

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Samples from H. M. Byllesby and Company, Incorporated's Agency corehole drilled 1109 feet S. 49° 41' W. of E. 1/4 corner, sec. 1, T. 13 S., R. 20 E., Uintah County, Utah

Mahogany marked 147.7

Surface elevation 5,836 feet

Sampled section 0 to 260.5 feet

From	To	Description
0	14.5	No recovery.
14.5	33.0	Marlstone, light brown, dark brown, and greenish brown, massive to well defined bedding. Rare 1/2-inch and less inclusions of pyrite. Common vertical fracture with fracture faces lightly coated with reddish-brown bitumen. Core badly broken. Two feet of this interval missing.
33.0	34.8	Limestone, tan to light gray, massive. Interbedded with marlstone, light brown and greenish brown.
34.8	37.8	Limestone, tan to light gray, massive.
37.8	41.5	Marlstone, light brown and greenish brown, massive. Common bands 0.2 inches and less of light gray limestone.
41.5	43.6	Marlstone, light brown, massive to well defined bedding.
43.6	44.2	Marlstone, dark brown and dark gray, well defined bedding.
44.2	50.0	Marlstone, light brown and greenish brown, well defined bedding. Vertical fracture from 47.5 to 49.5 feet.
50.0	51.5	Siltstone, grading to fine grained sandstone in lower part, light brown and dark brown, massive, slightly bitumen impregnated. Vertical fracture with fracture faces lightly coated with reddish-brown and black bitumen.
51.5	55.2	Marlstone, light brown and greenish brown, well defined bedding. Rare 0.2-foot and less bands of dark brown marlstone.
55.2	57.4	Marlstone, greenish brown and blue-gray, well defined bedding. Low grade.
57.4	59.0	Marlstone, light brown, massive to well defined bedding.
59.0	64.9	Marlstone, blue-gray and greenish brown, well defined bedding. Low grade. A 1/2-inch band of pyrite occurs at 62.5 feet.
64.9	68.6	Marlstone, tan and greenish brown, well defined bedding. Common 1/4 inch and less stringers of light gray marlstone.
68.6	69.7	Marlstone, light brown, massive.
69.7	75.0	Marlstone, light brown and greenish brown, well defined bedding. Rare bands 1 inch and less of dark gray marlstone.
75.0	88.2	Marlstone, light brown, dark brown, and greenish brown, well defined bedding. Rare bands 1 inch and less of dark gray marlstone. Rare bands 1/2 inch and less of light brown analcite.

Illustration No. SBR-2731P

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From	To	Description
88.2	93.1	Marlstone, blue-gray, massive to well defined bedding. (Does not appear to be oil shale). Abundant scattered pyrite grains. Barren.
93.1	93.9	Marlstone, tan and light brown, massive to well defined bedding. Common stringers 1/4 inch and less of light gray marlstone.
93.9	98.7	Marlstone, tan, light brown, and greenish brown, massive to well defined bedding. Common vertical fracture with fracture faces lightly coated with reddish-brown and black bitumen and with clear dolomite crystals.
98.7	112.2	Marlstone, light gray and greenish gray, poorly defined to well defined bedding. Low grade to barren.
112.2	118.8	Marlstone, light brown and greenish brown, massive to well defined bedding. Low grade.
118.8	120.4	Marlstone, light brown and dark brown, massive to well defined bedding. Rare stringers of dark gray marlstone.
120.4	123.3	Marlstone, greenish gray and greenish brown, well defined bedding. A 1-inch band containing calcite, analcite, and pyrite occurs at 121.4 feet. Band is vertically fractured with fracture faces heavily coated with reddish-brown bitumen.
123.3	126.1	Marlstone, tan, light gray, and light brown, massive to well defined bedding. Common inclusions 1 inch and less of blue-gray analcite. Common bands 0.1 foot and less of analcite impregnated with dark brown bitumen.
126.1	131.1	Marlstone, light brown, dark brown, and dark gray, poorly defined to well defined bedding. Common inclusions of light brown analcite and blue-gray calcite. A 1/4-inch band of light gray siltstone occurs at 129.7 feet. Good grade between 129.0 and 130.0 feet. A 1-inch band of black organic material resembling coal occurs at 127.1 feet.
131.1	144.0	Marlstone, greenish gray and brownish gray, poorly defined to well defined bedding.
144.0	154.5	Marlstone, brownish gray and bluish gray, generally massive to poorly defined bedding. (Does not appear to be oil shale.) Common vertical fracture with fracture faces lightly to heavily coated with sticky, reddish-brown and black bitumen. A 0.3-foot band of blue-gray to dark brown analcite occurs at 147.7 feet. Barren.
154.5	157.4	Marlstone, light brown, dark brown, and brownish gray, well defined bedding.

Mohogany marker

Illustration No. SBR-2732P

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From	To	Description
157.4	158.1	Marlstone, dark brown and dark gray, massive. Good grade to rich.
158.1	160.4	Marlstone, dark brown and greenish brown, well defined bedding.
160.4	161.6	Marlstone, tan and light brown, massive to well defined bedding. Low grade.
161.6	169.0	Marlstone, dark brown and dark gray, massive to well defined bedding. Good grade to rich.
169.0	171.4	Marlstone, light brown and dark brown, well defined bedding.
171.4	172.1	Marlstone, dark brown and dark gray, massive to poorly defined bedding. Rich.
172.1	175.0	Marlstone, light brown and dark brown, well defined bedding.
175.0	176.5	Marlstone, dark brown and dark gray, poorly defined to well defined bedding. A 1/2-inch band of tan siltstone occurs at 175.7 feet. Good grade.
176.5	178.7	Marlstone, light brown and brownish gray, massive to well defined bedding.
178.7	179.3	Marlstone, dark brown and dark gray, massive. Good grade. A 1-inch band of tan siltstone occurs at 178.8 feet.
179.3	180.4	Marlstone, light brown and dark brown, well defined bedding.
180.4	181.7	Marlstone, tan and light gray, well defined bedding and slightly contorted bedding. Low grade.
181.7	183.2	Marlstone, light brown, dark brown, and dark gray, massive to well defined bedding. Rare bands 1/2-inch and less of dark brown analcite and blue-gray calcite. Good grade.
183.2	185.1	Marlstone, greenish gray and brownish gray, well defined bedding.
185.1	187.3	Marlstone, tan and light gray, massive to well defined bedding. Low grade to barren.
187.3	189.6	Marlstone, tan and light brown, massive to well defined bedding. Low grade.
189.6	198.3	Marlstone, light brown, dark brown, and dark gray, well defined bedding.
198.3	203.0	Marlstone, light gray, greenish gray and brownish gray, well defined bedding. Low grade.

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From	To	Description
203.0	204.0	Marlstone, dark brown and dark gray, massive to well defined bedding. Rare irregular bands 1 inch and less of blue-gray calcite and light brown analcite. Good grade.
204.0	205.1	Marlstone, greenish brown and greenish gray, well defined bedding.
205.1	207.2	Marlstone, tan and light gray, poorly defined to well defined bedding. A 0.1-foot band of dark brown marlstone occurs at 206.4 feet. Low grade.
207.2	211.6	Marlstone, tan, light gray, and light brown, massive to well defined bedding. Low grade.
211.6	212.0	Marlstone, dark brown and dark gray, massive to poorly defined bedding. Intruded vertically by an irregular contorted stringer 1/4 to 1/2 inch wide of tan marlstone which occurs completely through the core.
212.0	212.8	Marlstone, tan and light brown, massive to well defined bedding.
212.8	219.6	Marlstone, blue-gray, poorly defined bedding. (Does not appear to be oil shale.) Rare vertical fracture with fracture faces lightly coated with black bitumen. Barren.
219.6	221.5	Marlstone, dark brown and dark gray, well defined bedding.
221.5	226.2	Marlstone, light gray, greenish gray, and brownish gray, well defined bedding. Low grade.
226.2	227.1	Marlstone, dark brown and dark gray, massive to well defined bedding. A 0.1-foot band of light gray barren marlstone occurs at 227.0 feet. Good grade.
227.1	228.5	Analcite, tan, light gray, and blue-gray, dense. Contains numerous contorted stringers of dark brown marlstone. (Possible lower wavy bed.)
228.5	230.1	Marlstone, tan, light brown, and greenish brown, well defined bedding.
230.1	231.7	Marlstone, dark brown and dark gray, massive. Interbedded with analcite, light brown, dark brown, and blue-gray, dense, containing stringers of dark gray marlstone.
231.7	233.7	Marlstone, tan, light brown, and dark brown, well defined bedding. A 0.2-foot band of dark brown bitumen impregnated analcite occurs at 232.5 feet.

Illustration No. SBR-2734P

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From	To	Description
233.7	235.8	Marlstone, tan and light gray, massive to poorly defined bedding. Common bands 0.3 foot and less containing contorted stringers of dark brown and dark gray marlstone. A 0.1-foot band containing lenticular fragments of dark brown marlstone roughly oriented with bedding planes occurs at 234.3 feet.
235.8	239.5	Marlstone, silty, light brown, and light gray, massive to well defined and slightly contorted bedding.
239.5	240.7	Sandstone, fine grained, dark brown, poorly defined bedding. Slightly bitumen impregnated.
240.7	251.6	Siltstone, tan and light gray, massive to poorly defined bedding. Rare 1/2-inch and less bands of fine grained, dark gray sandstone. A 0.5-foot band of dark gray, fine-grained, bitumen-impregnated sandstone occurs at 242.3 feet. Vertical fracture between 249.1 and 251.0 feet with fracture faces lightly coated with pyrite and reddish-brown bitumen.
251.6	255.5	Sandstone, very fine grained, light brown, massive, slightly bitumen impregnated. Interbedded with siltstone, tan and light gray, massive.
255.5	257.0	Siltstone, tan and light gray, massive. Interbedded with contorted bands and stringers of light brown marlstone. Common inclusions of light brown, bitumen impregnated analcite.
257.0	257.8	Marlstone, light brown and greenish brown, well defined bedding.
257.8	258.5	Marlstone, dark brown, massive to poorly defined and contorted bedding.
258.5	259.2	Marlstone, dark brown and dark gray, well defined bedding. Intruded horizontally and vertically by a tan massive marlstone (dolomite) with contacts sharp and irregular.
259.2	260.5	Marlstone, light gray and brownish gray, well defined bedding.

X-ray diffraction patterns were obtained on the following samples:

50.5	Found to be feldspar with illite and quartz.
98	Found to be dolomite.
109	Found to contain illite, montmorillonite, quartz, feldspar, calcite, and dolomite.

Illustration No. SBR-2735P

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From	To	Description
126.7		Found to be calcite with analcite, feldspar, and montmorillonite.
145.5		Found to contain illite, montmorillonite, quartz, feldspar, calcite, and dolomite.
237.5		Found to be quartz with illite, feldspar, calcite, and dolomite.
259		Tan sample found to be dolomite with quartz; dark brown sample found to contain illite, quartz, feldspar, and dolomite.

Illustration No. SBR-2736P

Laramie Petroleum Research Center, Laramie, Wyoming

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