

A new nondestructive method for shale porosity evaluation based on nuclear magnetic resonance: Shale- $\Phi_{T1/T2}$

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Table S1. Basic Information Table of Shale Samples

Sample No.	Depth, m	TOC, wt. %	$T_{\max}$, °C	S_1 , mg/g	S_2 , mg/g	Mineral Composition, wt. %		
						Felsic Minerals	Carbonate Minerals	Clay Minerals
M1	3533.63	2.07	452	1.02	3.32	12	54	29
M2	3536.49	1.33	447	1.42	3.26	11	63	23
M3	3548.30	1.19	450	2	2.81	14	77	7
M4	3549.78	2.00	448	1.79	3.16	32	30	32
M5	3553.95	1.10	455	0.66	1.71	18	72	8
M6	3557.48	1.21	456	0.92	2.56	23	57	18
M7	3559.54	0.78	437	1.08	1.76	14	82	3
M8	3560.89	2.43	457	0.88	4.13	12	78	9
M9	3570.20	3.28	452	1.71	6.37	34	39	24
M10	3575.10	1.43	450	0.77	2.84	15	73	11
M11	3593.51	1.02	456	0.78	1.54	26	34	36
M12	3595.18	1.22	452	1.76	3.02	13	69	15
M13	3601.15	1.94	458	1	2.9	18	60	21
M14	3610.94	5.98	454	1.79	12.61	50	21	25
M15	3612.98	3.60	457	1.45	7	21	40	29

Abbreviations: No. = number; $T_{\max}$ = maximum hydrocarbon generation temperature; TOC = total organic carbon.

Table S2. Comparison of Porosity Evaluation Results between Sealed Core Shale and Conventional Shale

Sample No.	Depth, m	Mass, g	Fluid Porosity, %			
			Sealed Samples (Total)	Conventional Sample (Residual)	Saturated Sample (Saturated)	Conventional Sample (Total)
M1	3533.63	21.16	5.54	1.67	3.66	5.33
M2	3536.49	13.25	5.83	2.18	2.80	4.98
M3	3548.30	9.78	2.94	1.58	1.91	3.48
M4	3549.78	15.04	6.87	2.06	3.89	5.95
M5	3553.95	17.26	1.86	1.31	0.94	2.25
M6	3557.48	12.89	3.90	1.04	2.68	3.72
M7	3559.54	17.62	1.80	1.40	1.28	2.67
M8	3560.89	18.77	7.42	0.83	7.18	8.00
M9	3570.20	17.87	4.24	2.19	1.13	3.32
M10	3575.10	13.27	4.12	1.77	1.53	3.30
M11	3593.51	13.76	6.91	1.31	4.86	6.17
M12	3595.18	13.61	3.63	1.47	2.04	3.51
M13	3601.15	10.89	3.37	1.08	1.41	2.49
M14	3610.94	12.92	4.37	0.36	4.87	5.23
M15	3612.98	16.87	4.31	1.42	1.56	2.98

Abbreviation: No. = number.