

**Table OA11. Rock-Eval data on hydrous pyrolysis samples.**

***Before first experiment***

Sample #	Formation	Sample ID	TMAX	S1	S2	S3	PI	TOC	HI	OI
31	Shublik	1 OCS Y-0338 Phoenix	430	1.41	50.31	0.69	0.03	7.99	629	8
32	Canning	13-9-19 Mikkelsen Bay	439	0.05	0.98	0.64	0.05	0.96	102	66
33	Hue	13-9-19 Mikkelsen Bay	416	0.64	9.65	0.56	0.06	2.93	329	19
34	Hue	13-9-19 Mikkelsen Bay	434	1.27	7.2	0.58	0.15	2.47	291	23
35	Hue	13-9-19 Mikkelsen Bay	432	1.08	9.83	0.44	0.1	4.46	220	9
36	Pebble Shale	84AMK13A	433	0.02	1.8	1.65	0.01	3.85	46	42
37	Kingak	84AMK13B	428	0.04	0.63	1.38	0.06	2.69	23	51
38	Hue	85AMK3A	409	2.81	53.01	3.09	0.05	10.79	491	28
42	Hue	85AMK4B	420	1.33	52.9	10	0.02	16.59	318	60

***After last experiment***

Sample #	Formation	Sample ID	TMAX	S1	S2	S3	PI	TOC	HI	OI	Expelled HI	Expelled S1+S2	Expelled Cooles	Expelled Actual HP	Extract	Sulfur
											(mg/g OC)	(mg/g OC)	(mg/g OC)	(mg/g OC)	(ppm-rock)	Reaction
31D-R	Shublik	1 OCS Y-0338 Phoenix	445	2.09	5.64	0.99	0.27	5.59	100	17	529	551	577	307	12369	heavy
32D-R	Canning	13-9-19 Mikkelsen Bay	510	0	0.3	0.11	0	0.8	37	13	65	76	72	0	996	light
33D-R	Hue	13-9-19 Mikkelsen Bay	511	0.12	0.47	0.11	0.21	2.32	20	4	309	331	333	2	788	mod/heavy
34D-R	Hue	13-9-19 Mikkelsen Bay	443	0.05	0.35	0.25	0.12	1.45	24	17	267	327	323	253	1824	heavy
35D-R	Hue	13-9-19 Mikkelsen Bay	316	0.64	1.73	0.24	0.27	1.58	109	15	111	191	108	0	4085	heavy
36D-R	Pebble Shale	84AMK13A	451	0.03	0.29	0.04	0.09	3.24	8	1	38	39	38	0	942	heavy
37D-R	Kingak	84AMK13B	514	0.02	0.27	0.04	0.07	2.64	10	1	13	14	14	0	683	heavy
38D-R	Hue	85AMK3A	510	1.4	2.66	1.25	0.34	7.78	34	16	457	480	487	3	4670	heavy
42D-R	Hue	85AMK4B	468	6.66	14.54	1.99	0.31	15.58	93	12	225	199	216	63	17912	heavy

Expelled HI = HI final - HI initial (Schmoker, 1994, equation 3)

Expelled S1+S2 = (S1+S2 final - S1+S2 initial) normalized to initial TOC

Expelled Cooles = formula from Cooles and others (1986) assumes a constant inert carbon

Expelled Actual HP = measured free oil generated by hydrous pyrolysis (see Table OA 13)

Extract = samples extracted with Soxtherm using Benzene/Methanol for 2 hours boiling and 2 hours extraction time.