Total organic carbon, rock-eval pyrolysis, and vitrinite reflectance data from the Union Oil Co. OCS Y-0849-2 (Hammerhead No. 2) well

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HAMMERHEAD #2 AND CORONA #1 GEOCHEMISTRY

Initial pyrolysis screening of these wells revealed some 7-8 intervals with high S_2 yields. Additional, more intense sampling was carried out to derive a vertical profile through the source section to establish thickness and proneness of the intervals.

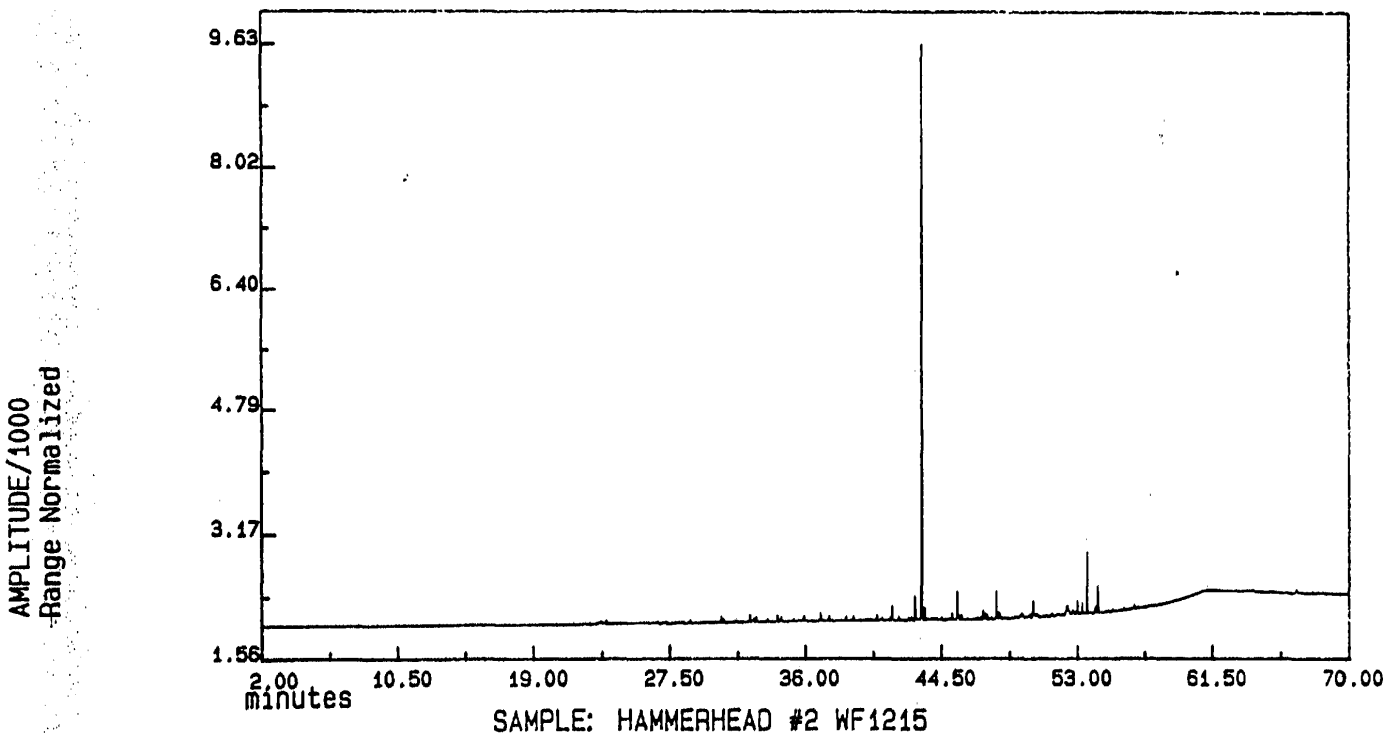
The richer samples were then extracted for further geochemical characterisation but this revealed the presence of severe contamination in both wells. The contaminant was extremely soluble, immediately turning dichloromethane black and totally swamping the GC traces obtained. The contaminant is some form of plasticiser or possibly lubraglide, a common Beaufort Sea drilling additive. No further geochemical characterisation was possible, and the high S_2 yields measured during screening are, at least in part, due to contaminant.

Sample	Depth	%TOC	S1	S2	HI	OI	Tmax	GOGI
WF1193	600	0.37	0.05	0.33	89	164	298	
WF1194	690	0.17	0.05	0.09	52	229	298	
WF1195	780	1.16	1.09	2.45	211	359	351	
WF1196	870	1.31	0.30	1.08	82	183	416	
WF1197	960	0.81	0.37	0.69	85	135	412	
WF1198	1050	1.93	0.59	3.75	194	128	440	
WF1199	1140	1.74	0.50	5.18	297	120	443	
WF1200	1230	1.45	0.29	1.77	122	140	444	
WF1201	1320	0.70	0.30	0.48	68	142	451	
WF1202	1410	0.39	0.33	0.47	120	153	445	
WF1203	1500	0.90	0.25	1.24	137	115	444	
WF1204	1590	0.68	0.27	0.49	72	136	438	
WF1205	1680	1.56	0.35	1.63	104	107	442	
WF1206	1770	0.96	0.27	1.35	140	163	446	
WF1207	1860	1.26	0.31	1.27	100	96	445	
WF1208	1950	0.74	0.25	0.56	75	132	424	
WF1209	2040	1.56	0.27	1.49	95	112	441	
WF1210	2130	0.74	0.30	0.98	132	100	445	
WF1211	2220	0.94	0.68	1.04	110	182	411	
WF1212	2310	0.85	0.21	0.69	81	88	441	
WF1213	2400	3.76	0.39	3.15	83	81	441	
WF1214	2490	0.50	0.19	0.37	74	126	423	
WF1607	2490	3.26	0.13	2.73	83	95	429	
WF1608	2520	1.57	0.13	1.01	64	133	433	
WF1609	2550	12.59	3.41	16.68	132	91	375	
WF1215	2580	7.71	1.19	11.33	146	82	370	0.56
WF1215Ext	2580	6.07	0.92	6.35	104	96	382	
WF1610	2580	6.23	0.69	7.29	117	122	403	
WF1611	2610	2.03	0.06	1.62	79	175	433	
WF1612	2640	1.37	0.41	0.93	67	170	436	
WF1216	2670	0.99	0.31	0.65	65	137	438	
WF1613	2670	1.59	0.19	1.41	88	157	440	
WF1614	2700	2.15	0.11	1.93	89	134	438	
WF1615	2730	3.41	0.29	4.12	120	131	433	
WF1217	2760	2.77	0.64	10.64	384	109	444	0.30
WF1616	2760	1.86	0.22	2.74	147	244	441	
WF1617	2790	3.48	0.19	2.99	85	147	441	
WF1618	2820	2.69	0.13	1.65	61	158	439	
WF1218	2850	1.50	0.23	1.42	94	130	444	
WF1219	2940	1.43	0.31	1.21	84	131	441	
WF1220	3030	1.00	0.23	0.95	95	67	441	
WF1221	3120	1.16	0.13	0.88	75	72	444	
WF1222	3210	2.82	0.46	3.52	124	97	439	
WF1223	3300	0.80	0.21	0.63	78	88	441	
WF1224	3390	0.97	0.22	0.68	70	134	439	
WF1225	3480	0.95	0.17	0.67	70	177	445	
WF1226	3570	2.42	0.30	1.68	69	86	442	
WF1227	3660	2.49	0.57	2.38	95	113	431	
WF1228	3750	1.30	0.14	0.60	46	127	440	
WF1229	3840	1.37	0.17	0.86	62	113	441	
WF1230	3930	2.19	0.21	1.81	82	92	439	
WF1231	4020	3.92	0.09	2.45	62	77	439	
WF1232	4110	2.93	0.31	1.98	67	76	442	
WF1233	4200	1.03	0.31	0.79	76	110	442	
WF1234	4290	1.25	0.21	0.84	67	103	442	
WF1235	4380	1.72	0.21	1.41	81	96	444	

WF1237	4560	0.95	0.11	0.80	84	105	443	
WF1238	4650	0.79	0.11	0.63	79	107	442	
WF1239	4740	1.18	0.17	0.95	80	127	440	
WF1240	4830	3.16	0.27	1.77	56	76	444	
WF1241	4890	1.44	0.35	1.11	77	97	443	
WF1242	4920	2.23	0.17	1.74	78	83	446	
WF1243	4950	1.63	0.26	1.64	100	99	446	
WF1244	4980	0.75	0.11	0.51	68	109	448	
WF1245	5010	1.68	0.17	0.61	36	86	444	
WF1246	5040	0.72	0.17	0.49	68	138	443	
WF1247	5070	1.77	0.19	1.10	62	90	444	
WF1248	5100	1.20	0.33	0.90	75	83	441	
WF1249	5130	1.10	0.23	0.83	75	101	441	
WF1250	5160	2.10	0.23	1.20	57	84	441	
WF1251	5190	1.05	0.21	1.02	97	85	451	
WF1252	5220	1.21	0.18	0.94	77	90	442	
WF1253	5250	1.18	0.25	0.91	77	116	446	
WF1254	5280	7.13	0.41	4.32	60	75	441	0.64
WF1255	5310	1.51	0.10	0.78	51	124	451	
WF1256	5340	1.83	0.21	1.51	82	83	444	
WF1257	5370	1.86	1.45	2.94	158	147	434	
WF1258	5400	2.57	1.09	1.94	75	121	439	
WF1259	5430	7.61	2.06	12.83	168	62	435	
WF1260	5460	0.55	0.31	0.37	67	125	442	
WF1261	5490	0.35	0.47	0.49	140	117	390	
WF1262	5520	0.62	0.21	0.51	82	133	378	
WF1263	5550	0.73	0.15	0.63	86	302	441	
WF1264	5580	0.61	0.20	0.58	95	186	430	
WF1265	5610	0.37	0.15	0.47	127	159	352	
WF1266	5640	0.69	0.21	0.75	108	123	437	
WF1267	5670	0.72	0.19	0.65	90	109	440	
WF1268	5700	0.49	0.18	0.48	97	110	365	
WF1269	5730	0.69	0.01	0.29	42	117	381	
WF1270	5760	1.66	0.15	1.59	95	96	440	
WF1271	5790	0.99	0.03	0.31	31	110	407	
WF1272	5820	0.72	0.01	0.37	51	109	442	
WF1273	5850	0.81	0.05	0.43	53	137	439	
WF1274	5880	0.73	0.03	0.31	42	194	439	
WF1275	5910	0.66	0.01	0.29	43	104	401	
WF1276	6000	2.43	0.13	1.12	46	100	449	
WF1277	6090	0.75	0.09	0.99	132	126	440	
WF1619	6090	1.29	0.11	1.95	151	110	438	
WF1620	6120	1.11	0.05	0.80	72	119	441	
WF1621	6150	1.28	0.07	0.59	46	121	439	
WF1278	6180	3.45	0.29	22.90	663	28	438	0.32
Wf1278Ext	6180	0.99	0.07	2.88	290	74	439	
WF1622	6180	1.65	0.07	5.92	358	70	436	
WF1623	6210	2.81	0.15	15.13	538	51	437	
WF1624	6240	1.90	0.11	8.74	460	73	433	
WF1279	6300	0.38	0.15	0.51	134	144	437	
WF1625	6300	1.10	0.11	2.99	271	100	435	
WF1280	6390	0.87	0.08	2.28	262	66	440	
WF1281	6420	0.30	0.00	0.36	120	126	438	

Hammerhead #2 Vitrinite Reflectance

Sample #	Depth	% Ro	No. Points
WF1195	780	0.19	20
WF1198	1050	0.26	21
WF1205	1680	0.24	12
WF1209	2040	0.29	23
WF1213	2400	0.29	21
WF1215	2580	0.26	25
WF1222	3210	0.35	28
WF1227	3660	0.32	25
WF1231	4020	0.35	26
WF1240	4830	0.33	25
WF1254	5280	0.36	35
WF1259	5430	0.39	25
WF1270	5760	0.33	25
WF1276	6000	0.36	15
WF1278	6180	0.40	20



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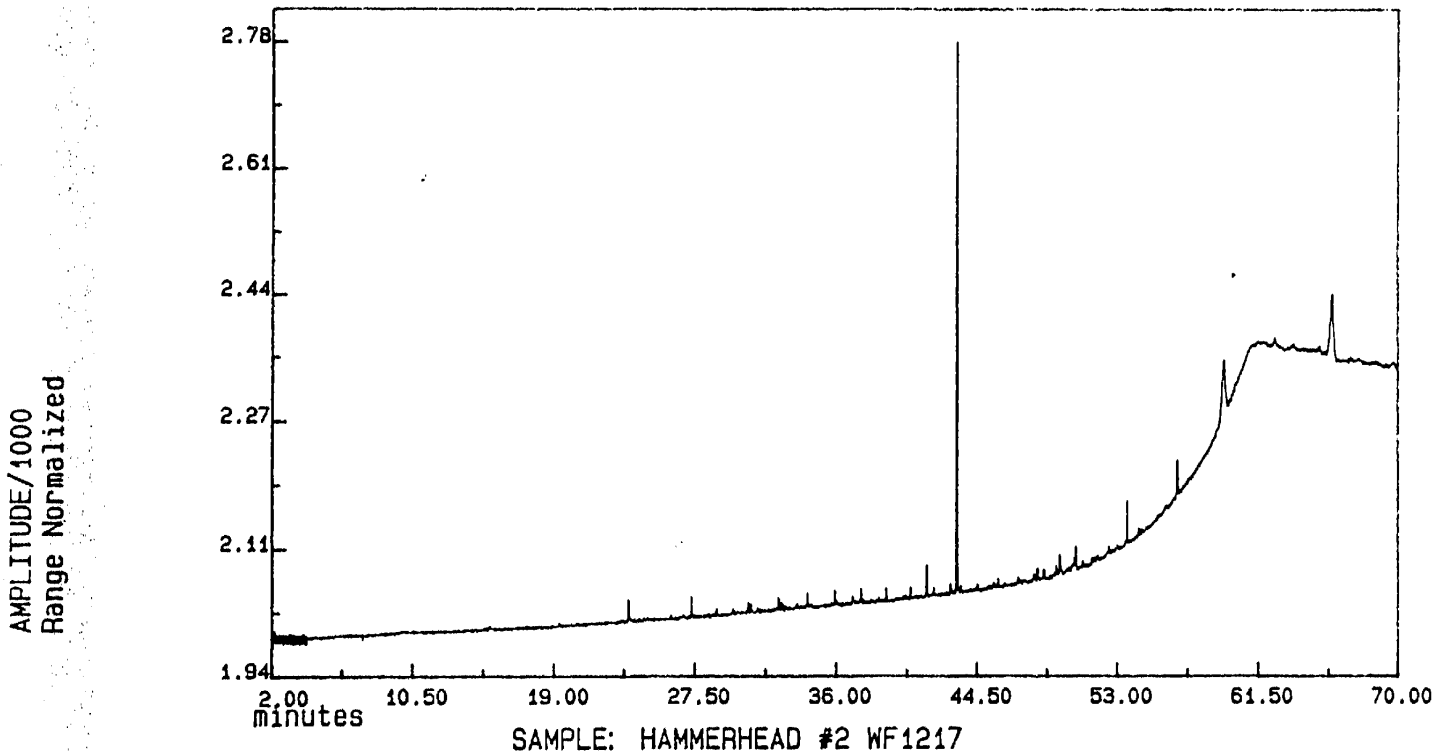

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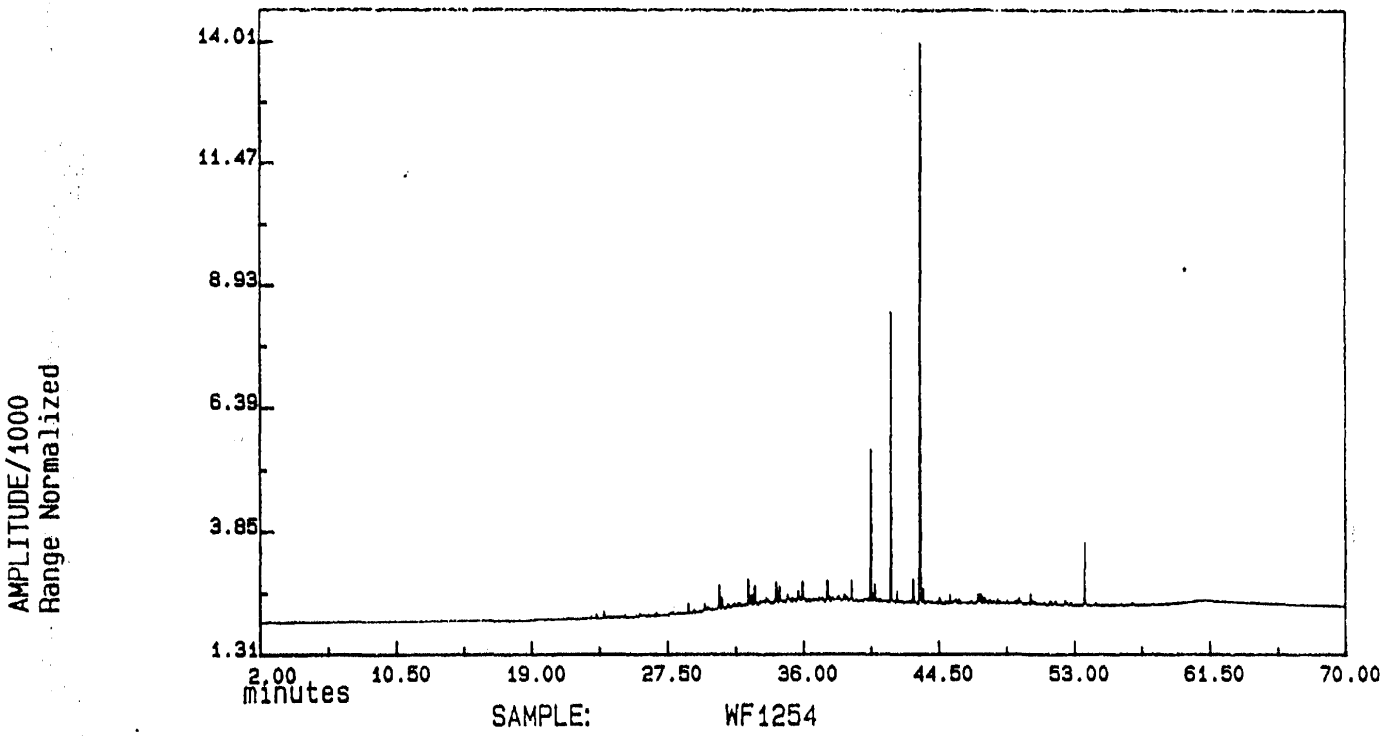

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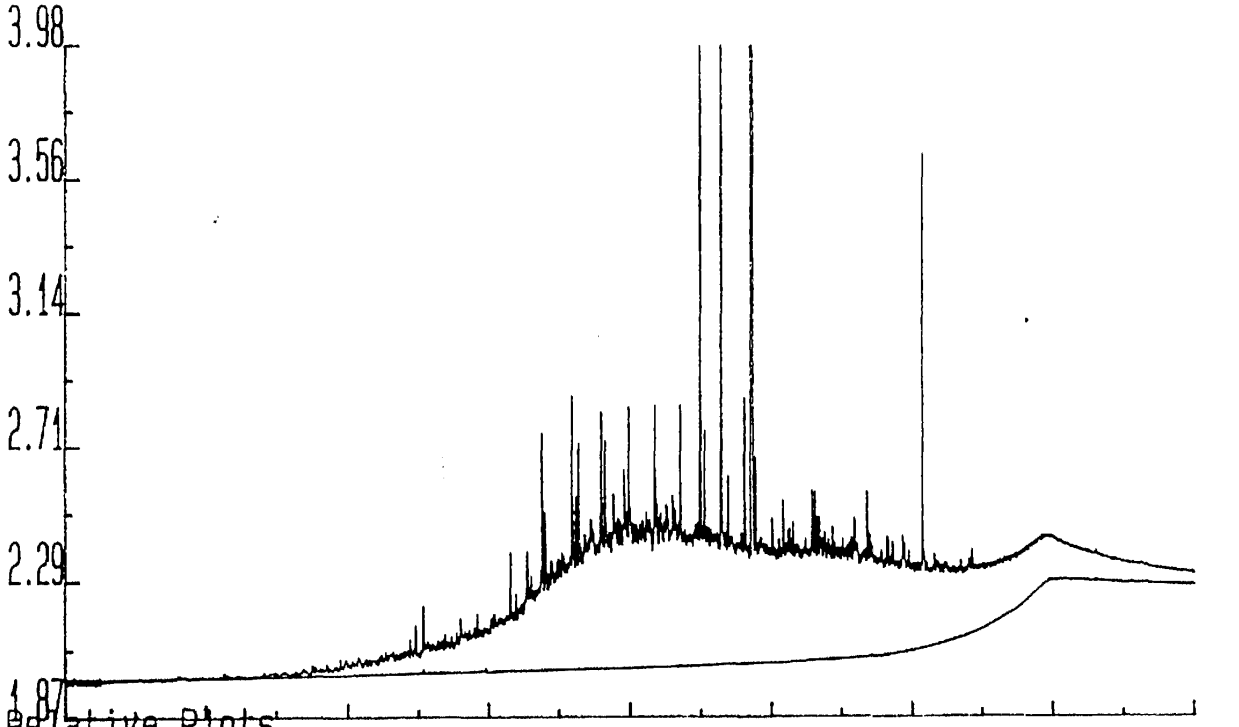
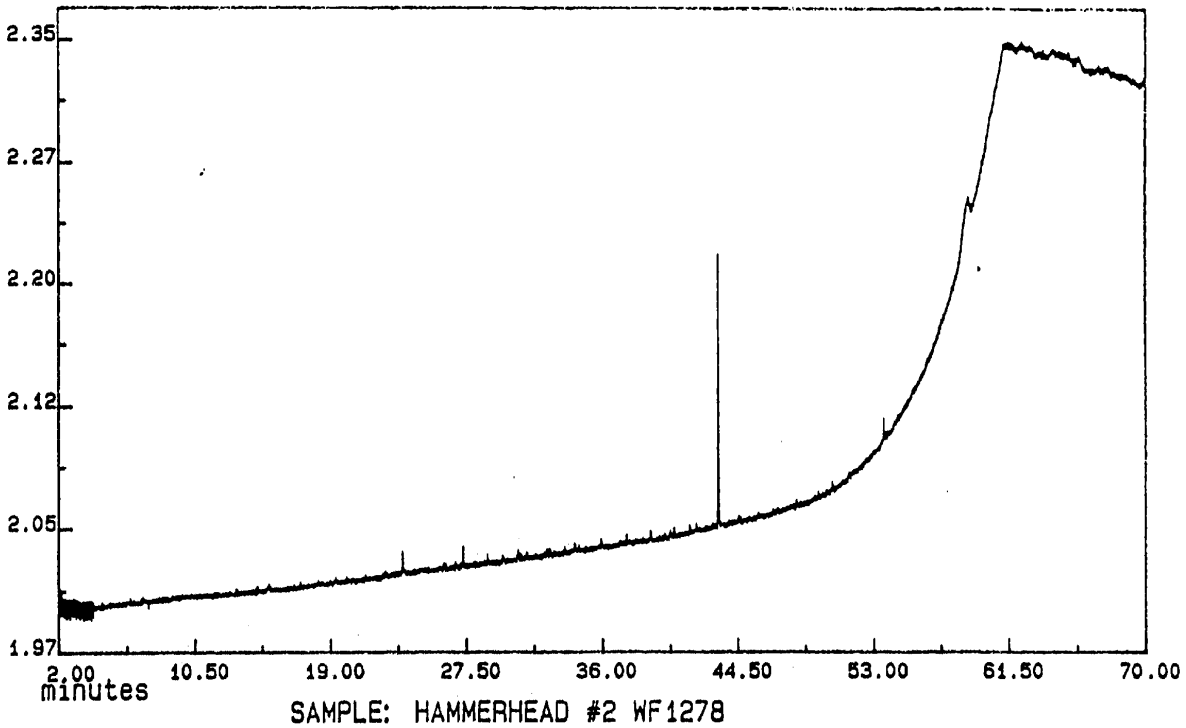


Relative Plots
Top: WH1254_WHO (2.0- 70.0) (Enlarged x 6.0)
Bottom: BLANKCS2GC_WHO (2.0- 70.0) (Enlarged x 6.0)



SAMPLE: HAMMERHEAD #2 WF1278
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