

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE ANALYSIS REPORT

FOR

PHILLIPS PETROLEUM COMPANY

EUGSAU UNIT NO. 2738-009
GRAYBURG-S.A. FIELD
LEA COUNTY, NEW MEXICO

PRELIMINARY PRINT

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE 1 OF

PHILLIPS PETROLEUM COMPANY
EVGSAU UNIT NO. 2738-009
GRAYBURG-S.A. FIELD
LEA COUNTY, NEW MEXICO

DATE : 9-26-80
FORMATION : GRAYBURG-S.A.
DRLG. FLUID: SALT WATER GEL
LOCATION : 1400' FNL & 50' FWL, SEC. 27, T-17-S, R-35-E
FILE NO : 3202-11946
ANALYSIS : REINHEIMER
LABORATORY: MIDLAND TEXAS

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE POR	OIL% PORE	WTR% PORE	GRAIN DEN	DESCRIPTION
CORE NO. 1 4375.0-4435.0 CUT 60' REC 60'								
1	4375.0-80.0	0.1	<0.1	1.6	27.5	38.2	2.84	NA DOL ANHY SHY
2	4380.0-81.0	<0.1	<0.1	1.4	37.5	33.3	2.83	DOL ANHY VF V FP STY
3	4381.0-82.0	0.1	<0.1	1.0	18.4	61.2	2.86	DOL ANHY VF V STY
4	4382.0-83.0							DOL SL/SHY ANHY F SHLAM SL/V STY
5	4383.0-84.0							NA DOL ANHY
6	4384.0-85.0	1.0	0.4	1.3	29.8	53.7	2.86	DOL ANHY SHY V SHLAM FOSS SL/F STY
7	4385.0-94.0							NA DOL ANHY SHY SHLAM
8	4394.0-95.0	<0.1	<0.1	2.1	60.9	26.0	2.83	DOL SL/ANHY V SL/F STY
9	4395.0-96.0	0.3	<0.1	0.8	14.1	54.7	2.86	DOL ANHY F SL/V STY
10	4396.0-97.0	0.4	0.1	1.8	5.8	84.4	2.85	DOL SL/ANHY SL/V SL/F STY
11	4397.0-98.0	0.2	<0.1	1.7	23.8	56.3	2.84	DOL ANHY V SHLAM SL/F
12	4398.0-99.0	<0.1	<0.1	1.8	26.5	55.1	2.83	DOL SL/ANHY SL/F FP SHLAM STY
13	4399.0-0.0							NA DOL STY
14	4400.0-1.0	0.9	<0.1	1.8	41.9	42.6	2.86	DOL ANHY V SL/F DOL STY
15	4401.0-2.0	0.8	0.1	1.6	29.3	65.2	2.85	DOL ANHY SL/F SHLAM SL/V STY
16	4402.0-4.0							NA DOL ANHY
17	4404.0-5.0	<0.1	<0.1	1.1	39.6	44.0	2.85	DOL SL/ANHY SL/SHY SL/F SL/V STY
18	4405.0-6.0	<0.1	<0.1	0.6	16.7	55.6	2.86	DOL ANHY SL/F VF FP
19	4406.0-18.0							NA DOL ANHY SHY SHLAM
20	4418.0-19.0	1.6	0.3	2.8	51.2	40.7	2.86	DOL ANHY VF SHLAM V STY
21	4419.0-35.0							NA DOL ANHY SHLAM

CORE NO. 2 4435.0-4495.0 CUT 60' REC 60'

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 well 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

PAGE 2 OF

PHILLIPS PETROLEUM COMPANY
 EVGSAU UNIT NO. 2738-009

DATE : 9-26-80
 FORMATION : GRAYBURG-S.A.

FILE NO : 3202-11946
 ANALYSTS : REINHEIMER

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE FOR	OIL% PORE	WTR% PORE	GRAIN DEN	DESCRIPTION
15	4435.0-37.0	0.9	<0.1	1.2	13.0	43.5	2.86	NA DOL ANHY
16	4437.0-38.0	0.3	0.3	1.0	10.1	44.9	2.85	DOL ANHY SL/V VF
17	4438.0-39.0	0.2	<0.1	2.6	6.3	34.7	2.86	DOL ANHY VF SL/V STY
18	4439.0-40.0	0.2	<0.1	1.1	14.1	62.5	2.85	DOL ANHY SL/V STY
19	4440.0-41.0	1.6	1.4	1.6	11.4	38.0	2.87	DOL ANHY SL/V STY
20	4441.0-42.0	<0.1	<0.1	1.0	12.2	74.3	2.82	DOL ANHY SL/V
21	4442.0-43.0	0.5	0.2	1.2	15.3	42.4	2.89	DOL ANHY SL/F STY
	4443.0-44.0							NA DOL ANHY
	4444.0-46.0							DOL ANHY SL/F SL/V
22	4466.0-67.0	8.2	3.4	3.2	2.0	33.0	2.86	NA DOL ANHY
	4467.0-74.0							DOL ANHY SL/V VF
23	4474.0-75.0	2.5	1.5	1.5	3.5	63.0	2.86	DOL ANHY SL/F STY
24	4475.0-76.0	6.0	4.7	3.0	7.6	50.4	2.85	DOL ANHY SL/F STY
25	4476.0-77.0	1.3	0.9	2.2	9.6	42.6	2.86	DOL ANHY SL/F STY
26	4477.0-78.0	0.7	0.7	2.2	9.3	59.6	2.84	DOL ANHY SL/F STY
27	4478.0-79.0	113.	30.	2.8	27.0	59.9	2.84	DOL ANHY VF STY
28	4479.0-80.0	1.8	1.2	2.1	9.3	69.9	2.84	DOL ANHY SL/F STY
29	4480.0-81.0	8.0	5.8	5.9	11.0	22.0	2.83	DOL ANHY SL/V VF
30	4481.0-82.0	0.5	0.4	3.9	10.9	30.2	2.81	DOL ANHY SL/V VF STY
31	4482.0-83.0	1.7	1.3	1.0	6.3	41.7	2.85	DOL ANHY SL/F
32	4483.0-84.0	4.9	2.1	1.8	11.4	31.6	2.87	DOL ANHY SL/F STY
33	4484.0-85.0	1.1	1.0	1.7	6.0	57.0	2.82	DOL ANHY SL/F STY
34	4485.0-86.0	0.7	<0.1	3.4	15.6	56.3	2.85	DOL ANHY SL/F STY
35	4486.0-87.0	0.3	0.2	1.4	10.7	77.4	2.83	DOL ANHY SL/F STY
36	4487.0-88.0	0.5	0.3	2.0	8.7	28.8	2.85	DOL ANHY SL/F
37	4488.0-89.0	0.2	0.2	0.8	14.1	78.1	2.84	DOL ANHY STY
38	4489.0-90.0	1.0	0.9	1.1	9.1	50.5	2.85	DOL ANHY SL/F STY
39	4490.0-91.0	7.4	5.3	2.1	25.7	34.3	2.84	DOL ANHY SL/F STY
40	4491.0-92.0	2.5	2.4	1.2	18.4	45.9	2.85	DOL ANHY SL/F STY

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 well 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

PAGE 3 OF

PHILLIPS PETROLEUM COMPANY
 EVGSAU UNIT NO. 2738-009

DATE : 9-26-80
 FORMATION : GRAYBURG-S.A.

FILE NO : 3202-11946
 ANALYSTS : REINHEIMER

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE FOR	OIL% FORE	WTR% FORE	GRAIN DEN	DESCRIPTION
41	4492.0-93.0	3.8	3.0	1.4	7.3	48.4	2.85	DOL ANHY SL/F STY
42	4493.0-94.0	1.4	0.8	3.1	10.5	54.5	2.85	DOL ANHY SL/F STY
43	4494.0-95.0	0.5	0.4	2.3	16.7	41.7	2.87	DOL ANHY SL/F STY

CORE NO. 3 4495.0-4558.0 CUT 63' REC 63'

44	4495.0-96.0	1.2	1.2	1.6	12.6	42.0	2.86	DOL ANHY VF FP STY
45	4496.0-97.0	0.6	0.4	1.3	10.7	47.6	2.85	DOL VF FP STY
46	4497.0-98.0	4.4	2.0	1.3	9.1	35.4	2.86	DOL SL/ANHY VF FP
	4498.0- 6.0							NA DOL ANHY VF
47	4506.0- 7.0	0.1	<0.1	0.8	20.5	45.5	2.85	DOL VF FP STY
	4507.0- 8.0							NA DOL ANHY
48	4508.0- 9.0	0.5	0.3	1.2	11.4	38.0	2.86	DOL SL/ANHY VF FP STY
	4509.0-33.0							NA DOL ANHY
49	4533.0-34.0	<0.1	<0.1	3.1	10.1	20.6	2.88	DOL VF FP STY
50	4534.0-35.0	0.6	<0.1	1.4	8.3	50.5	2.90	DOL ANHY VF FP STY
51	4535.0-36.0	0.2	<0.1	3.9	22.0	43.8	2.87	DOL SL/ANHY VF FP
52	4536.0-37.0	0.8	0.2	5.4	10.7	37.9	2.87	DOL SL/ANHY VF FP STY
53	4537.0-38.0	<0.1	<0.1	2.7	4.9	39.0	2.87	DOL SL/ANHY VF FP STY
54	4538.0-39.0	1.0	0.2	2.6	2.1	33.0	2.87	DOL SL/ANHY VF FP STY
55	4539.0-40.0	1.5	1.2	3.0	12.2	22.0	2.86	DOL VF FP STY
56	4540.0-41.0	0.2	<0.1	2.8	7.4	32.9	2.87	DOL VF FP STY
57	4541.0-42.0	0.2	<0.1	2.8	7.6	21.0	2.88	DOL SL/ANHY VF FP STY
58	4542.0-43.0	0.4	0.2	1.5	14.1	46.9	2.88	DOL ANHY VF FP STY
59	4543.0-44.0	0.3	0.2	2.5	8.7	43.9	2.87	DOL SL/ANHY VF FP STY
60	4544.0-45.0	<0.1	<0.1	3.0	3.7	45.1	2.86	DOL VF FP STY
61	4545.0-46.0	1.5	<0.1	3.2	4.5	45.2	2.88	DOL SL/ANHY VF FP STY
62	4546.0-47.0	<0.1	<0.1	2.3	5.7	53.5	2.87	DOL VF FP
	4547.0-58.0							NA DOL ANHY SHY

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PAGE 4 OF

PHILLIPS PETROLEUM COMPANY
EVGSAU UNIT NO. 2738-009

DATE : 9-26-80
FORMATION : GRAYBURG-S.A.

FILE NO : 3202-11946
ANALYSTS : REINHEIMER

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE FOR	OIL% PORE	WTR% PORE	GRAIN DEN	DESCRIPTION
CORE NO. 4 4558.0-4618.0 CUT 60' REC 60'								
4558.0-18.0								
CORE NO. 5 4618.0-4675.0 CUT 57' REC 57'								
4618.0-75.0								
CORE NO. 6 4675.0-4737.0 CUT 62' REC 59'								
4675.0-19.0								
63	4719.0-20.0	0.2	<0.1	2.0	18.5	42.1	2.88	NA DOL ANHY DOL SL/ANHY VF FP
64	4720.0-21.0	<0.1	<0.1	2.2	21.7	57.2	2.90	DOL ANHY SL/V VF
4721.0-28.0								
65	4728.0-29.0	0.2	<0.1	0.7	14.1	31.3	2.91	NA DOL ANHY DOL ANHY VF
66	4729.0-30.0	1.3	0.4	0.5	16.7	55.6	2.86	DOL SL/ANHY VF STY
67	4730.0-31.0	3.1	2.3	0.9	12.2	40.5	2.87	DOL SL/ANHY VF FP
68	4731.0-32.0	<0.1		4.1	6.3	42.9	2.84	DOL SL/ANHY VF
69	4732.0-33.0	0.2		8.0	7.9	58.7	2.84	DOL ANHY VF SHLAM FP FOSS
70	4733.0-34.0	0.2	<0.1	1.1	9.6	74.5	2.85	DOL SL/ANHY VF FP STY
4734.0-37.0								
CORE NO. 7 4737.0-4777.0 CUT 40' REC 40'								
4737.0-38.0								
* 71	4737.0-38.0	0.3		9.2	8.2	59.6	2.83	DOL VF FP STY

NA DOL ANHY
DOL SL/ANHY VF FP
DOL ANHY SL/V VF
NA DOL ANHY
DOL ANHY VF
DOL SL/ANHY VF STY
DOL SL/ANHY VF FP
DOL SL/ANHY VF
DOL ANHY VF SHLAM FP FOSS
DOL SL/ANHY VF FP STY
LOST CORE

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

PAGE 5 OF

PHILLIPS PETROLEUM COMPANY
EVGS AU UNIT NO. 2738-009

DATE : 9-26-80
FORMATION : GRAYBURG-S.A.

FILE NO : 3202-11946
ANALYSTS : REINHEIMER

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE FOR	OIL% PORE	WTR% PORE	GRAIN DEN	DESCRIPTION
72	4738.0-39.0	0.3	<0.1	0.5	14.1	31.3	2.87	DOL ANHY VF FP
73	4739.0-40.0	0.6	0.5	2.0	14.1	46.9	2.85	DOL ANHY SL/V VF
74	4740.0-41.0	0.2	<0.1	4.3	20.8	33.0	2.85	DOL SL/ANHY VF FP STY
* 75	4741.0-42.0	1.2		1.1	15.9	43.2	2.83	DOL SL/ANHY VF SL/V STY
76	4742.0-43.0	0.9	0.5	3.8	5.4	46.5	2.83	DOL SL/ANHY VF FP STY
77	4743.0-44.0	2.2	1.7	4.3	6.8	51.3	2.84	DOL SL/ANHY VF FP SL/V
78	4744.0-45.0	12.	8.5	11.2	7.8	43.9	2.85	DOL SL/ANHY VF FP STY
79	4745.0-46.0	4.2	0.4	3.4	13.0	65.1	2.84	DOL SL/ANHY VF FP
80	4746.0-47.0	8.1	1.4	10.8	20.5	29.4	2.86	DOL SL/ANHY VF FP STY
81	4747.0-48.0	2.1	1.7	6.0	11.9	36.9	2.84	DOL VF FP
82	4748.0-49.0	1.5	0.6	5.3	9.9	46.0	2.86	DOL SL/ANHY VF SL/V STY
83	4749.0-50.0	0.3	0.2	5.1	14.5	48.4	2.85	DOL SL/ANHY VF SL/V STY
84	4750.0-51.0	12.	11.	10.2	19.7	28.9	2.84	DOL SL/ANHY VF FP FOSS
* 85	4751.0-52.0	15.		14.5	17.7	37.9	2.80	DOL SL/ANHY VF FP
86	4752.0-53.0	0.9	0.7	2.7	14.1	68.4	2.85	DOL ANHY VF SL/V STY
87	4753.0-54.0	0.1	<0.1	1.0	19.4	75.3	2.85	DOL ANHY VF SL/V STY
88	4754.0-55.0	1.7	0.7	0.7	9.6	85.1	2.84	DOL SL/ANHY VF FP STY
89	4755.0-56.0	11.	0.3	0.9	0.0	50.0	2.86	DOL SL/ANHY VF FP STY
90	4756.0-57.0	0.4	0.2	0.9	6.7	69.6	2.85	DOL ANHY VF FP STY
* 91	4757.0-58.0	0.1		2.4	8.9	54.3	2.84	DOL V/ANHY VF FP
92	4758.0-59.0	0.7	<0.1	3.8	17.2	47.8	2.86	DOL SL/ANHY VF SL/V STY
93	4759.0-60.0	1.5	0.6	5.3	14.1	36.8	2.83	DOL SL/ANHY F SL/V FOSS STY
94	4760.0-61.0	7.1	5.0	8.3	10.6	35.4	2.86	DOL SL/ANHY VF SL/V FOSS STY
95	4761.0-62.0	14.	13.	9.0	15.5	36.5	2.82	DOL SL/ANHY V VF FOSS STY
96	4762.0-63.0	5.4	3.6	11.2	14.0	32.3	2.82	DOL SL/ANHY VF FP FOSS SL/V STY
97	4763.0-64.0	2.9	1.4	6.6	21.4	32.0	2.83	DOL SL/ANHY VF V FOSS STY
98	4764.0-65.0	8.3	8.1	6.0	17.3	40.4	2.85	DOL SL/ANHY VF V FOSS STY
99	4765.0-66.0	7.5	5.7	11.1	17.9	31.9	2.85	DOL SL/ANHY VF FP FOSS SL/V STY
100	4766.0-67.0	12.	8.8	10.6	13.4	33.8	2.82	DOL SL/ANHY VF V FOSS STY
101	4767.0-68.0	25.	15.	8.2	10.1	37.9	2.85	DOL SL/ANHY VF V FOSS STY

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 production, manner operations 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

PAGE 6 OF

PHILLIPS PETROLEUM COMPANY
EUGSAU UNIT NO. 2738-009

DATE : 9-26-80
FORMATION : GRAYBURG-S.A.

FILE NO : 3202-11946
ANALYSTS : REINHEIMER

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	HE FOR	OIL% FORE	WTR% FORE	GRAIN DEN	DESCRIPTION
102	4768.0-69.0	30.	6.7	8.6	19.2	34.0	2.82	DOL SL/ANHY VF V FOSS FP STY
103	4769.0-70.0	27.	20.	11.1	17.6	29.9	2.86	DOL SL/ANHY VF V FP STY
104	4770.0-71.0	3.5		3.6	20.6	48.2	2.82	DOL SL/ANHY VF V FOSS STY
105	4771.0-72.0	<0.1		14.0	14.9	32.7	2.85	DOL SL/ANHY VF V FOSS
106	4772.0-73.0	7.7	<0.1	4.7	5.8	61.7	2.81	DOL SL/ANHY VF V FOSS STY
107	4773.0-74.0	8.4	7.8	6.3	10.7	29.8	2.82	DOL SL/ANHY F V FOSS STY
108	4774.0-75.0	11.	9.0	5.8	8.4	37.4	2.85	DOL SL/ANHY VF V FOSS STY
* 109	4775.0-76.0	0.1		12.8	6.9	42.6	2.81	DOL SL/ANHY VF V FOSS STY
* 110	4776.0-77.0	0.1		11.2	4.2	51.3	2.83	DOL SL/ANHY VF V FOSS STY

* INDICATES A CONVENTIONAL SAMPLE

LITHOLOGICAL ABBREVIATIONS

ANHYDRITE, ANHYDRITIC	LM(Y)	LIMESTONE, LIMY
ARKOSE, ARKOSIC	MG	MEDIUM GRAINED
BAND, BANDED	MTX	MATRIX
BRECCIA, BRECCIATED	NA	INTERVAL NOT ANALYZED (AT REQUEST OF CLIENT)
CALCITE, CALCAREOUS		
CARBONACEOUS		
COARSE GRAINED	NOD	NODULE, NODULAR
CHALK, CHALKY	DOL	DOLITIC
CHERT, CHERTY	FISO	FISOLITIC
CONGLOMERATE, CONGLOMERITIC	FP	PINPOINT POROSITY
COARSELY CRYSTALLINE	PT	PARTING
DENSE	FYR	PYRITE, PYRITIC
DOLomite, DOLOMITIC	SD(Y)	SANDSTONE, SANDY
RANDOMLY ORIENTED FRACTURES	SH(Y)	SHALE, SHALY
FINE GRAINED	SHR	SOLID HYDROCARBON RESIDUE
FOSSILIFEROUS	SL/	SLIGHTLY
FRIABLE	SL(Y)	SILT, SILTY
FINELY CRYSTALLINE	STY	STYLOLITE, STYLOLITIC
GALENA	SUC	SUCROSLIC
GLAUCONITE, GLAUCONITIC	SUL	SULPHUR
GRANITE	TBFA	TOO BROKEN FOR ANALYSIS
GYPsum, GYPSIFEROUS	TRIP	TRIPOLITE
PREDOMINANTLY HORIZONTALLY FRACTURED	V/	VERY
INCLUSION	VF	PREDOMINANTLY VERTICALLY FRACTURED
INTERBEDDED	V	VUGULAR
LAMINATED	XBD	CROSSBEDDED
	XLN	MEDIUM CRYSTALLINE
	XTL	CRYSTAL

THE FIRST WORD IN THE DESCRIPTION COLUMN OF THE CORE ANALYSIS REPORT DESCRIBES THE ROCK TYPE. FOLLOWING ARE ROCK MODIFIERS IN DECREASING ABUNDANCE AND MISCELLANEOUS DESCRIPTIVE TERMS.