

ENTERED 4/2/92

15-1184

PENNZOIL COMPANY  
 J. H. CASIENNO, 108 WELL  
 GRANNYS CREEK FIELD  
 CLAY COUNTY, WEST VIRGINIA

CORE LABORATORIES, INC.  
 Petroleum Acceptor Engineering  
 12000 West 15th Street  
 Denver, Colorado 80227

DATE: 10/21/87  
 FORMATION: AS NOTED  
 TORQUE: 101.6 (FLUID)  
 LOCATION: HENRY DISTRICT ORDER 150 N-3RD DISG. 155 MIN  
 FILE NO: 540225h  
 ENGINEER: ANI VINE  
 ELEVATION: 294.96

SMP NO. DEPTH PERM TO AIR (MP) MAXIMUM 90 DEG VERT. POROSITY GEX. FLD. FLUIDS OIL WTR. GR. DENS. TYPE  
 INDICATES: PITS, WEIR, INDICATES: IMPROVED SAMPLES

FIELD DIMENSION ANALYSIS

SMP NO.	DEPTH	PERM TO AIR (MP)	MAXIMUM 90 DEG VERT.	POROSITY GEX. FLD.	FLUIDS OIL WTR.	GR. DENS.	TYPE
108	1066	0.3	0.5	0.01	0.01	2.65	SANDSTONE
109	1067	0.6	0.6	0.01	0.01	2.67	SANDSTONE
110	1068	0.8	0.7	0.01	0.01	2.67	SANDSTONE
111	1069	0.8	0.7	0.01	0.01	2.67	SANDSTONE
112	1070	1.7	1.7	0.01	0.01	2.67	SANDSTONE
113	1071	1.7	1.7	0.01	0.01	2.67	SANDSTONE
114	1072	1.7	1.7	0.01	0.01	2.67	SANDSTONE
115	1073	1.7	1.7	0.01	0.01	2.67	SANDSTONE
116	1074	1.7	1.7	0.01	0.01	2.67	SANDSTONE
117	1075	1.7	1.7	0.01	0.01	2.67	SANDSTONE
118	1076	1.7	1.7	0.01	0.01	2.67	SANDSTONE
119	1077	1.7	1.7	0.01	0.01	2.67	SANDSTONE
120	1078	1.7	1.7	0.01	0.01	2.67	SANDSTONE
121	1079	1.7	1.7	0.01	0.01	2.67	SANDSTONE
122	1080	1.7	1.7	0.01	0.01	2.67	SANDSTONE
123	1081	1.7	1.7	0.01	0.01	2.67	SANDSTONE
124	1082	1.7	1.7	0.01	0.01	2.67	SANDSTONE
125	1083	1.7	1.7	0.01	0.01	2.67	SANDSTONE

INDICATES: PITS, WEIR, INDICATES: IMPROVED SAMPLES



CORE LABORATORIES, INC.  
Petroleum Refining Division  
1000 West 10th Street  
Oklahoma City, Oklahoma

15-1184

PENNZOIL COMPANY  
W. H. CASTLE NO. 108 WEST  
DATE: 10-18-50  
FORMATION: AS NOTED  
FILE NO: 15-1184  
ENGINEER: AMING

SYMBOL NO.	DEPTH	TERM. TO MIN. (IN)	MAXIMUM VOIDAGE	WATER	POISSON'S RATIO	EMPIRICAL OIL	SAT. WTR	GR. DEN.	DESCRIPTION
48	1940.0-45.0	0.8	0.11	<0.1	1.2	14.0	7.87	2.67	SANDSTONE
49	1945.0-46.0	2.6	0.10	0.1	1.1	14.0	7.87	2.67	SANDSTONE
50	1946.0-47.0	0.8	0.17	0.1	1.3	14.0	7.87	2.67	SANDSTONE
51	1947.0-48.0	0.5	0.15	0.1	1.2	14.0	7.87	2.67	SANDSTONE
52	1948.0-49.0	0.8	0.15	0.1	1.2	14.0	7.87	2.67	SANDSTONE
53	1949.0-50.0	1.1	0.17	0.1	1.3	14.0	7.87	2.67	SANDSTONE
54	1950.0-51.0	2.8	0.17	0.1	1.3	14.0	7.87	2.67	SANDSTONE
55	1951.0-52.0	0.8	0.17	0.1	1.3	14.0	7.87	2.67	SANDSTONE
56	1952.0-53.0	2.0	0.15	0.1	1.2	14.0	7.87	2.67	SANDSTONE
57	1953.0-54.0	0.6	0.15	0.1	1.2	14.0	7.87	2.67	SANDSTONE
58	1954.0-55.0	0.4	0.15	0.1	1.2	14.0	7.87	2.67	SANDSTONE

NO ANALYSIS IN SHALE  
MID. PROPERTIES: DNEFF, H, V, S, G, PHE, 1, 10, 100, 1000, EQCC

This report, prepared by Core Laboratories, Inc., based on measurements and analysis of samples received from the field, is intended to provide information for the use of the client. It is not to be construed as a warranty of performance or as a representation of the quality of the work. The client is responsible for the proper use of the data.

CORE LABORATORIES

CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

PERMEABILITY VS POROSITY

COMPANY: PENZOLL COMPANY  
FIELD: GRANARYS CHECKFIELD

WELL: 20-07 GASUD NO. 108 WEL  
COUNTY: SWAIN COUNTY, WEST VIRGINIA

AIR PERMEABILITY (MDT) 5000 GIN (CORRECTED FOR SLIPAGE & GAS EXPANSION)  
POROSITY: PERCENT

DEPTH INTERVAL	RANGE #	PERMEABILITY MAXIMUM (MDT)	POROSITY MAXIMUM	POROSITY AVERAGE	PERMEABILITY AVERAGES ARITHMETIC HARMONIC GEOMETRIC
1400-1500 ft	1	100.0	0.21	0.20	3.5
					1.6

EQUATION OF LINE:  $\log K = 1.14 \log P - 0.10$   
 $\log K = (\text{SLOPE}) (\log P) + (\text{LOG OF INTERCEPT})$   
 $K = 1 = \text{ANTILOG} (\text{SLOPE} (\text{POROSITY}) + \text{LOG OF INTERCEPT})$

RANGE # 1 EQUATION OF THE LINE

POROSITY DEVIATION MIN / MAX FOR SELECTED PERMEABILITY TEST (SOLID LINE)

1 PERM = ANTILOG ( 0.14 (POROSITY) - 0.10 )

BIG SAND FORMATION

This analysis, equipment, or interpretation is based on observations and materials supplied by the client or a third party and the accuracy of the results is subject to the quality of the data provided. The user assumes all responsibility for the use of the results.

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