

LITHOLOGY OF CORE SAMPLES SUBMITTED FOR ASSAY ^{1/}

Washington corehole 1, Wasatch Development Company, at a point whence the N. 1/4 corner of sec. 30, T. 4 S., R. 97 W., bears N. 16° 42' W. 132.97 feet, Garfield County, Colo.

Surface Elevation 7516 feet Total Depth 499 feet Mahogany Marker 426 feet

From	To	Description
0	10	No sample.
10	52	Marlstone, dirty-wh and bf. Siltstone, lt gr.
52	53.7	Marlstone, dk gr. (First oil shale encountered.)
53.7	69.4	Siltstone, lt gr, massive.
69.4	72	Marlstone, mottled blk and lt br. Similar bed in Carbon 1.
72	80	Marlstone and siltstone, bf and dirty-wh, bedded and massive, (barren).
80	85.5	Marlstone, banded tan and lt br.
85.5	87	Marlstone, blk and dk gr, massive.
87	88	Marlstone, lt br, massive, crystal cavities which are filled with pyrobitumen.
88	93	Siltstone, dirty-wh, massive.
93	98	Marlstone, br, massive, with numerous crystal cavities which are filled with pyrobitumen.
98	107	Marlstone, lt br and br, massive, with numerous crystal cavities which are filled with blk pyrobitumen.
107	114.5	Marlstone, dirty-wh and bf.
114.5	117	Marlstone, banded lt gr and lt br.
117	118.6	Marlstone, lt br, massive.
118.6	120	Marlstone and pyrobitumen, br and dk br, spongy, vuggy, and contorted.
120	121.2	Marlstone, lt br and lt gr, massive.
121.2	122.5	Marlstone and pyrobitumen, br and dk br, spongy, vuggy, and contorted.
122.5	150.7	Marlstone, siltstone, and tuff of bf, lt gr, and dirty-wh. Few stringers of br marlstone. Some contorted bedding and some vertical fracture. (Barren.)
150.7	153.6	Marlstone, dk br. 3 thin bands of br analcite tuff at approximately 151.6 feet.
153.6	154.6	Marlstone, banded lt br and br.
154.6	156.2	Marlstone, blk and dk br. Some vertical fracture.
156.2	160	Marlstone, tan and lt br.
160	177.5	Marlstone, dk gr, dk br, and blk, both well-bedded and massive, compact and uniform. 1/2" band of bluish-gr analcite tuff at 173.9 feet.
177.5	192.3	Marlstone, dk gr and dk br, well-bedded, compact, and uniform.
192.3	204.8	Marlstone, br and dk br, well-bedded. Two bands of gryish-br analcite tuff at 195.7-195.8 and 198.1-198.2 feet.

By H. N. Smith

Illustration No. SBR-2290P

Petroleum and Oil-Shale Experiment Station, Laramie, Wyoming

March 5, 1958

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204.8	207	Marlstone, lt br, br, and gr. Small band of blk pyrobitumen.
207	210	Marlstone, dk gr and blk.
210	211.4	Marlstone, br and lt gr.
211.4	216.3	Marlstone, lt br, tan, and bf, bedding badly distorted and twisted. Contains some blu analcite blebs. Some vertical fracture.
216.3	219.7	Marlstone, lt gr and lt br. Few clay partings parallel to bedding laminae.
219.7	221.1	Marlstone, dk gr and blk.
221.1	224.4	Marlstone, banded gr and lt br, numerous clay partings parallel to bedding laminae.
224.4	225.9	Marlstone, gr and dk gr.
225.9	228	Marlstone, blk, both massive and well-bedded. 1/2" band br analcite tuff at 226.4 feet.
228	233.7	Marlstone, br and lt br, well-bedded. 1/4" band blu analcite tuff at 228.6 feet.
233.7	240.5	Marlstone, gr, numerous clay partings a long bedding laminae.
240.5	242.7	Marlstone, blk and dk gr, predominately massive.
242.7	247.6	Marlstone, gr and br, with small blebs of wh anhydrite.
247.6	249.8	Marlstone, blk and dk gr, predominately massive.
249.8	251	Marlstone, br and dk br, distorted bedding, numerous small blebs wh anhydrite.
251	252.8	Marlstone, lt gr and lt br.
252.8	255	Marlstone, blk, predominately massive.
255	258.2	Marlstone, banded lt br and br, with few small blebs of wh anhydrite.
258.2	259.8	Marlstone, gr, well-bedded.
259.8	262.5	Marlstone, blk, predominately massive, some vertical fracture.
262.5	263	Shaley siltstone, br.
263	266	Marlstone, banded br and lt br.
266	269.3	Marlstone, gr.
269.3	276.7	Marlstone, gr and br. 4" band of bf siltstone with flecks of bitumen at 275 feet.
276.7	280.5	Marlstone, dk gr.
280.5	283.5	Marlstone, predominately lt br and tan. Bf tuffaceous marlstone and bitumen which contains a 2" vug which is filled with wh silt from 281.5-282.1 feet. Vug at 282.4 feet.

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From	To	Description
283.5	295.4	Marlstone, dk gr and br. Br analcite tuff bands which contain bitumen occur as follows: 1/2" band at 286', 1" band at 288.9', 4" band at 291.6'.
295.4	297	Marlstone, tuff, and siltstone. Dk gr marlstone with numerous bands of br analcite tuff and crystal cavities. A 6" bed of br analcite tuff which contains bitumen occurs at 296.3.
297	317.5	Marlstone, gr and dk gr, compact, well-bedded, and uniform. A band of br tuff occurs at 299.4-299.6. A gr siltstone occurs 302.5-303 which is joined vertically to marlstone which could indicate faulting. Bf siltstone from 307.6-307.8 feet.
317.5	335.9	Marlstone, varying from dk gr to dk br, both massive and well-bedded. Vertical fracture from 325-333'. Fracture faces coated with clay and qtz crystals. (Approximately 70% recovery.)
335.9	338.7	Tuff, dirty-wh and br, with irregular stringers of br marlstone, generally vertical fractured, some of fracture faces coated with blk pyrobitumen.
338.7	354	Marlstone, dk br and blk, massive. Vertical fracture from 338.7-340.6 feet. Distorted bedding from 351.3-351.6 feet.
354	368.3	Marlstone, predominately br, both massive and well-bedded, some vertical fracturing at 360'. Vugs and crystal cavities at 356.3 feet. A 1" band of bluish-gr analcite tuff occurs at 356.9 feet.
368.3	369	Silty marlstone, lt gr, bf, and tan.
369	406	Marlstone, dk br, br, and blk, compact, uniform, some vertical fracture. (Approximately 25% recovery from 391-403 feet.)
406	411.7	Marlstone, lt br, tan, and dirty-wh, with some stringers of dk br marlstone, some vertical fracture with fracture faces coated with kaolin. A 2" band of br tuff occurs at 410.6. 406 feet is probable top of A-groove.
411.7	413	Shaley tuff, br, with few stringers of blk marlstone. 413 feet is probable bottom of A-groove.
413	417	Marlstone, blk, well-bedded, contains 2 small lenses of gr analcite tuff.
417	421.7	Marlstone, br, well-bedded. A band of pinkish-gr tuff occurs from 417.4-417.7 feet.

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421.7	431	Marlstone, predominately banded lt br and br, some vertical fracture. (Box was marked as containing marker but no evidence of marker was found, however, recovery was only approximately 50%.)
431	434.6	Marlstone, blk and dk br, compact. (Actually had 9 feet of material.)
434.6	448	Marlstone, blk and dk br, compact. One foot bed of blk marlstone with contorted bedding and very low specific gravity occurs at 436-437 feet. Some vertical fracture at about 440 feet. 1" band br analcite tuff occurs approximately 443.5 feet.
448	455.6	Marlstone, dk br and blk.
455.6	460	Marlstone, dk br and blk, some vertical fracture.
460	465.5	Marlstone, lt br and br, vertical fracture, portion of core fragmented.
465.5	466	Marlstone, blk, very hard, mixed with soft br mudstone. Sample badly fragmented.
466	467.5	Marlstone, lt br.
467.5	469.5	Marlstone, dk br and blk, which contains two 1/2" bands of dirty-wh tuff.
469.5	471.7	Marlstone, lt br and br.
471.7	480	Marlstone, br, predominately massive, local bedding distortion at 474.2-474.8 feet.
480	491	Marlstone, lt br and tan. (Badly broken pieces and about 50% recovery.)
491	493.5	Mudstone, lt br and gr. (Badly broken pieces.)
493.5	499	Marlstone, dk gr, br, and blk.
499		Bottom of section.

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