

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Tom corehole, Wasatch Development Company, drilled N. 38° 30' E. 2940.3 feet from the SW corner of sec. 35, T. 4 S., R. 97 W., Garfield County, Colorado

Surface Elevation 8527 feet Mahogany Marker not reached Total Depth 507 feet

From	To	Description
0	14.9	No sample available.
14.9	16.3	Siltstone, tuffaceous, calcareous, tan, light yellow, light gray, and massive. A .3 foot vertical fracture occurs at 16.0 feet.
16.3	17.0	Siltstone, tuffaceous, calcareous, tan, light yellow, light gray, massive to well-defined badly contorted bedding.
17.0	18.0	Sample lost in coring.
18.0	20.1	Sandstone, tuffaceous, calcareous, tan, light yellow, light gray, massive. A .2 foot vertical fracture with iron-stained fracture faces occurs at 18.6 feet. A .3 foot band of light yellow, very fine grained, calcareous sandstone occurs at 18.9 feet.
20.1	21.9	Sample lost in coring.
21.9	24.4	Siltstone, tuffaceous, calcareous, tan, light yellow, light gray, massive.
24.4	26.6	Sample lost in coring.
26.6	27.4	Siltstone, tuffaceous, tan, and light yellow, massive.
27.4	30.1	Siltstone, tuffaceous, tan, and light gray, massive.
30.1	33.9	Siltstone, tuffaceous, tan, and light gray. Interbedded with sandstone, fine grained, tan, light yellow, massive to well-defined contorted bedding.
33.9	35.1	Limestone, grayish brown, very finely crystalline, massive, with rare inclusion 1/2-inch and less of white calcite. X-ray diffraction shows quartz, feldspar, and analcite impurities.
35.1	42.0	Sandstone, tuffaceous, silty, calcareous, very fine grained, tan, and light yellow, massive.
42.0	44.0	Siltstone, tuffaceous, calcareous, light gray to tan, massive. A .4 foot vertical fracture with fracture faces lightly coated with gypsum occurs at 43.6 feet.
44.0	45.0	Sandstone, tuffaceous, silty, very fine grained, light yellow, massive.
45.0	46.0	Sample lost in coring.
46.0	55.6	Sandstone, tuffaceous, calcareous, very fine grained, light gray, tan, and light yellow, massive. A 2-inch inclusion of purplish-brown calcareous sandstone occurs at 51.0 feet. Common, round, iron-stained inclusions 1/4-inch and less.
55.6	55.9	Sample lost in coring.
55.9	65.6	Sandstone, tuffaceous, very fine grained, light gray, tan, and light yellow, massive. A 1-inch inclusion of pyrite occurs at 58.6.

L.B. H. N. Smith

Illustration No. SBR-2533P

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65.6	65.9	Sample lost in coring.
65.9	75.0	Siltstone, tuffaceous, light gray, tan, and light yellow, interbedded with sandstone, very fine grained, light gray, tan, and light yellow, massive. A .2 foot band of purplish-brown calcareous siltstone occurs at 72.1 and a .5 foot band of bluegreen siltstone occurs at 72.7.
75.0	75.5	Sample lost in coring.
75.5	85.9	Siltstone, tuffaceous, calcareous, bluish-gray, sandstone, very fine grained, light yellow, massive. Rare, 1 inch and less vertical fractures, with fracture faces lightly coated with reddish-brown pyrobitumen.
85.9	93.8	Siltstone, tuffaceous, calcareous, bluish-gray, massive.
93.8	94.8	Siltstone, tuffaceous, calcareous, light gray, and dirty white, generally massive to well-defined bedding. Two 1/4-inch stringers of pyrite occur at 94.0 and a 1/2-inch band of blue-gray tuff containing pyrite inclusions occurs at 94.7.
94.8	99.2	Marlstone, silty, tan, light brown, and light gray. Massive to well-defined bedding. Some evidence of slumping.
99.2	109.3	Marlstone, silty, bluish-gray, massive, to well-defined bedding.
109.3	110.0	Marlstone, tan, dark brown, dark gray, and light green. Well-defined bedding. A .2 foot band of dirty-white limestone occurs at 109.3.
110.0	118.4	Marlstone, silty, and siltstone, light gray to bluish-gray, massive to well-defined bedding. Rare inclusions 1-inch long and less of pyrite. A .1 foot vertical fracture with fracture faces lightly coated with reddish brown pyrobitumen occurs at 118.2 feet.
118.4	126.6	Sandstone, tuffaceous, calcareous, very fine grained to fine grained, light gray to light yellow. Massive. The texture of this material grades downward into a siltstone.
126.6	127.8	Marlstone, silty, tan, light gray, and light brown. Massive to well-defined bedding. A 1/2-inch band of yellow very fine grained sandstone occurs at 127.3 feet.

Illustration No. SBR-2534P

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127.8	136.5	Siltstone to silty marlstone, tuffaceous, light gray, bluish-gray, tan, and light yellow. Massive to poorly-defined bedding. A .1 foot band of light gray siltstone containing inclusions 1-inch long and less of green-coated pyrite occur at 129.2 feet. A 1/2-inch band of green-coated pyrite occurs at 130.3 feet.
136.5	162.7	Sandstone, tuffaceous, calcareous, medium to very fine grained, light gray, tan, and light yellow. Massive. Common bands .5 foot and less grading into siltstone, tan, and light yellow.
162.7	175.4	Sandstone, tuffaceous, calcareous, medium to very fine grained, light gray, and tan. Abundant fossil vegetation. A 60° vertical fracture with fracture faces heavily coated with gypsum occurs at 173.3 feet.
175.4	226	Sandstone, calcareous, fine grained, gradually grading downward to a siltstone down to a silty marlstone at 226. This material is light gray, tan, and light yellow. Massive. Common layers and flakes of biotite and mica. Common layers of black organic material.
226	228	Marlstone, light gray, predominantly massive.
228	229	Siltstone, light gray, predominantly massive.
229	230	Marlstone, silty, light gray, predominantly massive.
230	232.4	Siltstone, calcareous, light gray, massive.
232.4	234.4	Marlstone, silty, light gray, tan, and light brown. Massive to well-defined bedding. Rare inclusions 1/2-inch long and less of pyrite. Evidence of slumping.
234.4	236.7	Siltstone, light gray, bluish-gray. Massive to well-defined bedding.
236.7	239.0	Marlstone, silty, light brown, light gray, tan. Massive to well-defined and lightly-contorted bedding. Rare inclusions 1/2-inch long and less of pyrite.
239.0	252.8	Sandstone, very fine grained, light gray, massive. Rare, irregular stringers of dark brown and dark gray organic material.
252.8	253.1	Sample lost in coring.
253.1	261.5	Sandstone, very fine grained, light gray. Massive.
261.5	262.7	Sandstone, very fine grained, light gray. Massive. Abundant fossil vegetation.
262.7	282.9	Sandstone, very fine grained, light gray. Massive.
282.9	300.1	Sample lost in coring.

Illustration No. SBR-2535P

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300.1	313.2	Sandstone, very fine grained, light gray, massive.
313.2	315.9	Sample lost in coring.
315.9	360.4	Sandstone, very fine grained, light gray, massive. Interbedded with siltstone, light gray, massive. Rare stringers of dark brown organic material.
360.4	364.0	Sandstone, very fine grained, dirty white, massive. Abundant black organic fragments impart a speckled appearance to the material.
364.0	386.3	Sandstone, very fine grained to fine grained, light gray. Interbedded with siltstone, light gray, generally massive with some well-defined contorted bedding.
386.3	388.6	Sample lost in coring.
388.6	423.0	Sandstone, very fine grained, light gray, which contains numerous thin bands of black organic material and siltstone, light gray, generally massive with some well-defined and contorted bedding.
423.0	424.9	Sample lost in coring.
424.9	432.6	Sandstone, fine grained, light gray and siltstone, light gray, generally massive, with some well-defined and contorted bedding.
432.6	442.0	Sandstone, fine grained, light gray, massive. Rare bands 1/4-inch and less of black organic material.
442.0	454.9	Sandstone, fine grained, light gray, and siltstone, light gray, generally massive, with some well-defined and contorted bedding. A .1 foot band of concentrated black organic fragments occurs at 443.5 feet.
454.9	455.8	Sandstone, fine grained, light gray. Interbedded with siltstone, gray, with well-defined bedding.
455.8	467.0	Sandstone, fine grained, light gray, and siltstone, light gray, generally massive, with some well-defined and contorted bedding.
467.0	476.4	Sandstone, fine grained, light gray, and siltstone, light gray, generally massive, with some well-defined bedding at an angle of approximately 30° from the horizontal.
476.4	478.9	Sample lost in coring.
478.9	480.1	Sandstone, fine grained, light gray, massive.
480.1	482.4	Sample lost in coring.
482.4	496.6	Sandstone, fine grained, light gray, and siltstone, light gray, massive.

Illustration No. SBR-2536P

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496.6	507.0	Sandstone, fine grained, light gray. Interbedded with siltstone, gray, massive to well-defined bedding at an angle of 20° from the horizontal. A 1/2-inch band of light brown siltstone occurs at 502.9 feet.
507.0		Bottom of hole.
X-ray diffraction patterns were made of several samples as listed below:		
33.9	35.1	Found to contain principally quartz and calcite with minor amounts of feldspar, analcite, and mixed layer clay.
35.1	42.0	Found to contain principally quartz with minor amounts of calcite, feldspar, analcite, and mixed layer clay.
46.0	55.6	Found to contain principally quartz with minor amounts of analcite and feldspar.
122		Found to contain principally quartz with minor amounts of analcite, feldspar, calcite, and dolomite.
130		Found to contain principally quartz, analcite, feldspar, and dolomite.
159		Found to contain principally quartz with minor amounts of illite, feldspar, and calcite.
173.3		Gypsum.
278		Found to contain principally quartz with minor amounts of illite, analcite, feldspar, and dolomite.

Illustration No. SBR-2537P

Laramie Petroleum Research Center, Laramie, Wyoming

November 26, 1958