Datashare 94

Organic matter, mineral composition, pore size, and gas sorption capacity of lacustrine mudstones: Implications for the shale oil and gas exploration in the Dongying depression, eastern China

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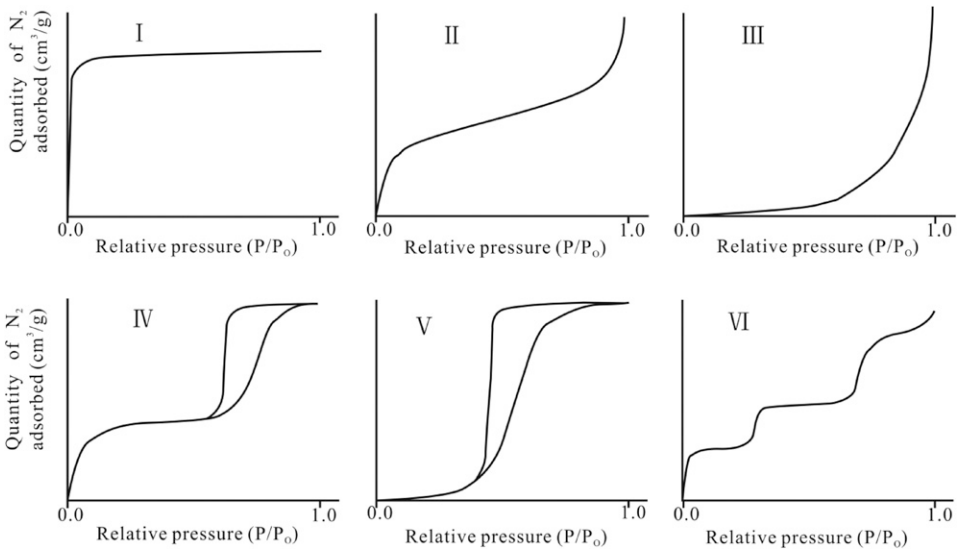
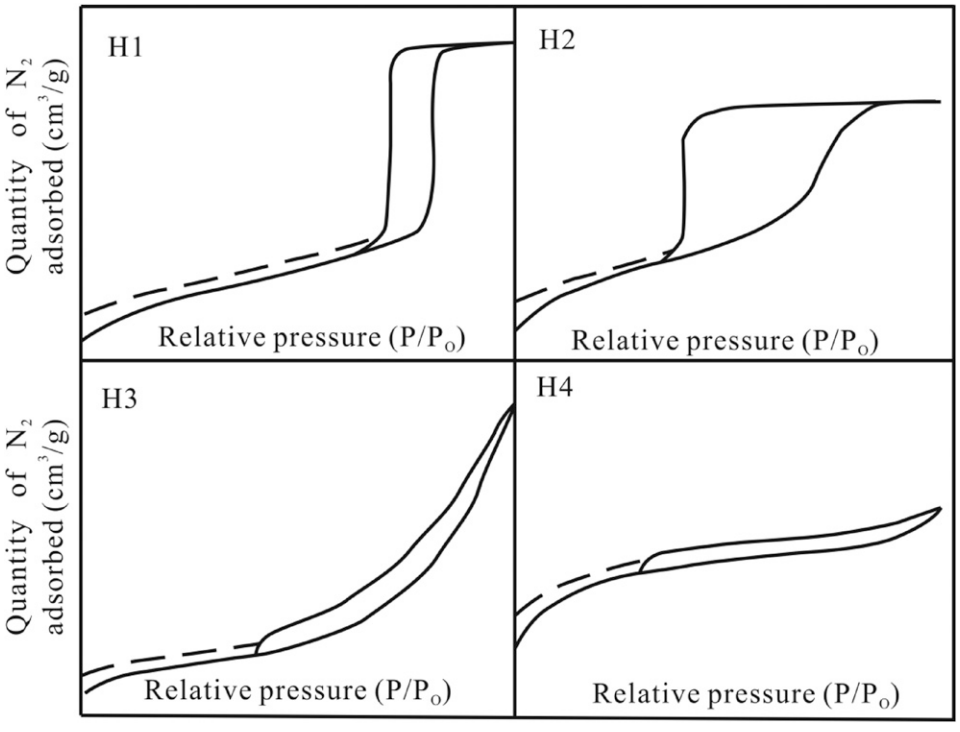
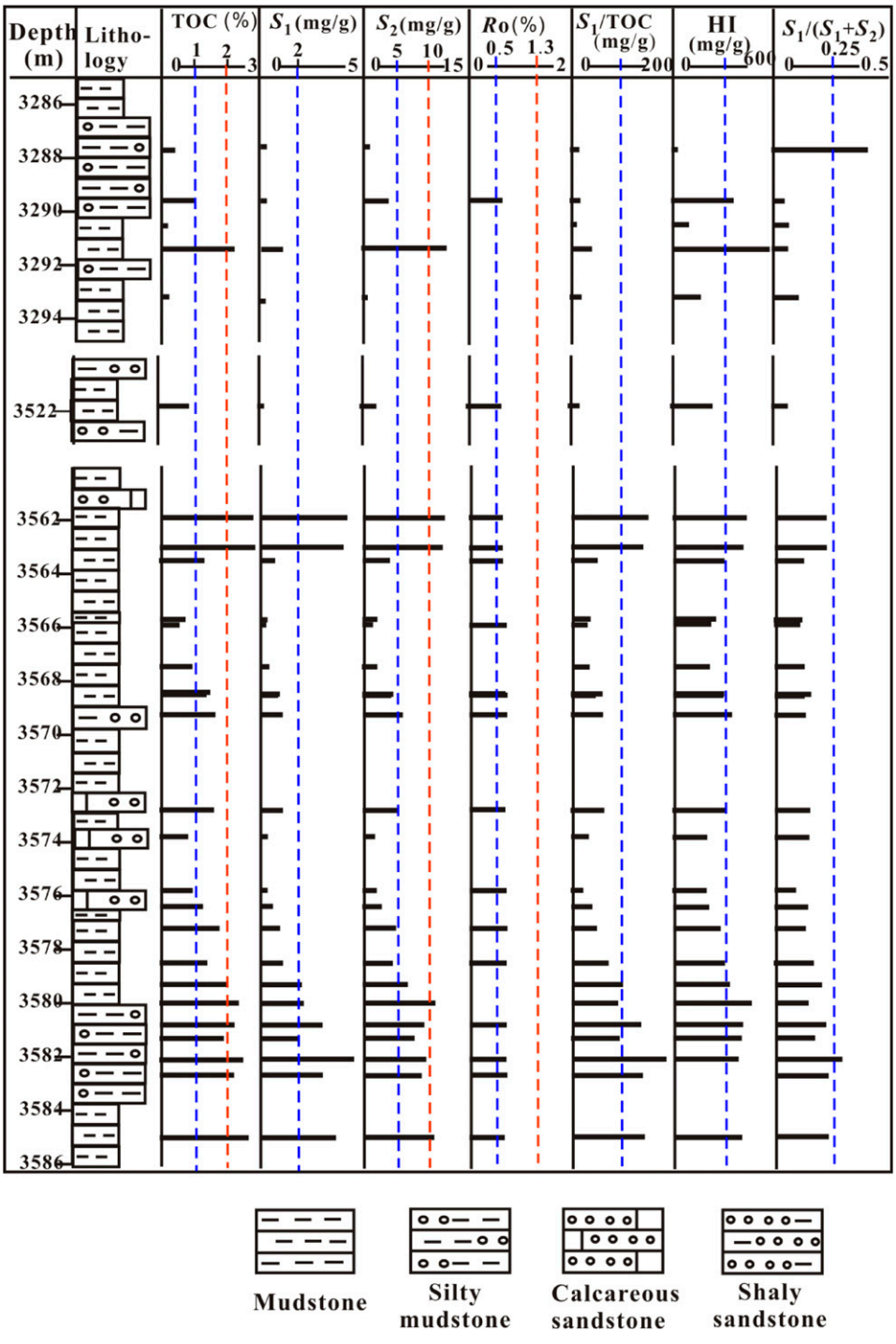


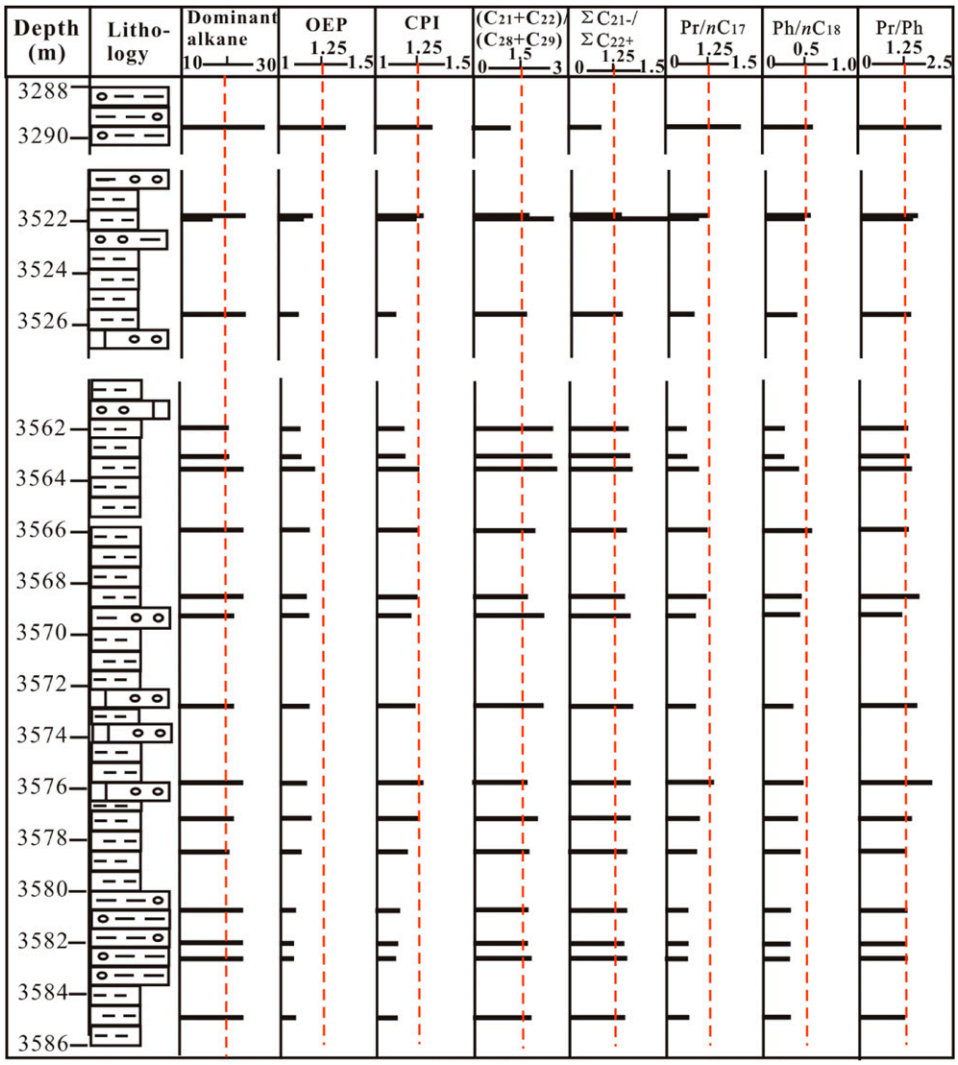
Supplemental Figure 1. Classification scheme of standard isotherm types according to de Boer (1958) and the International Union of Pure and Applied Chemistry.



Supplemental Figure 2. Classification scheme of standard hysteresis loop according to de Boer (1958) and the International Union of Pure and Applied Chemistry.

Supplemental Figure 3. Rock–Eval results and vitrinite reflectance (R_o) versus depth in the S121 well. HI = hydrogen index; S_1 = free hydrocarbons present in the rock; S_2 = hydrocarbons generated from kerogen cracking during heating; TOC = total organic carbon.





Supplemental Figure 4. Distribution of chromatography parameters with depth of the lacustrine mudstones in the S121 well. CPI = carbon preference index; OEP = odd–even predominance index; Pr = pristine; Ph = phytane.

Supplemental Table 1. General Geochemistry Parameters with Depth for the Lower Part of the Paleogene Member 3 Shales from the Dongying Depression Including Total Organic Carbon and Rock-Eval Parameters.

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	100 S_1/TOC (mg/g TOC)	S_1/ (S_1+S_2)
S121	3287.7	10783.7	0.37	0.05	0.64	0.69	368	173	12	0.45
S121	3289.6	10789.9	0.96	0.14	3.35	3.49	443	349	15	0.04
S121	3290.5	10792.8	0.18	0.01	0.15	0.16	438	83	5	0.06
S121	3291.4	10795.8	2.14	0.78	11.97	12.75	443	559	37	0.06
S121	3293.2	10801.7	0.2	0.03	0.31	0.34	439	155	15	0.11
S121	3521.8	11551.5	0.88	0.17	2.11	2.28	441	240	192	0.07
S121	3561.9	11683.0	2.76	4.22	12.17	16.39	443	441	153	0.26
S121	3563	11687	2.82	4.03	11.77	15.8	443	417	143	0.26
S121	3563.5	11688.3	1.29	0.67	3.94	4.61	442	305	52	0.15
S121	3565.7	11695.5	0.75	0.26	1.86	2.12	442	248	35	0.13
S121	3565.9	11696.2	0.58	0.17	1.26	1.43	440	217	29	0.12
S121	3567.5	11701.4	0.91	0.3	1.92	2.22	443	211	33	0.14
S121	3568.5	11704.7	1.43	0.83	4.22	5.05	439	295	58	0.17
S121	3568.5	11704.7	1.32	0.6	3.81	4.41	444	289	45	0.14
S121	3569.3	11707.3	1.63	0.98	5.58	6.56	443	342	60	0.15
S121	3572.8	11718.8	1.59	0.99	4.81	5.8	442	303	62	0.17
S121	3573.8	11722.1	0.8	0.25	1.57	1.82	441	196	31	0.14
S121	3575.8	11728.6	0.92	0.2	1.77	1.97	446	192	22	0.10
S121	3576.4	11730.6	1.24	0.48	2.57	3.05	441	207	39	0.16
S121	3577.2	11733.2	1.71	0.83	4.71	5.54	442	275	49	0.15
S121	3578.5	11737.5	1.39	0.99	4.21	5.2	441	303	71	0.19
S121	3579.3	11740.1	1.93	1.91	6.37	8.28	439	330	99	0.23
S121	3580	11742	2.29	2.04	10.43	12.47	445	455	89	0.16
S121	3580.8	11745.0	2.17	2.94	8.8	11.74	446	406	135	0.25
S121	3581.3	11746.7	1.86	1.71	7.42	9.13	443	399	92	0.19
S121	3582.1	11749.3	2.43	4.49	9.16	13.65	434	377	185	0.33
S121	3582.7	11751.3	2.13	2.93	8.46	11.39	443	397	138	0.26
S121	3585	11759	2.57	3.6	10.34	13.94	442	402	140	0.26
N38	3190.7	10465.5	3.12	0.83	16.43	17.26	439	527	27	0.05
N38	3192.7	10472.1	2.68	1.15	13.85	15	437	517	43	0.08
N38	3195.3	10480.6	3.13	1.39	17.48	18.87	440	558	44	0.07
N38	3197.3	10487.1	1.56	0.33	5.6	5.93	437	359	21	0.06
N38	3200.8	10498.6	2.57	0.73	10.32	11.05	437	402	28	0.07
N38	3201.9	10502.2	3.76	0.94	19.81	20.75	437	527	25	0.05
N38	3204	10509	1.5	0.21	4.67	4.88	437	311	14	0.04
N38	3205.6	10514.4	1.57	0.25	4.69	4.94	438	299	16	0.05
N38	3207.9	10521.9	3.26	1.08	18.51	19.59	439	568	33	0.06
N38	3209.6	10527.5	2.82	0.64	13.28	13.92	438	471	23	0.05
N38	3211.3	10533.1	2.36	0.5	10.01	10.51	440	424	21	0.05
N38	3213	10539	2.99	0.72	13.24	13.96	436	443	24	0.05
N38	3214.8	10544.5	2.6	0.68	13.88	14.56	439	534	26	0.05
N38	3216.6	10550.4	3.74	1.08	20.19	21.27	440	540	29	0.05
N38	3218.8	10557.7	2.27	0.46	7.69	8.15	437	339	20	0.06
N38	3220.5	10563.2	1.82	0.35	5.01	5.36	438	275	19	0.07

(*continued*)

Supplemental Table 1. Continued

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	100 S_1/TOC (mg/g TOC)	S_1/ (S_1+S_2)
N38	3223	10571	2.53	0.67	10.97	11.64	439	434	26	0.06
N38	3224.8	10577.3	1.54	0.28	4.12	4.4	436	268	18	0.06
N38	3228.7	10590.1	4.2	1.6	23.44	25.04	443	558	38	0.06
N38	3230.4	10595.7	2.96	0.89	15.92	16.81	439	538	30	0.05
N38	3232.5	10602.6	2.69	0.79	12.08	12.87	437	449	29	0.06
N38	3234	10607.5	1.02	0.15	2.11	2.26	436	207	15	0.07
N38	3236.8	10616.7	1.62	0.31	5.44	5.75	437	336	19	0.05
N38	3238.4	10622.0	2.99	1.17	13.93	15.1	438	466	39	0.08
N38	3240	10627	4.48	1.8	25.51	27.31	440	569	40	0.07
N38	3242.1	10634.1	1.24	0.37	4.18	4.55	434	337	30	0.08
N38	3245.2	10644.3	3.16	1.37	16.72	18.09	439	529	43	0.08
N38	3247.8	10652.8	4.42	1.17	25.06	26.23	440	567	26	0.04
N38	3250.2	10660.7	4.21	0.88	10.26	11.14	435	244	21	0.08
N38	3252.7	10668.9	3.61	0.91	19.53	20.44	440	541	25	0.04
N38	3254	10673	3.2	1.16	16.67	17.83	440	521	36	0.07
N38	3256	10680	2.64	1	12.2	13.2	439	462	38	0.08
N38	3257.4	10684.3	3.26	1.4	15.86	17.26	440	487	43	0.08
N38	3259.8	10692.1	2.99	1.11	13.9	15.01	439	465	37	0.07
N38	3261.5	10697.7	1.46	0.38	4.77	5.15	437	327	26	0.07
N38	3262.2	10700.0	1.75	0.39	5.39	5.78	439	308	22	0.07
N38	3263	10703	2.89	1.08	13.11	14.19	438	454	37	0.08
N38	3263.3	10703.6	3.03	1.17	13.59	14.76	437	449	39	0.08
N38	3264.9	10708.9	2.77	1.12	12.59	13.71	438	455	40	0.08
N38	3265.4	10710.5	2.85	1.05	12.49	13.54	438	438	37	0.08
N38	3267.1	10716.1	2.9	1.36	13.58	14.94	439	468	47	0.09
N38	3269.1	10722.6	2.97	1.39	14.42	15.81	437	486	47	0.09
N38	3271.2	10729.5	2.83	1.22	13.45	14.67	438	475	43	0.08
N38	3272.1	10732.5	3.52	1.72	17.13	18.85	437	487	49	0.09
N38	3273.2	10736.1	3.31	1.65	16.34	17.99	437	494	50	0.09
N38	3274.2	10739.4	2.82	1.45	14.58	16.03	438	517	51	0.09
N38	3276.5	10746.9	3.08	1.45	17.08	18.53	441	555	47	0.08
N38	3278.1	10752.2	2.39	1.09	10.92	12.01	440	457	46	0.09
N38	3279.4	10756.4	2.39	0.67	10.17	10.84	440	426	28	0.06
N38	3280.4	10759.7	3.13	1.49	16.3	17.79	440	521	48	0.08
N38	3282	10765	3.24	1.43	17.04	18.47	440	526	44	0.08
N38	3283.4	10769.6	1.17	0.43	3.98	4.41	436	340	37	0.10
N38	3284.4	10772.8	3.94	1.72	21.58	23.3	440	548	44	0.07
N38	3285.8	10777.4	2.43	1.08	11.4	12.48	437	469	44	0.09
N38	3286.8	10780.7	2.58	1.64	13.76	15.4	440	533	64	0.11
N38	3287.9	10784.3	2.01	0.68	7.98	8.66	438	397	34	0.08
N38	3288.8	10787.3	2.5	1.09	11.12	12.21	437	445	44	0.09
N38	3291	10794	2.3	0.93	10.8	11.73	440	470	40	0.08
N38	3292	10798	2.16	1.07	9.8	10.87	439	454	50	0.10
N38	3293	10801	4	2.22	23.09	25.31	439	577	56	0.09
N38	3295.1	10807.9	2.19	1.3	9.8	11.1	439	447	59	0.12

(*continued*)

Supplemental Table 1. Continued

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	100 S_1/TOC (mg/g TOC)	S_1/ (S_1+ S_2)
N38	3297	10,814	2.81	2.05	15.9	17.95	443	566	73	0.11
N38	3298.9	10,820.4	1.53	0.54	5.59	6.13	439	365	35	0.09
N38	3300	10,824	4.28	2.23	25.24	27.47	441	590	52	0.08
N38	3301.3	10,828.3	3.3	2.03	18.49	20.52	440	560	62	0.10
N38	3302.5	10,832.2	4.04	2.57	24.26	26.83	440	600	64	0.10
N38	3303.6	10,835.8	6.2	3.5	36.58	40.08	443	590	56	0.09
N38	3304.5	10,838.8	2.52	2.37	15.03	17.4	434	596	94	0.14
N38	3305.8	10,843.0	4.12	2.62	25.14	27.76	440	610	64	0.09
N38	3306.5	10,845.3	2.25	1.17	10.54	11.71	438	468	52	0.10
N38	3307.3	10,847.9	3.34	1.85	18.72	20.57	438	560	55	0.09
N38	3308	10,850	3.12	2.28	18.98	21.26	439	608	73	0.11
N38	3309.6	10,855.5	1.83	0.79	8.01	8.8	437	438	43	0.09
N38	3311	10,860	3.39	1.19	20.73	21.92	442	612	35	0.05
N38	3312.4	10,864.7	3.75	1.79	23.08	24.87	442	615	48	0.07
N38	3313.5	10,868.3	2.63	1.89	17.08	18.97	439	649	72	0.10
N38	3314.9	10,872.9	4.962	2.12	19.38	21.5	440	391	43	0.10
N38	3317.9	10,882.7	5.651	2.95	28.14	31.09	440	498	52	0.09
N38	3319.3	10,887.3	2.888	2.37	19.67	22.04	438	681	82	0.11
N38	3320.3	10,890.6	7.932	2.79	23.57	26.36	440	297	35	0.11
N38	3322.3	10,897.1	1.496	1.4	9.61	11.01	438	642	94	0.13
N38	3323	10,899	2.498	1.89	16.36	18.25	441	655	76	0.10
N38	3324.9	10,905.7	11.47	2.24	22.25	24.49	442	194	20	0.09
N38	3326.9	10,912.2	3.518	1.84	15.92	17.76	442	452	52	0.10
N38	3327.9	10,915.5	2.67	1.48	13.11	14.59	440	491	55	0.10
N38	3329.5	10,920.8	2.191	3.02	16.32	19.34	442	745	138	0.16
N38	3330.2	10,923.1	11.08	4.3	39.88	44.18	446	360	39	0.10
N38	3331.7	10,928.0	11.29	7.12	49.31	56.43	441	437	63	0.13
N38	3332	10,929	9.652	5.85	49.92	55.77	447	517	61	0.10
N38	3335.1	10,939.1	5.696	1.65	12.74	14.39	437	224	29	0.11
N38	3335.5	10,940.4	5.37	0.73	11.81	12.54	440	220	14	0.06
N38	3339	10,952	3.551	1.92	28.49	30.41	441	802	54	0.06
N38	3340.1	10,955.5	5.609	2.72	32.14	34.86	443	573	48	0.08
N38	3341.1	10,958.8	9.522	2.73	43.68	46.41	442	459	29	0.06
N38	3342.2	10,962.4	11.28	2.46	22.53	24.99	438	200	22	0.10
N38	3350.7	10,990.3	4.655	2.57	23.2	25.77	441	498	55	0.10
N38	3351.7	10,993.6	1.561	2.12	13.16	15.28	439	843	136	0.14
N38	3352.6	10,996.5	7.676	3.64	29.4	33.04	443	383	47	0.11
N38	3353.8	11,000.5	2.418	2.39	13.83	16.22	439	572	99	0.15
N38	3355.4	11,005.7	4.36	5.62	26.92	32.54	442	617	129	0.17
N38	3356.1	11,008.0	8.049	4.49	29.59	34.08	446	368	56	0.13
N38	3357	11,011	1.817	2.75	15.81	18.56	439	870	151	0.15
N38	3358.6	11,016.2	4.187	4.48	35.12	39.6	443	839	107	0.11
N38	3359.5	11,019.2	8.357	6.57	55.56	62.13	445	665	79	0.11
N38	3360	11,021	17.77	8.75	64.14	72.89	446	361	49	0.12
N38	3361.1	11,024.4	7.45	6.77	47.76	54.53	444	641	91	0.12

(*continued*)

Supplemental Table 1. Continued

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	100 S_1/TOC (mg/g TOC)	S_1/ (S_1+ S_2)
N38	3362.1	11,027.7	12.18	8.26	61.35	69.61	448	504	68	0.12
N38	3364	11,034	4.623	3.12	22.6	25.72	441	489	67	0.12
N38	3365	11,037.2	3.213	2.72	20.3	23.02	441	632	85	0.12
N38	3366.6	11,042.4	3.736	3.09	17.72	20.81	438	474	83	0.15
N38	3367.4	11,045.1	2.841	2.82	14.32	17.14	437	504	99	0.16
N38	3369.4	11,051.6	3.469	2.67	16.62	19.29	439	479	77	0.14
N38	3369.8	11,052.9	2.428	2.34	16.62	18.96	441	684	96	0.12
T762	3110	10,201	2.73	0.24	10.57	10.81	442	387	9	0.02
T762	3170	10,398	4.39	1.62	24.54	26.16	445	559	37	0.06
T762	3190	10,463	1.02	0.08	4.21	4.29	448	413	8	0.02
T762	3210	10,529	2.28	0.53	11.38	11.91	450	499	23	0.04
T762	3240	10,627	5.43	1.14	29.82	30.96	452	549	21	0.04
T762	3300	10,824	9.01	2.09	46.83	48.92	448	520	23	0.04
W31	2439.9	8002.9	3.01	0.56	11.75	12.31	431	390	19	0.05
W31	2443.4	8014.4	4.03	0.69	21.06	21.75	431.786	523	17	0.03
W33	1816.5	5958.1	4.24	0.61	23.23	23.84	423.888	548	14	0.03
W33	1842.5	6043.4	2.96	0.38	13.88	14.26	424.216	469	13	0.03
W57	3405	11,168	3.47	4.2	19.31	23.51	446	556	121	0.18
W78	3735.7	12,253.1	2.68	4.55	5.55	10.1	448.069	207	170	0.45
Y10	2715.8	8908	1.69	0.12	1.9	2.02	432	112	7	0.06
Y8	2236	7334	1.15	0.12	2.34	2.46	429.174	203	10	0.05
Fs1	2870	9416	1.21	0.07	2.86	2.93	436	236	6	0.02
S126	3522	11,552	1.87	0.27	5.66	5.93	446	303	14	0.05
S126	3525.6	11,564.0	3.02	1.92	15.06	16.98	446	499	64	0.11
B133	3050	10,004	1.65	0.12	5.34	5.46	442	324	7	0.02
B133	3134	10,279	1.72	0.22	5.89	6.11	439	342	13	0.04
B620	1562.7	5125.7	6.01	1.17	39.7	40.87	427	661	19	0.03
B648	2171.8	7123.5	3.3	0.65	21.98	22.63	428.365	666	20	0.03
B653	2602	8535	2.96	0.23	14.38	14.61	433.785	486	8	0.02
B653	2630	8626	3.45	0.34	17.79	18.13	434	516	10	0.02
B653	2650	8692	2.04	0.11	8.31	8.42	435	407	5	0.01
Lx61	2294	7524	1.69	0.07	6.99	7.06	428	414	4	0.01
L85	2588	8489	2.4	0.12	10.13	10.25	432	422	5	0.01
L85	2666	8744	2.16	0.08	7.94	8.02	434.592	368	4	0.01
L101	3376.2	11,073.9	1.8	0.63	6.46	7.09	442	359	35	0.09
L101	3381.6	11,091.6	2.12	1.05	7.91	8.96	443.608	373	50	0.12
^{11}C	2147.2	7042.8	6.04	2	56.84	58.84	426	941	33	0.03
^{11}C	2159.5	7083.2	9.68	2.33	70.84	73.17	428.21	732	24	0.03
C17	2295	7528	2.28	0.16	16.21	16.37	430	711	7	0.01
M20	1101	3611	1.6	0.04	3.56	3.6	414.873	223	3	0.01
M20	1103	3618	0.81	0.03	1.47	1.5	414.898	181	4	0.02
M20	1109	3637	0.86	0.03	1.14	1.17	414.973	133	3	0.03
M20	1110	3641	1.43	0.03	3.56	3.59	414.986	249	2	0.01
T29	1976.5	6482.9	1.93	0.17	5.64	5.81	425.904	292	9	0.03
T29	1988	6521	2.44	0.24	12.62	12.86	426.048	517	10	0.02

Abbreviations: HI = hydrogen index; S_1 = free hydrocarbons present in the rock; S_2 = hydrocarbons generated from kerogen cracking during heating; T_{max} = pyrolysis peak temperature; TOC = total organic carbon.

Supplemental Table 2. General Geochemistry Parameters with Depth for the Upper Paleogene Member 4 Shales from the Dongying Depression Including Total Organic Carbon and Rock-Eval Parameters.

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	$100S_1$/TOC (mg/g TOC)	S1/ (S1+ S2)
N5	2692.5	8831.4	1.76	2.58	10.06	12.64	430	572	147	0.20
N5	2603.5	8539.5	2.25	0.21	15.54	15.75	431	691	9	0.01
N5	2662.1	8731.7	1.07	1.41	4.53	5.94	432	423	132	0.24
N5	2661.5	8729.7	3.63	3.35	22.28	25.63	433	614	92	0.13
N5	2594.2	8509.0	2.55	0.44	17.56	18	434	689	17	0.02
N5	2612.3	8568.3	2.01	1.33	10.69	12.02	434	532	66	0.11
N5	2614.1	8574.2	1.34	0.21	6.34	6.55	434	473	16	0.03
N5	2617	8584	2.99	0.68	23.42	24.1	434	783	23	0.03
N5	2634.2	8640.2	4.07	2.72	26.74	29.46	434	657	67	0.09
N5	2645.3	8676.6	2.21	0.85	14.2	15.05	434	643	38	0.06
N5	2648	8685	3.67	3.02	35.52	38.54	434	968	82	0.08
N5	2680.8	8793.0	2.09	5.84	9.62	15.46	435	460	279	0.38
N5	2685.4	8808.1	3.05	3.07	25.92	28.99	435	850	101	0.11
Lx61	2428	7964	1.01	0.18	3.18	3.36	431	315	18	0.05
Lx61	2430	7970	2.23	0.84	12.92	13.76	432	579	38	0.06
Lx61	2431	7974	1.31	0.31	5.6	5.91	432	427	24	0.05
Lx61	2432.3	7977.9	1.96	0.37	8.78	9.15	432	448	19	0.04
Lx61	2496	8187	2.82	0.49	14.75	15.24	432	523	17	0.03
Lx61	2500	8200	0.56	0.05	0.96	1.01	433	171	9	0.05
Lx61	2432	7977	2.07	0.27	14.4	14.67	435	696	13	0.02
W35	2014.2	6606.6	1.35	0.19	6.25	6.44	426	463	14	0.03
W35	2019.8	6624.9	1.72	0.16	6.48	6.64	426	377	9	0.02
W35	2029.8	6657.7	4.16	0.78	15.07	15.85	427	362	19	0.05
W35	2041.5	6696.1	3.04	1.09	25.76	26.85	427	847	36	0.04
W35	2072.5	6797.8	9.87	1.55	74.96	76.51	427	759	16	0.02
W35	2084.8	6838.1	2.48	0.45	14.63	15.08	427	590	18	0.03
W35	2119.8	6952.9	3.28	2.11	21.69	23.8	428	661	64	0.09
W35	2143.2	7029.7	2.11	1.12	9.79	10.91	428	464	53	0.10
T29	2021	6629	1.41	0.11	4.9	5.01	427	348	8	0.02
T29	2067.5	6781.4	3.31	0.78	16.41	17.19	427	496	24	0.05
T29	2077.8	6815.2	3.88	0.69	37.12	37.81	427	957	18	0.02
T29	2096.5	6876.5	1.59	0.12	5.14	5.26	427	323	8	0.02
T29	2110.5	6922.4	4.77	2.2	32.68	34.88	428	685	46	0.06
B622	1520.4	4986.9	7.9	8.53	56.18	64.71	422	711	108	0.13
B648	2230.8	7317.0	2.55	1.28	13.27	14.55	423	520	50	0.09
B648	2188	7177	2.18	0.23	11.12	11.35	429	510	11	0.02
B653	2728.5	8949.5	2.81	0.66	18.96	19.62	436	675	23	0.03
B653	2754.3	9034.1	2.17	0.66	14.07	14.73	439	648	30	0.04
B653	2792	9158	4.28	0.58	27.27	27.85	442	637	14	0.02
Df5	3046.2	9991.5	1.61	0.98	6.61	7.59	439	411	61	0.13
Df5	3051.9	10,010.2	2.98	2.14	17.52	19.66	440	588	72	0.11
Df5	3096.7	10,157.2	2.94	2.32	16.52	18.84	442	562	79	0.12
Df5	3068.1	10,063.4	1.94	1.48	9.89	11.37	444	510	76	0.13
F8	3050	10,004	1.87	0.48	7.15	7.63	439	382	26	0.06

(*continued*)

Supplemental Table 2. Continued

Wells	Depth (m)	Depth (ft)	TOC (%)	S_1 (mg/g rock)	S_2 (mg/g rock)	S_1+S_2 (mg/g rock)	T_{max} (°C)	HI (mg/g TOC)	$100S_1$/TOC (mg/g TOC)	S1/ (S1+ S2)
F8	3164	10,378	1.99	0.7	7.68	8.38	441	386	35	0.08
F8	3403	11,162	4.42	4.81	24.01	28.82	442	543	109	0.17
F8	3166	10,384	2.17	0.86	8.71	9.57	446	401	40	0.09
Fs1	3440	11,283	1.66	0.88	5.01	5.89	443	302	53	0.15
Fs1	3685.6	12,088.8	2.29	0.93	6.22	7.15	446	272	41	0.13
Fs1	3686.3	12,091.1	1.99	0.91	5.43	6.34	449	273	46	0.14
G2	2586.7	8484.4	1.64	0.37	7.42	7.79	431	452	23	0.05
G3	1941	6366	3.97	1.69	22.4	24.09	423	564	43	0.07
L85	2712	8895	1.83	0.05	6.07	6.12	435	332	3	0.01
L85	2812	9223	1.54	0.09	5.75	5.84	436	373	6	0.02
M20	1138	3733	2.56	1.05	12.86	13.91	413	502	41	0.08
M20	1135	3723	1.73	0.9	5.83	6.73	418	337	52	0.13
M5	1238	4061	2.68	1.11	11.42	12.53	417	426	41	0.09
N11	3601.5	11,812.9	1.91	3.34	4.3	7.64	444	225	175	0.44
N11	3601.6	11,813.2	1.52	0.18	3.98	4.16	450	262	12	0.04
W103	3081.6	10,107.6	1.6	0.99	5.9	6.89	440	369	62	0.14
W12	1696	5563	4.38	1.07	22.5	23.57	420	514	24	0.05
W12	1608	5274	8.73	3.09	50.57	53.66	421	579	35	0.06
W12	1691.5	5548.1	3.63	0.45	16.61	17.06	422	458	12	0.03
W161	1901.5	6236.9	5.46	0.98	39.56	40.54	425	725	18	0.02
W161	1866.5	6122.1	5.83	2.12	31.14	33.26	427	534	36	0.06
W18	1625.6	5332.0	0.19	0.06	0.56	0.62	419	295	32	0.10
W31	2576.4	8450.6	3.7	3.55	23.59	27.14	431	638	96	0.13
W31	2577.8	8455.2	4.67	4.87	29.48	34.35	433	631	104	0.14
W31	2605.2	8545.1	5.36	3.23	31.63	34.86	434	590	60	0.09
W33	1958	6422	1.33	0.28	2.98	3.26	424	224	21	0.09
W33	1977	6485	3.38	2.41	25.38	27.79	426	751	71	0.09
W7	2593.5	8506.7	1.68	0.31	6.7	7.01	434	399	18	0.04
W7	2621.5	8598.5	1.55	0.29	6.55	6.84	434	423	19	0.04
W7	2738.2	8981.3	2.89	6.46	18.68	25.14	435	646	224	0.26
W7	2637.2	8650.0	4.88	5.03	33.08	38.11	436	678	103	0.13
W78	3741.5	12,272.1	1.76	2.13	4.31	6.44	446	245	121	0.33
W78	3904	12,805	4.45	5.7	9.07	14.77	450	204	128	0.39

Abbreviations: HI = hydrogen index; S_1 = free hydrocarbons present in the rock; S_2 = hydrocarbons generated from kerogen cracking during heating; T_{max} = pyrolysis peak temperature; TOC = total organic carbon.