Ocean Townsend #5 Logs Analysis Calculations

Main Strawn Pay Zone 11,450 - 11,542'

No data available to adjust Archie exponents
assume: $m = 2$ $R_w = 0.07$
$n = 2$

Standard Archie Calculation

$$S_w = \left(\frac{1}{\phi^m} \frac{R_w}{R_t}\right)^{\frac{1}{n}}$$

Depth	ϕ	R_t	S_w	
11,452	0.040	140	0.56	
454	0.005	420	1.00 (2.58)	Probable Perm barrier
456	0.045	400	0.29	
458	0.025	530	0.46	
460	0.050	500	0.24	
462	0.080	580	0.14	
464	0.010	650	1.00 (1.04)	Probable Perm Barrier
466	0.045	300	0.34	
468	0.035	400	0.38	
470	0.055	250	0.30	
472	0.045	350	0.31	
474	0.08	200	0.23	
476	0.085	150	0.29	
478	0.08	140	0.28	
480	0.035	200	0.53	Possible Perm Barrier
482	0.090	160	0.23	
484	0.095	130	0.24	
486	0.09	130	0.26	
488	0.085	140	0.26	
490	0.120	140	0.19	
492	0.100	150	0.22	
494	0.100	160	0.21	
496	0.095	160	0.22	
498	0.090	160	0.23	
500	0.075	180	0.26	
502	0.095	130	0.24	
504	0.080	140	0.28	
506	0.120	170	0.17	
508	0.100	140	0.22	
510	0.070	200	0.27	
512	0.130	105	0.20	
514	0.115	110	0.22	

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 12450 Exhibit No. 2
Submitted by:
Yates Petroleum Corporation
Hearing Date: July 27, 2000

Ocean Townsend #5 ~~Stuart~~ Log Analysis Calculations Cont'd

Depth	Ø	Rt	Sw	
11,516	0.085	200	0.22	
518	0.090	130	0.26	
520	0.060	250	0.28	
522	0.100	130	0.23	
524	0.095	120	0.25	
526	0.060	190	0.32	
528	0.035	360	0.40	
530	0.060	210	0.30	
532	0.070	180	0.28	
534	0.040	200	0.47	Possible Perm Barrier
536	0.045	210	0.41	
538	0.040	250	0.42	
540	0.050	200	0.37	
542	0.00	350	1.00	
Average	0.069		0.32	

COMPANY: Ocean Energy Inc.

WELL: Townsend State #5

FIELD: Townsend

COUNTY: Lea STATE: New Mexico

COUNTY: Lea
Field: Townsend
Location: 330' FSL & 1520' FEL
Well: Townsend State #5
Company: Ocean Energy Inc.

Schlumberger

PLATFORM EXPRESS
Compensated Neutron Log
Three Detector Density / GR

LOCATION

330' FSL & 1520' FEL
Section 2, Township 16-S, Range 35-E
WORL CSI Exc

Elev.: K.B. 3997 F
G.L. 3981 F
D.F. 3996 F

Permanent Datum: Ground Level — Elev.: 3981 F
Log Measured From: Kelly Bushing — 16.0 F above Perm. Datum
Drilling Measured From: Kelly Bushing

API Serial No.	SECTION	TOWNSHIP	RANGE
	2	16-S	35E

Logging Date			26-OCT-1998					
Run Number			Two					
Depth Driller			11851 F					
Schlumberger Depth			11849 F					
Bottom Log Interval			11829 F					
Top Log Interval			11281 F					
Casing Driller Size @ Depth			7.000 IN	@	11298 F		@	
Casing Schlumberger			11281 F					
Bit Size			6.125 IN					
Type Fluid In Hole			L.S.N.A					
MUD Density	Viscosity		8.7 LB/G	36 S				
Fluid Loss	PH		8 C3	10.5				
Source Of Sample			Circulation Pit					
RM @ Measured Temperature			0.537 OHMM	@	89 DEGF		@	
RMF @ Measured Temperature			0.516 OHMM	@	89 DEGF		@	
RMC @ Measured Temperature				@			@	
Source RMF	RMC		Calculated					
RM @ MRT	RMF @ MRT		0.305 @ 162	0.293	@ 162	@		@
Maximum Recorded Temperatures			162 DEGF					
Circulation Stopped	Time		26-OCT-1998		4:45			
Logger On Bottom	Time		26-OCT-1998		11:23			
Unit Number	Location		3043	Hobbs				
Recorded By			Jason Mullins					
Witnessed By			Steve Speer					

ILLEGIBLE

COMPANY: Ocean Energy Inc.

WELL: Townsend State #5

FIELD: Townsend

COUNTY: Lea STATE: New Mexico

Schlumberger

PLATFORM EXPRESS
Azimuthal Laterolog
MircoCFL / Gamma Ray

COUNTY: Lea
Field: Townsend
Location: 330' FSL & 1520' FEL
Well: Townsend State #5
Company: Ocean Energy Inc.

LOCATION

330' FSL & 1520' FEL
Section 2, Township 16-S, Range 35-E
WORK

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G.L. 3981 F
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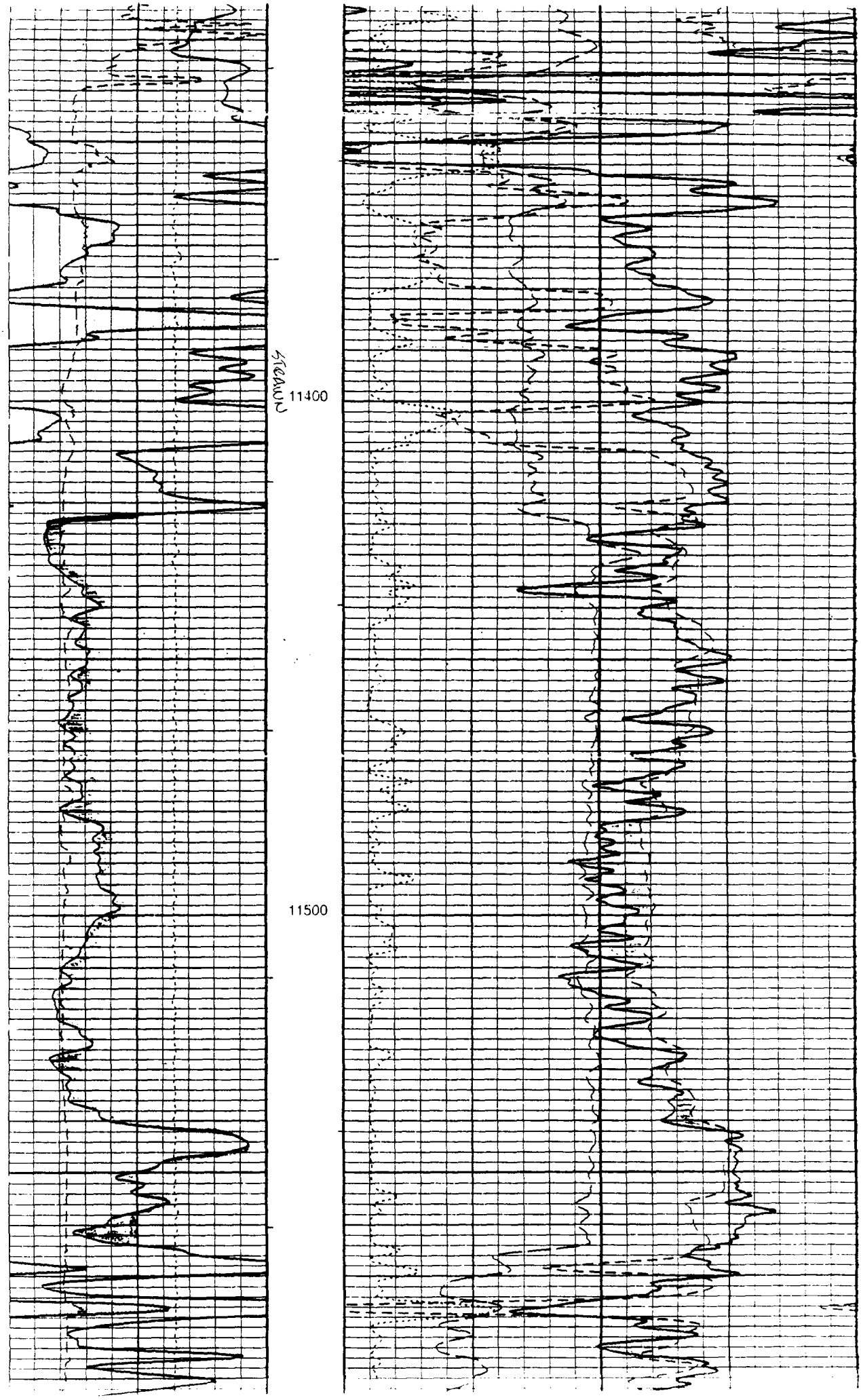
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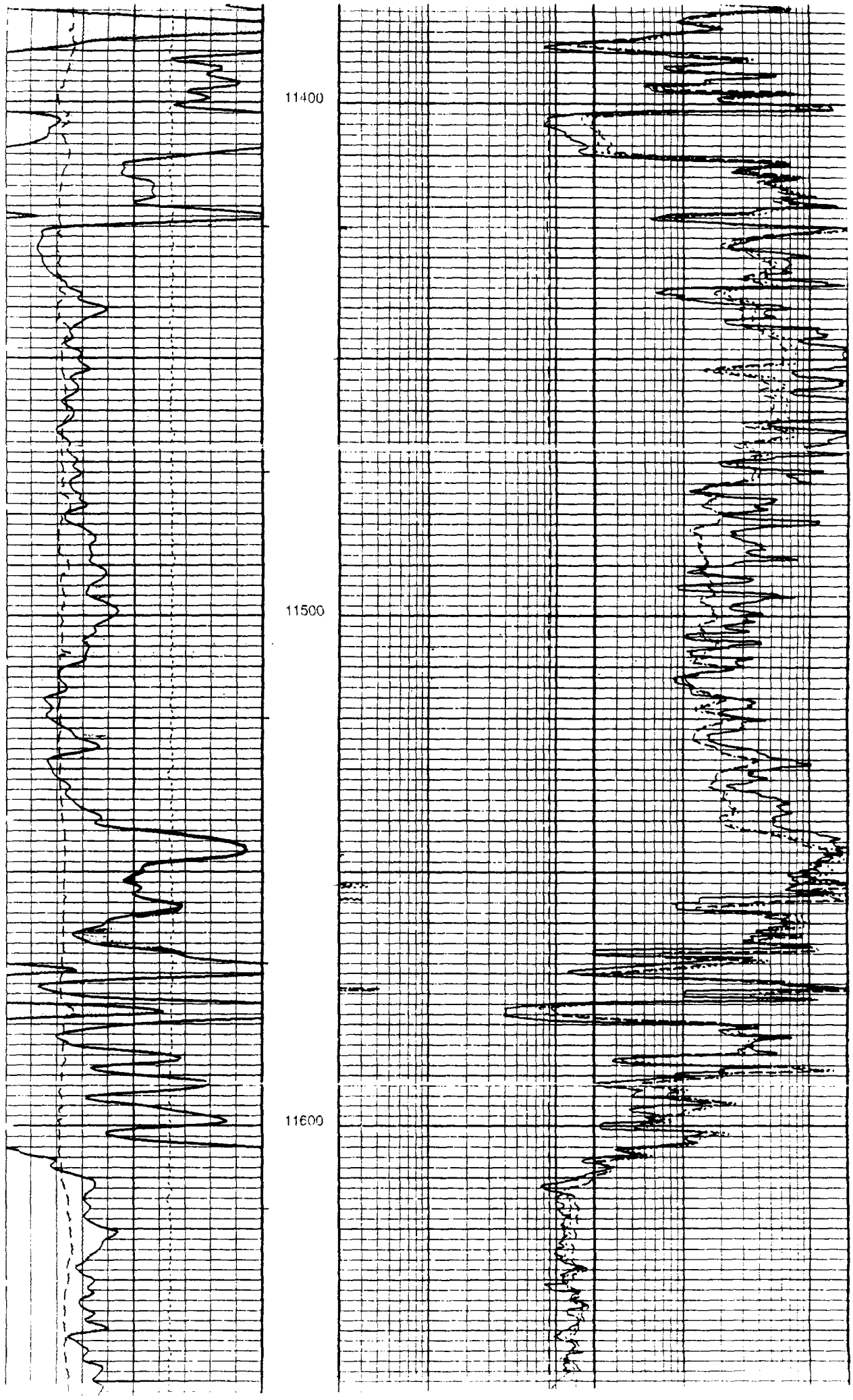
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