WELL NAME & NUMBER ~~West~~ Lovington San Andres Unit #63

LOCATION Sec 7, T-17-S, R-36-E Lea County, New Mexico
(Give Unit, Section, Township and Range)

OPERATOR Greenhill Petroleum Corporation 12777 Jones Road Suite 375 Houston, TX 77070 Greg Salvo

DRILLING CONTRACTOR Grace Drilling Company

The undersigned hereby certifies that he is an authorized representative of the drilling contractor who drilled the above-described well and that he has conducted deviation tests and obtained the following results:

DEGREES @ DEPTH		DEGREES @ DEPTH	DEGREES @ DEPTH	DEGREES @ DEPTH
.75	335			
.75	855			
1.00	1336			
1.00	1797			
1.25	1963			
2.00	2407			
2.75	2706			
2.25	2828			
2.25	3074			
2.50	3319			
1.75	3813			
2.25	4274			
1.50	4519			
2.00	4619			
2.00	5083			

Drilling Contractor Grace Drilling Company

By [signature]

Subscribed and sworn to before me this 25 day of January, 19 91

[signature]
Notary Public

My Commission Expires 11/19/94 Ector County Texas

GREENHILL PETROLEUM CO.

LOVINGTON SAN ANDRES UNIT NO. 63

LOVINGTON SAN ANDRES FIELD

LEA COUNTY, NEW MEXICO

Western Atlas International

CORE LABORATORIES

February 13, 1991

GREENHILL PETROLEUM CO.
12777 Jones Road
Suite 370
Houston, Texas 77070

File No.: 57181-16269
Subject: Core Analysis
Lovington San Andres Unit No. 63
Lovington San Andres Field
Lea County, New Mexico

Gentlemen:

The subject well was cored using diamond coring equipment and salt gel to obtain 4 inch diameter cores from 4656 to 4860 feet from the San Andres formation.

Core analysis data is presented in tabular and graphical form for your convenience. A porosity vs. permeability plot and porosity and permeability histograms were prepared for statistical evaluation.

We trust these data will be useful in the evaluation of your property and thank you for the opportunity of serving you.

Very truly yours,

CORE LABORATORIES, a division of
WESTERN ATLAS INTERNATIONAL, INC.

Dean Olson

Dean Olson
Laboratory Supervisor

DO/yn

GREENHILL PETROLEUM CO.
Lovington San Andres Unit No. 63
File No. 57181-16269
Procedural Page

The cores were preserved at the wellsite in a CO_2 atmosphere and transported to Midland by Core Laboratories personnel.

Preserved fresh core was taken from two selected intervals.

Core analysis was made from intervals requested on one inch diameter plug samples. Two full diameter samples were selected for Dean Stark analysis.

Fluid removal and saturations were determined using a Dean Stark extraction method.

Gas expansion porosity and grain density were determined using Boyle's Law.

Air permeability was measured in a horizontal direction while the core was held in a Hassler rubber sleeve.

The core was slabbed and photographed after analysis then shipped via Merchants motor freight to Core Lab in Houston, Texas.

CORE ANALYSIS REPORT

FOR

GREENHILL PETROLEUM CO.

LOVINGTON SAN ANDRES UNIT NO. 63
LOVINGTON SAN ANDRES FIELD
LEA COUNTY, NEW MEXICO

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63
100' FSL & 115' FWL, SEC. 36, T-16-S, R-36-E
LEA COUNTY, NEW MEXICO

Field : LOVINGTON SAN ANDRES FIELD
Formation : SAN ANDRES
Coring Fluid : SALT GEL
Elevation : 3856.7' KB

File No.: 57181-16269
Date : 2-7-91
API No. : 30-025-31026
Analysts: OLSON

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (MAXIMUM) Kair md	PERMEABILITY (90 DEG) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION
			FULL DIAMETER SAMPLES					
17	4611.0- 12.0	0.49	0.28	9.5	44.8	29.1	2.82	Dol sli/anhy vf p.p. foss
41	4915.0- 16.0	3.50	3.20	14.5	39.8	42.9	2.79	Dol sli/anhy f open/vf vug p.p. foss

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63
100' FSL & 115' FWL, SEC. 36, T-16-S, R-36-E
LEA COUNTY, NEW MEXICO

Field : LOVINGTON SAN ANDRES FIELD
Formation : SAN ANDRES
Coring Fluid : SALT GEL
Elevation : 3856.7' KB

File No.: 57181-16269
Date : 1-11-91
API No. : 30-025-31026
Analysts: OLSON

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION
			CORE NO. 1 4656-4746 CUT 90' REC 90'				
	4656.0- 63.0						NA Dol styl
1	4663.0- 63.4	2.50	3.8	35.3	16.4	2.87	Dol anhy F sli/vug p.p. styl
	4664.0- 65.0						NA Dol
2	4665.0- 65.1	0.02	4.7	36.0	15.8	2.87	Dol anhy p.p.
	4666.0- 69.0						NA Dol f
3	4669.0- 69.4	0.01	3.7	45.3	17.8	2.86	Dol sli/anhy p.p.
4	4670.0- 70.9	0.05	3.3	59.9	15.6	2.86	Dol sli/anhy p.p. styl
5	4671.0- 71.7	0.03	4.0	58.2	15.2	2.86	Dol sli/anhy p.p.
6	4672.0- 72.2	2.40	7.1	31.1	11.0	2.87	Dol anhy f p.p.
	4673.0- 75.0						NA Dol styl
7	4675.0- 75.7	0.49	4.0	61.3	18.8	2.86	Dol sli/anhy p.p.
8	4676.0- 76.7	29.0	12.6	40.7	11.7	2.86	Dol sli/anhy p.p.
9	4677.0- 77.2	1.80	12.0	51.8	9.5	2.87	Dol anhy p.p.
10	4678.0- 78.1	0.07	5.3	63.7	8.2	2.86	Dol sli/anhy f p.p.
11	4679.0- 79.1	5.80	9.9	34.6	21.5	2.86	Dol sli/anhy sli/vug
	4680.0- 92.0						NA Dol sh lam styl
12	4692.0- 92.9	0.01	1.8	57.9	19.2	2.85	Dol sli/anhy styl
13	4693.0- 93.7	0.02	4.1	27.9	10.6	2.86	Dol sli/anhy p.p.
14	4694.0- 94.3	0.01	2.5	38.5	6.0	2.86	Dol sli/anhy p.p. styl
15	4695.0- 95.6	4.60	2.3	38.9	9.2	2.86	Dol sli/anhy vf p.p.
	4696.0- 10.0						NA Dol sh lam styl
16	4710.0- 10.6	0.01	6.3	31.3	28.7	2.87	Dol anhy p.p.
S	4711.0- 11.5						SCAL
17	4711.5- 12.0						Full Diameter Sample - Dol sli/anhy vf p.p. foss
18	4712.0- 12.3	0.13	10.6	29.6	21.4	2.86	Dol sli/anhy p.p.

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63

Field : LOVINGTON SAN ANDRES FIELD File No.: 57181-16269
Formation : SAN ANDRES Date : 1-11-91

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION
19	4713.0- 13.1	0.01	3.5	44.9	38.2	2.86	Dol sli/anhy p.p.
20	4714.0- 14.3	0.01	9.5	55.1	23.7	2.87	Dol anhy p.p.
21	4715.0- 15.2	0.70	10.0	40.6	13.2	2.86	Dol sli/anhy p.p. styl
22	4716.0- 16.5	0.02	2.4	50.0	22.1	2.86	Dol sli/anhy p.p. styl
	4717.0- 46.0						NA Dol sh lam styl
			4746-4860 DRILLED INTERVAL				
			CORE NO. 2 4860-4950 CUT 90' REC 91'				
	4860.0- 67.4						NA Dol sh lam
23	4867.4- 67.8	1.40	7.4	26.9	15.5	2.86	Dol sli/anhy F vug
24	4868.0- 68.2	0.32	12.9	19.9	9.6	2.86	Dol sli/anhy F vug
25	4869.0- 69.5	3.60	18.1	23.8	11.3	2.85	Dol sli/anhy vug
26	4870.0- 70.2	3.90	13.2	29.2	15.8	2.85	Dol sli/anhy vug
27	4871.0- 71.8	0.01	6.7	37.4	18.1	2.86	Dol sli/anhy vug
28	4871.8- 72.1	0.01	5.9	50.7	20.5	2.85	Dol sli/anhy F vug
	4872.5- 93.7						NA Dol sh lam
29	4893.7- 93.8	0.04	5.2	43.9	12.7	2.86	Dol sli/anhy vug
	4894.0- 95.6						NA Dol
30	4895.6- 95.9	0.58	6.6	44.9	12.4	2.86	Dol sli/anhy F vug
31	4896.0- 96.3	0.01	4.6	52.7	27.8	2.85	Dol sli/anhy vug
32	4897.0- 97.6	1.50	7.5	36.6	14.6	2.85	Dol sli/anhy vug
33	4898.0- 98.3	0.04	6.7	47.2	20.7	2.85	Dol sli/anhy vug
34	4899.0- 99.6	21.0	6.0	48.2	20.0	2.85	Dol sli/anhy f vug p.p.
35	4900.0- 00.5	0.01	1.2	29.7	54.4	2.84	Dol sli/anhy f sli/vug
36	4901.0- 01.2	<.01	2.8	58.8	16.2	2.85	Dol sli/anhy f sli/vug
	4902.0- 12.7						NA Dol sli/vug

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63

Field : LOVINGTON SAN ANDRES FIELD File No.: 57181-16269
Formation : SAN ANDRES Date : 1-11-91

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION
37	4912.7- 12.8	0.28	5.5	29.4	49.2	2.86	Dol sli/anhy sli/vug sh lam
38	4913.0- 13.8	0.01	4.4	46.2	34.7	2.86	Dol sli/anhy vug styl
39	4914.0- 14.9	0.33	13.6	37.4	36.2	2.84	Dol sli/anhy vug p.p. sh lam
40	4915.0- 15.1	0.70	18.1	31.7	27.9	2.84	Dol sli/anhy vug p.p.
S	4915.6- 15.9						SCAL
41	4915.9- 16.0						Full Diameter Sample - Dol sli/anhy f vug p.p. foss
42	4916.0- 16.2	0.61	12.3	39.3	33.3	2.86	Dol sli/anhy vug p.p.
43	4917.0- 17.1	2.00	16.3	39.0	25.8	2.85	Dol sli/anhy vug p.p.
44	4918.0- 18.8	4.80	7.2	20.6	33.2	2.86	Dol sli/anhy f sli/vug p.p.
45	4919.0- 19.8	0.02	8.1	27.5	14.2	2.86	Dol sli/anhy sli/vug
46	4920.0- 20.1	0.01	3.8	56.5	27.7	2.86	Dol sli/anhy sli/vug
47	4921.0- 21.8	1.00	8.3	46.0	16.1	2.85	Dol sli/anhy p.p.
48	4922.0- 22.5	1.40	10.8	34.8	29.3	2.86	Dol sli/anhy p.p.
49	4923.0- 23.3	3.20	9.8	36.6	29.9	2.85	Dol sli/anhy p.p.
50	4924.0- 24.3	0.02	8.0	51.2	20.6	2.86	Dol sli/anhy vug p.p.
51	4925.0- 25.4	<.01	2.6	58.1	26.5	2.86	Dol sli/anhy sli/vug
52	4926.0- 26.7	0.12	6.9	14.9	28.8	2.86	Dol sli/anhy vug
53	4927.0- 27.2	0.02	7.8	11.7	31.1	2.85	Dol sli/anhy vug
54	4928.0- 29.0	0.01	4.0	42.4	16.0	2.86	Dol sli/anhy
55	4933.0- 33.5	<.01	5.9	13.7	54.3	2.86	Dol sli/anhy sli/vug
56	4934.0- 34.4	<.01	2.4	49.1	39.1	2.83	Dol sli/vug
57	4935.0- 35.4	<.01	1.8	50.9	33.8	2.85	Dol sli/anhy
58	4939.0- 39.6	<.01	3.4	38.9	18.2	2.86	Dol sli/anhy sli/vug
59	4940.0- 40.4	0.01	3.9	18.9	56.5	2.85	Dol sli/anhy sli/vug
60	4941.0- 41.5	<.01	4.6	16.4	55.2	2.85	Dol sli/anhy sli/vug
61	4942.0- 42.5	0.01	14.6	24.6	22.6	2.86	Dol sli/anhy f p.p.
62	4943.0- 43.5	0.52	9.4	12.7	23.7	2.82	Dol sli/shy vug
	4943.5- 51.0						NA Dol sli/pyr sh lam

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63

Field : LOVINGTON SAN ANDRES FIELD File No.: 57181-16269
Formation : SAN ANDRES Date : 1-11-91

CORE ANALYSIS RESULTS

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION (PORE VOLUME) OIL %	SATURATION (PORE VOLUME) WATER %	GRAIN DENSITY gm/cc	DESCRIPTION

S INDICATES PRESERVED SAMPLE

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

LITHOLOGICAL ABBREVIATIONS

Anhy, anhy	anhydrite (-ic)
Ark, ark	arkose (-ic)
bnd	band (-ed)
Brec, brec	breccia
Calc, calctc	calcite (-ic)
carb	carbonaceous
crs gr	course grained
Chk, chky	chalk (-y)
Cht, cht	chert (-y)
Cgl, cgl	conglomerate (-ic)
crs xln	coursely crystaline
dns	dense
Dol, dol	dolomite (-ic)
F	randomly oriented fractures
f	slightly fractured
f gr	fine grained
foss	fossil (-iferous)
f xln	finely crystalline
Gil	gilsonite
Glauc, glauc	glauconite (-itic)
Grt	granite
Gyp, gyp	gypsum (-iferous)
hor frac	perdominantly horizontally fractured
incl	inclusion (-ded)
intbd	interbedded
lam	lamina (-tions, -ated)
Lim, lim	limestone
med gr	mediam grain
Mtrx	matrix
NA	interval not analyzed
Nod, nod	nodules (-ar)
Ool, ool	oolite (-itic)
Pisol, pisol	pisolite, pisolitic
p.p.	pin-point (porosity)
Ptg	parting
Pyr, pyr	pyrite (-itized, -itic)
Sd, sdy	sand (-y)
Sh, shy	shale (-ly)
SHR	solid hydrocarbon residue
sli	slightly
Slt, slty	silt (-y)
styl	stylolite (-itic)
suc	sucrosic
Su, su	sulphur, sulphurous
TBFA	TOO BROKEN FOR ANALYSIS
Trip, trip	tripoli (-itic)
v	very
vf	predominantly vertically fractured
vug	vug (-gy)
xbd	crossbedded
xln	medium crystalline
xtl	crystal

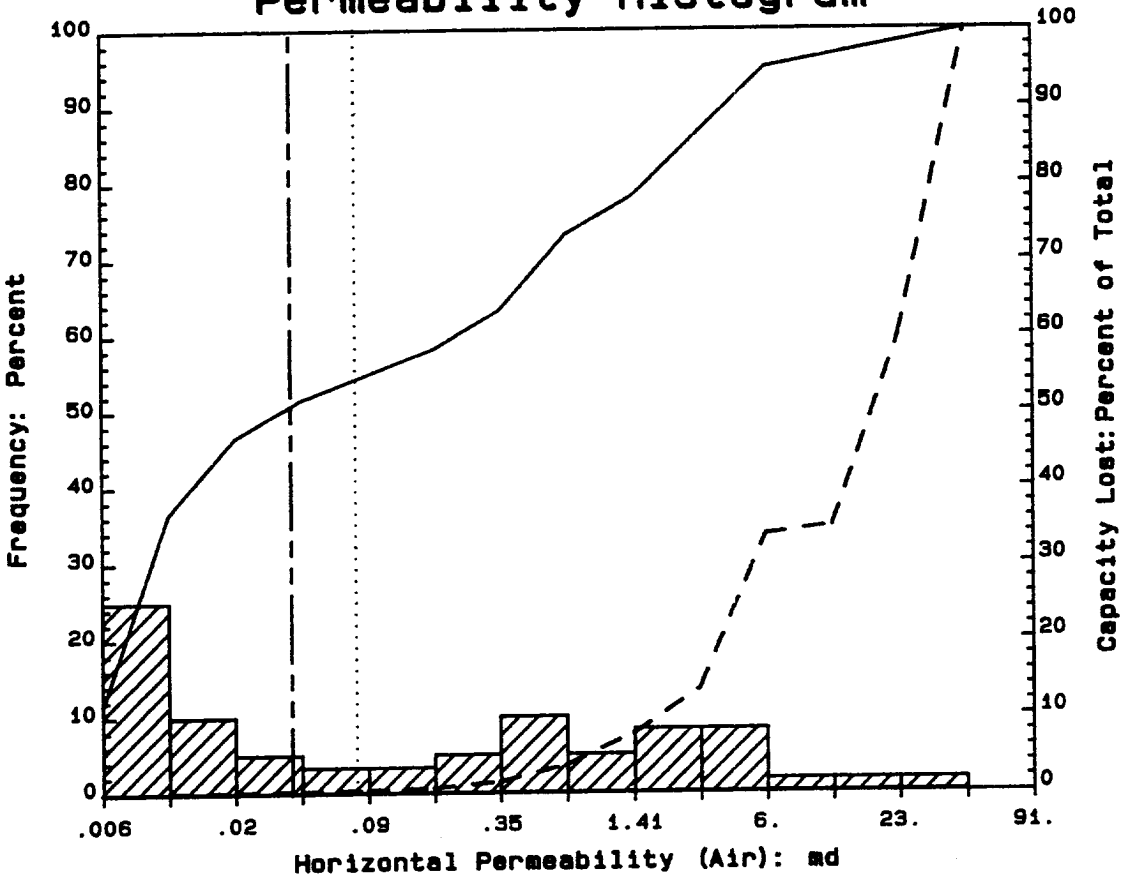
THE FIRST WORD IN THE DESCRIPTION COLUMN OF THE CORE ANALYSIS REPORT DESCRIBES THE ROCK TYPE. FOLLOWING ARE ROCK MODIFIERS IN DECREASING ABUNDANCE AND MISCELLANEOUS DESCRIPTIVE TERMS.

DISTRIBUTION OF FINAL REPORTS

10cc

GREENHILL PETROLEUM CO.
ATTN: KEN PFAU
12777 JONES ROAD
SUITE 375
HOUSTON, TX 77070

Permeability Histogram



GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63
LOVINGTON SAN ANDRES FIELD

SAN ANDRES (4656-4951 feet)

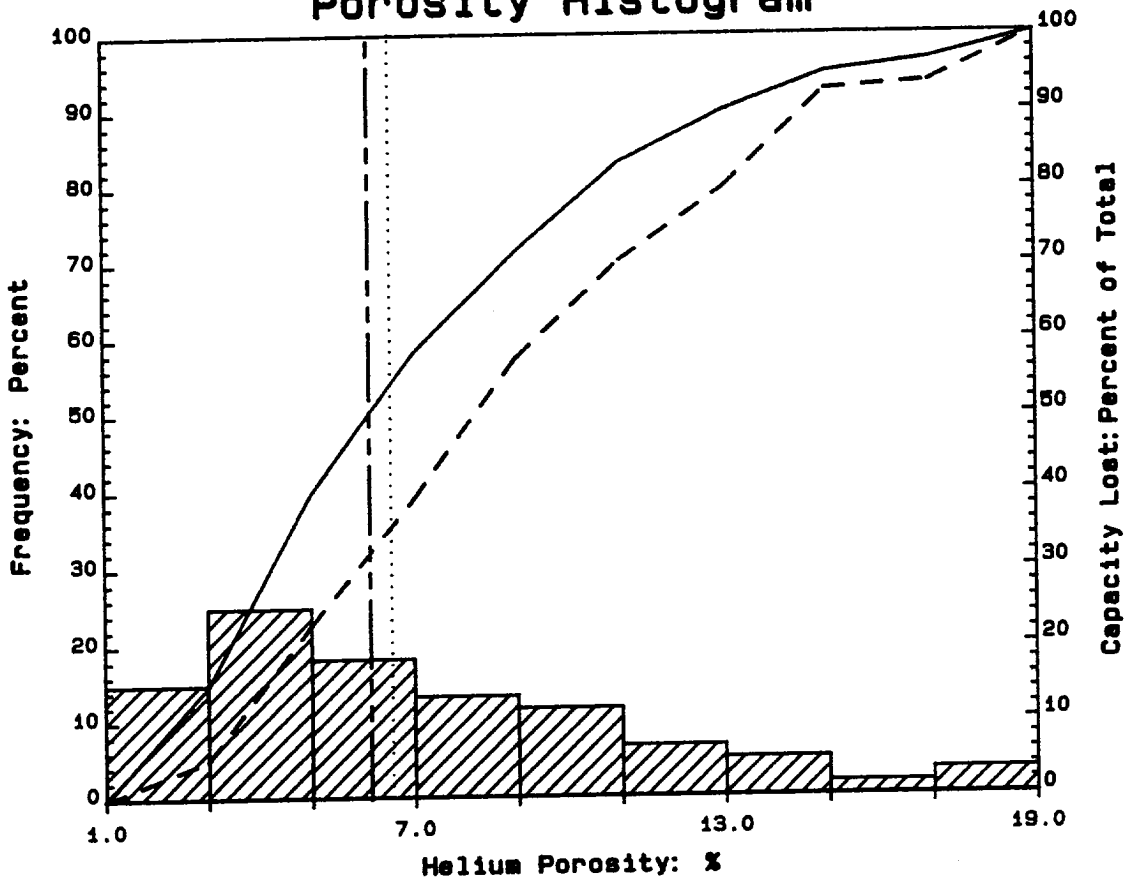
Core Laboratories 1-11-91

- LEGEND -

——— - Median Value (0.040)
..... Geom. Average (0.078)
——— Cumulative Frequency
— — — Cumulative Capacity Lost

60 Samples

Porosity Histogram



GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63
LOVINGTON SAN ANDRES FIELD

SAN ANDRES (4656-4951 feet)

Core Laboratories 1-11-91

- LEGEND -

——— - Median Value (6.2)
..... Arith. Average (6.6)
——— Cumulative Frequency
— — — Cumulative Capacity Lost

60 Samples

CORE LABORATORIES

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63

Field : LOVINGTON SAN ANDRES FIELD File No.: 57181-16269
Formation : SAN ANDRES Date : 1-11-91

TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA

ZONE:

Identification	SAN ANDRES
Top Depth	4656.0 ft
Bottom Depth	4951.0 ft
Number of Samples	75

DATA TYPE:

Porosity	(HELIUM)
Permeability	(HORIZONTAL) Kair

CUTOFFS:

Porosity (Minimum)	0.0 %
Porosity (Maximum)	100.0 %
Permeability (Minimum)	0.0000 md
Permeability (Maximum)	100000. md
Water Saturation (Maximum)	100.0 %
Oil Saturation (Minimum)	0.0 %
Grain Density (Minimum)	2.00 gm/cc
Grain Density (Maximum)	3.00 gm/cc
Lithology Excluded	NONE

CHARACTERISTICS REMAINING AFTER CUTOFFS

ZONE:

Number of Samples	60
Thickness Represented	26.2 ft

POROSITY:

Storage Capacity	171.9 ϕ-ft
Arithmetic Average	6.6 %
Minimum	1.2 %
Maximum	18.1 %
Median	6.2 %
Standard Deviation	±4.2 %

GRAIN DENSITY:

Arithmetic Average	2.86 gm/cc
Minimum	2.82 gm/cc
Maximum	2.87 gm/cc
Median	2.86 gm/cc
Standard Deviation	±0.01 gm/cc

PERMEABILITY:

Flow Capacity	50.5 md-ft
Arithmetic Average	1.93 md
Geometric Average	0.08 md
Harmonic Average	0.01 md
Minimum	0.00 md
Maximum	29.0 md
Median	0.04 md
Standard Dev. (Geom)	$K \cdot 10^{\pm 1.237}$ md

HETEROGENEITY (Permeability):

Dykstra-Parsons Var.	0.949
Lorenz Coefficient	0.821

AVERAGE SATURATIONS (Pore Volume):

Oil	35.7 %
Water	22.6 %

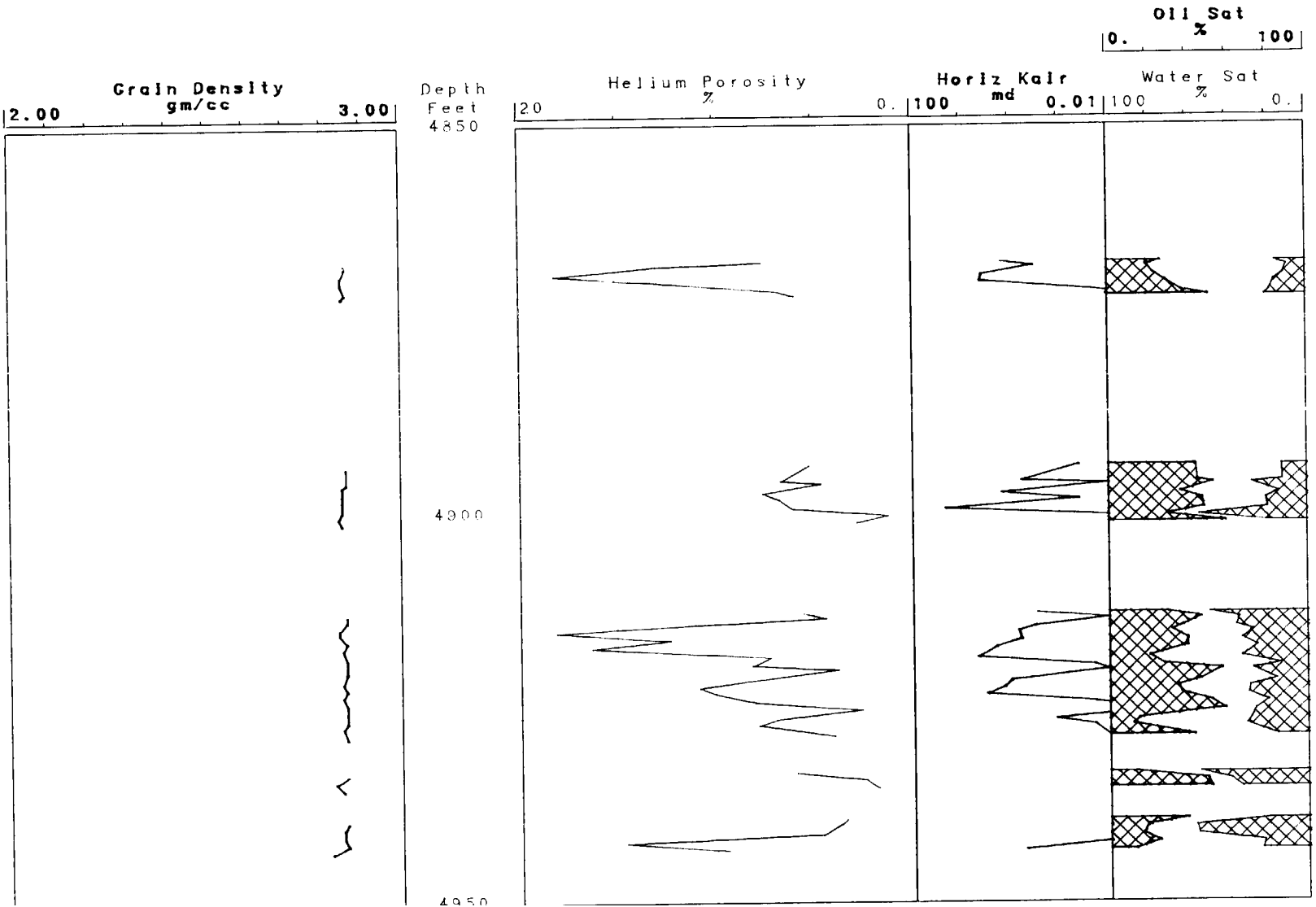
COMPLETION COREGRAPH

GREENHILL PETROLEUM CO.
LOVINGTON SAN ANDRES UNIT NO. 63
LOVINGTON SAN ANDRES FIELD

SAN ANDRES (4860-4951 feet)
ZONE 2

Core Laboratories 1-11-91

Vertical Scale
5.00 in = 100.0 ft



COMPLETION COREGRAPH

GREENHILL PETROLEUM CO.

LOVINGTON SAN ANDRES UNIT NO. 63

LOVINGTON SAN ANDRES FIELD

SAN ANDRES (4656-4746 feet)

ZONE 1

Core Laboratories 1-11-91

Vertical Scale

5.00 in = 100.0 ft