



ROTARY SIDEWALL CORE ANALYSIS REPORT
FOR
CONOCOPHILLIPS COMPANY
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO

CONOCOPHILLIPS COMPANY
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO
U.S.A.
File: MD-41878



December 16, 2008

CONOCOPHILLIPS COMPANY

Attn: DEWI LARASATI
Westlake II, Room 13082
P.O. Box 2197
Houston, TX 77252-2197

Attn: DEWI LARASATI

RE: WARREN UNIT # 322
Rotary Sidewall Core Analysis

Mr. LARASATI:

The core analysis data from the above referenced well is enclosed in the following pages.

All quality control data is enclosed in a separate section of the report. The data, results, and photographic negatives will be maintained in our files for your future reference. If you have any questions regarding our results or procedures, please do not hesitate to contact us. We appreciate the opportunity to analyze the core from the above referenced well and look forward to working with you again in the future.

DISTRIBUTION

CONOCOPHILLIPS COMPANY

Attn: DEWI LARASATI
Westlake II, Room 13082
P.O. Box 2197
Houston, TX 77252-2197
3 Copies of the report with photographs and 3 CD-ROMs

CONOCOPHILLIPS COMPANY

Attn: MICHELLE NAVARRETTE
4001 Penbrook Street
Odessa, TX. 79762
4 Copies of the Report and 1 CD-ROM

Sincerely,

A handwritten signature in black ink, appearing to read "Wayne Helms".

Wayne Helms, General Manager
Weatherford Laboratories

CONOCOPHILLIPS COMPANY
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO
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File:MD-41878



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CONOCOPHILLIPS COMPANY

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Attn: TINA FOSTER
Westlake I, 6th Floor
501 Westlake Park Blvd.
Houston, TX. 77079
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APACHE CORPORATION

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CORE ANALYSIS PROCEDURES
FOR
CONOCOPHILLIPS COMPANY
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO

The Rotary Sidewalls were picked up by Weatherford Laboratories.

Gases from the Sidewalls were measured by Hot Wire Chromatography and reported in Gas Units.

A brief Lithological Description of the Sidewalls was recorded.

A description of the Fluorescence of the Sidewalls was recorded.

Ultraviolet Light Photographs were taken of the Sidewalls for a permanent record.

Natural Light Photographs were taken of the Sidewalls for a permanent record.

Composite Photographs of the Sidewall End Trims were taken under Natural and Ultraviolet Light.

The Sidewalls were extracted utilizing the Dean Stark method.

The fluids were measured by the Dean Stark method.

Porosities were measured in a Boyle's Law Porosimeter utilizing Helium.

Permeabilities were measured in a Hassler Sleeve Permeameter utilizing Nitrogen at 300 psi confining pressure.

Test samples of a known permeability were measured before and after the Sidewall permeabilities were measured.

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ROTARY SIDEWALL CORE ANALYSIS

ConocoPhillips Company
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO

A.P.I. NUMBER : 30-025-38949
FIELD : Warren
LOCATION: 1310' FNL, 1330' FWL,
Section 28, T-20-S, R-38-E

FILE NO. : MD-41878
DATE : December 4, 2008
ANALYSTS : WH, SB, JR

DEAN STARK EXTRACTION

SAMPLE NO.	DEPTH ft	GRAIN DENSITY	POR %	PERM mD	SATURATIONS		GAS UNITS	FLUORESCENCE		LITHOLOGY
					Sw	So		%		
1	2890.0	2.78	15.7	tbfa	73.0	0.0	8	0		Ss opaq-gy-brn vf-fgr sbrnd-sbang slty sc pyr
2	2902.0	2.73	11.6	tbfa	86.8	0.0	12	0		Ss rd-brn-opaq vf-fgr sbrnd-sbang slty sc gy ss nod sc A/I
3	2915.0	2.84	9.6	0.023	58.1	0.0	18	0		Ss rd-brn-opaq vfgr sbrnd-sbang slty dolm sc A/I
4	2928.0	2.82	11.4	0.462	47.3	7.5	47	10	DI yl	Ss opaq-gy-brn vf-fgr sbrnd-sbang sslty sc slty intrbd
5	2936.0	2.67	16.0	tbfa	38.0	13.0	313	20	Gld	Ss opaq-gy-brn vf-fgr sbrnd-sbang sslty
6	2953.0	2.64	14.3	tbfa	37.7	0.0	6	0		Ss opaq-gy-brn-rd vf-fgr sbrnd-sbang sslty sshy
7	3035.0	2.71	9.8	1.194	69.3	0.0	82	0		Ss opaq-gy-brn vf-fgr sbrnd-sbang slty sc slty intrbd
8	3038.0	2.75	5.3	0.233	33.9	15.7	108	20	DI yl	Ss opaq-tn-brn vf-fgr sbrnd-sbang sslty sc A/I
9	3070.0	2.86	16.0	tbfa	94.8	0.0	0	0	Mf	Dol gy slty ssdy sc pyr frac
10	3073.0	2.76	17.0	tbfa	86.3	0.0	0	0		Dol gy-pnk lam slty lrg gyp incl
11	4040.0	2.68	14.7	1.223	38.4	14.5	145	90	Brt yl-gld	Ss opaq-tn-brn vf-fgr sbrnd-sbang sslty
12	4054.0	2.87	9.4	tbfa	51.5	Tr	37	Tr	Brt yl	Dol crm-tn-brn sslty tr ppp frac
13	4058.0	2.83	7.6	tbfa	30.1	Tr	23	Tr	Brt yl	Dol crm-tn-brn sslty tr ppp sty frac
14	4067.0	2.83	14.0	tbfa	8.5	9.9	10	90	Brt yl-gld	Dol crm-tn-brn sslty abd ppp frac
15	4072.0	2.68	15.5	1.533	14.1	25.0	439	80	Brt yl-gld	Ss opaq-tn-brn vf-fgr sbrnd-sbang sslty
16	4085.0	2.73	6.0	tbfa	65.8	0.0	62	0		Dol gy slty abd slty lam
17	4095.0	2.83	12.7	0.178	8.1	12.6	551	90	Brt yl-gld	Dol crm-tn sslty ppp-sml vug
18	4102.0	2.86	9.4	2.096	8.0	9.3	17	70	Brt yl	Dol crm-tn sslty sc ppp-sml vug
19	4108.0	2.83	12.8	tbfa	32.4	21.3	11	70	Brt yl	Dol crm-tn sslty sc ppp-sml vug frac

ROTARY SIDEWALL CORE ANALYSIS

ConocoPhillips Company
WARREN UNIT # 322
LEA COUNTY, NEW MEXICO

A.P.I. NUMBER : 30-025-38949
FIELD : Warren
LOCATION: 1310' FNL, 1330' FWL,
Section 28, T-20-S, R-38-E

FILE NO. : MD-41878
DATE : December 4, 2008
ANALYSTS : WH, SB, JR

DEAN STARK EXTRACTION

SAMPLE NO.	DEPTH ft	GRAIN DENSITY	POR %	PERM mD	SATURATIONS Sw	GAS So	FLUORESCENCE UNITS %	LITHOLOGY
20	4113.0	2.77	11.5	0.104	20.1	21.6	616 80 Brt yl-dl gld	Dol crm-tn-brn slty sc slty lam sc pyr
21	4126.0	2.74	16.6	0.172	14.9	16.3	450 80 Brt yl	Dol tn-gy slty ssdy tr ppp sc pyr
22	4132.0	2.83	9.2	0.206	13.6	22.0	281 90 Brt yl	Dol crm-tn-brn sslty sc ppp-sml vug frac
23	4147.0	2.83	7.4	0.120	50.8	0.0	14 0 Mf	Dol tn-gy mod-sslty abd slty intrbd sc pyr
24	5678.0	2.78	3.6	0.112	31.6	Tr	140 Tr Brt yl	Dol brn-gy mod-sslty sc sml A/I sc slty intrbd
25	5728.0	2.86	9.1	0.649	11.4	22.7	369 70 Brt yl-grn	Dol tn-brn sslty sc ppp sc sml A/I
26	5804.0	2.73	6.8	0.092	13.7	26.4	420 90 Brt yl-grn	Dol tn-gy sslty ssdy sc slty intrbd
27	5854.0	2.84	13.3	1.320	27.7	26.1	166 30 Brt yl-grn	Dol tn-brn sslty sc ppp-sml vug sc sml A/I
28	5940.0	2.86	9.5	0.116	5.8	6.7	245 90 Brt yl-grn	Dol tn-brn sslty sc ppp-sml vug sc sml A/I
29	5960.0	2.87	10.1	0.020	53.2	0.0	12 0 Mf	Dol tn-gy sslty sc ppp-sml vug sc A/I
30	6052.0	2.84	5.4	0.055	27.9	7.2	77 20 Dl yl	Dol tn-brn-gy sslty sc ppp-sml vug sc sml A/I sc slty lam s/p
31	6235.0	2.86	8.8	1.548	30.4	0.0	28 0	Dol tn-brn sslty sc ppp-sml vug sc A/I
32	6271.0	2.88	5.9	0.028	56.7	0.0	14 0 Mf	Dol crm-tn sslty anhyd tr ppp-sml vug
33	6339.0	2.85	9.4	0.143	8.7	6.0	235 70 Brt yl-grn	Dol tn-brn sslty sc ppp-sml vug sc sml A/I
34	6366.0	2.80	4.2	0.331	32.2	0.0	91 0	Dol brn-gy mod-sslty sc A/I sc slty intrbd
35	6389.0	2.70	8.0	0.137	43.8	0.0	95 0	Dol brn-gy mod-sslty ssdy abd slty intrbd
36	6453.0	2.86	14.7	8.575	35.2	0.0	104 0 Mf	Dol brn-gy sslty sc vug
37	6460.0	2.80	14.7	6.173	21.7	11.3	81 60 Dl gld-brn	Dol tn-brn sslty ssdy sc ppp-sml vug sc slty lam
38	6507.0	2.79	4.7	0.041	30.4	6.4	177 10 Brt yl	Dol tn-brn sslty ssdy sc A/I sc slty lam sty



ROTARY SIDEWALL CORE ANALYSIS



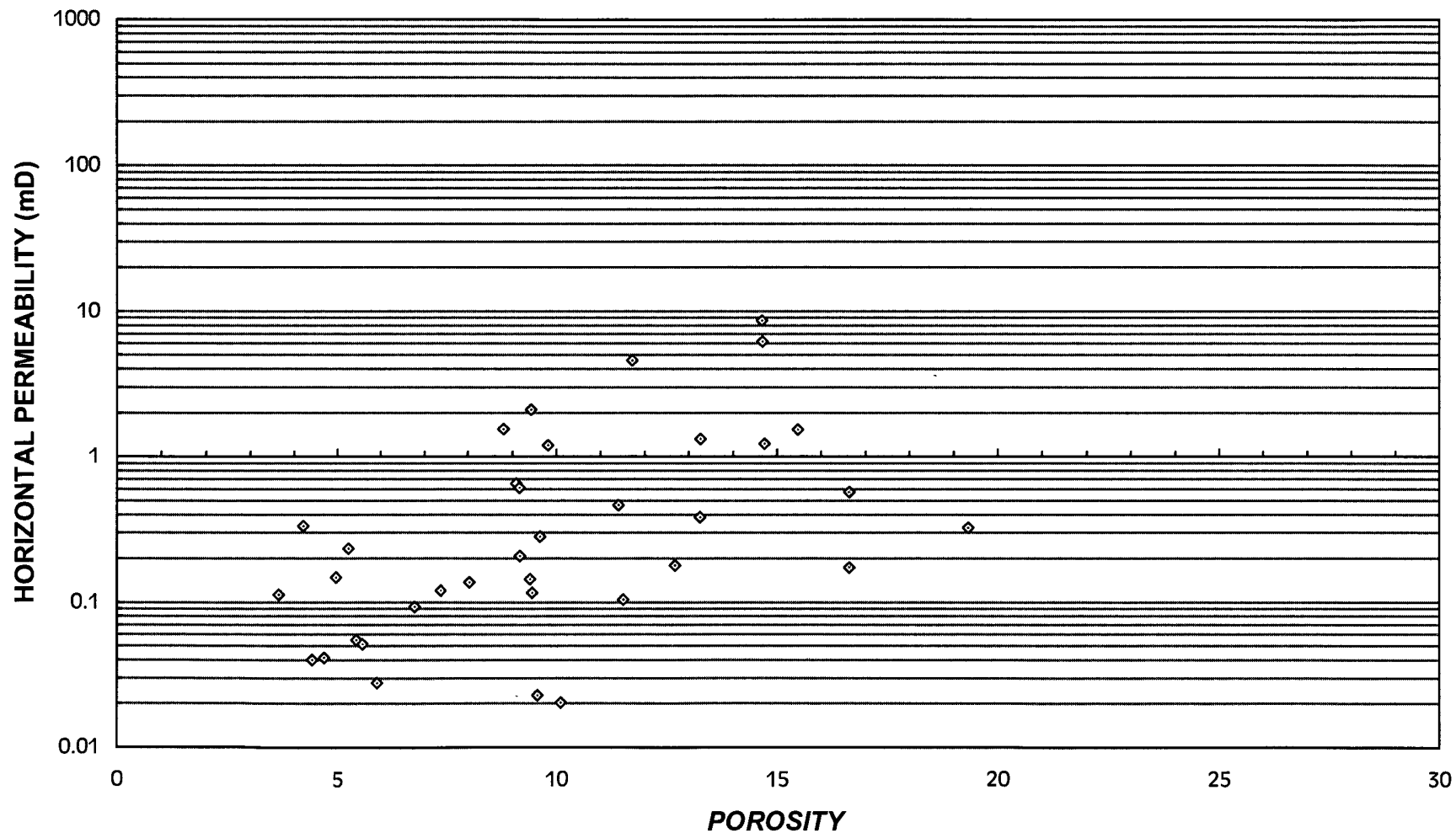
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					Sw	So		%		
39	6513.0	2.86	9.6	0.281	7.2	8.3	168	90	Brt yl	Dol tn-brn ssly ssdy ppp-sml vug
40	6520.0	2.84	4.4	0.040	24.3	Tr	125	10	Brt yl	Dol tn-brn ssly ssdy sc ppp-sml vug sc sml A/I
41	6600.0	2.86	9.2	0.611	10.5	8.1	322	70	Brt yl	Dol tn-brn ssly ssdy sc ppp-sml vug sty
42	6644.0	2.82	5.6	0.051	7.8	6.6	248	20	DI yl	Dol tn-brn ssly tr ppp-sml vug
43	6695.0	2.87	0.2	<.001	80.4	0.0	17	0		Dol tn-brn dns ssly abd lrg A/I
44	6707.0	2.87	5.0	0.147	12.0	9.3	168	70	DI yl-brt yl	Dol tn-brn ssly ssdy sc ppp-sml vug sc sml A/I
45	6750.0	2.84	11.7	4.588	11.0	18.5	492	70	DI yl-brt yl	Dol tn-brn ssly ssdy sc ppp-sml vug sc sml A/I
46	6780.0	2.73	13.2	0.383	10.3	23.9	634	90	Brt yl	Ls crm-tn ssly ssdy tr ppp
47	6870.0	2.81	19.3	0.323	55.3	26.8	47	90	DI yl	Dol crm-tn ssly sdy tr ppp
48	6880.0	2.71	16.6	0.572	8.8	10.2	381	90	Brt yl	Ls crm-tn ssly ssdy ppp-sml vug





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ConocoPhillips Company

WARREN UNIT # 322

12/16/2008

QUALITY CONTROL RERUN DATA

Sample No.	GRAIN DENSITY		POROSITY		<i>k</i> standard Test Sample	PERMEABILITY	
	original	reruns	original	reruns		original	reruns
1	2.781	2.784	15.68	15.77			
7	2.710	2.710	9.81	9.84	2.613	1.194	1.244
14	2.834	2.833	14.04	14.02			
18	2.862	2.864	9.42	9.46		2.096	1.913
20	2.767	2.768	11.51	11.54			
22	2.826	2.823	9.17	9.10		0.206	0.203
27	2.836	2.836	13.26	13.25			
30	2.837	2.838	5.44	5.48		0.055	0.054
33	2.851	2.850	9.40	9.39			
36	2.863	2.863	14.65	14.66		8.575	8.330
40	2.838	2.836	4.42	4.36			
43	2.866	2.865	0.22	0.20		<.001	<.001
46	2.729	2.728	13.24	13.23			
48	2.713	2.711	16.63	16.58	2.619	0.572	0.571

LITHOLOGICAL ABBREVIATIONS

Anhydrite (-ic)	anhy, anhyd	Filled	fd	Poor	pr
Anhydrite inclusion	A/I	Fine (-ly)	f, fnly	Pyrite	pyr
Bentonite (-ic)	bent	Fluorescence	flu	Quartz (-itic)	qtz
Black (-ish)	blk, blksh	Fossil (-iferous)	foss	Red	rd
Bleeding Oil	B/O	Fracture	frac	Round	rnd
Brecciated	brec	Fragments	frag	Residual Oil	So
Bright	brt	Friable	fri	Residual Water	Sw
Brittle	brit	Fusulinid	fus	Sample	Spl
Broken	brkn	Gilsonite	gil	Sandstone	Ss
Brown	brn	Gold	gld	Sandy	sdly
Buff	bf	Good	gd	Scattered	sc
Calcite (-ic)	calc, calctc	Grain (-s)	gr	Shaley	shy
Calcareous	calc	Granular	gran	Shale	sh
Carbonaceous	carb	Gray	gy	Shale parting	s/p
Cement	cmt	Gypsum	gyp	Silt (-y)	slt, slty
Chalk (-y)	chk, chky	Hair line(frac)	hl	Slight (-ly)	sli, s
Chert	cht	Halite	hal	Small	sml
Clay	cl	Inclusion	incl	Spotted (-y)	sp
Coal	c	Laminations (ated)	lam	Stringer	strgr
Coarse	crs	Large	lrg	Stylolite (-itic)	sty, styl
Conglomerate	cgl	Light	lt	Sucrosic	suc
Consolidated	consol	Limestone	ls	Sulphur	su
Contaminated	contam	Limey	lmy	Tan	tn
Crinoid (-al)	crin, crinal	Lithology	lith	Too broken	tbfa
Cross-bedded	x-bd	Medium	m	(for Analysis)	
Crystal (-line)	Xl, xln	Mineral Fluorescence	mf	Thin	thn
Dark	dk	Moderate	mod	Trace	Tr
Dense	dns	Mudcake	m/c	Very	v
Diameter	dia	No Show	N/S	Vertical	vert, vt
Dolomite (ic)	dol, dolm	Oolite (-itic)	ool	Vug (-gy)	vug
Dull	dl	Pale	pl		
Faint	fnt	Permeability	Perm, K		
Fair	fr	Pin-Point Porosity	ppp		