

CORE LABORATORIES, INC.



April 18, 1986

CHEVRON U.S.A., INC.
P.O. Box 670
Hobbs, New Mexico 88241

File : 32020-15060
Subject: Core Analysis
E.M.S.U. No. 247
Monument Field
Lea County, New Mexico

Gentlemen:

The subject well was cored using diamond coring equipment and water base mud to obtain 4 inch diameter cores from 3730 to 4035 feet from the Penrose and Grayberg 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, INC.

A handwritten signature in black ink, reading "Kyle D. Poe". The signature is written in a cursive, flowing style with a long, sweeping underline that extends to the left.

Kyle D. Poe
Laboratory Manager

KDP/yn

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: CHEVRON U.S.A., INC. WELL : E.M.S.U. NO. 247
 FIELD : MONUMENT FIELD COUNTY, STATE: LEA COUNTY, NEW MEXICO

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF					
PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN
0.005	0.0	0.0	296.0	100.0	9.40
0.010	1.0	0.0	295.0	100.0	9.69
0.020	2.0	0.0	294.0	100.0	9.92
0.039	5.0	0.0	291.0	100.0	10.55
0.078	6.0	0.0	290.0	100.0	10.74
0.156	8.0	0.0	288.0	100.0	11.10
0.312	18.0	0.0	278.0	100.0	12.79
0.625	30.0	0.0	266.0	100.0	14.82
1.250	48.0	0.1	248.0	99.9	18.11
2.500	73.0	0.2	223.0	99.8	23.45
5.	112.0	0.5	184.0	99.5	35.06
10.	151.0	1.2	145.0	98.8	54.51
20.	196.0	2.9	100.0	97.1	101.16
40.	225.0	5.1	71.0	94.9	169.86
80.	250.0	8.6	46.0	91.4	317.68
160.	270.0	14.4	26.0	85.6	715.18
320.	276.0	18.0	20.0	82.0	1007.69
640.	283.0	24.8	13.0	75.2	1745.33
1280.	290.0	42.2	6.0	57.8	3509.46
2560.	292.0	54.3	4.0	45.7	4299.88
5120.	295.0	84.7	1.0	15.3	5930.00
10240.	296.0	100.0	0.0	0.0	7240.78

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 38759.68

WRS COMPLETION REPORT

TEMPORARY COMPLETIONS SEC 6 TWP 21S RGE 36E
 PI# 30-T-0002 11/10/86 30-025-29575-0000 PAGE 1

NMEX LEA * 1980FNL 2120FEL SEC SW NE
 STATE COUNTY FOOTAGE SPOT
 CHEVRON USA D D
 OPERATOR WELL CLASS INIT FIN
 247 EUNICE-MONUMENT SOUTH UNIT
 WELL NO. LEASE NAME
 3587KB 3574GR EUNICE-MONUMENT
 OPER ELEV FIELD/POOL AREA
 API 30-025-29575-0000
 LEASE TYPE/NO. PERMIT OR WELL I.D. NO.
 02/13/1986 11/03/1986 ROTARY TA
 SPUD DATE COMP. DATE TYPE TOOL STATUS
 4200 GRBG-SAD SIERRA DRLG 5 RIG SUB 12
 PROJ. DEPTH PROJ. FORM CONTRACTOR
 DTD 4171 FM/TD SN ANDRS
 DRILLERS T.D. LOG T.D. PLUG BACK TD OLD T.D. FORM T.D.

LOCATION DESCRIPTION

3 MI NW OIL CENTER, NM

CASING/LINER DATA

CSG 11 3/4 @ 340 W/ 325 SACKS
 CSG 8 5/8 @ 2639 W/ 200 SACKS
 CSG 5 1/2 @ 4155 W/ 275 SACKS

CORES

CORE 1 3730- 3790 REC 60.00FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 2 3790- 3850 REC 57.05FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 3 3850- 3863 REC 13.00FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 4 3863- 3884 REC 21.00FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 5 3884- 3902 REC 16.00FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 6 3902- 3926 REC 20.00FT GRAYBURG CONV D
 NO DESCRIPTION AVAILABLE
 CORE 7 3926- 3975 REC 48.05FT GRAYBURG CONV D

CONTINUED IC# 300257001386



CHEVRON U.S.A., INC.
E.M.S.U. No. 247
File No. 32020-15060
Procedural Page

The cores were preserved at the wellsite in a CO₂ atmosphere and transported to Midland by Core Laboratories, Inc. personnel.

A Core Gamma Log was recorded for downhole E-log correlation.

Preserved fresh core was taken from selected intervals.

Core analysis was made from intervals requested on full diameter samples.

Fluid removal was achieved using a gas solvent extraction method.

Fluid saturations were determined using controlled low temperature downdraft retort techniques.

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

Air permeability was measured in two horizontal directions and vertically while the core was held in a Hassler rubber sleeve.

The core was boxed after the analysis and will remain at our Midland core storage facility (thirty days free of charge) as we await further disposition instructions.

CORE LABORATORIES, INC.
2001 COMMERCE DRIVE
MIDLAND, TEXAS
(915) 694-7761

CORE ANALYSIS REPORT

FOR

CHEVRON U.S.A., INC.

**E.M.S.U. NO. 247
MONUMENT FIELD
LEA COUNTY, NEW MEXICO**

This report, based on observations and materials supplied by the client, is prepared for the exclusive and confidential use by the client. The analyses, opinions, or interpretations contained herein represent the judgement of Core Laboratories, Inc.; however, Core Laboratories, Inc., and its employees assume no responsibility and make no warranties or representations as to the utility of this report to the client or as to the productivity, proper operation, or profitability of any oil, gas, or other mineral formation or well in connection with which such report may be used or relied upon.

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247
MONUMENT FIELD
LEA COUNTY, NEW MEXICO

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG
DRILG. FLUID: WATER BASE MUD
LOCATION : 1980' FSL & 2120' FEL, SEC. 6, T-36-E

FILE NO. : 32020-15060
API WELL NO.:
LABORATORY : MIDLAND, TEXAS

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
CORE NO. 1 3730.0-3790.0 CUT 60' REC 60'									
1	3730.0-31.0	2.4	1.7	1.0	13.5	8.8	30.2	2.82	DOL SL/IMY VF SL/V FOSS STY
2	3731.0-32.0	3.9	3.0	0.73	12.1	9.4	31.4	2.82	DOL VF SL/V FOSS STY
S 3	3732.0-33.0	16.	10.	0.15	11.4	12.3	30.8	2.81	DOL VF V FOSS STY
4	3733.0-34.0	8.1	8.1	0.47	12.0	20.4	26.2	2.83	DOL V FOSS STY
5	3734.0-35.0	140.	21.	12.	10.0	16.7	18.8	2.82	DOL SL/F V FOSS
6	3735.0-36.0	31.	28.	11.	11.7	16.8	16.8	2.86	DOL VF V PP FOSS
7	3736.0-37.0	19.	17.	10.	11.9	19.9	23.2	2.85	DOL VF PP FOSS
8	3737.0-38.0	23.	23.	27.	12.0	23.7	23.7	2.86	DOL VF PP FOSS
S 9	3738.0-39.0	12.	7.1	6.5	11.4	16.3	21.8	2.87	DOL VF PP FOSS
10	3739.0-40.0	871.	525.	405.	16.9	27.5	27.5	2.86	DOL PP FOSS OOL STY
11	3740.0-41.0	219.	206.	140.	14.5	18.6	34.5	2.87	DOL PP FOSS OOL STY
12	3741.0-42.0	43.	39.	17.	12.0	16.4	29.3	2.86	DOL VF PP FOSS STY
13	3742.0-43.0	0.94	0.90	0.27	14.4	27.0	27.0	2.82	DOL SL/V PP FOSS
*S 14	3743.0-44.0	2.8		0.26	11.1	18.2	34.3	2.84	DOL F VF PP STY
15	3744.0-45.0	2.3	1.4	0.81	9.3	14.8	22.2	2.89	DOL SL/PYRC VF PP STY
16	3745.0-46.0	21.	20.	2.4	13.7	19.1	24.1	2.82	DOL VF PP FOSS
17	3746.0-47.0	114.	106.	23.	14.3	20.1	33.6	2.84	DOL SL/V PP FOSS STY
18	3747.0-48.0	64.	62.	9.8	13.0	10.0	24.4	2.86	DOL VF V PP FOSS STY
19	3748.0-49.0	11.	8.8	1.7	11.9	16.0	25.6	2.86	DOL SL/PYRC SL/V PP FOSS STY
20	3749.0-50.0	360.	346.	150.	16.3	25.9	25.9	2.85	DOL PP FOSS OOL STY
S 21	3750.0-51.0	93.	86.	56.	12.4	13.5	26.9	2.85	DOL V FOSS OOL
* 22	3751.0-52.0	13.		6.8	10.0	11.1	29.5	2.83	DOL F VF PP STY
23	3752.0-53.0	7.9	6.7	3.7	10.5	19.4	30.1	2.87	DOL PP FOSS STY
24	3753.0-54.0	5930.	0.37	784.	5.4	26.8	35.8	2.88	DOL SL/ANHY F VF FOSS STY

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(915) 694-7761

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
25	3754.0-55.0	29.	16.	48.	10.3	21.5	43.1	2.85	DOL VF PP FOSS
S 26	3755.0-56.0	4.8	3.7	4.1	8.8	17.6	19.5	2.86	DOL VF PP FOSS STY
27	3756.0-57.0	18.	3.2	7.4	7.5	16.6	19.0	2.84	DOL VF PP FOSS STY
* 28	3757.0-58.0	8.7		<0.01	6.1	14.1	15.6	2.82	DOL F VF PP
29	3758.0-59.0	98.	1.1	35.	6.2	26.3	26.3	2.83	DOL SL/ANHY VF PP STY
30	3759.0-60.0	5.2	4.7	0.11	6.6	29.4	34.3	2.82	DOL VF PP STY
31	3760.0-61.0	5.5	3.9	4.6	8.6	18.2	18.2	2.85	DOL F SL/V VF PP STY
S 32	3761.0-62.0	17.	7.8	8.3	6.7	8.5	42.6	2.87	DOL F VF SL/V
33	3762.0-63.0	23.	1.7	0.16	4.5	20.9	29.9	2.87	DOL F V SL/V STY
34	3763.0-64.0	3.7	2.7	1.2	4.5	23.8	23.8	2.87	DOL F VF V STY
* 35	3764.0-65.0	<0.01		<0.01	3.2	25.6	36.6	2.87	DOL F VF
36	3765.0-66.0	0.39	0.23	0.06	3.0	29.5	35.4	2.84	DOL VF SL/V STY
37	3766.0-67.0	326.	161.	103.	14.5	18.7	21.8	2.86	DOL SL/V STY
38	3767.0-68.0	78.	75.	60.	15.6	16.0	36.0	2.85	DOL PP
S 39	3768.0-69.0	39.	37.	37.	15.4	29.1	25.7	2.85	DOL PP
40	3769.0-70.0	47.	46.	40.	14.6	29.1	22.6	2.84	DOL PP
* 41	3770.0-71.0	56.		41.	16.1	26.4	32.1	2.85	DOL F VF PP
* 42	3771.0-72.0	17.		7.7	15.8	25.1	31.4	2.85	DOL F VF PP
* 43	3772.0-73.0	17.		10.	14.4	27.8	27.8	2.84	DOL F VF PP
*S 44	3773.0-74.0	1.8		10.	11.0	24.5	25.9	2.84	DOL F VF PP
* 45	3774.0-75.0	6.3		3.2	9.3	16.1	32.2	2.84	DOL F VF PP
* 46	3775.0-76.0	1.7		<0.01	11.0	23.4	24.3	2.84	DOL F VF PP
* 47	3776.0-77.0	8.9		17.	13.8	23.8	35.7	2.85	DOL F VF PP
48	3777.0-78.0	3.4	2.8	2.0	8.3	22.8	35.5	2.87	DOL SL/PYRC F VF PP
49	3778.0-79.0	41.	3.2	5.5	13.1	20.0	32.0	2.86	DOL F VF PP
S 50	3779.0-80.0	17.	1.2	0.46	13.6	22.6	25.3	2.86	DOL SL/ANHY VF PP
51	3780.0-81.0	3024.	4.1	106.	15.0	21.1	23.4	2.86	DOL VF PP
52	3781.0-82.0	10.	5.6	3.6	8.0	23.2	31.9	2.84	DOL VF V STY
* 53	3782.0-83.0	26.		50.	18.1	23.4	31.6	2.83	DOL F VF PP
54	3783.0-84.0	2.7	2.5	2.8	10.6	24.0	24.0	2.87	DOL SL/PYRC VF PP STY

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
55	3784.0-85.0	5.0	4.9	5.3	9.8	25.4	28.6	2.84	DOL VF PP STY
S 56	3785.0-86.0	9.3	8.0	7.4	14.9	20.3	25.4	2.86	DOL VF PP
57	3786.0-87.0	836.	30.	472.	15.6	21.9	25.3	2.87	DOL VF PP STY
* 58	3787.0-88.0	15.		13.	18.2	25.4	30.7	2.85	DOL F VF PP
* 59	3788.0-89.0	1.6			10.9	22.0	22.0	2.86	DOL F VF PP STY
* 60	3789.0-90.0	0.49		0.13	9.6	24.4	24.4	2.86	DOL F VF PP
CORE NO. 2 3790.0-3850.0 CUT 60' REC 58'									
61	3790.0-91.0	4.9	3.1	1.4	9.5	24.0	24.0	2.85	DOL VF PP
S 62	3791.0-92.0	19.	17.	10.	12.0	16.4	19.7	2.87	DOL SL/CHTY STY
* 63	3792.0-93.0	0.79		2.9	10.1	17.3	22.3	2.85	DOL VF PP
* 64	3793.0-94.0	4.6		7.1	12.9	18.1	18.1	2.84	DOL VF PP
65	3794.0-95.0	1.2	1.1	1.9	10.9	16.0	28.7	2.86	DOL VF
* 66	3795.0-96.0	1.1		1.8	9.5	13.7	20.9	2.84	DOL VF PP
67	3796.0-97.0	5.9	5.6	5.6	9.6	16.8	26.6	2.84	DOL VF PP
*S 68	3797.0-98.0	0.69		8.5	6.9	9.2	23.1	2.84	DOL VF SL/V PP
69	3798.0-99.0	2.7	1.2	1.7	10.1	16.0	26.9	2.85	DOL F VF
70	3799.0- 0.0	0.59	0.31	0.96	7.8	16.8	33.5	2.83	DOL VF
71	3800.0- 1.0	0.58	0.32	0.74	7.7	17.8	23.7	2.84	DOL VF STY
72	3801.0- 2.0	1.3	1.0	0.89	7.1	18.3	20.9	2.86	DOL VF SL/V PP STY
*S 73	3802.0- 3.0	27.			5.7	5.2	31.4	2.83	DOL VF SL/V PP STY
74	3803.0- 4.0	4.9	3.6	6.4	10.9	16.3	27.5	2.87	DOL VF STY
75	3804.0- 5.0	2.5	1.4	2.1	10.6	20.3	24.3	2.86	DOL VF STY
76	3805.0- 6.0	0.91	0.85	0.54	10.5	20.0	24.8	2.88	DOL VF STY
* 77	3806.0- 7.0	57.		0.13	12.9	12.7	25.3	2.82	DOL VF SL/V PP
78	3807.0- 8.0	3.1	2.6	3.2	8.4	11.3	35.0	2.85	DOL VF STY
79	3808.0- 9.0	54.	46.	4.0	8.7	14.7	23.2	2.85	DOL VF SL/V PP FOSS STY
S 80	3809.0-10.0	15.	7.8	4.8	7.4	12.9	34.5	2.83	DOL VF PP OOL STY

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E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
* 111	3840.0-41.0	1.5		7.5	7.7	12.5	22.3	2.84	DOL VF SL/V PP
112	3841.0-42.0	15.	10.	6.4	8.2	13.9	27.7	2.84	DOL STY
113	3842.0-43.0	0.20	0.10	0.09	11.3	15.0	20.6	2.86	DOL STY
114	3843.0-44.0	2.3	0.22	0.14	10.7	13.7	27.5	2.77	DOL SDY VF STY
115	3844.0-45.0	1.9	0.44	0.26	8.9	14.4	26.8	2.83	DOL SL/F STY
116	3845.0-46.0	0.55	0.27	0.34	14.6	18.0	21.6	2.74	DOL SDY
*S 117	3846.0-47.0	0.26		0.72	13.4	17.1	15.9	2.73	DOL V/SDY F
* 118	3847.0-48.0	0.18		0.37	11.5	12.5	16.7	2.74	DOL SDY F
	3848.0-50.0								LOST CORE

CORE NO. 3 3850.0-3863.0 CUT 13' REC 13'

* 119	3850.0-51.0	0.52		0.51	14.1	7.6	12.7	2.69	SD V/DOLC VF
120	3851.0-52.0	0.74	0.71	0.19	12.1	15.8	29.9	2.73	DOL V/SDY STY
121	3852.0-53.0	0.72	0.67	0.29	13.0	20.2	26.0	2.69	SD DOLC
122	3853.0-54.0	1.0	1.0	0.49	11.9	21.2	28.3	2.66	SD
123	3854.0-55.0	1.3	1.2	0.67	12.7	19.1	31.9	2.68	SD DOLC F
124	3855.0-56.0	0.88	0.70	0.51	15.7	14.4	19.6	2.76	DOL V/SDY VF
125	3856.0-57.0	11.	9.4	9.9	13.5	17.1	26.1	2.82	DOL PP
126	3857.0-58.0	1.6	1.5	0.67	12.7	14.4	26.0	2.75	DOL SDY SL/ANHY PP SHLAM
127	3858.0-59.0	11.	6.1	13.	11.2	18.8	26.8	2.82	DOL VF PP
128	3859.0-60.0	989.	18.	1554.	15.1	24.6	24.6	2.83	DOL F VF SL/V FOSS
129	3860.0-61.0	3.5	3.1	2.8	9.3	25.7	29.4	2.79	DOL SL/SDY F V STY
130	3861.0-62.0	5.1	3.7	6.0	9.5	18.1	30.1	2.82	DOL F V STY
131	3862.0-63.0	30.	13.	18.	9.7	25.8	30.1	2.82	DOL F SL/V FOSS

CORE NO. 4 3863.0-3884.0 CUT 21' REC 21'

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DATE : 2-21-86
FORMATION : PENROSE/GRAVBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
132	3863.0-64.0	5.3	4.9	1.6	12.3	23.3	26.2	2.83	DOL VF SHLAM
S 133	3864.0-65.0	7.8	7.1	8.3	14.2	24.1	24.1	2.83	DOL VF SL/V PP FOSS
134	3865.0-66.0	4.9	4.5	1.1	13.3	24.1	27.1	2.76	DOL V/SDY VF
135	3866.0-67.0	0.61	0.37	0.67	14.1	19.7	22.6	2.74	DOL V/SDY VF
136	3867.0-68.0	0.70	0.60	0.33	13.8	19.7	23.9	2.74	DOL V/SDY VF SL/F
137	3868.0-69.0	7.4	2.2	6.3	11.8	22.5	28.8	2.86	DOL VF
* 138	3869.0-70.0	1.7		4.0	11.1	19.7	22.3	2.85	DOL F VF STY
139	3870.0-71.0	625.	8.4	13.	12.6	24.5	31.5	2.82	DOL VF
140	3871.0-72.0	4.6	TBFA	6.4	12.4	27.3	29.0	2.85	DOL F VF PP
* 141	3872.0-73.0	8.9		1.6	10.4	20.6	27.4	2.85	DOL F VF PP
*S 142	3873.0-74.0	2.7		4.2	10.3	14.6	35.5	2.84	DOL F SL/V VF
143	3874.0-75.0	102.	99.	42.	12.2	14.4	32.9	2.83	DOL VF SL/V PP
144	3875.0-76.0	73.	72.	47.	13.8	20.6	26.5	2.85	DOL VF PP
145	3876.0-77.0	7.4	6.2	7.7	10.8	17.0	30.4	2.84	DOL VF PP
146	3877.0-78.0	33.	32.	28.	12.9	20.9	32.9	2.84	DOL VF PP
147	3878.0-79.0	142.	123.	83.	14.8	13.4	32.6	2.86	DOL VF PP
148	3879.0-80.0	41.	29.	23.	13.5	17.4	28.2	2.88	DOL PP
*S 149	3880.0-81.0	15.		18.	14.2	17.1	22.0	2.84	DOL VF
150	3881.0-82.0	8.1	7.5	8.7	13.9	24.8	27.7	2.88	DOL VF
151	3882.0-83.0	26.	25.	22.	14.1	18.2	33.0	2.85	DOL SDY F VF
* 152	3883.0-84.0	4.6		8.7	11.4	17.8	28.8	2.84	DOL SDY VF
CORE NO. 5 3884.0-3902.0 CUT 18' REC 16'									
153	3884.0-85.0	15.	15.	18.	13.7	23.9	23.9	2.84	DOL SDY VF STY
154	3885.0-86.0	17.	6.2	10.	12.8	28.4	28.4	2.85	DOL SDY F VF STY
S 155	3886.0-87.0	12.	7.9	10.	12.3	25.4	30.8	2.85	DOL VF STY
156	3887.0-88.0	12.	8.5	14.	13.8	22.5	25.6	2.85	DOL F VF STY
157	3888.0-89.0	11.	6.2	12.	13.8	35.7	37.6	2.81	DOL VF

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WIR% POR	GRAIN DEN M	DESCRIPTION
* 158	3889.0-90.0	1.8		11.	12.6	20.5	22.9	2.85	DOL VF
159	3890.0-91.0	11.	6.8	8.9	12.2	24.3	24.3	2.84	DOL VF
160	3891.0-92.0	8.4	6.9	11.	13.8	27.1	27.1	2.82	DOL
161	3892.0-93.0	3.1	2.8	3.6	13.0	23.0	26.3	2.84	DOL VF
*S 162	3893.0-94.0	2.9		2.5	13.3	22.0	29.4	2.84	DOL PP
163	3894.0-95.0	40.	25.	22.	8.7	17.1	37.0	2.82	DOL VF V STY
164	3895.0-96.0	54.	53.	8.0	14.7	24.1	28.6	2.83	DOL VF V FOSS
S 165	3896.0-97.0	70.	9.9		7.9	25.2	35.3	2.84	DOL F VF V FOSS
* 166	3897.0-98.0	116.		1.8	21.6	28.0	29.6	2.84	DOL VF PP
* 167	3898.0-99.0	5.6		5.7	13.5	17.0	21.2	2.83	DOL PP
* 168	3899.0- 0.0	26.		1.1	12.9	18.6	23.0	2.83	DOL PP
	3900.0- 2.0								LOST CORE
CORE NO. 6 3902.0-3926.0 CUT 24' REC 20'									
169	3902.0- 3.0	13.	12.	17.	9.6	17.8	35.6	2.83	DOL VF PP STY
170	3903.0- 4.0	6.6	6.0	6.2	9.7	18.0	32.3	2.83	DOL VF PP STY
171	3904.0- 5.0	15.	6.2	0.75	11.3	24.4	27.5	2.84	DOL PP STY
172	3905.0- 6.0	0.58	0.53	0.02	5.0	19.7	35.1	2.84	DOL F V VF
S 173	3906.0- 7.0	2.3	1.4	0.78	2.5	17.2	51.7	2.83	DOL F V VF STY
174	3907.0- 8.0	2.3	0.90	0.07	4.3	17.8	44.6	2.83	DOL F V VF STY
175	3908.0- 9.0	15.	4.3	4.6	5.4	17.4	34.9	2.84	DOL F V VF STY
176	3909.0-10.0	71.	45.	6.6	8.1	13.4	29.7	2.84	DOL F V VF STY
177	3910.0-11.0	2.7	2.5	1.3	9.3	19.9	34.1	2.84	DOL F V VF STY
S 178	3911.0-12.0	4.0	2.5	3.6	8.0	24.7	39.0	2.79	DOL F V VF FOSS STY
179	3912.0-13.0	6.1	6.1	1.2	9.0	20.8	35.0	2.79	DOL F V VF FOSS STY
180	3913.0-14.0	4.2	1.6	2.7	7.1	17.8	38.2	2.82	DOL F V VF FOSS STY
181	3914.0-15.0	25.	25.	34.	8.1	21.2	23.6	2.84	DOL SL/IMY F V VF FOSS STY
* 182	3915.0-16.0	45.		3.4	10.8	19.9	34.2	2.83	DOL SL/IMY F V VF FOSS

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAVEBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WIR% POR	GRAIN DEN M	DESCRIPTION
183	3916.0-17.0	5.1	2.1	0.37	8.4	19.5	34.6	2.84	DOL SL/IMV F V VF SHIAM
S 184	3917.0-18.0	863.	1.6	553.	9.8	25.3	29.3	2.88	DOL SL/PYRC F VF PP
185	3918.0-19.0	3.2	1.9	2.4	10.2	21.2	27.2	2.82	DOL SL/IMV F VF PP STY
* 186	3919.0-20.0	5.1		15.	10.9	20.6	20.6	2.83	DOL SL/IMV VF PP
* 187	3920.0-21.0	13.		1.5	11.4	15.2	20.6	2.83	DOL SL/IMV PP
* 188	3921.0-22.0	11.		1.8	10.7	16.2	23.8	2.83	DOL SL/IMV PP
	3922.0-26.0								LOST CORE

CORE NO. 7 3926.0-3975.0 CUT 49' REC 49'

*S 189	3926.0-27.0	12.		0.50	8.3	13.6	31.7	2.83	DOL F V VF
190	3927.0-28.0	91.	21.	50.	5.8	17.4	34.9	2.80	DOL F V VF STY
* 191	3928.0-29.0	2.9		1.9	6.2	12.7	40.7	2.84	DOL F SL/V VF
192	3929.0-30.0	322.	322.	375.	16.8	27.8	29.1	2.83	DOL SL/F OOL
193	3930.0-31.0	136.	135.	99.	11.9	21.8	26.7	2.85	DOL VF SL/F FOSS OOL STY
194	3931.0-32.0	33.	9.8	5.6	11.5	11.7	26.8	2.84	DOL VF SL/V FOSS STY
*S 195	3932.0-33.0	6.8		<0.01	11.2	17.6	30.8	2.84	DOL VF SL/V STY
196	3933.0-34.0	0.36	0.36	0.08	4.6	13.8	44.2	2.84	DOL VF FOSS
197	3934.0-35.0	88.	51.	0.45	8.8	5.7	39.7	2.83	DOL VF V FOSS STY
198	3935.0-36.0	1.2	0.82	0.05	5.1	16.3	49.0	2.80	DOL VF SL/F FOSS STY
199	3936.0-37.0	1.3	1.1	0.19	7.6	21.0	30.2	2.80	DOL VF SL/V FOSS
200	3937.0-38.0	0.10	0.06	0.04	4.7	14.9	59.6	2.82	DOL SL/F SL/V STY
S 201	3938.0-39.0	20.	0.23	0.07	7.2	18.6	58.0	2.77	DOL SDY SL/SHY SL/F FOSS
202	3939.0-40.0	0.39	0.33	<0.01	11.1	17.1	46.3	2.74	DOL V/SDY SL/F FOSS
203	3940.0-41.0	5.3	4.2	1.1	15.5	18.9	25.6	2.65	SD SL/F
204	3941.0-42.0	6.1	3.0	0.15	10.1	20.8	26.8	2.72	SD V/DOLC SL/F SL/V
205	3942.0-43.0	0.26	0.17	0.06	11.5	14.2	24.3	2.76	SD V/DOLC SL/V
206	3943.0-44.0	0.82	0.59	0.06	12.7	17.9	23.1	2.68	SD DOLC
*S 207	3944.0-45.0	0.03		0.05	12.8	10.3	34.4	2.79	DOL SL/SDY F SL/V VF

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WIR% POR	GRAIN DEN M	DESCRIPTION
208	3945.0-46.0	0.16	0.11	0.03	10.0	9.0	69.7	2.76	DOL SDY SL/V FOSS STY
209	3946.0-47.0	0.57	0.53	0.03	4.9	17.1	61.5	2.82	DOL SL/V FOSS STY
210	3947.0-48.0	1.1	1.1	0.29	7.1	26.2	26.2	2.83	DOL SL/F SL/V STY
211	3948.0-49.0	2.0	1.4	1.3	5.4	17.4	46.3	2.82	DOL VF FOSS
* 212	3949.0-50.0	0.01		<0.01	5.2	17.6	52.7	2.83	DOL F SL/V VF FOSS STY
*S 213	3950.0-51.0	0.25		0.11	6.5	12.2	32.6	2.84	DOL F V VF FOSS STY
* 214	3951.0-52.0	0.23		0.52	10.7	15.9	18.5	2.82	DOL F V VF FOSS STY
215	3952.0-53.0	5.2	2.9	2.3	9.1	12.3	24.5	2.80	DOL SL/F V
216	3953.0-54.0	4659.	2.1	322.	6.1	27.5	32.1	2.82	DOL VF STY
217	3954.0-55.0	1.4	0.56	1.6	6.5	19.9	39.9	2.78	DOL VF STY
218	3955.0-56.0	2493.	1661.	976.	5.0	20.4	51.0	2.83	DOL VF STY
S 219	3956.0-57.0	0.03	<0.01	<0.01	6.7	3.1	61.3	2.81	DOL SL/F SL/V STY
220	3957.0-58.0	0.05	<0.01	0.04	7.7	23.7	26.3	2.80	DOL VF FOSS STY
221	3958.0-59.0	897.	0.12	309.	5.7	14.9	42.6	2.83	DOL VF STY
222	3959.0-60.0	3.7	1.9	0.17	8.4	8.0	50.9	2.83	DOL VF V STY
223	3960.0-61.0	2.4	2.0	1.4	10.0	16.1	32.2	2.81	DOL SL/V FOSS
224	3961.0-62.0	1227.	11.	497.	15.3	14.2	28.4	2.87	DOL VF FOSS
225	3962.0-63.0	4092.	129.	490.	12.3	14.1	26.5	2.83	DOL VF V FOSS STY
S 226	3963.0-64.0	38.	31.	18.	13.1	24.0	26.4	2.85	DOL VF SL/V STY
227	3964.0-65.0	36.	36.	6.2	16.0	19.7	23.5	2.83	DOL V FOSS STY
228	3965.0-66.0	10.	8.3	4.5	13.0	21.8	25.9	2.79	DOL VF SL/F FOSS STY
229	3966.0-67.0	3.8	3.7	2.6	13.8	18.3	26.1	2.79	DOL VF FOSS STY
230	3967.0-68.0	4.2	1.2	0.69	15.4	15.8	21.4	2.73	DOL SL/SDY SL/F
231	3968.0-69.0	72.	1.5	2.4	17.1	11.6	23.3	2.73	SD DOLC VF FOSS
*S 232	3969.0-70.0	0.24		0.37	12.0	16.4	24.9	2.77	DOL SL/SDY VF STY
* 233	3970.0-71.0	0.19		2.5	4.3	14.5	29.1	2.84	DOL VF SL/F
234	3971.0-72.0	4.1	2.6	3.2	7.9	16.1	22.9	2.85	DOL VF SL/F SL/V STY
* 235	3972.0-73.0	1.7		5.9	8.1	12.2	24.4	2.84	DOL VF SL/V STY
* 236	3973.0-74.0	11.		12.	10.9	15.3	30.7	2.84	DOL VF
* 237	3974.0-75.0	0.02		0.01	9.1	16.5	36.7	2.78	DOL SL/SDY VF SL/V STY

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MIDLAND, TEXAS
(915) 694-7761

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
APT WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WTR% POR	GRAIN DEN M	DESCRIPTION
CORE NO. 8 3975.0-4035.0 CUT 60' REC 60'									
S 238	3975.0-76.0	0.11		<0.01	9.8	13.2	31.8	2.79	DOL SL/SDY SL/V FOSS
S 239	3976.0-77.0	1.1	0.10	0.61	10.7	15.1	28.6	2.85	DOL PP FOSS STY
240	3977.0-78.0	48.	45.	15.	12.6	14.3	28.5	2.84	DOL VF PP STY
241	3978.0-79.0	6.3	1.2	11.	7.9	9.5	34.1	2.85	DOL VF SL/V PP STY
242	3979.0-80.0	98.	61.	49.	10.5	7.5	36.0	2.84	DOL VF V
243	3980.0-81.0	41.	15.	0.92	10.9	14.1	30.2	2.83	DOL PP STY
244	3981.0-82.0	1.8	1.0	0.28	8.1	8.3	36.4	2.82	DOL SL/V PP STY
S 245	3982.0-83.0	9.2	7.2	8.4	10.2	20.0	25.0	2.85	DOL PP STY
246	3983.0-84.0	2.0	1.4	<0.01	6.8	16.3	39.6	2.82	DOL SL/V PP
247	3984.0-85.0	28.	8.1	7.7	9.4	11.5	28.8	2.86	DOL VF PP STY
248	3985.0-86.0	2.2	1.9	2.1	5.8	21.1	30.4	2.84	SD VF SL/V PP STY
249	3986.0-87.0	7.6	6.4	8.5	10.4	14.6	21.5	2.87	DOL VF SL/V PP STY
250	3987.0-88.0	3.5	2.8	0.26	4.3	24.6	39.3	2.84	DOL VF SL/V PP STY
S 251	3988.0-89.0	76.	72.	85.	13.1	14.7	25.2	2.86	DOL VF PP
252	3989.0-90.0	22.	11.	13.	9.5	11.6	24.5	2.84	DOL VF PP STY
253	3990.0-91.0	98.	84.	103.	12.1	10.9	28.1	2.85	DOL VF PP
* 254	3991.0-92.0	300.		76.	13.1	17.4	38.5	2.84	DOL F VF PP
* 255	3992.0-93.0	37.		55.	13.5	20.5	32.9	2.82	DOL F VF PP
* 256	3993.0-94.0	205.		480.	12.3	18.8	39.4	2.84	DOL F VF PP
S 257	3994.0-95.0	38.	36.	67.	14.3	18.2	30.3	2.82	DOL VF SL/V PP
258	3995.0-96.0	19.	14.	4.5	11.1	14.1	22.6	2.85	DOL SL/V PP
259	3996.0-97.0	140.	138.	67.	14.3	14.7	33.6	2.85	DOL PP FOSS
* 260	3997.0-98.0	4.3		266.	10.0	11.0	23.5	2.76	DOL SDY F VF SL/V PP
261	3998.0-99.0	11.	6.9	7.6	10.0	15.6	20.8	2.80	DOL SDY F VF PP STY
262	3999.0- 0.0	321.	321.	371.	15.1	16.4	34.4	2.83	DOL SL/SDY PP
*S 263	4000.0- 1.0	25.		16.	13.8	16.1	33.8	2.84	DOL F V VF PP FOSS STY

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PAGE 11

CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE POR	OIL% POR	WIR% POR	GRAIN DEN M	DESCRIPTION
264	4001.0-2.0	81.	72.	45.	14.8	14.1	25.1	2.85	DOL V PP FOSS STY
265	4002.0-3.0	337.	319.	253.	16.3	26.0	29.7	2.86	DOL SL/V PP FOSS STY
266	4003.0-4.0	128.	100.	148.	12.7	20.6	27.5	2.84	DOL SL/SDY VF PP
267	4004.0-5.0	2.0	1.6	1.2	10.1	13.4	32.8	2.85	DOL SL/V PP FOSS STY
268	4005.0-6.0	2.8	2.6	1.5	10.9	18.0	27.0	2.85	DOL SL/SDY SL/V PP FOSS STY
269	4006.0-7.0	8.1	8.1	6.1	12.7	15.4	27.1	2.81	DOL SDY PP SHLAM STY
S 270	4007.0-8.0	14.	13.	8.4	14.9	16.6	23.9	2.78	DOL V/SDY VF PP STY
271	4008.0-9.0	11.	11.	2.8	16.1	19.4	20.5	2.78	DOL V/SDY STY
272	4009.0-10.0	7.8	7.6	2.5	17.4	19.6	28.9	2.74	SD V/DOLC
273	4010.0-11.0	16.	12.	6.4	17.5	17.8	22.2	2.78	DOL V/SDY VF
* 274	4011.0-12.0	9.2	25.	2.5	17.3	21.0	24.0	2.72	SD V/DOLC F VF
S 275	4012.0-13.0	29.	25.	21.	15.2	20.6	23.5	2.79	DOL SDY VF
* 276	4013.0-14.0	2.7	6.7	169.	9.3	20.8	23.8	2.84	DOL SDY F VF STY
277	4014.0-15.0	12.	6.7	24.	12.2	20.2	22.7	2.83	DOL SL/SDY VF STY
278	4015.0-16.0	1.5	1.4	1.2	12.0	16.3	30.9	2.75	DOL V/SDY PP SHLAM STY
279	4016.0-17.0	5.2	5.2	2.0	13.1	13.9	27.9	2.81	DOL SDY PP STY
280	4017.0-18.0	10.	9.7	5.7	13.8	18.7	24.1	2.79	DOL SDY VF PP SHLAM
281	4018.0-19.0	3.4	3.3	1.0	12.4	18.8	32.2	2.65	SD SL/DOLC STY
S 282	4019.0-20.0	2.4	2.4	1.6	16.9	14.7	25.8	2.72	SD V/DOLC
283	4020.0-21.0	327.	318.	262.	15.2	15.2	30.4	2.86	DOL SL/SDY SL/PYRC F VF PP STY
284	4021.0-22.0	275.	261.	267.	14.4	18.9	30.2	2.83	DOL F VF PP STY
285	4022.0-23.0	211.	176.	121.	14.0	15.5	29.5	2.86	DOL SL/SDY F VF PP
* 286	4023.0-24.0	180.	176.	197.	14.3	19.8	34.6	2.84	DOL SL/SDY F VF PP
287	4024.0-25.0	138.	136.	109.	14.1	19.5	22.3	2.86	DOL VF PP
288	4025.0-26.0	104.	95.	66.	13.7	12.3	26.1	2.85	DOL SL/SDY VF PP STY
S 289	4026.0-27.0	119.	115.	127.	15.7	17.2	23.3	2.86	DOL SL/SDY PP
290	4027.0-28.0	143.	141.	133.	16.2	18.4	23.8	2.85	DOL SL/SDY SL/F PP
291	4028.0-29.0	39.	36.	34.	14.9	19.4	29.7	2.86	DOL F VF PP STY
292	4029.0-30.0	39.	36.	47.	15.7	24.0	29.7	2.86	DOL F VF PP

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2001 COMMERCE DRIVE
MIDLAND, TEXAS
(915) 694-7761

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CHEVRON U.S.A., INC.
E.M.S.U. NO. 247

DATE : 2-21-86
FORMATION : PENROSE/GRAYBERG

FILE NO. : 32020-15060
API WELL NO.:

FULL DIAMETER ANALYSIS

SAMPLE NUMBER	DEPTH FEET	PERM MAXIMUM	PERM 90 DEG	PERM VERTICAL	HE		OIL%		WTR%		GRAIN		DESCRIPTION
					POR	POR	POR	POR	POR	POR	DEN	M	
293	4030.0-31.0	44.	43.	21.	13.6	18.6	30.6				2.84		DOL SL/SDY VF PP STY
*S 294	4031.0-32.0	58.		77.	13.8	19.7	33.1				2.84		DOL SL/SDY F VF PP STY
295	4032.0-33.0	44.	39.	47.	14.3	18.2	27.3				2.87		DOL SL/SDY SL/PYRC VF PP STY
296	4033.0-34.0	83.	82.	40.	14.3	20.6	28.8				2.81		DOL SL/SDY SL/F PP
297	4034.0-35.0	17.	17.	16.	13.7	25.5	28.6				2.83		DOL SL/SDY PP

* INDICATES PLUG PERMEABILITY

S INDICATES A PRESERVED SAMPLE

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

LITHOLOGICAL ABBREVIATIONS

ANH(Y)	ANHYDRITE, ANHYDRITIC	IM(Y)	LIMESTONE, LIMY
ARK	ARKOSE, ARKOSIC	MG	MEDIUM GRAINED
BAN	BAND, BANDED	MTX	MATRIX
BREC	BRECCA, BRECCIATED	NA	INTERVAL NOT ANALYZED (AT REQUEST OF CLIENT)
CALC	CALCITE, CALCAREOUS	NOD	NODULE, NODULAR
CARB	CARBONACEOUS	OOL	OOLITIC
CG	COARSE GRAINED	PISO	PISOLITIC
CHK(Y)	CHALK, CHALKY	PP	PINPOINT POROSITY
CHT(Y)	CHERT, CHERTY	PT	PARTING
CONGL	CONGLOMERATE, CONGLOMERITIC	PVR	PYRITE, PYRITIC
CXIN	COARSELY CRYSTALLINE	SD(Y)	SANDSTONE, SANDY
DNS	DENSE	SH(Y)	SHALE, SHALY
DOL(C)	DOLOMITE, DOLOMITIC	SHR	SOLID HYDROCARBON RESIDUE
F	RANDOMLY ORIENTED FRACTURES	SL/	SLIGHTLY
FG	FINE GRAINED	SILT(Y)	SILT, SILTY
FOSS	FOSSILIFEROUS	STY	STYLOLITE, STYLOLITIC
FR	FRIABLE	SUC	SUCROSIC
FXIN	FINELY CRYSTALLINE	SUL	SULPHUR
GAL	GALENA	TBFA	TOO BROKEN FOR ANALYSIS
GLAUC	GLAUCONITE, GLAUCONITIC	TRIP	TRIPOLITE
GRAN	GRANITE	V/	VERY
GYP	GYPSUM, GYPSIFEROUS	VF	PREDOMINANTLY VERTICALLY FRACTURED
HF	PREDOMINANTLY HORIZONTALLY FRACTURED	V	VUGULAR
INC	INCLUSION	XBD	CROSSEDDED
INTB	INTERBEDDED	XIN	MEDIUM CRYSTALLINE
LAM	LAMINATED	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.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CHEVRON U.S.A., INC.
E.M.S.U. NO. 247
LEA COUNTY, NEW MEXICO

DATE : 2-21-86
FIELD: MONUMENT FIELD

FILE NO: 32020-15060
ANALYST: OLSON

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CORE LABORATORIES, INC.
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DALLAS, TEXAS

CHEVRON U.S.A., INC.
E.M.S.U. NO. 247
LEA COUNTY, NEW MEXICO

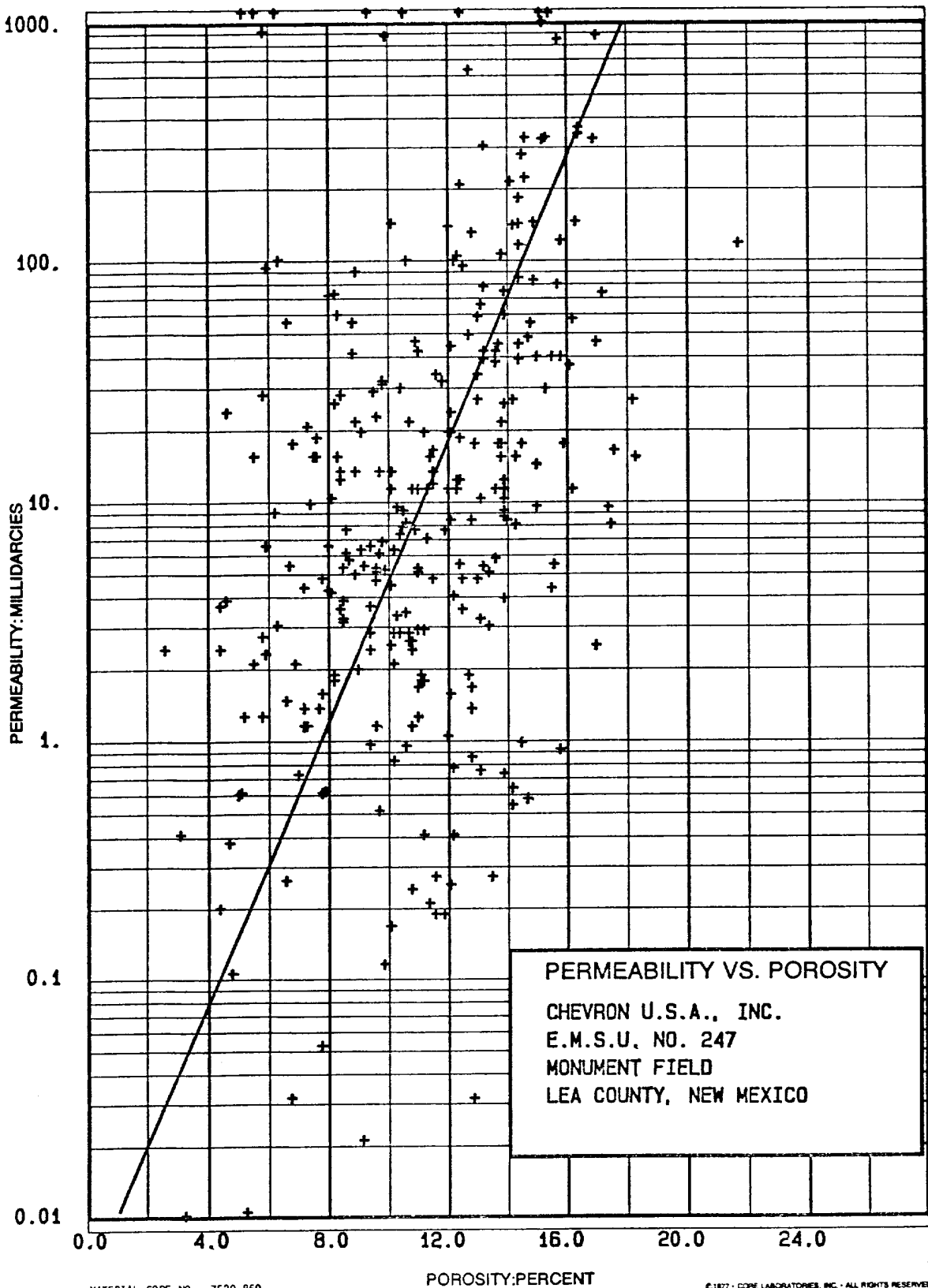
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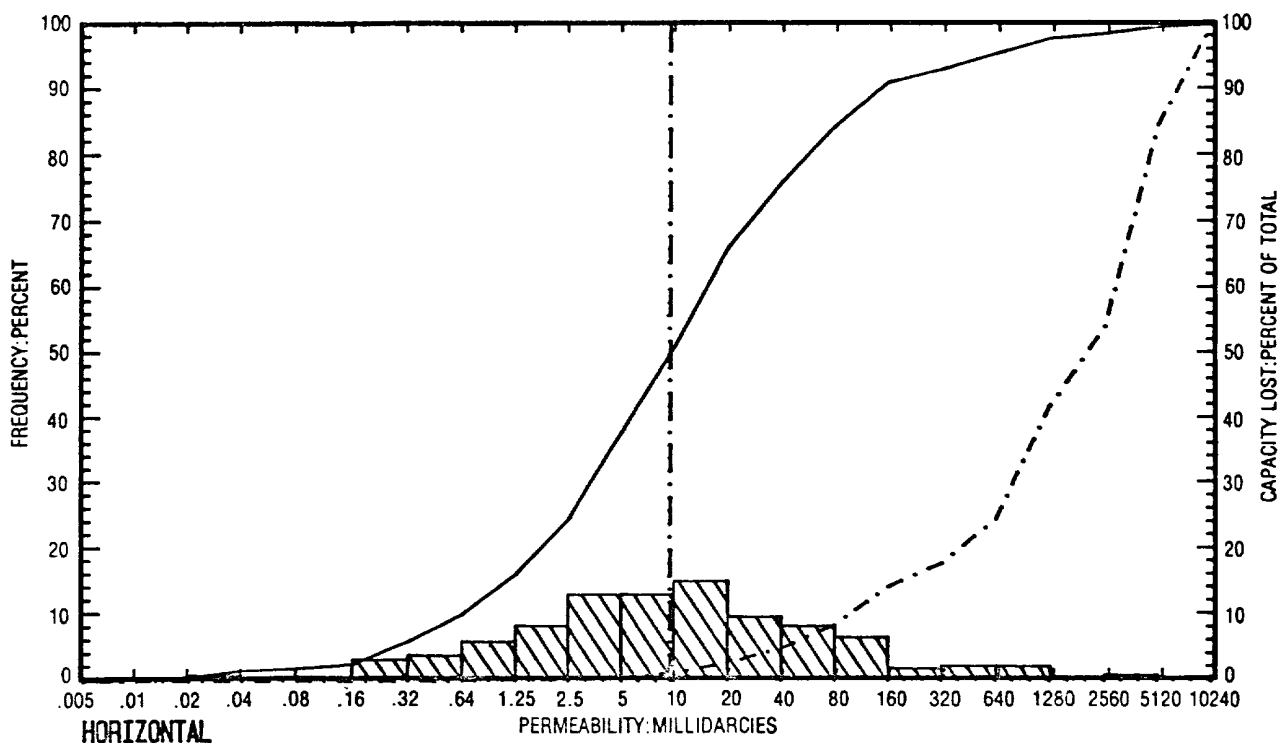
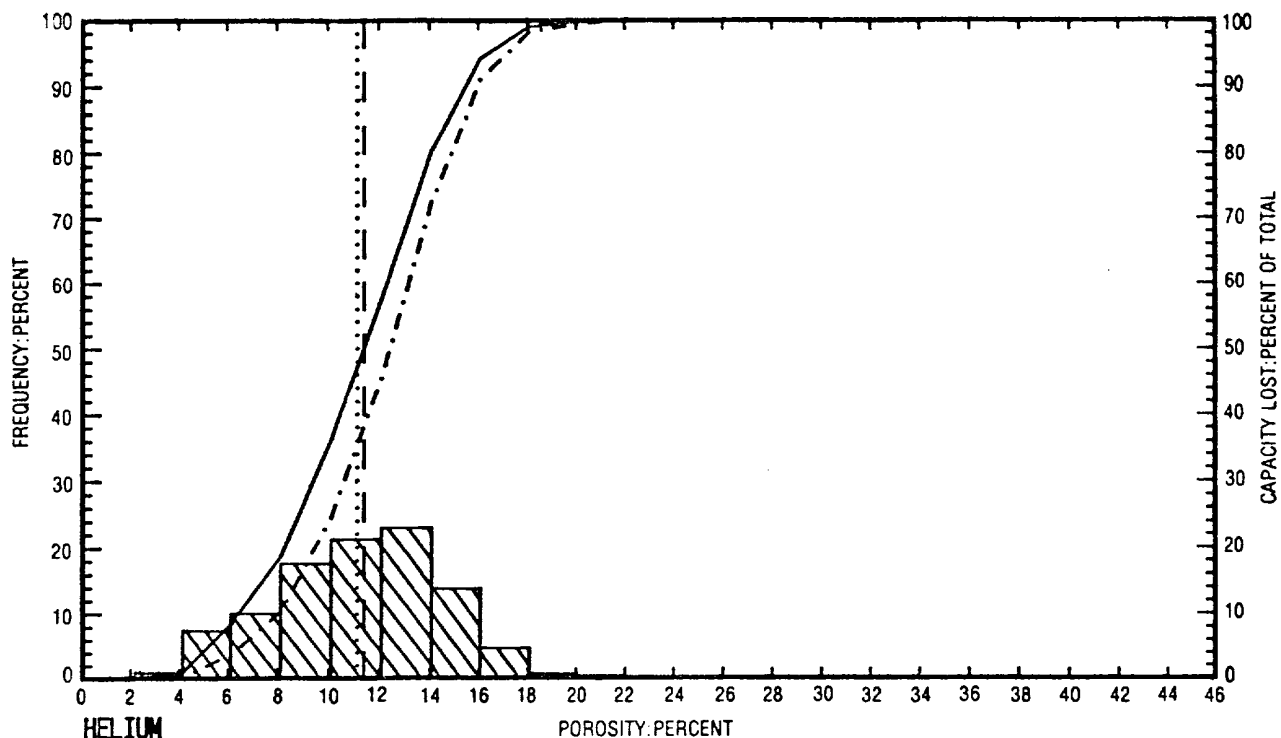
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PERMEABILITY AND POROSITY HISTOGRAMS

CHEVRON U.S.A., INC.
E.M.S.U. NO. 247
MONUMENT FIELD
LEA COUNTY, NEW MEXICO

LEGEND
 ARITHMETIC MEAN POROSITY
 GEOMETRIC MEAN PERMEABILITY
 MEDIAN VALUE
 CUMULATIVE FREQUENCY
 CUMULATIVE CAPACITY LOST
 (Note: The legend uses line styles to represent these metrics, which correspond to the lines shown in the histograms above.)

PERMEABILITY VS POROSITY

COMPANY: CHEVRON U.S.A., INC. WELL : E.M.S.U. NO. 247
 FIELD : MONUMENT FIELD COUNTY, STATE: LEA COUNTY, NEW MEXICO

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
 POROSITY : PERCENT (HELIUM)

DEPTH INTERVAL(FT)	RANGE & SYMBOL	PERMEABILITY MINIMUM MAXIMUM	POROSITY MIN. MAX.	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC
3730.0 - 4035.0	1 (+)	0.001 5930.0	2.5 21.6	11.0	131. 0.21 9.4

EQUATION OF REDUCED LINE RELATING PERMEABILITY(K) TO POROSITY :
 $\log(K) = (\text{SLOPE})(\text{POROSITY}) + \log \text{ OF INTERCEPT}$
 $K = \text{ANTILOG}((\text{SLOPE})(\text{POROSITY}) + \log \text{ OF INTERCEPT})$

RANGE EQUATION OF THE LINE
 1 PERM = ANTILOG((0.2975)(POROSITY) + -2.3021)

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: CHEVRON U.S.A., INC. WELL : E.M.S.U. NO. 247
 FIELD : MONUMENT FIELD COUNTY, STATE: LEA COUNTY, NEW MEXICO

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.000 TO 5930.
 POROSITY : PERCENT (HELIUM) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS (FEET) : 3730.0 - 4035.0 INTERVAL LENGTH : 305.0
 FEET ANALYZED IN ZONE : 296.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY	PERMEABILITY AVERAGES	
AVERAGE	ARITHMETIC	HARMONIC GEOMETRIC
-----	-----	-----
11.0	131.	0.21 9.4

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: CHEVRON U.S.A., INC. WELL : E.M.S.U. NO. 247
 FIELD : MONUMENT FIELD COUNTY, STATE: LEA COUNTY, NEW MEXICO

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.) (ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
2.0 - 4.0	3.0	2.9	0.164	1.0	1.0
4.0 - 6.0	22.0	5.1	4.8	7.4	8.4
6.0 - 8.0	30.0	7.1	4.0	10.1	18.6
8.0 - 10.0	52.0	8.9	7.5	17.6	36.1
10.0 - 12.0	63.0	10.8	4.9	21.3	57.4
12.0 - 14.0	68.0	12.9	12.	23.0	80.4
14.0 - 16.0	41.0	14.8	43.	13.9	94.3
16.0 - 18.0	14.0	16.7	52.	4.7	99.0
18.0 - 20.0	2.0	18.1	20.	0.7	99.7
20.0 - 22.0	1.0	21.6	116.	0.3	100.0

TOTAL NUMBER OF FEET = 296.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: CHEVRON U.S.A., INC. WELL : E.M.S.U. NO. 247
FIELD : MONUMENT FIELD COUNTY, STATE: LEA COUNTY, NEW MEXICO

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.005 - 0.010	1.0	0.005	0.005	3.2	0.3	0.3
0.010 - 0.020	1.0	0.010	0.010	5.2	0.3	0.7
0.020 - 0.039	3.0	0.026	0.027	9.5	1.0	1.7
0.039 - 0.078	1.0	0.050	0.050	7.7	0.3	2.0
0.078 - 0.156	2.0	0.105	0.105	7.3	0.7	2.7
0.156 - 0.312	10.0	0.212	0.215	10.3	3.4	6.1
0.312 - 0.625	12.0	0.493	0.502	9.0	4.1	10.1
0.625 - 1.250	18.0	0.934	0.951	10.4	6.1	16.2
1.250 - 2.500	25.0	1.8	1.8	9.2	8.4	24.7
2.500 - 5.000	39.0	3.5	3.6	9.9	13.2	37.8
5. - 10.	39.0	6.8	6.9	10.9	13.2	51.0
10. - 20.	45.0	14.	14.	11.6	15.2	66.2
20. - 40.	29.0	28.	29.	11.7	9.8	76.0
40. - 80.	25.0	54.	55.	12.4	8.4	84.5
80. - 160.	20.0	111.	113.	12.8	6.8	91.2
160. - 320.	6.0	228.	232.	13.8	2.0	93.2
320. - 640.	7.0	363.	374.	15.3	2.4	95.6
640. - 1280.	7.0	959.	968.	12.7	2.4	98.0
1280. - 2560.	2.0	2338.	2343.	7.1	0.7	98.6
2560. - 5120.	3.0	3863.	3925.	11.1	1.0	99.7
5120. - 10240.	1.0	5930.	5930.	5.4	0.3	100.0

TOTAL NUMBER OF FEET = 296.0

COMPANY: CHEVRON U.S.A., INC.
FIELD : MONUMENT FIELD

WELL ; E.M.S.U. NO. 247
COUNTY, STATE; LEA COUNTY, NEW MEXICO

FOROSITY--FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

FOROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	296.0	100.0	11.0	11.3
2.0	0.0	0.0	296.0	100.0	11.0	11.3
4.0	3.0	0.3	293.0	99.7	11.1	11.3
6.0	25.0	3.7	271.0	96.3	11.6	11.7
8.0	55.0	10.3	241.0	89.7	12.1	12.2
10.0	107.0	24.5	189.0	75.5	13.0	12.9
12.0	170.0	45.5	126.0	54.5	14.1	13.9
14.0	238.0	72.4	58.0	27.6	15.5	15.4
16.0	279.0	91.0	17.0	9.0	17.2	17.2
18.0	293.0	98.2	3.0	1.8	19.3	19.5
20.0	295.0	99.3	1.0	0.7	21.6	21.0
22.0	296.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 3258.8

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