

Also called Stringham #1.

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah

Surface Elevation 5879 feet

*Mahogany Marker* 465.6

From	To	Description
0	50	No samples.
50	55	Tuff, gray to brownish-gray, massive, faint contorted bedding, very fine grained, scattered areas of large analcite crystals, rare bitumen.
55	57.5	Marlstone, silty, gray, poorly defined bedding, rare streaks of light gray tuff and tuff injection, one-inch gray tuff at 57.0 feet.
57.5	58.5	Tuff, gray, massive, rare analcite crystals and stringers of marlstone, rare mica, vertical fracture in bottom half. Sharp contact with marlstone at bottom.
58.5	61.2	Marlstone, brownish gray, massive to faintly bedded, one-half-inch tan tuff beds at 59.8 and 60.7 feet, grades into oil shale at bottom.
61.2	63.0	Oil shale, medium to rich, dark gray massive to faintly bedded. Rare thin ash streaks. Sharp contact with marlstone at bottom.
63.0	65.1	Marlstone, brownish gray, poorly defined bedding, common streaks of pyrite.
65.1	68.6	Marlstone, light gray, poor to well defined bedding, abundant specks of pyrite, pyrite coated vertical fracture 67.5 to 68.6 feet.
68.6	69.0	Tuff, white, massive, very fine grained in upper to medium grained in lower part, rare large analcite crystals, smooth contacts.
69.0	73.1	Marlstone, light gray, massive to faintly bedded, common tuff and analcite stringers. Pyrite coated vertical fracture from 69.5 to 70.3 feet.
73.1	74.7	Marlstone, brownish gray, massive to faintly bedded, abundant partings of analcite and calcite.
74.7	76.2	Marlstone, dark brown, massive, abundant feathery patches of calcite, rare large irregular patches of tan calcite.
76.2	77.2	Marlstone, dark brown, poorly defined bedding. Common stringers of calcite up to 1/4-inch thick.
77.2	82.0	Oil shale, lean to medium, dark brown, massive to faintly bedded, common specks of pyrite, bitumen saturated one-inch analcite zone at 80.4 feet.

Illustration No. SBR-3081P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5879 feet

From	To	Description
82.0	83.9	Oil shale, lean to medium, dark brown, poorly defined bedding, rare pyrite and calcite, grades into medium oil shale at bottom.
83.9	85.1	Oil shale, medium, dark brown, massive, no pyrite or calcite.
85.1	86.0	Oil shale, medium, dark gray, faintly bedded, common streaks of tuff. Horizontal fault planes with slickensides at 85.9 feet.
86.0	91.2	Oil shale, lean to medium, dark brown, massive, rare dark gray patches and streaks. (Changes color after splitting.)
91.2	92.4	Oil shale, lean, brown, poorly defined bedding, abundant partings and irregular patches of tan calcite.
92.4	109.7	Oil shale, lean to medium, dark brown, massive to poorly defined bedding, rare streaks of pyrite, pyrite coated vertical fracture at 105.0 to 105.2 feet. Bitumen saturated analcite cavity at 95.0 feet, one-half-inch medium grained brown tuff at 100.9 feet.
109.7	114.5	Oil shale, lean, tan to light brown, massive to poorly defined bedding, rare pyrite streaks. Two-inch gray fine grained tuff at 113.3 feet, irregular contacts.
114.5	120.9	Oil shale, medium, brown, massive to faintly bedded, three thin tuff beds between 115 and 116 feet, one-inch gray tuff injection at 118.2 feet, vertical fracture at 119.0 to 119.4 feet.
120.9	122.2	Marlstone, tan, well defined bedding, rare pyrite flakes.
122.2	139.8	Oil shale, medium, dark brown, massive to faintly bedded, rare pyrite streaks. Calcite and analcite patches saturated with bitumen at 125.6, 127.6, 131.8, and 132.5 feet, coarse grained two-inch analcite tuff beds at 131.9, 134.2 feet, three-inch tan banded marlstone at 137.5 feet, vertical fracture 138.4 to 138.6 feet.
139.8	142.3	Oil shale, medium brown to gray, massive, common gray tuffaceous streaks.

Illustration No. SBR-3082P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of E. line and 3233 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5379 feet

From	To	Description
143.3	164.5	Oil shale, lean, tan to brown, massive to poorly defined bedding. 0.4-foot tan to brown fine grained tuff bed at 143.3 feet. Vertical fractures 149.9 to 149.2 feet, 155.9 to 156.0 feet, 163.5 to 164.2 feet. 0.4-foot rich oil shale at 153.5 feet.
164.5	166.2	Marlstone, tan to brown, poorly defined bedding, poor banding.
166.2	167.2	Oil shale, lean, brown, massive, rare tuff streaks.
167.2	178.5	Oil shale, medium, dark brown, massive to poorly defined bedding.
178.5	187.0	Oil shale, lean, tan to brown, poorly defined bedding, rare tuff stringers, vertical fracture 176.0 to 177.5 feet.
187.0	188.2	Oil shale, medium, dark brown, massive.
188.2	194.0	Oil shale, lean, brown, massive to faintly bedded, rare pyrite streaks, three-inch banded marlstone zone at 192.9 feet.
194.0	195.0	Oil shale, medium, dark brown, massive to poorly defined bedding, vertical fracture in bottom part.
195.0	208.5	Oil shale, lean, brown to gray, massive, rare one-half-inch wide tuff beds. One-inch oil saturated tuff bed at 201.8 feet. Vertical fractures at 202.5 to 205.0 feet and 206 to 206.8 feet.
208.5	210.8	Oil shale, medium, dark brown, poorly defined bedding. One-inch band gray silty dolomite at 208.5 feet, one-inch tan tuff at 208.6 feet.
210.8	218.4	Oil shale, lean, gray to brown, massive to faintly bedded. Vertical fracture 212.2 to 213.8 feet, rare stringers of tuff.
218.4	225.4	Oil shale, lean, tan to brown and gray, massive to poorly defined bedding. Common pyrite streaks. Two-inch oil saturated tuff at 220.0 feet, one-inch tan dolomite beds at 219.2 to 220.9 feet, rare vertical fractures. Bottom 1.4 feet light gray, very lean oil shale.
225.4	227.0	Oil shale, rich, dark brown, poorly defined bedding. Common one-half-inch wide oil saturated tuff injections, rare pyrite streaks.

Illustration No. SBR-3083P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5379 feet

From	To	Description
227.0	239.8	Oil shale, lean, brown to gray, poor to well defined bedding. One-inch oil saturated tuff beds at 232.1 feet, 239.5 feet, rare pyrite, 0.4-foot rich oil shale at 234.9 feet.
239.8	241.0	Oil shale, medium, dark brown, poorly defined bedding, rare pyrite.
241.0	249.0	Oil shale, medium, brown to dark gray, poorly defined bedding, common streaks of pyrite, rare streaks of tuff, one-inch tuff bed at 247.7 feet.
249.0	249.8	Oil shale, medium, dark gray, platy, breaks into poker chips, one-inch gray tuff bed at 249.7 feet.
249.8	255.6	Oil shale, medium, brown to dark gray, massive to faintly bedded, rare pyrite.
255.6	257.0	Oil shale, medium to rich, dark gray, poorly defined bedding, common pyrite flakes.
257.0	264.0	Oil shale, medium, dark brown, massive to faintly bedded, rare pyrite streaks, one-half-inch oil saturated tuff bed at 261.0 feet.
264.0	275.5	Oil shale, lean to medium, brown to gray, well defined bedding, rare thin tan tuff beds, rare pyrite. One-inch gray tuff at 265.6 feet. One-half-inch gray tuff at 267.9 feet, rare zones of poker chip shale.
275.5	277.0	Oil shale, medium, dark brown to gray, well defined bedding, rare pyrite, one-inch gray tuff bed at 276.9 feet.
277.0	289.8	Oil shale, lean to medium, brown to gray, well defined bedding, common less than one-half-inch wide gray tuff beds, one-inch gray silty tuff at 278.6 feet, common pyrite stringers, abundant platy "poker chip" zones.
289.8	291.0	Oil shale, medium, dark gray to brown, well defined bedding, one-inch oil saturated tuff 290.5 feet.
291.0	292.0	Oil shale, lean to medium, brown to gray, well defined bedding.
292.0	293.8	Oil shale, lean, gray, platy, broken into "poker chips."
293.8	296.0	Oil shale, gray as above, massive, part missing due to broken shale.

Illustration No. SBR-3084P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2183 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 2 S., R. 23 E., Uintah County, Utah (Con.)

Surface Elevation 5379 feet

From	To	Description
296.0	302.0	Oil shale, lean, gray to brown, well defined bedding, common less than one-half-inch thick, oil saturated tuff beds.
302.0	306.0	Oil shale, lean, gray, well defined bedding, platy, common "poker chip" shale.
306.0	308.5	Oil shale, lean, tan to gray, well defined bedding, one-half-inch gray tuff bed at 307.4 feet, vertical fracture 307.4 to 308.5 feet.
308.5	310.0	Oil shale, medium to rich, dark gray, massive to faintly bedded, one-inch gray silty tuff at 309.1 feet, rare pyrite and tuff stringers.
310.0	317.8	Oil shale, lean, gray, poorly defined bedding, abundant less than one-half-inch thick, gray tuff beds, common pyrite, two-inch buff fine grained tuff bed at 317.6 feet.
317.8	318.8	Oil shale, medium to rich, dark gray, massive, rare pyrite.
318.8	323.0	Oil shale, lean, gray, well defined bedding. One-inch gray tuff at 320.5 feet.
323.0	324.0	Marlstone, tan to brown, well defined bedding, poor banding, rare tuff stringers.
324.0	325.6	Oil shale, lean, tan to gray, poorly defined bedding.
325.6	328.0	Oil shale, medium to rich, dark gray, massive, two-inch gray fine grained tuff bed at 327.0 feet.
328.0	333.7	Oil shale, lean, gray, poor to well defined bedding, rare pyrite, one-inch oil saturated brown tuff bed at 332.4 feet.
333.7	335.0	Oil shale, rich, dark gray, massive, lustrous, grades into lean oil shale at top and bottom.
335.0	340.0	Oil shale, lean, tan to gray, well defined bedding, rare tuff streaks.
340.0	347.5	Oil shale, lean to medium, gray, well defined bedding, common oil saturated tuff beds less than one-half-inch thick. 0.3-foot tan oil saturated tuffs at 343.1 and 344.6 feet.
347.5	348.5	Oil shale, medium to rich, dark brown, massive, two-inch tan tuff bed with oil shale stringers at 348.2 feet.
348.5	351.4	Oil shale, medium, light brown to brownish-gray, well defined bedding.

Illustration No. SBR-3085P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3233 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5379 feet

From	To	Description
351.4	353.4	Marlstone, tan and light gray, well defined bedding. Rare one-inch and less bands of dark brown oil shale.
353.4	354.4	Oil shale, medium to lean, light brown and dark brown, well defined bedding. A 0.1-foot band containing one-half-inch and less inclusions of bitumen impregnated analcite crystals occurs at 353.5 feet.
354.4	356.5	Oil shale, medium, dark brown and dark gray, well defined bedding.
356.5	359.3	Oil shale, medium, dark brown, well defined bedding. A three-inch oil saturated tuff bed occurs at 357.5 feet, vertical fracture from 356.5 to 357.3 feet.
359.3	362.0	Oil shale, medium, dark brown, well defined bedding. Oil saturated tuff beds occur at 359.7 feet (two-inch), at 359.9 (one-half-inch), and at 360 feet (five-inch). Vertical fracture from 359.2 to 360.3 feet.
362.0	366.8	Oil shale, medium to lean, light brown and dark brown, well defined bedding. Oil saturated tuff beds occur at 362.8 feet (three-inch) and at 365.8 feet (one-inch). Vertical fracture from 365.9 to 366.8 feet.
366.8	374.0	Oil shale, medium to lean, light brown and dark brown, well defined bedding. A three-inch oil saturated tuff bed occurs at 367.2 feet. Common one-inch and less oil saturated tuff beds. Vertical fracture from 371.0 to 372.4 feet.
374.0	381.8	Oil shale, medium, light brown and dark brown, well defined bedding. Oil saturated tuff beds occur at 374.8 feet (three-inch), 376.3 feet (four-inch), 379.7 feet (one-inch), and at 379.9 feet (one-inch). Vertical fracture from 374.0 to 374.8 feet.
381.8	385.8	Oil shale, medium to lean, dark brown and light brown, well defined bedding. Leaner in lower part.
385.8	387.2	Marlstone, tan and light gray. Rare one-inch and less bands of dark brown oil shale.
387.2	388.2	Oil shale, lean, light brown and dark brown, well defined bedding.
Illustration No. SBR-3086P		

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5879 feet

From	To	Description
388.2	392.5	Oil shale, medium, dark brown and dark gray, well defined bedding. This interval badly broken and partially missing.
392.5	394.9	Tuff bed, oil saturated. Contains contorted stringers of oil shale. Contacts irregular. Vertically fractured.
(Upper wavy bed)		
394.9	398.0	Oil shale, lean, tan and light brown, well defined bedding. Oil saturated inclusions of tuff near top. One-inch bands of tan siltstone occur at 395.8 feet and 395.9 feet.
398.0	404.2	Oil shale, medium, dark brown and dark gray, well defined bedding.
404.2	406.2	Oil shale, lean, tan and light brown, well defined bedding.
406.2	410.6	Oil shale, medium, light brown and dark brown, well defined bedding.
410.6	412.6	Oil shale, lean, tan and brownish gray, well defined bedding.
412.6	415.4	Oil shale, medium, dark brown, well defined bedding.
415.4	418.0	Oil shale, medium to lean, tan and light brown, well defined bedding.
418.0	419.7	Oil shale, medium to rich, dark brown and dark gray, well defined bedding.
419.7	425.2	Oil shale, lean to medium, tan, light brown, and dark brown, well defined bedding.
425.2	426.0	Oil shale, rich, dark gray, well defined bedding. Contains irregular inclusions of oil saturated tuff.
426.0	427.7	Oil shale, medium, light brown and dark brown, well defined bedding.
427.7	428.8	Oil shale, lean to medium, tan and light brown, well defined bedding.
428.8	430.9	Oil shale, medium, dark gray and brown, well defined bedding. Upper 0.6 foot contains light brown tuffaceous partings exhibiting a cork-like appearance.
430.9	438.0	Marlstone, silty, tan, light gray and light brown, massive to well defined bedding. Rare thin bands of dark brown oil shale.
(Top A-groove 430.9)		
438.0	443.4	Marlstone, silty, light brownish gray and bluish gray, well defined bedding.
(Bottom A-groove 443.4)		

Illustration No. SBR-3087P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5879 feet

From	To	Description
443.4	446.5	Oil shale, lean, light brown and greenish brown, well defined bedding.
446.5	447.4	Oil shale, medium to rich, dark brown and dark gray, well defined bedding.
447.4	452.0	Oil shale, lean, light gray, tan and light brown, well defined bedding. Common inclusions and bands one-inch and less of analcitized tuff, mostly oil saturated. A three-inch band of oil saturated tuff occurs at 451.7 feet.
452.0	455.8	Oil shale, medium to rich, dark brown and dark gray, well defined bedding. Common one-inch and less bands of oil saturated tuff and analcitized tuff. A three-inch bed of partially analcitized tuff occurs at 452.5 feet.
455.8	458.9	Oil shale, medium, brown to greenish brown, well defined bedding.
458.9	460.0	Oil shale, lean, tan and light brown, well defined bedding.
460.0	465.6	Oil shale, medium to lean, dark brown and light brown, well defined bedding. Common two-inch and less bands of tan silty marlstone.
465.6	466.0	Tuff bed, contacts sharp to irregular. Bed consists of (from top to bottom) one-half-inch unsaturated, dense, blue analcitized tuff; one inch of brown oil shale; and three inches of dark gray, oil saturated tuff.
(Mahogany Marker)		
466.0	470.6	Oil shale, lean to medium, tan to brown and gray, well defined bedding, poor banding one-half-inch dark gray tuff at 470.5 feet.
470.6	472.6	Oil shale, medium, dark gray to dark brown, poorly defined bedding, 0.3-foot platy zone at 470.7 feet. Rich oil shale at 472.0 feet.
472.6	473.9	Oil shale, lean to medium, brown, poorly defined bedding, rare tuff streaks.
473.9	475.7	Oil shale, lean, tan to brown, poor to well defined bedding in lower part.
475.7	476.8	Oil shale, medium, dark brown to gray, massive to faintly bedded, rare tuff lenses, two-inch gray hard tuff at 476.6 feet. Tuff has irregular contacts and contains inclusions of light colored material.

Illustration No. SBR-3088P



# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5279 feet

From	To	Description
476.8	478.1	Oil shale, medium to rich, dark gray, massive to faintly bedded.
478.1	480.0	Oil shale, medium, dark brown, poorly defined bedding, 0.2-foot "curly" bed at 479.0 feet, two-inch breccia zone at 479.4 feet, massive silty oil shale in bottom 0.3 foot. <i>Curly bed</i>
480.0	481.4	Oil shale, rich, dark gray, well defined bedding, very tough with silky luster.
481.4	482.2	Nacholite, crystalline, tan to brown and clear. Irregular contacts with oil shale.
482.2	484.4	Oil shale, medium to rich, dark brown, massive to poorly defined bedding.
484.4	485.3	Nacholite, crystalline, gray to brown, contains common inclusions of gray oil shale, very irregular contacts.
485.3	486.4	Oil shale, rich, dark gray, massive, bedding has slight dip.
486.4	489.3	Oil shale, medium, brown to light brown, well defined bedding, poor banding, rare tuff stringers.
489.3	490.3	Oil shale, rich, dark gray, massive, silky luster.
490.3	492.0	Oil shale, medium, tan to brown, tuffaceous, poorly defined bedding.
492.0	494.5	Oil shale, lean to medium, tan to brown, well defined bedding, good banding, rare stringers of tan tuff. Sharp contact with rich oil shale at bottom.
494.5	495.5	Oil shale, rich, dark brown, massive.
495.5	496.6	Oil shale, lean to medium, light brown, massive, one-inch crystalline analcite tuff at 486.0 feet.
496.6	497.6	Oil shale, rich, dark gray, massive, rare tuff stringers.
497.6	500.3	Oil shale, lean to medium, tan to brown, poorly defined bedding, one-quarter-inch tuff bed at 497.6 feet.
500.3	504.2	Oil shale, lean, tan, well defined bedding, rare tuff stringers, rare one-inch bands of rich oil shale.
504.2	505.5	Oil shale, rich, dark gray, massive, silky luster, common one-half-inch or less dark brown oil saturated tuff injections.
Illustration No. SBR-3089P		

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5879 feet

From	To	Description
505.5	510.0	Oil shale, lean, tan, well defined bedding.
510.0	512.6	Oil shale, medium, brown, massive to faintly bedded, rare pyrite and tuff stringers.
512.6	514.2	Oil shale, lean to medium, tan to brown, well defined bedding, rare tuff stringers.
514.2	517.5	Oil shale, lean to medium, brown to dark brown, well defined bedding, rare tuff stringers.
517.5	520.5	Oil shale, lean, tan to brown, well defined bedding, good banding in lower part.
520.5	521.5	Oil shale, medium, dark brown to dark gray, poorly defined bedding, one-half-inch oil saturated tuff at 521.0 feet.
521.5	525.0	Marlstone, light tan to brown, poorly defined bedding in upper part to massive in lower, rare stringers of oil shale.
525.0	529.0	Marlstone, tan to gray, massive to well defined bedding, good banding in part, two-inch dark gray analcite tuff at 527.0 feet.
529.0	530.5	Oil shale, medium, dark brown, well defined bedding, 0.4-foot tuffaceous oil shale 529.4 feet.
530.5	531.7	Marlstone, tan to light gray, massive to faintly bedded.
531.7	533.0	Oil shale, lean, tan to gray, well defined bedding, good banding.
533.0	536.5	Marlstone, tan, massive to poorly defined bedding, 0.5-foot rich oil shale at 535.3 feet, vertical fracture 534.5 to 534.8 feet.
536.5	537.8	Oil shale, medium, brown to gray, poorly defined bedding, one-half-inch tan dolomite at 537.0 feet.
537.8	540.7	Marlstone, tan to gray, well defined bedding, good banding, two-inch tuffaceous, rich oil shale at 539.0 feet, three-inch rich oil shale at 540.3 feet.
540.7	542.3	Tuff, gray to tan, massive, crystalline, contains stringers of contorted oil shale.
(Lower wavy bed 540.7)	542.3	Oil shale, medium, dark gray, poorly defined bedding.
542.3	544.8	Marlstone, tan to brown, poor to well defined bedding, common one-half-inch or less bands of medium oil shale, one-inch white tuff bed at 545.4 feet.
544.8	548.0	

Illustration No. SBR-3090P

# LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples of Skyline Oil Company's J. R. Robertson No. 5 corehole drilled 2193 feet S. of N. line and 3238 feet E. of W. line, sec. 23, T. 9 S., R. 25 E., Uintah County, Utah (Con.)

Surface Elevation 5879 feet

From	To	Description
548.0		Bottom of core.

## X-ray identifications:

193.0	Dolomite
485.0	Naçholite

Illustration No. SBR-3092P

Laramie Petroleum Research Center, Laramie, Wyoming March 4, 1960