

**Core Laboratories, Inc.**  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

**PHILLIPS PETROLEUM CO.**  
**E. VACUUM GRAYBURG S.A. UNIT 3229-005**  
**E. VACUUM GRAYBURG SAN ANDRES FIELD**  
**LEA COUNTY, NEW MEXICO**

**DATE :** 5-6-79  
**FORMATION :** GRAYBURG  
**DRILL. FLUID:** SALT BASE MUD  
**LOCATION :** 1110' FSL & 1290' FWL, SEC. 32, T-17-S, R-35-E, SUR  
**FILE NO :** 3202-11118  
**ANALYSTS :** NEFF  
**ELEVATION:** 3965' OL

**FULL DIAMETER ANALYSIS**

SAMPLE NUMBER	DEPTH	PERM. TO MAXIMUM	AIR (MD) 90 DEG	FOR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
365	4536.0-39.0 4539.0-40.0 4540.0-45.0	0.1	<0.1	7.6	5.1	50.2	2.73	DOL, SH LAM, INS DOL, ANHY, SL/F, SL/F DOL, SH LAM, F, INS
CORE NO. 10 4545.0-4605.0 CUT 60' REC 60'								
366	4545.0-48.0 4548.0-49.0 4549.0-55.0	<0.1	<0.1	5.0	5.2	64.9	2.87	DOL, ANHY, SH LAM, INS DOL, ANHY, SL/F, STY DOL, ANHY, SHY, INS
367	4555.0-56.0 4556.0-57.0 4557.0-58.0	<0.1 0.1 0.1	<0.1 0.1 0.1	1.8 2.7 1.6	16.0 29.2 10.0	44.8 41.8 65.0	2.86 2.89 2.86	DOL, ANHY, SL/F, STY DOL, ANHY, SL/F, STY DOL, V/ANHY, SL/F
368	4558.0-61.0	<0.1	<0.1	1.6	10.0	65.0	2.86	DOL, ANHY, SHY, INS
369	4561.0-62.0 4562.0-63.0 4563.0-64.0	3.6 5.9 5.9	1.7 2.2 2.3	5.4 9.7 15.9	20.3 16.4 22.4	40.7 36.1 29.6	2.84 2.82 2.84	DOL, PP, V/F DOL, ANHY, V/F, PP DOL, ANHY, V/F, PP, STY
370	4564.0-65.0 4565.0-66.0 4566.0-67.0	2.8 27. 66.	1.9 24. 59.	12.6 13.3 17.7	10.9 25.9 22.8	34.6 24.5 26.8	2.85 2.88 2.90	DOL, ANHY, V/F, PP, STY DOL, ANHY, DOL, V/F, PP, STY DOL, ANHY, SL/F, SL/V
371	4567.0-68.0 4568.0-69.0 4569.0-70.0	15. 45. 5.0	3.6 38. 1.5	9.1 12.7 10.3	21.4 24.3 16.1	35.9 33.8 33.0	2.86 2.86 2.85	DOL, ANHY, V/F, SL/V, STY DOL, V/F, SL/V, DOL DOL, ANHY, V/F, SL/V, STY
372	4570.0-71.0 4571.0-72.0 4572.0-73.0	2.7 2.0 3.3	2.3 1.1 1.4	10.9 7.6 6.9	11.7 25.9 8.6	27.5 22.4 33.3	2.87 2.88 2.88	DOL, ANHY, SL/V, SL/F, FOS, STY DOL, ANHY, SL/F, SL/V, STY DOL, ANHY, SL/V, SL/F, STY
373	4573.0-74.0 4574.0-75.0 4575.0-76.0	1.0 0.8 3.2	0.7 0.3 2.1	8.3 6.8 8.6	25.6 29.8 17.8	18.9 35.7 41.9	2.88 2.88 2.87	DOL, ANHY, SL/F, SL/V, STY DOL, ANHY, F, STY DOL, SL/F, SL/V, 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 representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.