

CORE ANALYSIS REPORT
FOR
ANADARKO PETROLEUM CORPORATION
U.S.A. Y-1 WELL
MORTON COUNTY, KANSAS
1-345-42W

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*1-345-42W
15122-21088*



1-34-42W
15.70-21088

CORE LABORATORIES

September 30, 1991

ANADARKO PETROLEUM CORPORATION
One Leadership Square
211 N. Robinson, Suite 1400
Oklahoma City, Oklahoma 73102

Attn: Mr. Kirk Malinowsky

Subject: Drilled Sidewall Analysis
U.S.A. Y-1 Well
Morton County, Kansas
CL File 57182-13402

Dear Mr. Malinowsky:

Drilled sidewall samples taken from the subject well were received at the Oklahoma City laboratory for special analytical testing described on the Procedure Page.

Tabular presentation of the measured physical properties may be found on page one of this report.

It is indeed a pleasure to have this opportunity of serving you. Should you have questions regarding this data call (405) 946-5422.

Very truly yours,

CORE LABORATORIES

Stacey Blackwell
Laboratory Supervisor

CORE LABORATORIES

Company : ANADARKO PETROLEUM CORPORATION
Well : U.S.A. Y-1 WELL

Field :
Formation : TOPEKA

File No.: 5182-13402
Date : 09-SEP-1991

ANALYTICAL PROCEDURES AND QUALITY ASSURANCE

HANDLING & CLEANING

Core Transportation : Delivered
Solvent : Toluene
Extraction Equipment : Dean Stark Apparatus
Extraction Time : 24 Hrs. D.S. 48 Hrs. Vapor Phase
Drying Equipment : Convection Oven
Drying Time : 24 Hrs.
Drying Temperature : 240 Degs. F.

ANALYSIS

Grain volume measured by Boyle's Law in a matrix cup using He
Bulk volume by Archimedes Principle
Water saturations by Dean Stark
Oil saturations by weight difference in Dean Stark
Permeabilities measured on 15/16 in. diameter drilled plugs
Dean Stark grain densities clean, dry solid mineral phase are measured

REMARKS

Horizontal air permeability not Klinkenberg corrected.
Cores are presently stored in the Oklahoma City laboratory.

CORE LABORATORIES

Company : ANADARKO PETROLEUM CORPORATION
 Well : U.S.A. Y-1 WELL
 Location : SEC 1, T34S; R42W
 Co,State : MORTON COUNTY, KANSAS

Field :
 Formation : TOPEKA
 Coring Fluid : WATER BASE
 Elevation :

File No.: 5182-13402
 Date : 09-SEP-1991
 API No. :
 Analysts: SB

C O R E A N A L Y S I S R E S U L T S

SAMPLE NUMBER	DEPTH ft	PERMEABILITY (HORIZONTAL) Kair md	POROSITY (HELIUM) %	SATURATION		GRAIN DENSITY gm/cc	DESCRIPTION	
				(PORE VOLUME) OIL %	WATER %			
DRILLED SIDEWALL ANALYSIS								
	1	2732.0	0.07	9.1	0.0	83.0	2.73	Ls bu foss sh-lam
	2	2948.0	0.05	9.1	0.0	81.2	2.71	Ls lt gry foss
	3	2991.0	1.30	14.1	0.0	77.2	2.71	Ls bu foss
X	4	3006.0		8.4	0.0	74.4	2.72	Ls bu brec styl
	5	3027.0	158.	17.3	0.0	73.0	2.71	Ls bu foss
	6	3072.0	10.0	16.8	0.0	67.7	2.72	Ls gry ool
3082.0 - Sample unsuitable for analysis.								
	7	3095.0	5.10	12.8	0.0	76.3	2.71	Ls bu foss styl
	8	3106.0	25.0	19.4	0.0	82.4	2.71	Ls bu foss
	9	3165.0	23.0	15.0	0.0	80.7	2.73	Ls bu foss
	10	3173.0	22.0	17.2	0.0	85.4	2.75	Ls bu foss
X	11	3233.0		17.5	3.7	69.7	2.74	Ls gry ool pp-vug slily pyr
X	12	3247.0		17.7	7.6	49.9	2.74	Ls gry ool pp-vug slily pyr
X Sample unsuitable for permeability measurement.								

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Company : ANADARKO PETROLEUM CORPORATION
Well : U.S.A. Y-1 WELL

Field :
Formation : TOPEKA

File No.: 5182-13402
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TABLE I

SUMMARY OF CORE DATA

ZONE AND CUTOFF DATA		CHARACTERISTICS REMAINING AFTER CUTOFFS	
ZONE:		ZONE:	
Identification -----	NOT SPECIFIED	Number of Samples -----	12
Top Depth -----	2732.0 ft	Thickness Represented -	12.0 ft
Bottom Depth -----	3247.1 ft		
Number of Samples -----	12		
DATA TYPE:		POROSITY:	
Porosity -----	(HELIUM)	Storage Capacity -----	174.4 ϕ -ft
Permeability -----	(HORIZONTAL) Kair	Arithmetic Average ----	14.5 %
		Minimum -----	8.4 %
		Maximum -----	19.4 %
		Median -----	15.9 %
		Standard Deviation ----	± 3.8 %
CUTOFFS:		GRAIN DENSITY:	
Porosity (Minimum) -----	0.0 %	Arithmetic Average ----	2.72 gm/cc
Porosity (Maximum) -----	100.0 %	Minimum -----	2.71 gm/cc
Permeability (Minimum) ---	0.0000 md	Maximum -----	2.75 gm/cc
Permeability (Maximum) ---	100000. md	Median -----	2.72 gm/cc
Water Saturation (Maximum)	100.0 %	Standard Deviation ----	± 0.01 gm/cc
Oil Saturation (Minimum) -	0.0 %		
Grain Density (Minimum) --	2.00 gm/cc		
Grain Density (Maximum) --	3.00 gm/cc		
Lithology Excluded -----	NONE		
		PERMEABILITY:	
		Flow Capacity -----	244.5 md-ft
		Arithmetic Average ----	27.2 md
		Geometric Average -----	4.26 md
		Harmonic Average -----	0.25 md
		Minimum -----	0.05 md
		Maximum -----	158. md
		Median -----	10.0 md
		Standard Dev. (Geom) --	$K \cdot 10^{\pm 1.195}$ md
		HETEROGENEITY (Permeability):	
		Dykstra-Parsons Var. --	0.820
		Lorenz Coefficient ----	0.667
		AVERAGE SATURATIONS (Pore Volume):	
		Oil -----	1.1 %
		Water -----	74.3 %