vertical Permeability

ILLEGIBLE

The reports a saturation, salinity and core analysis data are obtained from portion of core permeability adjacent to or within two inches vertically from the portion on which permeability, porosity and acidizing tests are made.

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