

LITHOLOGY OF CORE SAMPLES SUBMITTED FOR ASSAY

Elizabeth corehole 1, Wasatch Development Company, at a point whence the NE corner of sec. 36, T. 4 S., R. 97 W., bears N. 48° 40' E. 476.3 feet, Garfield County, Colo.

Surface Elevation 7,920 feet Total depth 858.3 feet Mahogany Marker 724.3 feet

From	To	Description
33	198	Tuff, ls, and silty sh, lt gr, dirty-wh, and buff. Some banded, some massive.
198	206.5	Marlstone, banded lt tan and lt br (first lean oil shale encountered in core).
206.5	233.8	Marlstone, tan, lt br, and br, well-bedded (lean oil shale).
233.8	338	Predominately tuff, lt gr, ss, lt gr, silty sh, lt gr, with some bands of 0 to trace yield oil shale. This section sampled only to keep continuous assay of hole.
338	343.2	Marlstone, buff and lt tan (very lean oil shale).
343.2	351.5	Poor recovery. Marlstone, lt gr to lt tan, however contains 2' bed dk br to blk marlstone - poor recovery makes it impossible to locate but probably occurs about 348-350'.
351.5	356	Marlstone, lt tan and lt br, well-bedded, shows approximately 4' of vertical fracture which is filled with blk pyrobitumen.
356	358	Marlstone, dk br to blk.
358	361	Silty marlstone, lt tan, massive with small nahcolite crystals.
361	368	Tuffaceous marlstone, lt tan.
368	377	Marlstone, lt br, considerable nahcolite crystals. 369-370', vertical fracture.
377	383.5	Marlstone, grish-br, massive, with considerable small irregular lenses of blk pyrobitumen. A 2" band of gr analcite tuff occurred at 381' and a 2" band of blk pyrobitumen occurred at about 383'.
383.5	399	Marlstone, lt gr, lt tan, and lt br, well-bedded to massive. Approximately 6" band of badly broken pyrobitumen and marlstone at 395-395.5'.
399	403.1	Marlstone, dk gr, dk br, and blk, generally massive.
403.1	409	Silty marlstone, lt gr, tan, and lt br, distorted and fractured, some crystal cavities.
409	411	Marlstone, dk gr.
411	422	Silty marlstone, lt gr, brnsh-gr, tan, and lt br, local disturbances in bedding, some blobs of blk pyrobitumen, some vertical fractures which are filled with blk pyrobitumen.
422	425	Marlstone, blk and dk br 1" band of dirty-wh analcite tuff at 423'.
425	429.5	Marlstone, banded lt and dk br, well-bedded.
429.5	443.5	Marlstone, dk br and blk.
443.5	444	Analcite tuff, lt gryish-br, fine-grained.

Illustration No. SBR-2206P

Petroleum and Oil-Shale Experiment Station, Laramie, Wyoming January 9, 1958

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Surface Elevation 7,920 feet Total Depth 358.3 feet Mahogany Marker 724.3 feet

From	To	Description
444	459	Marlstone, blk, massive and well-bedded, few thin 1/4" bands of blk pyrobitumen. 2" band of lt br analcite tuff at 457.5'.
459	496	Marlstone, predominantly dk gr and blk, hard, well-bedded.
496	537.7	Marlstone, predominantly br and dk br, hard, well-bedded. Some 1 and 2' beds of blk marlstone, small scattered regions of crystal cavities.
537.7	541	Marlstone, banded lt br and dk br, well-bedded.
541	565	Marlstone, dk gr, br, and blk, hard well-bedded.
565	566.5	Analцитized tuff and marlstone, lt br and br, crystal cavities and vugs.
566.5	672	Marlstone, quite uniform dk gr and dk br.
672	677	Marlstone and silty marlstone, lt gr to dirty-wh. 672' top of A-groove. Very poor recovery.
677	686	Marlstone, dirty-wh to lt tan. Some vertical fracture. Fracture faces have abundant tiny pyrite crystals. Some crystal cavities and vugs. 686' bottom of A-groove.
686	690.8	Marlstone, banded lt br and br, well-bedded, some crystal cavities, some local distortion. 690.6-690.8 band of lt tan tuffaceous marlstone.
690.8	692	Marlstone, dk br and blk.
692	693	Tuffaceous silty marlstone, lt gr.
693	702	Marlstone, lt br, br, and dk br. 701-702' contorted, vugs, crystal cavities.
702	715.5	Marlstone, blk, sooty to sub-vitreous luster, well bedded to massive.
715.5	717.5	Marlstone, lt br and br.
717.5	720	Marlstone, blk, massive to well-bedded, some thin (1/4") band of blk pyrobitumen parallel to bedding laminae.
720	724	Marlstone, banded lt br and dk br, well-bedded.
724	724.5	Analcite tuff, buff to br, vertical fracture. Mahogany marker. ✓
724.5	728	Marlstone, dk br, well-bedded.
728	730.4	Marlstone, blk, sooty luster, very fine-grained, massive.
730.4	752	Marlstone, br, dk br, and blk, well-bedded. 3" band of lean oil sh with vertical fracture. Fracture faces coated with small, wh quartz crystals. Occurs at 734.5'.
752	753	Mudstone, grnish-gr, soft, earthy.
753	754.5	Mudstone, blk, soft, earthy.
754.5	755	Marlstone, lt gr and lt br.
755	756	Marlstone, blk, extremely fine-grained.
756	769.5	Marlstone, br, and dk br to blk, well-bedded.
769.5	772	Poor recovery in this section. Marlstone, lt gr and lt br, distorted bedding.

Illustration No. SBR-2207P

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From	To	Description
772	780.2	Marlstone, br to dk br, well-bedded. Vertical fracture and local distortion at 778-779'. Fracture faces coated with small quartz crystals.
780.2	782	Badly broken section with very poor recovery. Marlstone, lt gr and buff. Only small fragments of sample.
782	788.5	Section badly broken with poor recovery. Marlstone, lt gr, buff, and lt br (lean oil shale).
788.5	789	Marlstone, br, well-bedded.
789	792	Very poor recovery - only 6" fragmented material. Marlstone, br and blk. Evidence of vugs.
792	799	Marlstone, dk br to blk, 1' section in lower portion contains blk marlstone with vertical fracture. Fracture faces covered with pyrobitumen.
799	804.5	Poor recovery. Tuff, lt br, gr, wh, wavy-bedded.
804.5	806	Marlstone, blk.
806	806.8	Tuff, buff, wavy-bedded.
806.8	808	Marlstone, dk br.
808	811.6	Marlstone, lt br, br, dk br, well-bedded with numerous flattened calcite and anhydrite crystals as long as 3/8" laying parallel to the bedding laminae.
811.6	826	Very poor recovery - only about 18" material in box. Marlstone, wh, buff, lt tan.
826	828	Very poor recovery. Marlstone, gr, with abundant salt crystals.
828	835	Poor recovery. Silty marlstone, lt gr to gr.
835	840	Marlstone, br, massive to poorly-bedded.
840	844	Marlstone, banded lt gr, tan, and lt br.
844	853.5	Marlstone, banded, lt br and br, well-bedded, some crystal cavities, some thin bands of gr tuff.
853.5	858.5	Marlstone, banded tan to lt br. Approximately 1.5' bed of dirty-wh crenulated tuffaceous marlstone with crystal cavities at 854.5 to 856.
858.5		Bottom of section.