

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY^{1/}

Core samples from U. S. Bureau of Mines Wyoming Corehole 7 drilled in 1972 in NE1/4NE1/4SE1/4 (587 feet S of C line and 615 feet W of E line) of sec 2, T 25 N, R 107 W, Sweetwater County, Wyoming

Surface elevation: 6,655.5 feet

Cored interval: 364.0 to 688.6 feet

From	To	Description
364.0	366.0	Mudstone: Gray and light to rare dark olive gray, Moderately to slightly calcareous. Massive in upper part; streaks and irregular bands inclined 25 to 40 degrees in lower part.
366.0	367.7	Mudstone and siltstone: Medium to light olive gray, slightly calcareous, clayey, massive.
367.7	368.7	Mudstone and marlstone (oil shale in lower part): Light to medium olive gray, rare black in lower part. Massive to faint and rare distinct streaked bedding inclined 45 degrees.
368.7	370.0	Limestone: Medium to dark gray. Massive, dense, conchoidal fracture. Abundant fine pyrite. Grades to limy mudstone in lower part.
370.0	372.0	Claystone rubble: Mostly slightly olive-gray earthy lumpy rubble (possibly fault gouge); rare fracture surfaces with slickensides and rusty brown patchy coatings. Some medium to dark olive-gray and brownish-gray oil shale (?) with distorted bedding in upper part.
372.0	372.6	Mudstone, marlstone, and some sandy siltstone: Medium to some light and dark olive gray and brownish gray, calcareous. Faint distorted streaked bedding.
372.6	374.7	Mudstone: Light to medium olive gray in upper part becoming gray and very limy in lower part. Faintly variegated and mottled. Abundant very fine biotite (?) in lower part.
374.7	375.9	Mudstone and claystone: Olive gray. Faintly streaked and mottled. Mostly broken core and rubble in lower part.
375.9	379.3	Mudstone and marlstone (including some oil shale?): Medium to some light and dark olive gray and brownish gray. Faint and rare distinct distorted and slightly inclined streaks and stringers.

^{1/} By L. G. Trudell, completed October 1, 1974

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Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
379.3	386.3	Mudstone: Medium to light gray and some tan to brown, calcareous. Faint to distinct contorted and inclined bedding with shredded streaks and some stringers. (383.3-384.0 missing) Sample of gray mudstone from 382.2 feet: X-ray--quartz, calcite, feldspar, analcime, illite, dolomite, montmorillonite.
386.3	387.6	Mudstone and some oil shale: Olive gray and rare medium to dark brownish gray. Faintly variegated with some distinct distorted and inclined streaks and stringers. Few diagonal fractures with glossy slickensides in lower part. Irregular dense gray silty pyritic nodule at 387.1.
387.6	388.2	Marlstone: Tan to buff. Faint irregular inclined banding. Olive-gray mudstone stringers in lower part.
388.2	398.9	Siltstone: Olive gray, calcareous. Massive to faintly mottled. Some fine buff marlstone inclusions. Thick wavy buff to brownish-gray algal (?) marlstone stringer at 389.7-390.0. Sample of siltstone from 394.7 feet: X-ray--quartz, analcime, feldspar, montmorillonite, illite, dolomite, calcite.
398.9	399.3	Marlstone (oil shale?): Buff to grayish brown, dolomitic to slightly calcareous. Faint distorted streaks and laminae. Some fine irregular cavities near top. Abundant fine crystalline calcite blebs and streaks in lower part.
399.3	400.3	Missing?
400.3	400.5	Marlstone: Broken core as above.
400.5	402.5	Marlstone and mudstone: Brownish gray and olive gray to gray buff, dolomitic. Faintly laminated and banded; distorted in some parts. Abundant fine dark mineral blebs (possible pyrrhotite) in some zones. Abundant fine to small crystalline calcite blebs, streaks, and patches at 401.1-401.4 and 402.1-402.5.

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From	To	Description
402.5	405.0	Marlstone: Medium to light slightly olive and brownish gray, dolomitic. Faint distorted streaked bedding. Abundant fine gray calcite blebs and streaks and dark pyrrhotite (?) specks. Sample of marlstone with calcite blebs from 404.1 feet: quartz, calcite, dolomite, montmorillonite, feldspar.
405.0	406.0	Marlstone: Light to medium brownish gray, dolomitic. Faint laminae and streaked bedding. Rare fine calcite streaks. Sample of light brownish-gray marlstone from 405.5 feet: X-ray--dolomite, quartz, feldspar, ferroan, montmorillonite, illite.
406.0	418.5	Marlstone and some mudstone: Like 400.5-406.0. Rare dense gray pyritic nodules and streaks.
418.5	421.0	Marlstone and oil shale: Olive-gray and brownish gray to buff, slightly calcareous to dolomitic. Faint and rare distinct laminae and bands. Abundant fine calcite blebs in upper part. Rubble at 420.0-420.7.
421.0	425.7	Marlstone and oil shale: Light to medium olive gray to olive, slightly calcareous. Faint laminae and streaked bedding. Abundant fine calcite crystals in some parts. Gray-buff tuffaceous stringers at 422.8-423.0.
425.7	427.2	Oil shale: Olive gray, dolomitic to slightly calcareous. Faint laminae and streaked bedding.
427.2	428.3	Oil shale: Olive gray to some dark brownish gray and rare black, dolomitic. Very faint very fine laminae and some moderately distinct streaked bedding. Abundant calcite blebs and streaks in upper half. One-inch zone of gray-buff vermiform stringers at 428.0.
428.3	430.0	Oil shale: Medium to dark olive gray, dolomitic. Faint laminae and streaked bedding. Sample of dark olive-gray oil shale from 429.4 feet: X-ray--calcite, quartz, dolomite, feldspar, illite, ferroan, pyrite, montmorillonite.

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From	To	Description
430.0	431.2	Oil shale: Medium to light olive gray, dolomitic. Faint streaked bedding.
431.2	432.8	Marlstone: Light to some medium olive gray, dolomitic. Faint laminae and bands; some moderately distinct streaked bedding. Some tuffaceous streaks in lower part.
432.8	434.9	Oil shale: Medium to dark olive gray and some grayish brown, dolomitic. Faint laminae and streaked bedding. Some thin buff to light olive-gray silty streaks and stringers in upper part.
434.9	437.0	Oil shale: Dark to light olive gray, dolomitic. Faint to moderately distinct laminae and some streaked bedding. Some fine crystalline streaks and dense buff lenses in upper part. Sample of olive-gray oil shale with fine dark streaks from 436.3 feet: X-ray--calcite, dolomite, quartz, montmorillonite, illite, feldspar.
437.0	439.2	Marlstone: Light to medium brownish to almost neutral gray, slightly calcareous to dolomitic. Faint regular to irregular laminae.
439.2	439.7	Tuff: Greenish gray to medium and light gray, silty. Faintly bedded to massive. Sample of gray tuff from 439.4 feet: X-ray--analcime, quartz, feldspar, montmorillonite, dolomite, calcite.
439.7	440.7	Marlstone: Light to medium gray. Faintly laminated and banded. A thin porous fine granular limestone layer at base.
440.7	440.8	Missing
440.8	442.0	Marlstone: Light and rare medium olive gray. Faintly streaked to massive. Abundant fine milky white to transparent calcite grains. A very irregular gray-buff to pale yellow tuff with very fine dark grains at 441.8--441.9.

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From	To	Description
442.0	443.0	Oil shale: Medium to some light and rare dark olive gray. Faint to fairly distinct streaked bedding. Very abundant fine calcite crystals. Sample of oil shale with abundant calcite crystals from 442.2 feet: X-ray--calcite, dolomite, quartz, feldspar, pyrite.
443.0	444.7	Oil shale: Dark to medium olive gray and brownish gray. Faint streaked bedding. Abundant yellowish-buff to tan calcite streaks--some with biotite.
444.7	446.8	Oil shale: Medium to some light and dark olive gray. Faint to moderately distinct streaked bedding and some laminae. A very thin gray-buff biotitic tuff stringer at 445.05. Some fine to small dense tan to buff streaks and lenses in lower part.
446.8	447.5	Oil shale: Medium to dark olive gray to slightly brownish gray. Faint streaked bedding.
447.5	448.5	Oil shale and marlstone: Olive gray to light almost neutral gray. Very faint laminae and streaked bedding.
448.5	450.5	Mudstone: Gray buff to light olive gray, calcareous. Faintly laminated and banded. A very thin brownish-gray oil-shale layer at 449.9.
450.5	451.8	Marlstone (lean oil shale): Light to some medium slightly olive and brownish gray, dolomitic. Faint laminae and streaked bedding. A half-inch medium to light grayish-brown silty tuff at 451.5 and a 3/4- to 1-inch tuff stringer at base.
451.8	453.9	Oil shale: Medium to some light and dark slightly olive and brownish gray, dolomitic. Faintly laminated. Few very thin tuff layers in upper part. A small gray-buff cherty lens near top.
453.9	455.0	Oil shale: Medium to light olive gray and brownish gray. Faint and rare moderately distinct laminae. A very regular 5/8-inch black tuff band at 454.5. Sample of black tuff band from 454.5 feet: X-ray--analcime, pyrite, feldspar.

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From	To	Description
455.0	457.7	Marlstone and mudstone: Light slightly olive gray to gray buff, dolomitic. Faint and rare distinct laminae. Sample of gray-buff mudstone from 457.2 feet: X-ray--dolomite, quartz, calcite, feldspar.
457.7	458.8	Marlstone and oil shale: Light to medium and rare dark almost neutral gray to brownish gray. Faint and some distinct laminae and streaks. Very irregular cherty conglomeratic algal (?) layer at 458.05-458.2.
458.8	459.9	Oil shale: Brownish gray, dolomitic. Very faint laminae and streaked bedding. Sample of brownish-gray oil shale from 459.3 feet: X-ray--dolomite, quartz, calcite, feldspar, pyrite, illite.
459.9	461.0	Oil shale and marlstone: Light and rare medium brownish gray to gray buff, dolomitic to slightly calcareous. Faintly laminated. A thin brownish-gray tuff layer near top. Light olive-gray to buff mudstone at 460.4-460.6.
461.0	463.8	Marlstone and mudstone: Gray buff to light gray, dolomitic to calcareous. Very faintly laminated and banded. Abundant fine pyrrhotite (?) blebs in some parts. Abundant fine to thin crystalline calcite streaks and layers in lower part.
463.8	464.9	Marlstone and oil shale: Yellowish buff to light and rare medium grayish brown, dolomitic. Very faintly bedded to faintly banded and laminated. Large irregular massive buff marly inclusion at 464.4.
464.9	466.2	Oil shale: Tan to grayish brown, calcareous to dolomitic. Faintly streaked to laminated. Sample of grayish-brown oil shale from 465.6 feet: X-ray--calcite, dolomite, quartz.
466.2	467.6	Oil shale: Very dark to some medium brownish gray, dolomitic. Faint laminae and streaked bedding; some distinct brown streaks and lenses. Few dark brownish-gray to black chert lenses. Sample of dark brownish-gray oil shale from 466.9 feet: X-ray--dolomite, quartz, calcite, feldspar, illite, pyrite.

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From	To	Description
467.6	468.7	Oil shale and marlstone: Medium brownish gray to light olive gray and gray buff, dolomitic to slightly calcareous. Faintly laminated.
468.7	470.8	Marlstone and mudstone: Gray buff, dolomitic. Faintly laminated to very faintly bedded.
470.8	472.9	Marlstone and mudstone (lean oil shale in part): Light to rare medium olive gray and brownish gray, some almost neutral gray, dolomitic. Faintly laminated. Some very fine pyrrhotite (?) blebs.
472.9	474.2	Oil shale: Medium and rare dark brownish gray, dolomitic. Faintly laminated to very faintly bedded. Abundant brown mineral grains at 473.0-473.3. Sample of medium to dark oil shale with abundant fine mineral grains from 473.1 feet: X-ray--dolomite, calcite, quartz, feldspar, illite.
474.2	474.8	Oil shale: Very dark to rare medium brownish gray. Very faint streaked bedding; some distinct brown streaks and laminae in lower part.
474.8	475.6	Marlstone: Medium to light olive green, slightly dolomitic. Very faint streaked bedding. Sample of light olive-green marlstone from 475.4 feet: X-ray--dolomite, quartz, feldspar, illite, montmorillonite, pyrite, analcime.
475.6	477.1	Marlstone and mudstone: Yellow buff to gray buff, dolomitic to very slightly calcareous. Faintly laminated to very faintly banded. Gray-buff fine-grained crystalline limestone in lower 2 inches.
477.1	478.9	Oil shale: Medium to light olive gray and rare brownish gray, dolomitic. Moderately distinct streaked bedding. Abundant fine milky white calcite crystals in upper half.
478.9	479.9	Marlstone: Light olive gray, dolomitic. Very faintly bedded.
479.9	481.5	Marlstone: Light gray to gray buff, slightly silty, dolomitic. Very faintly banded. Abundant pyrrhotite (?) at 480.2-480.5. (480.5-481.0 missing)

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From	To	Description
481.5	483.0	Oil shale: Medium to rare light and dark brownish gray, dolomitic. Distinct laminae in upper half foot (contorted and truncated at 481.8-482.0); very faintly laminated and banded in lower foot. Very thin yellow-tan dolomite layer at 482.5. Buff marlstone in lower 0.3 foot.
483.0	485.0	Oil shale: Light to medium brownish gray in upper 0.4 foot; medium to dark brownish gray in other parts. Faint and some distinct laminae and streaked bedding. Few buff cherty stringers and nodules in upper part. Abundant brown mineral blebs and streaks in middle part (probably like 473.1). Some very thin tan dolomite streaks and laminae in lower part. A thin gray shaly layer at 484.5.
485.0	485.6	Layered tuff: Light gray, silty, faintly laminated to banded. Sharp regular contacts. Sample of tuff from 485.2 feet: X-ray--K-feldspar, quartz, calcite.
485.6	486.3	Marlstone and oil shale: A 3/8-inch regular layer of resinous black oil shale at top; gray buff and light to some medium olive gray in other parts. Faint and rare distinct bands and laminae.
486.3	489.5	Marlstone and mudstone: Light gray to gray buff, dolomitic to slightly calcareous. Very faintly bedded to faintly laminated.
489.5	491.5	Marlstone: Buff, some light to medium grayish-brown oil shale in lower part. Faint to rare distinct laminae and bands. A thin biotitic tuff at 490.4. Sample of buff marlstone from 490.8 feet: X-ray--dolomite, quartz, calcite, feldspar.
491.5	492.7	Oil shale: Medium to some dark brownish gray, some brown to tan layers, streaks, and lenses. Faint to distinct laminae and streaked bedding. Rare thin gray cherty lenses. Brittle vitreous black organic streak at 492.0.

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Laramie Energy Research Center, Laramie, Wyoming

January 20, 1975

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From	To	Description
492.7	493.7	Oil shale: Mostly medium brownish gray in upper half; mostly dark brownish gray to black in lower half; some resinous luster in lower part. Faint to some distinct laminae and some very faint streaked bedding. A thin buff-white marly to dense and cherty lens at base.
493.7	496.1	Marlstone and mudstone: Light gray, moderately to slightly calcareous. Very faint laminae and streaked bedding. Light olive-gray oil shale in upper inch.
496.1	496.8	Marlstone: Buff, dolomitic. Faint laminae and streaked bedding.
496.8	498.2	Oil shale: Dark to medium brownish gray, some brown to buff streaks and lenses. Faint to distinct streaked bedding and rare laminae.
498.2	499.5	Marlstone: Buff to gray buff and some very light olive gray, dolomitic. Faint laminae and bands.
499.5	500.6	Marlstone and oil shale: Buff to some medium olive gray and brownish gray, dolomitic. Faint and rare distinct laminae and bands.
500.6	501.0	Missing
501.0	502.2	Marlstone: Buff and rare light brownish gray, becoming slightly olive in lower part; dolomitic to slightly calcareous. Faintly banded. Fine-grained calcite streaks and laminae becoming abundant in lower part.
502.2	504.2	Marlstone: Light slightly greenish gray, very slightly calcareous. Massive with abundant crystalline calcite streaks. Sample of light gray marlstone from 502.9 feet: X-ray--quartz, dolomite, K-feldspar, calcite, illite, ferroan. Sample of light gray marlstone with calcite from 503.7 feet: X-ray--calcite, dolomite, quartz, illite, feldspar, pyrite.

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From	To	Description
504.2	505.3	Marlstone: Light gray and gray buff to buff and rare medium slightly olive gray, slightly calcareous to dolomitic, slightly silty in upper part. Faint to some distinct laminae. A thin algal (?) layer with very fine crinkly laminae and some calcite crystals at 504.4.
505.3	506.8	Oil shale: Medium to dark olive gray and brownish gray, some brown to tan streaks in lower part. Faint to some distinct streaked bedding. Abundant fine calcite crystals in some zones.
506.8	508.0	Marlstone: Light slightly olive gray, dolomitic. Faintly laminated to massive. Abundant very fine pyrrhotite (?) blebs.
508.0	510.4	Marlstone and mudstone: Buff and light gray to light and medium slightly olive gray, dolomitic to slightly calcareous. Faint and rare distinct laminae to very faint streaked bedding. Abundant very fine white calcite grains in lower part.
510.4	511.9	Oil shale: Medium to rare dark olive gray, dolomitic. Faint laminae and streaked bedding.
511.9	513.4	Marlstone and mudstone: Buff to gray buff and some light to medium gray, dolomitic to slightly calcareous. Faintly banded and laminated. Thin very light gray biotitic tuffs at 512.5 and 512.9.
513.4	514.4	Oil shale: Light to medium olive gray, dolomitic. Faintly streaked to laminated. Some small to 3/4-inch buff marlstone lenses near top. Some white to yellowish-buff calcite streaks.
514.4	515.2	Oil shale: Medium to dark grayish brown and some tan. Moderately distinct streaked bedding and some laminae. Faintly laminated tan silty tuff at 514.7-514.8.
515.2	517.5	Oil shale: Olive buff to light and some medium olive gray, dolomitic. Faint streaked bedding and some laminae and bands. A thin light gray biotitic tuff layer at 515.8. Fine white to buff calcite blebs becoming very abundant in lower part.

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From	To	Description
517.5	519.1	Marlstone: Light and rare medium almost neutral gray to olive gray, slightly calcareous. Faint laminae and bands. Abundant very fine light calcite grains in some layers. A 2-inch white to light gray biotitic tuff band at top. Sample of light gray marlstone from 518.2 feet: X-ray--dolomite, quartz, calcite, feldspar, illite, pyrite.
519.1	520.5	Oil shale: Olive gray and grayish brown to some buff. Faint to distinct streaked bedding. Abundant fine-grained white to buff calcite patches and blebs. Sample of medium to light olive-gray oil shale (without calcite blebs) from 519.8 feet: X-ray--calcite, dolomite, quartz, feldspar, montmorillonite, illite.
520.5	521.7	Main tuff: White to buff white, silty textured, biotitic. Massive with few faint streaks. Sharp regular contacts at top and bottom. (0.2 foot missing?)
521.7	522.7	Marlstone: Buff, dolomitic to calcareous. Faint bands and laminae.
522.7	524.8	Marlstone: Medium to some light and rare dark gray to olive gray, slightly calcareous to dolomitic. Faintly laminated to streaked. Thin light gray biotitic tuff at 523.1
524.8	532.3	Marlstone: Buff and light olive gray to light and some medium neutral gray. Faint to rare distinct bands and laminae.
532.3	533.2	Oil shale: Light brownish gray to some medium brown, slightly calcareous. Faint laminae and streaked bedding. Thin gray biotitic tuff stringers in lower 0.2 foot.
533.2	534.4	Oil shale: Medium and rare dark olive gray, slightly calcareous. Very faint streaked bedding.
534.4	536.4	Marlstone: Light and some medium gray, buff in lower 0.4 foot, slightly calcareous. Faintly laminated and banded.

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From	To	Description
536.4	538.7	Marlstone and oil shale: Light to medium slightly olive gray, slightly calcareous. Faint streaked bedding and some laminae.
538.7	539.7	Oil shale: Medium to rare light and dark olive gray, slightly calcareous. Faint and rare moderately distinct laminae. A very thin buff oolitic stringer at 539.1. Sample of olive-gray oil shale from 539.0 feet: X-ray--calcite, dolomite, quartz, feldspar, illite, montmorillonite.
539.7	541.0	Missing
541.0	543.2	Marlstone grading to lean oil shale: Light to medium olive gray, slightly to moderately calcareous. Faintly banded and laminated.
543.2	544.2	Oil shale: Olive gray, slightly calcareous. Very faintly bedded.
544.2	545.2	Oil shale: Medium to light olive gray, slightly to moderately calcareous. Very faintly bedded to faintly laminated and banded.
545.2	550.2	Marlstone: Light greenish gray and gray to gray buff, slightly calcareous. Very faint to some moderately distinct laminae. Abundant fine-grained calcite layers and streaks in upper foot.
550.2	551.6	Marlstone and oil shale: Gray buff and buff to medium and rare dark olive gray and brownish gray, slightly calcareous to dolomitic. Faint to some distinct regular laminae. Fine gray biotitic tuff laminae at 550.3 and 550.8; a 1-1/4-inch band at 551.2.
551.6	552.8	Oil shale: Medium to some light olive gray, moderately to slightly calcareous. Faintly laminated to very faintly bedded.
552.8	555.8	Marlstone: Light to rare medium greenish gray, slightly calcareous. Faint and some moderately distinct laminae to very faint streaked bedding.

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From	To	Description
555.8	556.9	Oil shale: Medium to some dark and rare light olive gray, slightly calcareous. Faint and rare distinct laminae to very faint bedding. A thin olive-buff earthy and slightly silty layer at 556.1.
556.9	559.2	Marlstone and some mudstone: Gray to buff, some light brownish gray in lower part, slightly to moderately calcareous. Moderately distinct to faint laminae.
559.2	560.3	Oil shale and marlstone: Buff to medium and rare dark brownish gray and olive gray, dolomitic to calcareous. Distinct to faint laminae.
560.3	561.0	Marlstone: Buff, calcareous. Faint bands and laminae.
561.0	563.4	Claystone: Light to medium almost neutral to olive gray, very slightly calcareous. Very faintly laminated and streaked. Sample of olive-gray claystone from 562.8 feet: X-ray--dolomite, quartz, feldspar, calcite, montmorillonite, illite.
563.4	564.5	Oil shale: Medium to some light and dark olive gray, rare buff, dolomitic to calcareous. Faint to distinct streaks and laminae.
564.5	565.5	Oil shale: Medium and rare dark to some light olive gray, slightly calcareous. Faintly laminated.
565.5	568.7	Marlstone and mudstone: Buff to light and rare medium slightly olive gray, moderately to very slightly calcareous. Moderately distinct to very faint laminae. Sample of finely laminated buff mudstone from 565.8 feet: X-ray--calcite, dolomite, quartz, feldspar, montmorillonite.
568.7	569.9	Oil shale: Medium and some dark olive gray and brownish gray to light olive gray and some tan to buff, calcareous to dolomitic. Fairly distinct to faint streaks and discontinuous laminae. Some fine calcite crystals.
569.9	571.0	Oil shale: Medium to light olive green, almost neutral near top, moderately to slightly calcareous. Faintly laminated near top becoming very faintly bedded in lower part.

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From	To	Description
571.0	572.6	Mudstone: Light slightly olive gray to some gray buff, slightly calcareous. Very faintly streaked and laminated. A thin buff earthy porous calcareous layer at 572.4.
572.6	573.3	Oil shale: Light to rare dark brownish gray and some buff, dolomitic. Very faintly streaked to faintly laminated; thin zone of contorted and truncated laminae at 573.05. A thin buff earthy biotitic tuff at 573.1.
573.3	575.3	Oil shale: Medium and some light olive gray to olive green, moderately to very slightly calcareous. Faintly laminated to nearly massive.
575.3	577.1	Mudstone and marlstone: Buff to light olive gray, slightly calcareous. Very faintly laminated and banded to massive.
577.1	577.3	Oil shale: Buff to dark brownish gray and rare black, dolomitic. Distinctly laminated. Sample of distinctly laminated buff to black oil shale from 577.2 feet: X-ray--dolomite, quartz, K-feldspar, illite, montmorillonite.
577.3	578.1	Marlstone: Light brownish gray to buff, calcareous. Faint laminae and some streaked bedding.
578.1	581.3	Marlstone (oil shale?): Medium to light olive gray, slightly calcareous. Very faintly streaked and laminated. A thin gray-buff limestone layer at 579.0. (579.1-580.0 missing)
581.3	583.5	Marlstone (oil shale?): Medium to light olive gray and rare brownish gray, slightly calcareous. Very faintly streaked and laminated. A very thin buff-white biotitic tuff at 582.5.
583.5	584.3	Marlstone: Very light olive gray to buff, moderately to very slightly calcareous. Very faintly streaked and laminated.
584.3	584.8	Marlstone and lean oil shale: Buff to brownish gray, irregularly bleached. Very faint bedding to distorted laminae. Cut by a thick irregular vertical stringer of buff and gray conglomeratic calcareous mudstone. Some irregular vertical fractures with glossy slicken-sides in lower part.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
584.8	585.7	Marlstone: Light olive gray, calcareous. Very faintly laminated. A thin tan calcareous sandy layer at 585.6.
585.7	587.1	Oil shale (?): Light to medium olive green, slightly calcareous to slightly dolomitic. Faintly streaked and mottled; some faint discontinuous laminae.
587.1	588.1	Marlstone: Buff, calcareous. Faintly banded. A 1-inch band of oolitic limestone at base.
588.1	590.3	Oil shale (?): Olive green, very slightly calcareous. Massive with some very faint streaks and mottling. Irregular hackly fracture. Some oolitic calcite patches in lower part.
590.3	592.4	Marlstone: Buff to light olive gray and some light brownish gray, slightly calcareous. Faintly banded and streaked.
592.4	593.5	Oil shale (?): Light to medium olive gray and brownish gray, slightly calcareous. Faint streaked bedding and some laminae.
593.5	597.8	Marlstone and some lean oil shale: Buff to light and rare medium olive gray and brownish gray. Faint bands and laminae. Rare thin granular limestone layers. A 1-1/2-inch buff to white biotitic tuff at 597.2.
597.8	598.9	Marlstone: Light olive green, slightly calcareous. Faintly laminated in upper part; laced with very fine tight fractures in middle and lower parts. Conglomerate composed of gray-buff tuff clasts in marlstone at 598.5-598.6.
598.9	599.6	Marlstone: Light to rare medium olive gray and grayish brown, calcareous. Faint streaks and discontinuous laminae. Some very fine gray lacy fracture fillings.
599.6	600.0	Missing.
600.0	602.2	Marlstone and oil shale: Light to some medium olive gray, calcareous to dolomitic. Faint streaked bedding and some laminae and bands.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
602.2	602.8	Limestone: Buff, oolitic to sandy, massive. Interfingered with light brownish-gray to tan bleached oil shale in lower inch.
602.8	603.5	Oil shale: Light to dark brownish gray, bleached to tan and brown in upper inch. Distinct streaked bedding. Rare fine to small light gray tuff lenses. Sample distinctly streaked oil shale from 603.3 feet: X-ray--dolomite, K-feldspar, quartz, montmorillonite, illite.
603.5	604.0	Sandstone: Gray buff, very fine grained, massive.
604.0	605.7	Mudstone: Light to some medium olive gray, calcareous. Faintly laminated to massive.
605.7	607.9	Marlstone: Light to medium olive gray, slightly calcareous. Faintly laminated. Rare fine pyrite cubes.
607.9	610.3	Mudstone and siltstone: Light olive gray, calcareous. Faintly mottled and variegated.
610.3	611.0	Oil shale: Light brownish gray to black, irregularly bleached in upper 0.2 foot, dolomitic. Faint to fairly distinct streaks and very fine laminae. A fine white biotitic tuff layer at 610.9.
611.0	616.1	Siltstone: Light olive gray to buff, calcareous. Very faint irregular layers. Some contorted bedding. Conglomeratic zone at 614.2-615.0.
616.1	619.6	Missing.
619.6	620.5	Siltstone: As above.
620.5	623.0	Mudstone: Light to medium olive gray, slightly calcareous. Faintly mottled and streaked to massive. Natural (??) vertical fracture from 621.4 to bottom; some rubble in lower part.
623.0	626.0	Siltstone: Light brownish gray to gray buff, calcareous. Massive to faintly banded and laminated. Sample of siltstone from 623.6 feet: X-ray--quartz, calcite, feldspar, dolomite, montmorillonite, illite, analcime.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
626.0	630.4	Mudstone and claystone: Light olive gray, slightly calcareous. Massive with some very faint streaks and mottling.
630.4	640.0	Siltstone, very fine sandstone, and some mudstone: Light slightly olive gray and brownish gray, calcareous. Faint regular to irregular layers and streaks. Some broken core and rubble in lower half.
640.0	643.0	Mudstone: Light olive gray, clayey to sandy, slightly to moderately calcareous. Faintly streaked to variegated and mottled.
643.0	645.5	Mudstone: Olive green to greenish gray, slightly calcareous. Faintly variegated. Abundant very fine to fairly coarse round sand grains.
645.5	646.5	Claystone: Olive gray, slightly calcareous, massive. Irregular coarse hackly fracture. Sample of olive-gray claystone from 646.3 feet: X-ray--montmorillonite, illite, dolomite, calcite, quartz, analcime, feldspar.
646.5	647.6	Sandstone: Light to some medium olive green, commonly silty to muddy, calcareous. Faintly layered to variegated. Few chalky white blebs and streaks.
647.6	649.5	Marlstone (oil shale?): Light to some medium olive gray, slightly calcareous. Very faint bands and laminae. A 1/2- to 3/4-inch vermiform sandstone stringer in upper 0.4 foot. Some sandy streaks and layers down to 648.7.
649.5	651.2	Marlstone and mudstone: Buff and some very light olive green, commonly silty to sandy, calcareous. Faintly streaked and mottled. Rare chalky white blebs.
651.2	651.9	Marlstone (oil shale?): Light to medium olive gray and some brownish gray, moderately to slightly calcareous. Very faint streaked bedding with some laminae and bands. Common silty to sandy streaks.
651.9	652.4	Mudstone and marlstone: Buff to light olive gray and some brownish gray, sandy in upper part, calcareous. Massive to faintly streaked. Rare fine chalky blebs in upper part.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
652.4	653.0	Marlstone: Medium to light olive green, calcareous, massive.
653.0	654.0	Mudstone: Light olive green, calcareous. Very faintly mottled to streaked.
654.0	654.5	Mudstone: As above and below with large angular light gray to buff-white limestone inclusions. Sample of limestone from 654.3 feet: X-ray--dolomite, some calcite.
654.5	660.4	Mudstone: Light to medium olive green very slightly calcareous. Faintly variegated and mottled. Rare limestone inclusions and irregular layers. Crumbly broken core at 656.7-657.0. (0.3 foot missing)
660.4	663.0	Mudstone: Buff white, earthy, slightly calcareous. Faintly variegated and mottled to massive. Some crumbly rubble. Few thin light brownish-gray laminated dolomite (?) inclusions in lower part. Occasional oolites. Sample of white mudstone from 662.0 feet: X-ray--dolomite; some quartz, feldspar.
663.0	664.0	Mudstone: Buff white to light olive green. Faintly mottled and variegated. Sparse oolites.
664.0	675.0	Mudstone and siltstone: Light olive gray, slightly calcareous in parts. Faintly variegated. Rare small limestone inclusions. Sparse oolites.
675.0	679.5	Siltstone: Light to some medium olive gray, becoming sandy in lower part. Faintly variegated. Crumbly rubble in lower foot.
679.5	680.0	Missing.
680.0	682.2	Sandstone: Light to some medium olive gray, silty in upper part becoming fine to medium grained in lower part. Massive with rare faint mottling. Mostly rubble and rounded core pieces.
682.2	683.1	Mudstone: Light olive gray, massive, some sandy stringers.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Core samples from U. S. Bureau of Mines Wyoming Corehole 7

From	To	Description
683.1	684.5	Siltstone and very fine sandstone: Light olive gray, massive. Mostly thin irregular rounded core pieces.
684.5	686.5	Mudstone and siltstone: Light to medium olive gray, slightly calcareous. Faintly variegated; occasional chalky white patches and streaks.
686.5	688.3	Siltstone: Light olive gray to gray buff, slightly calcareous. Faintly streaked. Common irregular thin parting and coarse hackly fracture; some rubble.
688.3	688.6	Mudstone: Light olive green, slightly calcareous. Faintly variegated. Firm.
688.6		Bottom of recovered core.
700.0?		Bottom of hole.

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