

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY<sup>1/</sup>

Quarter-core samples from Mobil Oil Company's Test Well No. 5 drilled in NW1/4SW1/4 (2,020 ft N of S line and 760 ft E of W line) of sec 34, T 2 S, R 97 W, Rio Blanco County, Colorado

Kelly bushing elevation: 6,519 feet

Mahogany marker: 1,200.7 feet

Described interval: 712.0 to 1,739.0

From	To	Description
712.0	712.5	Oil shale: Dark brownish gray. Very faint, very fine laminae and streaked bedding; some fine loop structure.
712.5	714.7	Oil shale: Light to medium brownish gray, some thin dark layers in middle. Fairly distinct to faint laminae; common fine loop structures. Rare fine white to light gray silty streaks and laminae.
714.7	715.7	Oil shale: Medium to some dark grayish brown. Faintly laminated and streaked. Rare thin brownish-gray silty layers and streaks.
715.7	716.2	Oil shale: Medium grayish brown. Faintly laminated. A thin dense brown dolomite layer at 716.1.
716.2	717.3	Oil shale: Dark grayish brown to black, some satiny to resinous luster in middle. Faintly laminated and streaked.
717.3	719.8	Oil shale: Grayish brown to tan and buff. Moderately distinct laminae; common loop structures in some zones.
719.8	722.5	Oil shale: Medium and rare dark grayish brown to some tan and buff. Distinct to faint laminae; some loop structures. Thin light brownish-gray to white silty tuff layers at 720.5 and 721.4; a 1-inch white tuff band at 721.7
722.5	725.7	Oil shale: Medium to some dark grayish brown and some tan. Fairly distinct to faint laminae.
725.7	727.9	Oil shale: Tan and some buff to medium grayish brown. Distinct very fine laminae; common fine loop structures and displacements. Common very fine buff silty streaks and rare fine to thin lenses and stringers.
727.9	729.9	Oil shale: Medium and rare dark grayish brown to some tan and buff. Faint to distinct very fine crinkly to finely contorted laminae and streaks.
729.9	731.8	Oil shale: Buff to grayish brown. Distinct to faint very fine crinkly to finely contorted laminae and streaks. Some thin pinched out gray tuff stringers in lower part.
731.8	732.8	Oil shale: Dark grayish brown. Very faint very fine laminae; finely contorted in middle.
732.8	735.9	Oil shale: Medium and some dark grayish brown to tan and buff. Distinct to very faint laminae and streaks; intricately contorted in upper 0.4 foot.
735.9	736.9	Oil shale: Medium and rare dark grayish brown. Faint very fine laminae and streaks. Common thin tan to light gray silty-crystalline stringers at 736.0-736.1.

<sup>1/</sup> By L. G. Trudell, completed July 16, 1970

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Laramie Energy Research Center, Laramie, Wyoming

August 26, 1970

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
736.9	739.0	Oil shale: Medium to dark grayish brown. Very faint, very fine laminae and streaked bedding; contorted near top. Irregular core pieces and rubble; grab sampled.
739.0	740.0	Oil shale: Tan to medium and rare dark grayish brown. Faint very fine laminae and finely distorted streaks. Becoming interbedded with slightly brownish gray siltstone stringers in lower part. Irregular core pieces.
740.0	742.0	Siltstone: Gray buff. Very faint distorted bedding to massive.
742.0	743.3	Mudstone: Brownish gray. Massive; hard and tight. Some interfingering siltstone in upper part.
743.3	744.7	Oil shale: Medium to some dark grayish brown. Faint streaked bedding and very fine laminae; contorted near top and bottom. A 0.2-foot band of hard tight massive mudstone at 743.8
744.7	751.0	Siltstone and some mudstone: Light slightly brownish gray to gray buff. Faint irregular bedding. Some fine oil-shale shreds in upper half.
751.0	751.9	Mudstone: Light brownish gray. Very faint smooth bedding.
751.9	752.9	Oil shale: Light to medium brownish gray. Faint very fine laminae and streaks; rare fine horizontal folds. Common fine buff earthy specks. A woody plant fragment near top.
752.9	754.9	Oil shale: Medium to light brownish gray. Faint very fine laminae and streaked bedding; some fine displacements and loop structures. Some fine buff earthy specks. Irregular core pieces with some thin interfingering light brownish-gray mudstone stringers in lower part.
754.9	755.7	Mudstone: Buff. Faint irregular bedding.
755.7	756.5	Marlstone: Buff to light and some medium brownish gray. Fairly distinct very fine intricately contorted laminae.
756.5	772.3	Mudstone and siltstone: Buff. Massive with some very faint irregular to contorted bedding. Some carbonaceous specks from 760 to 763. Some broken core.
765	769	Missing.
772.3	774.2	Oil shale: Medium to some dark brownish gray and grayish brown, some tan to buff in middle. Faint to rare moderately distinct very fine laminae. Common thin light brownish-gray silty tuff stringers at 773.0-773.3.
774.2	775.0	Missing.
775.0	778.3	Oil shale: Medium to some dark brownish gray and some buff. Faint to distinct very fine laminae and streaks; common fine loop structures, irregular distortions, and displacements. Rare thin gray silty stringers.
778.3	782.0	Marlstone and mudstone: Brownish gray to buff. Distinct to faint finely contorted streaks, stringers, and broken laminae.

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From	To	Description
782.0	785.0	Marlstone and mudstone: As above becoming interfingered with thick light gray to gray-buff siltstone stringers.
785.0	790.0	Mudstone and siltstone: Gray buff to light and some medium slightly brownish gray. Faint irregular bedding with some contorted marlstone stringers in upper part to moderately distinct slightly irregular banding in lower part.
790.0	796.0	Siltstone and mudstone: Very light to some medium gray. Faintly banded to massive. Broken core in upper 2 feet.
796.0	803.0	Siltstone and mudstone: Very light gray and buff to light brownish gray. Massive in upper and lower parts; contorted bedding in middle.
803.0	810.0	Mudstone: Buff to some light brownish gray. Faint distorted and displaced laminae and streaked bedding to some thick zones with very faint irregular bedding. Some broken core in lower part.
810.0	812.0	Oil shale: Medium to dark brownish gray. Two unlabeled plastic bags containing rubble and irregular core pieces.
812.0	813.6	Siltstone: Gray buff to light and some medium brownish gray. Faintly banded.
813.6	819.3	Siltstone, mudstone, and marlstone: Buff to light and rare medium brownish gray. Faint distorted and displaced streaks and stringers in upper part to very fine laminae with common loop structures and displacements in lower part. Some thick contorted siltstone stringers and massive bands. Very irregular interfingering contact with dark oil shale below.
819.3	825.4	Oil shale: Medium to dark brownish gray. Faint very fine laminae to very faint streaked bedding; common fine to thin loop structures, displacements, and irregular distortions. Interfingering with thin irregular medium to light brownish-gray mudstone stringers in upper and lower parts.
825.4	847.8	Siltstone and mudstone: Gray buff to nearly white, some light to medium brownish gray in upper part. Faint very distorted to regular banding and some thick massive zones. Some broken core.
847.8	849.2	Oil shale: Very dark brownish gray to medium grayish brown and some tan. Very faintly bedded to distinctly laminated. Gray-buff siltstone with abundant oil-shale shreds and broken stringers in upper and lower 0.3 foot.
849.2	849.9	Siltstone: Gray buff to light brownish gray. Massive; some very fine dark oil-shale shreds.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
849.9	850.7	Oil shale: Dark to medium brownish gray and some grayish brown to tan. Moderately distinct to faint very fine laminae; common fine loop structures. A 1-inch band of gray siltstone at 850.3 and a 1/2-inch band at 850.4 with a thick band of faintly bedded dense grayish-brown dolomite between. Regular conformable contact with siltstone above and irregular unconformable contact below.
850.7	851.4	Siltstone: Like 849.2-849.9.
851.4	852.3	Oil shale: Dark and some medium brownish gray. Moderately distinct to very faint laminae; common fine loop structures. A 2-inch band of gray-buff siltstone at 851.9. Regular conformable contacts with siltstone above and below.
852.3	856.8	Siltstone and mudstone: Gray buff to light brownish gray. Massive; fairly common fine to thin shreds of buff to dark brownish-gray marlstone and oil shale. A thick zone of dark to medium brownish-gray oil shale at 853.6-853.9.
856.8	859.2	Oil shale: Medium to dark brownish gray. Moderately distinct to faint laminae; common fine loop structures. A 1-1/2-inch band of light brownish-gray siltstone at 857.4 and a 3-inch gray-buff band at 858.0.
859.2	861.5	Oil shale: Medium and some dark brownish gray. Faintly laminated; common fine to small loop structure. Common fine to thin light brownish-gray mudstone streaks in upper half foot.
861.5	864.5	Oil shale: Medium to very dark brownish gray. Faintly laminated; some fine to thin loop structures in upper part. Rare fine tan to buff tuff layers.
864.5	866.5	Oil shale: Medium to dark brownish gray. Faintly laminated; some fine loop structures. Some fine tuff layers and streaks.
866.5	870.3	Oil shale: Medium and some dark brownish gray, some light brownish gray in lower half foot. Faintly laminated. Some fine white to grayish-brown dense crystalline streaks and layers in upper part.
870.3	871.5	Oil shale: Medium to very dark brownish gray. Faintly laminated.
871.5	873.8	Oil shale: Medium to some dark brownish gray. Faintly laminated. Rare fine white to grayish-brown, dense to silty layers and streaks.
873.8	874.8	Oil shale: Grayish brown to tan and some buff. Faint to some distinct laminae; common fine to 1/2-inch displacements.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
874.8	875.9	Oil shale: Black to very dark brownish gray; most has satiny to resinous luster. Very faintly laminated. A 0.1-foot light to medium brownish-gray tuff stringer at 875.0 and a 0.2-foot gray-buff tuff stringer at base; some fine to thin tuff stringers and streaks, elsewhere.
875.9	876.9	Oil shale: Black to medium brownish gray; some satiny luster near top. Very faint to moderately distinct laminae; common fine loop structures.
876.9	878.0	Oil shale: Dark brownish gray to black, medium brownish gray at 877.0-877.2; some satiny to resinous luster. Faintly laminated; some thin horizontal folds. Thinly interfingered contact with siltstone below.
878.0	879.0	Siltstone, mudstone, and oil shale: Light brownish-gray to gray-buff siltstone and mudstone; buff to dark brownish-gray oil shale. Massive to faintly bedded siltstone and mudstone; oil shale with distinct contorted and broken to fairly regular laminae at 878.1-878.4.
879.0	881.0	Oil shale: Dark to medium brownish gray and grayish brown. Faint to moderately distinct laminae; contorted in lower part.
881.0	882.5	Missing.
882.5	884.0	Oil shale: Dark to medium brownish gray and some tan to buff. Faint to distinct laminae; contorted near top. Irregular interfingered gray-buff siltstone stringers at 882.7 and 883.5.
884.0	884.7	Siltstone: Light gray to gray buff. Faintly bedded to massive.
884.7	885.1	Oil shale: Buff and tan to medium and rare dark brownish gray. Distinctly laminated; common fine displacements, loop structures, and irregular distortions. Interfingered contact at top and very distorted contact at base.
885.1	886.1	Siltstone and mudstone: Gray buff to brownish gray. Contorted bedding. Some thick shredded stringers and inclusions of oil shale as above.
886.1	887.1	Mudstone: Gray buff. Very faint contorted bedding. Some thin shredded oil-shale stringers. Slightly irregular conformable contact with oil shale below.
887.1	888.3	Oil shale: Very dark to medium brownish gray; rare satiny luster near top. Faint laminae and streaked bedding; some loop structures and irregular distortions.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
888.3	890.4	Oil Shale: Medium and dark brownish gray. Faintly laminated; some contorted zones in lower part.
890.4	891.4	Oil shale: Medium and some dark grayish brown. Faintly laminated; contorted near top.
891.4	892.1	Oil shale: Grayish brown to some tan and buff. Faint to distinct laminae; some fine loop structures, displacements, and distortions. Thin light gray siltstone bands at 892.4 and 892.5.
892.1	892.4	Siltstone: Light gray. Massive to faintly banded and laminated.
892.4	896.0	Oil shale: Medium to some dark grayish brown. Faintly laminated to very faintly streaked. Common very fine dense gray-buff streaks in middle part.
896.0	898.0	Oil shale: Dark to medium brownish gray. Faintly laminated; some fine loop structures. Rare fine dense brown crystalline layers.
898.0	900.0	Oil shale: Medium and some dark brownish gray and grayish brown. Very faintly laminated. Rare fine dense brown to gray crystalline layers and streaks.
900.0	901.0	Oil shale: Medium to some dark grayish brown. Faintly laminated and streaked; some thin distorted zones. Rare fine light gray to buff dense crystalline pyritic layers and streaks.
901.0	904.0	Oil shale: Medium and some dark brownish gray and grayish brown. Faintly streaked to laminated. A 0.2-foot dense grayish-brown dolomite stringer at 902.2
904.0	906.7	Oil shale: Grayish brown to brown. Faintly streaked and laminated. Fractured core with chalky coatings at 904.7-905.1. Abundant plant trash on parting surfaces at 905.9.
906.7	907.7	Oil shale: Grayish brown and brown to tan. Faint to moderately distinct laminae; common fine displacements.
907.7	908.9	Oil shale: Very dark to some medium and light brownish gray; some satiny luster. Very faint streaked bedding; some moderately distinct laminae near base.
908.9	910.4	Oil shale: Very dark to some medium brownish gray. Faint streaked bedding. Some thin brown tuff stringers in lower 0.4 foot.
910.4	911.4	Mudstone (tuff): Medium brown to some tan and buff. Faint to fairly distinct distorted streaked bedding.
911.4	913.3	Oil shale: Medium to light brownish gray and some grayish brown to tan and buff. Faint to moderately distinct streaked bedding and some very fine laminae. Some fine

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
		to thin light gray to gray-buff silty streaks and stringers.
913.3	914.4	Mudstone (tuff): Medium brown. Massive; abundant very fine buff streaks and some thin shredded inclusions.
914.4	915.2	Marlstone: Buff to some medium brownish gray. Faint very fine contorted and displaced laminae.
915.2	919.1	Mudstone (tuff): Medium brown to tan and some light gray to gray buff. Massive with some fine to very thick contorted light gray to gray-buff streaks and stringers; some fine to thick shredded streaks and inclusions of medium to dark brownish-gray oil shale. Slightly irregular conformable contact with oil shale below.
919.1	921.0	Oil shale: Medium brownish gray in upper part to dark in lower part. Very faint very fine laminae and streaked bedding. A thin dense tan stringer at 919.4. Some vertical to diagonal fractures with slight chalky coatings from 919.4 to 919.8.
921.0	922.0	Oil shale: Dark brownish gray. Faintly laminated. Some broken core.
922.0	925.0	Missing.
925.0	929.8	Oil shale: Medium and some dark brownish gray in upper part to medium grayish brown in lower part. Faint laminae and streaked bedding in upper part to nearly massive in lower part. Rare short fracture surfaces with blue-gray coatings.
929.8	930.8	Oil shale: Black to dark brownish gray; common satiny luster. Very faint laminae and streaked bedding; rare fine to 1/2-inch loop structures.
930.8	931.8	Oil shale: Very dark to rare medium brownish gray; some satiny luster. Very faint laminae and streaked bedding.
931.8	934.3	Oil shale: Dark to medium brownish gray, some grayish brown in lower part. Faint laminae and streaked bedding.
934.3	935.1	Oil shale: Grayish brown to tan. Faintly laminated. Riddled with very fine irregular fractures with dark silty-textured pyritic fillings and some fine milky granular crystalline patches; some irregular masses of tight mosaic breccia.
935.1	936.1	Oil shale: Medium to some dark grayish brown and brownish gray. Faint streaked bedding. A 3/4-inch light brownish-gray to gray mudstone stringer at 935.2.
936.1	938.1	Oil shale: Medium to dark brownish gray. Very faint laminae and streaked bedding.
938.1	939.4	Oil shale: Medium and rare dark grayish brown. Very faint laminae and streaked bedding. A 1-inch dense

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
		brown dolomite lens at 938.6; rare thin streaks elsewhere.
939.4	940.5	Oil shale: Dark to medium brownish gray. Faintly laminated. Common fine chalky white blebs and fine crystal cavities filled with vitreous black organic material in lower 0.1 foot.
		Sample of oil shale with chalky white blebs and organic crystal-cavity fillings from 940.4 feet; X-ray - quartz, dolomite, analcite, calcite, feldspar.
940.5	942.5	Oil shale: Medium to dark grayish brown and some black. Very faint laminae and streaked bedding. Some vertical fractures with varnish-like coatings.
942.5	943.7	Oil shale: Black to dark and some medium brownish gray. Very faint streaked bedding and some laminae.
943.7	944.7	Oil shale: Very dark to medium brownish gray. Faintly laminated.
944.7	947.3	Oil shale: Medium brownish gray. Faint laminae and streaked beddings.
947.3	948.4	Oil shale: Dark brownish gray and some black; some satiny luster. Faint streaked bedding and very fine laminae. Some fine medium brownish-gray streaks and stringers near top and bottom.
948.4	949.9	Oil shale: Medium brownish gray. Faint streaked bedding and very fine laminae.
949.9	950.9	Oil shale: Medium to very dark brownish gray; some satiny luster. Faintly laminated; common fine to 1/4-inch loop structures in lower part.
950.9	951.9	Oil shale: Very dark brownish gray; common satiny to some resinous luster. Very faintly laminated; some small overturned folds in upper part.
951.9	952.9	Oil shale: Black to very dark brownish gray; very resinous luster in upper 0.4 foot to common satiny luster in lower part. Slightly irregular conformable contact with tuff below.
952.9	953.9	Mudstone (tuff): Medium brown, light brownish gray to gray buff in lower 2 inches. Massive; rare fine to thin oil-shale streaks. Finely interfingering contact with oil shale below.
953.9	955.1	Oil shale: Very dark to some medium brownish gray; some satiny luster near top. Faint laminae and streaked bedding. Irregular vuggy surface at base.
955.1	955.4	Missing.
955.4	956.4	Oil shale: Dark to some medium brownish gray. Faint laminae and streaked bedding; inclined about 30 to 40

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
956.4	958.8	degrees in upper part. A thin zone of common fine brownish-gray to buff crystalline streaks at 955.8. Oil shale: Medium to some dark grayish brown and brownish gray. Moderately distinct to faint laminae. A large platy breccia mass with common fine cavities and very fine drusy crystals near top. Common fine irregular discontinuous fractures with white to buff fillings at 956.6-956.9 and 957.9-958.0.
958.8	960.5	Oil shale: Dark to medium grayish brown. Faint to fairly distinct laminae.
960.5	961.7	Oil shale: Broken core as above. Length uncertain; grab sampled.
961.7	963.1	Oil shale: Medium to very dark grayish brown. Faint very fine laminae and streaked bedding. Some high angle fractures with slight chalky coatings.
963.1	964.0	Oil shale: Broken core as above. Length doubtful.
964.0	965.0	Oil shale: Dark to rare medium grayish brown. Faintly streaked and laminated. Common high angle fractures with slight blue-gray coatings.
965.0	966.0	Oil shale: Medium to dark grayish brown. Broken core; length doubtful.
966.0	967.0	Oil shale: Dark to some medium grayish brown. Faintly laminated and streaked. Some oily stains on outside of core near top.
967.0	968.0	Oil shale: Medium to dark brownish gray. Very faint streaked bedding. Common thin to thick brown silty to fine sandy-textured tuff stringers in lower half.
968.0	971.0	Oil shale: Dark to medium brownish gray. Faintly laminated and streaked. Grayish-brown tuff at 969.7-970.3 interfingered and streaked with oil shale in upper half; occasional thin to fine grayish-brown to tan tuffs elsewhere.
971.0	972.0	Oil shale: Very dark to medium grayish brown. Very faint laminae to moderately distinct distorted streaked bedding. Some fine streaks to thick very irregular interfingered stringers of grayish-brown to tan tuff.
972.0	973.0	Oil shale: Medium to rare dark grayish brown. Faint to moderately distinct streaks and laminae. Common very fine buff to white, silty to earthy streaks.
973.0	974.0	Oil shale: Medium to dark grayish brown and rare black. Faintly laminated and streaked. Common fine dense brown streaks in upper half.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
974.0	974.7	Oil shale: Dark brownish gray to some black; some satiny luster. Very faintly laminated; a thin truncated horizontal fold near top. Few fine tuff stringers in middle.
974.7	975.4	Oil shale: Very dark brownish gray to some black; common satiny luster. Very faintly laminated; rare fine loop structures and folds.
975.4	976.1	Oil shale: Very dark to some medium brownish gray. Faintly laminated and streaked. Some fine brown tuff stringers and streaks. A thick injected stringer of light brownish-gray tuff at base; irregular interfingered and hackly to sharply broken contact with oil shale.
976.1	977.6	Oil shale and tuff: Very dark to some medium brownish-gray oil shales with thin to fine brown tuff streaks and stringers. Thick tuff stringers with shredded oil-shale stringers and inclusions at 976.8-977.0 and 977.3-977.6.
977.6	983.2	Tuff: Dark brown in upper part to medium brown and some tan in lower part. Faint contorted bedding to massive. Some thin to thick shredded oil-shale streaks and inclusions in upper half.
983.2	984.2	Oil shale: Very dark to some medium brownish gray; some resinous luster near top. Faintly streaked and laminated. Finely interfingered tuff and oil shale with common bitumen-impregnated porous patches from 983.5 to 983.9.
984.2	986.5	Tuff: Brown to light brownish gray. Common oil-shale shreds. Common tar-impregnated porous patches at 985.3-985.6.
986.5	990.3	Tuff: Brown to tan. Massive; some fine oil-shale shreds.
990.3	990.5	Missing.
990.5	993.0	Tuff: Tan to buff. Massive; rare very fine oil-shale shreds.
993.0	993.6	Missing.
993.6	996.5	Oil shale: Medium to dark brownish gray. Faintly laminated. Common high angle fractures with slight blue-gray coatings.
996.5	997.9	Missing.
997.9	1000.0	Oil shale: As above. Broken core; length doubtful.
1000.0	1000.5	Oil shale: Medium to light brownish gray. Faintly laminated.
1000.5	1002.0	Oil shale: Dark to some medium brownish gray. Faint streaked bedding to some moderately distinct laminae.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1002.0	1007.0	Oil shale: Medium to dark brownish gray. Faint laminae and streaked bedding. Some high angle fractures in upper part. Some thin to 1-inch tan to brownish-gray tuff stringers and bands in lower part.
1007.0	1013.3	Oil shale: Dark to medium brownish gray and grayish brown. Faint laminae to very faint streaked bedding. Rare thin to fine tuff stringers. Some high angle fractures in middle part.
1010.5	1010.9	Missing.
1013.3	1015.5	Oil shale: Dark to medium grayish brown, some tan in lower part. Faint laminae and streaked bedding. Several 1- to 2-inch buff tuff stringers in lower part.
1015.5	1019.0	Oil shale: Medium to some dark brownish gray. Faint laminae and streaked bedding. Rare fractures with slight blue-gray coatings. Rare fine tuff stringer and streaks.
1019.0	1021.4	Oil shale: Dark brownish gray. Very faintly laminated. Rare fine to thin tuff layers.
1021.4	1022.1	Tuff: Tan and buff to medium grayish brown. Abundant thin to fine oil-shale stringers and shreds as below.
1022.1	1024.1	Oil shale: Dark to medium brownish gray and grayish brown. Faint streaked bedding. Some fine to 1-inch tuff stringers and streaks.
1024.1	1025.5	Oil shale: Medium to dark brownish gray. Faintly streaked and laminated. Some irregular vuggy and fractured core pieces. A 2-inch piece of buff siltstone in middle.
1025.5	1025.8	Missing.
1025.8	1029.0	Oil shale: As above. Irregular fractured core pieces.
1029.0	1030.5	Missing.
1030.5	1033.3	Oil shale: Dark and some medium brownish gray. Faintly laminated and streaked.
1033.3	1034.5	Missing.
1034.5	1038.0	Oil shale: Dark to medium brownish gray. Faint streaked bedding. Some very fine high angle calcite-filled fractures in lower part.
1038.0	1039.5	Oil shale: Dark to medium grayish brown. Faint streaked bedding. Some high angle fractures. Some fine to thin dense calcite streaks in lower part.
1039.5	1040.0	Missing.
1040.0	1042.0	Oil shale: As above and below. Broken core in unlabeled plastic bags. Length uncertain.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1042.0	1042.9	Missing.
1042.9	1047.0	Oil shale: Medium to dark brownish gray and some grayish brown to tan. Faint streaked bedding to some moderately distinct laminae. Some irregular fractured and double-cut core pieces. Lengths and continuity doubtful.
1047.0	1047.8	Missing.
1047.8	1048.8	Oil shale: Dark to some medium brownish gray. Faint streaked bedding.
1048.8	1050.9	Oil shale: Medium and rare dark grayish brown to tan. Moderately distinct to very faint laminae. Some fine to thin tuff streaks and stringers. Rare fractures with slight chalky coatings.
1050.9	1052.5	Oil shale: Dark medium grayish brown. Very faint streaked bedding. Very fractured and broken core in lower part; length uncertain.
1052.5	1056.6	Oil shale: Medium to dark brownish gray. Faintly laminated and streaked.
1056.6	1057.0	Oil shale: Medium grayish brown. Faint streaked bedding. Some high angle fractures with slight chalky coatings.
1057.0	1059.5	Oil shale: As above and below. Broken core lengths uncertain.
1058.0	1058.7	Missing.
1059.5	1063.0	Missing.
1063.0	1064.0	Oil shale: Dark brownish gray. Very faint streaked bedding. Irregular double-cut core pieces.
1064.0	1065.7	Missing.
1065.7	1067.0	Oil shale: Dark to some medium brownish gray. Faintly laminated. Some calcite-filled diagonal fractures.
1067.0	1070.3	Oil shale: Dark to medium brownish gray. Faint streaked bedding.
1070.3	1070.6	Missing.
1070.6	1072.6	Oil shale: Medium to some dark brownish gray. Faint very fine laminae. Some calcite-filled fractures in upper part.
1072.6	1074.8	Oil shale: Medium to dark brownish gray. Faint laminae to very faint streaked bedding. Some fine to thin tuff streaks. Some irregular fractured core pieces.
1074.8	1076.5	Missing.
1076.5	1081.0	Oil shale: Dark to medium brownish gray. Very faint streaked bedding. Fairly common fine to thin grayish-brown fine-grained crystalline streaks and blebs. Some fractures in upper foot.
1081.0	1092.0	Oil shale: Dark brownish gray. Very faint streaked bedding. Some fine-grained grayish-brown streaks in upper part.

Illustration No. SBR-4256P (Sheet 12 of 34)

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1092.0	1103.8	Missing.
1103.8	1109.0	Oil shale: Medium to dark grayish brown. Very faint streaked bedding. Some irregular fractured core pieces in upper part; irregular vuggy parting surface with box-works at 1106.2.
1109.0	1111.4	Oil shale: Medium to dark grayish brown. Faintly laminated. Fractured core in lower part.
1111.4	1112.0	Missing.
1112.0	1114.2	Oil shale: Medium to rare dark grayish brown. Faintly laminated. Some fractured core.
1114.2	1114.6	Missing.
1114.6	1115.6	Oil shale: Medium to some dark grayish brown. Faintly laminated. Some slightly chalky diagonal fractures.
1115.6	1116.6	Oil shale: Medium grayish brown and brown. Faintly laminated. Common fine light brownish-gray to buff tuff streaks and stringers. Fractured core in lower part.
1116.6	1117.2	Missing.
1117.2	1120.7	Oil shale: Medium to very dark grayish brown. Very faintly streaked to faintly laminated. A high angle fracture with very slight chalky coatings in upper 0.6 foot.
1120.7	1122.8	Missing.
1122.8	1124.0	Oil shale: Dark to medium brownish gray. Faint streaked bedding. Vuggy shale with chalky white fillings at 1123.5-1123.7.
1124.0	1130.0	Oil shale: Medium to some dark brownish gray. Faintly laminated to very faintly streaked. Some fractures with slight chalky coatings.
1130.0	1132.0	Oil shale: Medium to very dark brownish gray. Faintly laminated and streaked. Some irregular fractured core pieces.
1132.0	1132.6	Missing.
1132.6	1136.0	Oil shale: Very dark to medium brownish gray and grayish brown. Faint laminae and streaked bedding. Some irregular fractured core pieces in lower part.
1136.0	1137.5	Oil shale: Medium to rare dark grayish brown. Very faint streaked bedding. Porous collapse breccia with drusy crystals at 1136.6-1137.0.
1137.5	1137.8	Missing.
1137.8	1143.2	Oil shale: Very dark to medium brownish gray and grayish brown. Very faintly streaked to faintly laminated. Some irregular fractured core pieces.
1143.2	1145.4	Oil shale: Medium to some light and dark brownish gray. Moderately distinct to faint very fine laminae; common fine loop structures and displacements.

Illustration No. SBR-4256P (Sheet 13 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1145.4	1146.4	Oil shale: Medium to dark brownish gray. Faint streaked bedding to rare moderately distinct laminae. High angle fracture with slight chalky coatings at 1145.5-1145.8.
1146.4	1147.4	Oil shale: Dark to some medium brownish gray. Faint streaked bedding. Irregular high angle fracture in upper part.
1147.4	1148.9	Oil shale: As above. Fractured and broken core. A piece of porous shale with milky dolomite (?) blebs at 1148.5.
1148.9	1150.0	Oil shale: Dark to medium brownish gray. Faintly laminated and streaked. Some high angle fractures.
1150.0	1151.0	Oil shale: Medium to dark grayish brown. Moderately distinct laminae to faint streaked bedding.
1151.0	1152.0	Oil shale: Dark brownish gray. Broken core in plastic bag.
1152.0	1153.0	Oil shale: As above. Rubble in plastic bag.
1153.0	1153.5	Oil shale: Dark to medium brownish gray. Faintly streaked and laminated.
1153.5	1157.0	Oil shale: As above. Broken core and rubble in plastic bags.

TOP A-GROOVE

1157.0	1159.9	Oil shale: Medium and rare dark brownish gray to some tan and buff. Faint to distinct laminae; common fine loop structures. Common thin shaly parting and hackly fracture. Some fractures with slight chalky coatings in lower part.
1159.9	1160.4	Missing?
1160.4	1161.0	Oil shale: As above.
1161.0	1164.0	Marlstone: Buff and tan to some grayish brown. Moderately distinct to faint very fine laminae; common fine loop structures and displacements. Regular thick to rare thin parting. Unlabeled plastic bag of rubble at base.

BOTTOM A-GROOVE

Two feet of unlabeled core. Oil shale: Medium to dark brownish gray, some tan and rare buff in upper part. Moderately distinct to faint laminae. Some tight high angle fractures. Rubble in plastic bag labeled 1164 at base.

Illustration No. SBR-4256P (Sheet 14 of 34)

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1164.0	1174.0	Oil shale: Dark to some medium brownish gray. Faint streaked bedding; contorted at 1167.7. Some irregular fractured core pieces in upper part. Some broken core and irregular limonite-stained parting surfaces in lower part; a thin zone of limonite-stained collapse breccia at 1173.6
1174.0	1177.0	Oil shale: Medium to rare light and dark brownish gray. Faint to some moderately distinct laminae; some fine to thin loop structures.
1177.0	1178.3	Oil shale: Medium and rare dark brownish gray to tan and rare buff. Fairly distinct to faint laminae; some fine loop structures and displacements. Some fine to thin, buff to gray tuff lenses, stringers, and bands.
1178.3	1179.3	Oil shale: Medium to dark brownish gray. Faint to moderately distinct laminae. Some thin tuff streaks and stringers; a 0.1-foot buff to brownish-gray stringer at base.
1179.3	1181.6	Oil shale: Dark to some medium brownish gray; some satiny luster. Moderately distinct to very faint laminae with common fine to small loop structures; contorted in upper 0.4 foot. Some fine to thin tuff stringers and streaks; faintly bedded to massive, grayish-brown to buff tuff at 1180.6-1180.9.
1181.6	1184.8	Oil shale: Medium to dark brownish gray. Faint laminae and streaked bedding. Some high angle fractures with calcite in lower part.
1184.8	1186.2	Oil shale: Dark brownish gray to black; common satiny to resinous luster. Very faint laminae and streaked bedding. Some thin buff to gray tuff stringers in lower part.
1186.2	1187.2	Oil shale: Dark brownish gray. Very faint streaked bedding.
1187.2	1192.0	Oil shale: Medium brownish gray. Very faint streaked bedding and some laminae. A very thin vermiform buff dolomite stringer at 1187.6-1188.2.
1192.0	1195.0	Missing.
1195.0	1200.7	Oil shale: Medium brownish gray. Faint streaked bedding and some laminae. Some broken core and rare small irregular vugs in upper part.
1199.0	1199.8	Missing.
1200.7	1201.2	MAHOGANY MARKER. Tuff: Gray buff to buff and some tan to rare brown. Faint contorted bedding to massive. Rare fine oil-shale stringers near top.

Illustration No. SBR-4256P (Sheet 15 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1201.2	1205.6	Oil shale: Brownish gray. Very faint laminae and streaked bedding. Some high angle fractures with chalky coatings.
1205.6	1206.8	Oil shale: Very dark to some medium brownish gray; some satiny to rare resinous luster. Faintly laminated; some thin loop structures.
1206.8	1208.1	Oil shale: Dark to medium grayish brown. Faintly laminated.
1208.1	1209.5	Oil shale: Medium and rare dark grayish brown. Faintly laminated; some fine loop structure.
1209.5	1211.0	Oil shale: Very dark to medium grayish brown; rare satiny luster. Faint laminae and streaked bedding. Thin to 1-1/2-inch pinch-and-swell brown to tan tuff stringers at 1210.7 and 1210.8 (few small spots of tarry oil bleeding from upper tuff).
1211.0	1213.1	Oil shale: Very dark to rare medium brownish gray; common satiny luster. Very faint streaked bedding to faint laminae. Some dark grayish-brown tuff streaks and lenses in upper part.
1213.1	1213.7	Oil shale: Dark brownish gray to tan and buff. Faint to distinct laminae. Irregular vertical slightly chalky fracture in lower 3 inches.
1213.7	1215.4	Oil shale: Dark to some medium brownish gray; common satiny to resinous luster. Faint streaked bedding. Common irregular hackly fracture.
1215.4	1216.4	Oil shale: Dark to medium brownish gray; common satiny to some resinous luster. Faintly laminated.
1216.4	1218.7	MAHOGANY BED. Oil shale: Very dark to some medium brownish gray and some grayish brown to tan; very common resinous to waxy luster. Faintly laminated with some thin distinct grayish-brown to tan layers; common fine to 3/4-inch loop structures. Some fine gray-buff silty stringers and streaks at 1216.9-1217.0.
1218.7	1220.0	Oil shale: Dark to rare medium brownish gray; common satiny to resinous luster. Faintly laminated; some fine to 1/2-inch loop structures.
1220.0	1221.0	Oil shale: Dark brownish gray; some satiny to resinous luster. Very faint smooth to distorted and displaced laminae and streaked bedding. Some irregular tight intersecting bitumen-filled fractures in middle part.
1221.0	1224.0	Oil shale: Very dark to some medium brownish gray and grayish brown; some satiny luster. Faint laminae and streaked bedding. A thin brownish-gray silty to blebby tuff at 1223.2.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1224.0	1227.0	Oil shale: Dark to some medium brownish gray and grayish brown. Faintly laminated.
1227.0	1228.0	Oil shale: Dark to medium grayish brown. Faintly laminated; some fine to thin loop structures.
1228.0	1230.0	Oil shale: Very dark to medium brownish gray. Faint laminae and streaked bedding. Some high angle fractures with slight chalky coatings.
1230.0	1231.4	Oil shale: Dark brownish gray; some satiny luster. Faint streaked bedding.
1231.4	1234.0	Oil shale: Dark to some medium brownish gray. Faintly laminated in upper part to slightly distorted streaked bedding in lower part. Vertical fracture with slight chalky coatings through most of interval.
1234.0	1237.6	Oil shale: Dark to medium brownish gray and grayish brown. Faint streaked bedding. Some fractured and vuggy core. Plastic bag of broken core in middle.
1237.6	1238.3	Missing.
1238.3	1242.0	Oil shale: Dark to some medium brownish gray and grayish brown; rare satiny to resinous luster. Faint streaked bedding and laminae. Some thin to 1-inch brown tuff stringers and streaks in lower part.
1242.0	1243.1	Oil shale: Dark to medium brownish gray. Faint laminae and streaked bedding.
1243.1	1243.4	Missing?
1243.4	1245.0	Oil shale: Medium to some dark brownish gray. Faint laminae and streaked bedding. Irregular high angle fracture with fine chalky specks from top to 1244.3.
1245.0	1246.0	Oil shale: Medium brownish gray in upper part to very dark in lower part; common satiny to resinous luster in lower part. Faint streaked bedding and some laminae. High angle fracture in lower 0.4 foot.
1246.0	1249.0	Oil shale: Very dark to medium brownish gray; common satiny luster in upper part. Faint streaked bedding. High angle fracture with fine scattered micaceous crystals in upper 0.9 foot.
1249.0	1250.0	Oil shale: Dark to medium brownish gray. Fractured core with chalky coatings.
1250.0	1251.6	Missing.
1251.6	1252.2	Oil shale: Dark brownish gray to buff. Faint to moderately distinct laminae. Fractured core in upper part.
1252.2	1256.0	Oil shale: Dark to medium brownish gray and grayish brown; common fine satiny black streaks. Faint to moderately distinct streaked bedding; distorted in middle part. Vuggy zone with boxworks and chalky porous material at 1253.0-1253.4. Fractured core with slight chalky coatings in lower foot.

Illustration No. SBR-4256P (Sheet 17 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1256.0	1258.0	Oil shale: Medium to dark brownish gray. Faintly laminated. Some high angle fractures.
1258.0	1259.0	Oil shale: Medium to some light and dark brownish gray. Broken core. Rare irregular limonite-stained surfaces. Grab sampled.
1259.0	1261.5	Oil shale: Dark grayish brown. Very faint streaked bedding.
1261.5	1276.5	Missing.
1276.5	1281.5	Oil shale: Medium to dark brownish gray. Broken core in plastic bags; grab sampled.
1281.5	1283.2	Missing.
1283.2	1289.0	Oil shale: Very dark to medium brownish gray. Faintly laminated. Common high angle fractures with chalky coatings and some very fine tight calcite-filled fractures. Some earthy porous zones in lower part. Uneven sample split; core continuity uncertain.
1289.0	1294.5	Missing.
1294.5	1301.3	Oil shale: As above with common fracture; some rubble.
1301.3	1302.9	Oil shale: As above. Rubble in plastic bags; grab sampled.
1302.9	1303.5	Oil shale: Very dark to some medium grayish brown; common satiny to resinous luster. Very faint laminae and streaked bedding. Porous fractured zone with very distorted bedding at top.
1303.5	1304.0	Oil shale: Dark to some medium grayish brown. Faintly laminated.
1304.0	1307.6	Missing.
1307.6	1308.8	Oil shale: Dark to some medium grayish brown. Faint laminae and streaked bedding.
1308.8	1309.8	Oil shale: Medium brownish gray. Very faint streaked bedding. Common very fine intersecting calcite-filled fractures. Some small vugs and breccia masses in lower part.
1309.8	1311.0	Oil shale: Medium to dark brownish gray. Faint streaked bedding. Fractured and broken core. Some fine cavities and small boxwork masses. Uneven sample split.
1311.0	1313.0	Oil shale: As above. Rubble; grab sampled.
1313.0	1313.6	Oil shale: Medium to dark grayish brown; rare satiny luster. Faintly laminated.
1313.6	1315.6	Missing.
1315.6	1317.0	Oil shale: Medium to very dark brownish gray; some satiny to resinous streaks. Faint to distinct, fairly smooth to contorted laminae and streaked bedding. Common thin to rare thick grayish-brown silty tuff layers, stringers, and streaks. Uneven sample split.
1317.0	1319.0	Oil shale: As above. Rare tuff streaks and stringers. Some high angle fractures. Uneven sample split.

Illustration No. SBR-4256P (Sheet 18 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1319.0	1321.7	Oil shale: Medium to dark brownish gray. Faint laminae to very faint streaked bedding. Irregular fractured core pieces; uneven sample split.
1321.7	1323.2	Oil shale: Dark to medium brownish gray and grayish brown. Faint streaked bedding. Common very fine tight to open fractures at 1322.0-1322.4.
1323.2	1324.6	Oil shale: As above and below. Rubble and fractured core; grab sampled.
1324.6	1326.0	Oil shale: Medium to dark brownish gray. Faintly laminated. Irregular fractured core pieces; uneven sample split.
1326.0	1332.0	Oil shale: As above. Mostly fractured core and rubble in unlabeled plastic bags. Some porous to earthy zones. Mostly grab samples; lengths and continuity doubtful.
1332.0	1335.1	Missing.
1335.1	1336.0	Oil shale: Medium to some dark brownish gray. Irregular fractured core pieces. Some porous to finely brecciated masses. Uneven sample split.
1336.0	1338.0	Oil shale: As above and below. Broken core and rubble in unlabeled plastic bags. Length doubtful; grab sampled.
1338.0	1339.0	Oil shale: Medium brownish gray. Faint streaked bedding. Abundant fine flat bladed calcite pseudomorphs. Some broken core in lower part.
1339.0	1341.0	Oil shale: Medium to dark brownish gray. Rubble in plastic bags; grab sampled.
1341.0	1349.0	Missing.

TOP B-GROOVE

1349.0	1350.0	Marlstone and oil shale: Buff to rare medium and dark brownish gray. Faintly bedded to massive, earthy. Common very fine collapsed cavities and some calcite pseudomorphs.
1350.0	1354.0	Marlstone: Buff to light brownish gray. Commonly earthy some porous zones. Rubble and irregular core pieces; grab sampled.
1354.0	1358.0	Marlstone: Light brownish gray to buff. Very faint bedding and some very faint very fine laminae. Common very fine dark submetallic flecks in some pieces. Rubble; grab sampled.

BOTTOM B-GROOVE

1358.0	1361.6	Missing.
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Illustration No. SBR-4256P (Sheet 19 of 34)

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1361.6	1362.7	Oil shale: Very dark brownish gray; most has satiny luster. Faint streaked bedding. Some open fractures and small vugs with boxworks in lower part.
1362.7	1364.0	Oil shale: As above. Irregular fractured core pieces and rubble in unlabeled plastic bags; length uncertain; grab sampled.
1364.0	1368.0	Missing.
1368.0	1370.0	Oil shale: Medium to dark brownish gray and grayish brown, some tan. Faint to some distinct laminae. Broken core and discontinuous full-core pieces in unlabeled plastic bags.
1370.0	1372.6	Oil shale: Medium to dark grayish brown. Faint streaked bedding. Fractured and broken core in unlabeled plastic bags; grab sampled. Some pipe dope stains.
1372.6	1373.6	Oil shale: Dark to medium grayish brown; rare satiny to resinous luster. Faint to moderately distinct laminae.
1373.6	1375.0	Oil shale: Medium to some dark grayish brown. Faintly laminated. Some irregular fractures in lower part. Common buff earthy tuff stringers in lower 0.2 foot.
1375.0	1376.0	Oil shale: As above. Rubble in unlabeled plastic bag in upper part. Irregular fractured core pieces in lower 0.6 foot.
1376.0	1377.5	Oil shale: Medium to some dark grayish brown and rare tan. Faint to rare distinct laminae; rare fine loop structures and displacements.
1377.5	1378.5	Oil shale: Medium to dark brownish gray and some tan. Faint to some distinct laminae. Some fractured and broken core in lower part.
1378.5	1380.7	Oil shale: Medium to dark grayish brown. Faint laminae to very faint streaked bedding. Some medium to high angle fractures. Common fine to very small pyrite blebs and streaks in lower part.
1380.7	1383.0	Oil shale: Medium to rare dark grayish brown. Very faint streaked bedding. Rubble and very irregular core pieces with tight to open fractures. Uneven sample split.
1383.0	1387.0	Missing.
1387.0	1388.0	Oil shale: As above.
1388.0	1390.0	Oil shale: Grayish brown to some tan. Faint to moderately distinct laminae. Some irregular high angle fractures.
1390.0	1391.3	Oil shale: As above and below. Irregular fractured core pieces; uneven sample split.
1391.3	1392.8	Oil shale: Dark to medium brownish gray. Faint very fine laminae and streaked bedding. Some high angle fractures in upper part; broken core in lower part.
1392.8	1393.8	Missing.

Illustration No. SBR-4256P (Sheet 20 of 34)

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1393.8	1395.0	Oil shale: Medium to rare dark brownish gray. Faintly laminated. Some high angle fractures.
1395.0	1396.0	Oil shale: As above and below. Rubble in unlabeled plastic bags; grab sampled.
1396.0	1400.0	Oil shale: Medium to some dark brownish gray; some brown streaks. Very faint to moderately distinct streaked bedding and some very fine laminae. Rare thin porous pyritic streaks and small boxworks masses. Some medium to high angle fractures.
1400.0	1401.0	Oil shale: As above. Some irregular fractured core pieces; uneven sample split.
1401.0	1402.0	Oil shale: Medium brownish gray. Some limonite stains. Rubble in unlabeled plastic bag; length doubtful.
1402.0	1403.0	Missing?
1403.0	1406.0	Oil shale: As above and below. Rubble and irregular core pieces in unlabeled plastic bags.
1406.0	1408.6	Oil shale: Medium to dark brownish gray with common brown streaks. Faint to moderately distinct laminae and streaked bedding. Some fractured core and rubble in upper part.
1408.6	1409.9	Missing.
1409.9	1410.9	Oil shale: Medium to dark brownish gray. Faint streaked bedding. Some fractures and broken core.
1410.9	1412.0	Oil shale: Dark to medium brownish gray; some satiny to resinous luster. Faint streaked bedding. Some tight high angle fractures in lower part.
1412.0	1414.0	Oil shale: Medium brownish gray and grayish brown. Faint streaked bedding and very fine laminae. Fractured core and some rubble. Common fine to very small collapsed cavities in upper part.
1414.0	1415.0	Oil shale: As above. Rubble and irregular fractured core pieces; grab sampled.
1415.0	1415.5	Oil shale: Medium to dark grayish brown; some satiny to resinous streaks. Faint streaked bedding.
1415.5	1417.0	Oil shale: As above. Irregular core pieces in plastic bags; uneven sample split.
1417.0	1418.0	Oil shale: Medium to dark grayish brown. Faint streaked bedding and very fine laminae. Some high angle fractures.
1418.0	1418.7	Oil shale: Medium brownish gray. Faint very fine laminae.
1418.7	1419.4	Oil shale: Medium to dark grayish brown. Very faint streaked bedding; some very fine tan laminae near base.
1419.4	1420.8	Missing.
1420.8	1421.7	Oil shale: Medium to some dark grayish brown; rare satiny to resinous streaks. Faint streaked bedding; very fine laminae in lower 0.2 foot.

## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1421.7	1423.7	Oil shale: Very dark to medium brownish gray. Faint laminae and streaked bedding; rare small loop structures. Some high angle fractures in middle part. A 1-inch pinched out grayish brown silty tuff stringer at 1423.1.
1423.7	1425.0	Missing.
1425.0	1426.0	Oil shale: Medium brownish gray. Plastic bag of rubble; length doubtful; grab sampled.
1426.0	1428.0	Oil shale: Very dark brownish gray; some very fine satiny streaks. Faint streaked bedding. Some high angle fractures.
1428.0	1428.6	Oil shale: As above and below. Fractured core pieces and rubble.
1428.6	1434.0	Oil shale: Medium to dark brownish gray and grayish brown. Faint streaked bedding and rare laminae; some thin distorted to contorted zones. Some medium to high angle fractures.
1434.0	1437.6	Oil shale: Medium to some dark grayish brown and brownish gray. Faint laminae and streaked bedding. Vertical fractures in upper part; broken core and rubble in lower part.
1437.6	1439.0	Oil shale: Very dark grayish brown; common satiny and rare resinous luster. Faint streaked bedding and very fine laminae. Irregular vuggy surface at 1438.3.
1439.0	1440.3	Oil shale: Medium to very dark grayish brown. Faint streaked bedding and very fine laminae. Irregular fractured core pieces; uneven sample split.
1440.3	1444.0	Missing.
1444.0	1445.0	Oil shale: Grayish brown and brown to rare tan. Faint laminae to very faint streaked bedding. Rubble and irregular fractured to vuggy core pieces; grab sampled.
1445.0	1445.5	Oil shale: Medium to dark grayish brown. Faint streaked bedding. Porous to slightly earthy.
1445.5	1447.0	Oil shale: Dark grayish brown to black; some satiny luster. Faint streaked bedding and very fine laminae. Some fractured core at top and bottom.
1447.0	1448.0	Oil shale: Medium to some very dark grayish brown; rare fine to thin satiny to waxy layers. Faint to moderately distinct laminae.
1448.0	1449.0	Oil shale: Medium to rare dark grayish brown and brown. Faint very fine laminae to nearly massive.
1449.0	1449.9	Oil shale: Medium to dark grayish brown; rare satiny streaks in middle part. Faintly laminated; common fine to thin loop structures.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1449.9	1451.0	Oil shale: As above and below. Irregular core pieces and rubble in unlabeled plastic bags; grab sampled.
1451.0	1452.0	Oil shale: Medium to dark grayish brown and rare black; some satiny to resinous luster. Faint streaked bedding and very fine laminae. Some high angle to diagonal fractures.
1452.0	1454.0	Missing.
1454.0	1455.0	Marlstone and some oil shale: Buff to medium and rare dark brownish gray. Faint to fairly distinct laminae. Mostly rubble; regular medium to thin parting.
1455.0	1456.0	Oil shale: Medium brownish gray to some buff. Faint to some distinct laminae. Some high angle fractures.
1456.0	1457.0	Oil shale: Brownish gray to tan. Faint streaked bedding and very fine laminae. Common very fine earthy porous streaks. Rubble in unlabeled plastic bag; length doubtful.
1457.0	1459.0	Missing?
1459.0	1459.4	Oil shale: Brownish gray to some tan and rare buff. Faint very fine laminae. Common very fine earthy streaks and some cavities. Common very fine pyrite specks and streaks.
1459.4	1460.0	Oil shale: Medium brownish gray and grayish brown. Faint streaked bedding. Irregular fractured core pieces and rubble in unlabeled plastic bag; grab sampled.
1460.0	1461.0	Missing?
1461.0	1462.0	Oil shale: Medium and rare dark brownish gray. Faint streaked bedding and very fine laminae. Some irregular medium to high angle fractures; uneven sample split.
1462.0	1462.6	Oil shale: As above. Rubble in unlabeled plastic bag; grab sampled.
1462.6	1462.9	Oil shale: Light to medium brownish gray. Faintly bedded. Porous and earthy; fractured to finely brecciated. Abundant very fine pyrite.
1462.9	1464.1	Oil shale: Black to medium grayish brown; common resinous to rare waxy luster. Faint to fairly distinct laminae; common fine loop structures.
1464.1	1465.0	Oil shale: Medium to dark grayish brown and rare black. Moderately distinct to faint laminae; contorted at 1464.7. Some short tight fractures.
1465.0	1466.0	Oil shale: Medium to rare dark grayish brown and brown. Faintly laminated to nearly massive. Fractured core in upper part.
1466.0	1466.5	Oil shale: As above and below. Rubble in unlabeled plastic bag; grab sampled.

Illustration No. SBR-4256P (Sheet 23 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1466.5	1467.5	Oil shale: Medium to dark grayish brown; very rare fine resinous streaks. Faint streaked bedding. Some very thin flat cavities in upper part; few small to 3/4-inch vugs with boxworks in lower part.
1467.5	1469.0	Missing.
1469.0	1470.3	Oil shale: Dark to medium brownish gray and grayish brown. Faint streaked bedding. Shaly to papery parting in lower part. Common very fine earthy porous streaks. Some irregular rounded core <u>pieces</u> in upper part.
1470.3	1471.5	Oil shale: Very dark to rare medium brownish gray. Faint streaked bedding. Abundant fine tan porous earthy specks and streaks. Some small irregular vugs with boxworks in lower part.
1471.5	1472.1	Oil shale: Dark to medium brownish gray and grayish brown. Faint streaked bedding and very fine laminae. Some very fine gray pyritic flecks.
1472.1	1475.0	Oil shale: Medium to some dark grayish brown. Faintly laminated. Some very fine cavities. Some irregular core pieces and rubble in unlabeled plastic bags.
1475.0	1476.0	Oil shale: Dark to medium grayish brown. Faintly laminated. Thick to thin shaly parting.
1476.0	1478.0	Oil shale: Dark to medium brownish gray. Faint laminae and streaked bedding. Some irregular fractured core pieces.
1478.0	1480.6	Missing.
1480.6	1482.0	Oil shale: As above. Some thin zones with abundant very fine chalky white streaks. Mostly irregular core pieces and rubble -- partly in unlabeled plastic bags.
1482.0	1486.0	Oil shale: Medium and rare dark brownish gray. Faint laminae and streaked bedding. Fractured core and rubble below 1483.7.
1486.0	1487.0	Oil shale: Medium to dark brownish gray. Faintly laminated.
1487.0	1488.0	Oil shale: Medium to rare dark brownish gray and grayish brown. Faint streaked bedding. Irregular core pieces; uneven sample split.
1488.0	1495.6	Missing.
1495.6	1499.0	Oil shale: As above. Some irregular high to low angle fractures. Uneven sample split.
1499.0	1500.0	Oil shale: As above and below. Mostly rubble; grab sampled.
1500.0	1501.0	Oil shale: Medium to rare dark brownish gray and tan. Faintly laminated. Some discontinuous high angle fractures.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1501.0	1503.0	Oil shale: Medium to dark brownish gray. Faint laminae and streaked bedding. Mostly rubble and irregular fractured core pieces.
1503.0	1505.0	Oil shale: Medium to dark brownish gray and grayish brown. Faint to some moderately distinct laminae. Fractured core and rubble in lower part.
1505.0	1506.4	Oil shale: Medium grayish brown to some dark brownish gray. Faint to moderately distinct laminae. Irregular fractured core pieces; uneven sample split.
1506.4	1507.5	Missing.
1507.5	1509.0	Oil shale: As above and below. Rubble and irregular fractured core pieces.
1509.0	1510.5	Oil shale: Medium to some dark brownish gray and grayish brown. Faint laminae and streaked bedding. Some fine buff-white chalky specks and streaks. Some fractured core; uneven sample split.
1510.5	1511.5	Oil shale: Medium grayish brown and brown. Faint streaked bedding and some laminae. Fairly abundant very fine buff-white chalky specks. Some irregular to hackly high angle fractures.
1511.5	1514.0	Oil shale: Medium to rare dark grayish brown. Faint streaked bedding to some fairly distinct very fine laminae. Fractured core and rubble; uneven sample split.
1514.0	1515.0	Oil shale: Medium to rare dark grayish brown and brown. Very faintly bedded to faintly laminated. Common fine chalky white specks near top; common thin slightly earthy porous zones in other parts. Common irregular fractures; uneven sample split.
1515.0	1517.0	Oil shale: Medium grayish brown and brown, some brownish gray in lower part. Faint streaked bedding. Common irregular fractures.
1517.0	1518.0	Oil shale: Medium brownish gray and some grayish brown. Faint laminae and streaked bedding.
1518.0	1519.0	Oil shale: Grayish brown to brown and some brownish gray. Faint to some moderately distinct laminae.
1519.0	1519.7	Oil shale: Medium grayish brown. Very faint very fine laminae and streaked bedding. Common very fine dark gray specks. Some tight high angle fractures in upper part. A 1-inch irregular coarse boxworks mass at 1519.3.
1519.7	1521.0	Oil shale: Medium to rare dark brownish gray. Faintly laminated. Some very fine chalky white specks and streaks in lower part.
1521.0	1522.0	Oil shale: Medium to dark brownish gray and grayish

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
		brown; common satiny to resinous luster in dark zones. Faintly laminated in thick gradational lighter and darker zones. A very fine vitreous black organic streak at 1521.2. Some very fine chalky white streaks at 1521.3.
1522.0	1523.0	Oil shale: Medium to rare dark brownish gray and grayish brown; some satiny luster near top. Faintly laminated. Some high angle fractures in lower part.
1523.0	1524.7	Oil shale: Medium to dark grayish brown. Faintly laminated. Fairly common very fine chalky white specks concentrated in thin to 1-inch zones.
1524.7	1525.3	Oil shale: Medium brown (7.5 YR <sup>4</sup> / <sub>3</sub> ). Very faint streaked bedding. Very abundant fine chalky white specks (Common needle and blade shapes).
1525.3	1528.0	Oil shale: Grayish brown and brownish gray to tan and buff. Faint distorted streaked bedding. Abundant fine chalky white specks and some small irregular earthy to silty white patches and streaks. Some irregular fractured core pieces and broken core.
1528.0	1529.0	Oil shale: Medium brownish gray. Very faint very fine laminae and streaked bedding. Common very fine buff-white earthy streaks in upper part and very fine tan pyritic lenses and streaks in lower part.
1529.0	1530.0	Oil shale: Medium to some dark brownish gray and grayish brown. Faintly laminated. Common very fine tan to buff earthy streaks. Some high angle fractures.
1530.0	1533.0	Oil shale: Grayish brown to buff. Faint streaked bedding. Abundant fine to small chalky to earthy specks, streaks, and patches. Broken core in upper part.
1533.0	1535.0	Oil shale: Brown to brownish gray. Faint streaked bedding to faint and some fairly distinct laminae. Common fine to small, white to gray-buff and tan, chalky to earthy specks and streaks; some very fine cavities in upper part. Some discontinuous tight fractures in upper part.
1535.0	1537.3	Oil shale: Brownish gray, some slight olive tint. Faint streaked bedding. Some fractured core. Some very fine white specks and streaks in lower part.
1537.3	1538.2	Oil shale: Buff to grayish brown. Faint streaked bedding; distorted in middle. Common tight vertical to diagonal fractures. Earthy leached oil shale at 1537.4-1537.7.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1538.2	1540.6	Oil shale: Medium to some dark brownish gray. Faint streaked bedding to massive. Common very fine buff to tan earthy streaks.
1540.6	1541.3	Oil shale: Brown to buff. Very faint streaked bedding. Some very fine buff earthy streaks. A 2-inch orange-brown to buff, earthy to silty tuff (?) stringer at 1540.9. Broken core in lower part. Sample of tuff (?) from 1540.9 feet: X-ray - Na and K feldspars, pyrite.
1541.3	1542.8	Missing.
1542.8	1546.3	Oil shale: Buff to brown. Very faint streaked bedding mottled with very abundant fine earthy to silty specks. Rare very small vugs and earthy porous breccia masses. Rubble in upper 0.5 foot.
1546.3	1547.3	Oil shale: Grayish brown to brownish gray. Very faintly laminated to massive. Common very fine tan to buff earthy streaks and specks in some parts. Thin shaly parting in upper part.
1547.3	1549.0	Oil shale: Brownish gray to buff. Faint streaked bedding mottled with very abundant silty to chalky porous specks. Fractured core and rubble in lower part; uneven sample split.
1549.0	1554.0	Missing.
1554.0	1555.0	Oil shale: Medium brownish gray and olive gray. Faint to rare distinct very fine laminae. Regular thick to very thin shaly parting. Fractured core with some fine to small partly collapsed cavities in upper 0.3 foot; some very fine tan earthy porous streaks in other parts.
1555.0	1559.0	Oil shale: Medium to dark olive gray and some brownish gray to grayish brown. Faint streaked bedding and some very fine laminae. Very common fine partly collapsed cavities with porous earthy to silty pyritic fillings.
1559.0	1560.0	Oil shale: Medium to rare dark olive gray and grayish brown. Moderately distinct distorted streaked bedding in upper part to very faint smooth laminae and bands in lower part. A 0.3-foot brown to tan silty tuff (?) layer in middle with common fine round to oval dark gray silty-textured blebs in lower inch; very irregular contorted contact at top and smooth contact at base. Very abundant very fine buff earthy specks in oil shale in lower 4 inches. Some irregular vertical fractures in lower part.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
		Sample of brown tuff with dark gray silty blebs from 1559.6 feet: X-ray - Na and K feldspars, pyrite, illite.
1560.0	1561.8	Marlstone and some oil shale: Buff to some light brownish-gray and tan marlstone, and some medium brownish-gray and olive-gray oil shale. Faintly bedded. Some very fine cavities and earthy porous specks. Rubble from 1560.7 to 1561.6; mostly irregular broken core pieces in other parts.
1561.8	1563.0	Oil shale: Tan to grayish brown in upper 0.4 foot, medium to dark brownish gray and olive gray in other parts. Faint streaked bedding and very fine laminae. Very abundant fine cavities -- mostly with earthy porous fillings.
1563.0	1564.0	Oil shale: Medium olive gray, some grayish brown near base. Faint streaked bedding. Common very fine earthy specks. Some fractured and broken core.
1564.0	1566.9	Oil shale: Medium olive gray and grayish brown. Faint streaked bedding and some moderately distinct laminae and bands. Common fine buff to white earthy specks in some parts. Irregular fractured core pieces and rubble; uneven sample split; sample lengths and continuity uncertain.
1566.9	1567.5	Missing?
1567.5	1568.5	Fine muddy rubble in unlabeled plastic bags.
1568.5	1575.0	Missing.
1575.0	1576.4	Oil shale: Medium to dark olive gray and brownish gray. Faint streaked bedding and very fine laminae. Abundant fine cavities and buff earthy porous blebs. Common very irregular tight fractures. Uneven sample split.
1576.4	1576.8	Missing?
1576.8	1582.0	Oil shale: Medium to rare dark brownish gray and olive gray. Faint streaked bedding and very fine laminae. Common very fine cavities in some parts -- some with earthy porous fillings and some incompletely filled with white calcite. Some large to small pieces of tan to buff fractured to finely brecciated marlstone with abundant fine open to collapsed cavities (rare coarse rectangular crystal casts). Mostly very irregular core pieces and rubble; uneven sample split. Sample of fractured to finely brecciated marlstone from 1578 feet: X-ray - dolomite, feldspar, calcite, quartz.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1582.0	1583.0	Marlstone: Buff and rare tan. Very faintly bedded. Very abundant collapsed and rare open cavities. Tan to brownish-gray earthy porous oil shale in lower 0.2 foot.
1583.0	1585.5	Oil shale: Brownish gray. Rubble; few pieces larger than 1 inch. Some tan to buff porous to earthy marlstone. Grab sampled; length doubtful.
1585.5	1594.5	Missing.
1594.5	1595.4	Oil shale: Medium to some dark brownish gray. Faint streaked bedding and very fine laminae. Common fine cavities and tan earthy specks in upper part. Rare fine gray pyritic streaks in lower part. Rubble and irregular core pieces in upper half; uneven sample split.
1595.4	1596.0	Oil shale: Tan to grayish brown. Faint very fine laminae. Common very fine dark flecks. Rare fine gray pyritic streaks.
1596.0	1597.0	Oil shale: Brownish gray. Rubble; grab sampled.
1597.0	1598.0	Oil shale: Medium to some dark brownish gray. Faint streaked bedding. Fractured core with abundant very fine cavities in upper 0.3 foot; very abundant very fine chalky white calcite cavity fillings in other parts (common spear and blade shapes).
1598.0	1599.0	Oil shale: Medium and some dark grayish brown to gray. Faint to moderately distinct laminae. Abundant very fine calcite specks and cavities in upper half. Regular thick parting.
1599.0	1599.5	Oil shale: Brown and brownish gray. Faint to some distinct very fine laminae. Regular thick to thin parting. Some very fine gray pyritic laminae.
1599.5	1602.0	Oil shale: Rubble as above becoming mixed with increasing amounts of faintly bedded brownish gray oil shale with fine cavities and earthy specks. Grab sampled; length uncertain.
1602.0	1605.8	Missing?
1605.8	1609.0	Oil shale: As above and below. Small to large, rounded to irregular fragments; grab sampled; length uncertain.
1609.0	1610.0	Oil shale: Medium to dark brownish gray. Faint streaked bedding. Very abundant fine tan earthy porous streaks.
1610.0	1611.0	Oil shale: As above. Fractured and broken core in upper half; contorted bedding in lower part.
1611.0	1612.2	Oil shale: Medium to dark brownish gray. Faint streaked bedding. Abundant fine to 1/8-inch tan to buff earthy porous cavity fillings. Common irregular discontinuous fractures.

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LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1612.2	1613.8	Marlstone: Buff. Fine to 1-inch rubble. Mostly earthy and porous. Grab sampled; length uncertain.
1613.8	1622.5	Missing.
1622.5	1623.4	Claystone and oil-shale breccia: Light slightly brownish-gray claystone matrix with medium brown to dark brownish-gray oil shale fragments. Faintly bedded mudstone with fine oil-shale streaks in upper 0.1 foot; claystone with abundant fine irregular rounded massive brown to dark grayish-brown blebs from 1622.6 to 1622.8; claystone with faintly laminated fine to 1-inch, angular and commonly platy oil-shale fragments in lower part. Some platy fragments in lower part are in contorted to fairly flat alignment. Sample of claystone with some fine brown blebs from 1622.7 feet: X-ray - dolomite, quartz, feldspar, pyrite, ferroan, illite.
1623.4	1624.2	Oil shale: Dark to medium brownish gray, some grayish brown near top. Thin broken oil-shale stringer with indistinct boundaries in claystone in upper inch; oil shale with faint distorted and broken laminae from 1623.5 to 1623.7; oil shale with faint distorted streaked bedding in lower part. Some very fine gray-buff silty porous blebs from 1623.7 to 1623.9. Common very irregular discontinuous tight fractures in lower part.
1624.2	1624.4	Missing.
1624.4	1625.4	Oil shale: Dark to some medium brownish gray. Very faint distorted streaked bedding. Common irregular discontinuous tight fractures.
1625.4	1628.4	Oil shale: Dark to medium brownish gray. Very faint streaked bedding; a thin distinct distorted and displaced brown layer at 1625.7. Common very irregular tight fractures.
1628.4	1630.0	Oil shale: Medium to light brownish gray. Very faint distorted streaked bedding with common irregular displacements. Common very irregular tight fractures. Some fine to small partly collapsed cavities and earthy zones in middle.
1630.0	1631.0	Oil shale: Brownish gray and some tan. Very fractured and displaced bedding in upper part; fine to moderately coarse, tight and rare open breccia in lower part. Split surfaces are light brownish gray because core breaks along coated fractures.
1631.0	1632.0	Oil shale (?): Brownish gray to buff. Very fractured to finely crushed. Some fine porous earthy breccia. Very irregular broken core pieces and rubble.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1632.0	1633.0	Marlstone: Gray buff to light and rare medium brownish gray, earthy. Rubble; grab sampled.
1633.0	1634.3	Oil shale: Medium to some dark brownish gray and grayish brown. Faint streaked bedding and some irregular laminae. Very abundant very fine collapsed cavities; common 1/4- to 1/2-inch cavities with some fine boxworks at 1633.6-1633.8. Rubble at base.
1634.3	1637.0	Oil shale: Dark to medium brownish gray. Faint streaked bedding. Very common irregular tight to some open fractures; some coarse breccia from 1635.6 to 1636.4. A 3/4-inch vug with fine platy boxworks at 1636.2.
1637.0	1639.0	Oil shale: Medium and rare dark brownish gray and olive gray. Very faint streaked bedding. Some fractured zones. Some fine cavities to 1-inch vugs.
1639.0	1640.0	Oil shale: Olive gray and brownish gray. Very faintly bedded. Very common fine open to collapsed cavities; vuggy fractured zone at 1639.4-1639.6.
1640.0	1641.5	Oil shale: Brownish gray and olive gray. Some porous fragments. Rubble; grab sampled.
1641.5	1643.0	Oil shale: Dark to medium grayish brown. Faint streaked bedding. Some 1- to 2-inch vugs with radiating boxworks.
1643.0	1649.8	Missing.
1649.8	1652.1	Oil shale: Dark brownish gray. Faint streaked bedding. Large clusters of irregular thin to 1-inch vugs at 1650.3-1650.5, 1651.6-1651.8, and 1651.9-1652.0
1652.1	1653.5	Oil shale: Medium grayish brown and brownish gray. Faint very fine laminae and streaked bedding. Fairly regular thick to thin parting. A very fine fracture with vitreous black organic filling through most of the interval. A 0.1-foot dense massive dolomite band at 1653.0. Some broken and mixed up core.
1653.5	1656.5	Oil shale: Dark to some medium brownish gray. Very faint streaked bedding. Rare small to 2-inch vugs with fine radiating boxworks.
1656.5	1658.0	Oil shale: Medium to dark brownish gray and grayish brown. Faint streaked bedding. Rare small vugs. Rare irregular tight to open fractures.
1658.0	1659.4	Oil shale: Medium grayish brown. Faint streaked bedding. Common fine earthy porous streaks in upper 0.6 foot.
1659.4	1664.8	Missing.
1664.8	1672.0	Oil shale: Medium grayish brown and brown. Faint streaked bedding. Common fine porous streaks. Rare very small vugs with black silty pyritic material.
1672.0	1674.1	Oil shale: Medium to rare dark grayish brown. Faint streaked bedding. Some vuggy broken core in lower part.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1674.1	1675.5	Oil shale: Medium brown. Very faint wavy to smooth laminae in upper 0.5 foot; very faint bedding in lower part. Very common small to 2-inch vugs in lower part.
1675.5	1676.2	Oil shale: Medium to rare light and dark brown and grayish brown. Faint streaked bedding. Porous, earthy, and very light weight in upper 0.3 foot; common fine to 1/4-inch flat cavities in lower part.
1676.2	1676.8	Oil shale: Grayish brown to some tan. Faint streaked bedding and some very fine laminae. Rare fine to very thin flat cavities. Some broken core.
1676.8	1682.2	Missing.
1682.2	1683.1	Oil shale: Grayish brown. Faint streaked bedding and some very faint laminae. Thin shaly parting in upper part. A vertical fracture with slight brown coatings in upper part.
1683.1	1683.8	Oil shale: Medium to rare dark brownish gray. Faint streaked bedding and very fine laminae. Rare high angle fractures.
1683.8	1684.3	Oil shale: Dark to medium grayish brown. Faint streaked bedding. Very common fine open to collapsed cavities. Rare discontinuous open fractures. Very light weight.
1684.3	1685.0	Oil shale: Grayish brown and brown to some tan. Faintly laminated. Some irregular fractures and broken core. Few small vugs with dull gray to black material.
1685.0	1687.7	Oil shale: Brown to grayish brown. Faint streaked bedding. Common fine cavities. Some small to 2-inch vugs with boxworks in upper 0.6 foot. Some broken core near base.
1687.7	1689.2	Oil shale: Grayish brown and brownish gray. Faint streaked bedding. Some porous to vuggy broken core.
1689.2	1690.2	Oil shale: As above. Mostly irregular vuggy core pieces with boxworks.
1690.2	1690.4	Missing?
1690.4	1692.4	Oil shale: Medium to dark grayish brown. Faint streaked bedding. Rare small vugs with fine spongy boxworks and dark pyritic rims; a 3-inch vug with radiating boxworks at 1690.8
1692.4	1694.0	Missing.
1694.0	1694.9	Oil shale: Grayish brown. Faint streaked bedding. Some vuggy parting surfaces. Broken core in upper part; discontinuous core pieces in lower part.
1694.9	1696.0	Oil shale: Grayish brown and brown to some tan. Faint to moderately distinct laminae; curved laminae with common fine displacements in lower 0.3 foot. Irregular discontinuous slightly vuggy core pieces in lower half.

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## LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1696.0	1703.0	Oil shale: Medium to some dark grayish brown and brownish gray. Faint streaked bedding. Occasional very fine porous streaks. Rare 1- to 2-inch vugs down to 1698.1.
1703.0	1704.9	Oil shale: Medium to dark brownish gray; rare fine satiny streaks. Faint streaked bedding.
1704.9	1706.8	Oil shale: Dark to medium brownish gray; very common satiny to resinous luster. Faint very fine laminae; some fine loop structures. Some broken core.
1706.8	1708.6	Missing.
1708.6	1709.9	Oil shale: Medium grayish brown and brown. Faint streaked bedding and some laminae. Irregular core pieces with some fine cavities and porous zones in upper part; uneven sample split.
1709.9	1714.0	Oil shale: Medium to some dark brownish gray and grayish brown. Faint streaked bedding. Rare small irregular to lacy dark gray pyritic masses and thin streaks in lower half.
1714.0	1714.2	Missing.
1714.2	1715.3	Oil shale: Dark brownish gray. Very faint streaked bedding; faint very fine laminae in lower 0.3 foot.
1715.3	1715.5	Missing.
1715.5	1716.5	Oil shale: Grayish brown to dark brownish gray. Faint streaked bedding. Some gray silty pyritic stringers and irregular discontinuous fractures at top.
1716.5	1717.9	Oil shale: Dark to medium brownish gray. Faint streaked bedding and some very fine laminae.
1717.9	1720.0	Oil shale: As above and below. Mostly irregular to rounded core pieces and rubble. Rare vuggy pieces. Some pieces of faintly laminated buff to grayish-brown marlstone in lower part.
1720.0	1721.4	Oil shale: Medium to rare dark brownish gray. Faint streaked bedding. Some small to 1-inch vugs in upper half. Rare thin dark gray silty pyritic streaks and very small blebs.
1721.4	1723.0	Oil shale: Grayish brown. Faint streaked bedding and rare very fine laminae. Mostly irregular to rounded core pieces and rubble. Some vuggy pieces.
1723.0	1729.7	Missing.
1729.7	1730.7	Oil shale: As above. Irregular to rounded vuggy core pieces.
1730.7	1732.0	Oil shale: Medium to rare dark grayish brown and brownish gray. Faint streaked bedding to some moderately distinct laminae. Some irregular tight to open fractures in middle. Few small vugs at 1731.4
1732.0	1732.2	Missing?

Illustration No. SBR-4256P (Sheet 33 of 34)

LITHOLOGIC DESCRIPTION OF SAMPLES SUBMITTED FOR ASSAY

Quarter-core samples from Mobil Oil Company's Test Well No. 5 (Con.)

From	To	Description
1732.2	1733.8	Oil shale: Grayish brown. Faint streaked bedding and very fine laminae. Some fractured and broken core. A 1-inch vug with dark gray silty porous rims at 1733.0
1733.8	1734.8	Oil shale: Medium to some dark grayish brown; rare satiny to resinous streaks. Faint streaked bedding. Vuggy parting surfaces at 1734.4.
1734.8	1736.0	Oil shale: Dark to medium brownish gray and grayish brown; very common very fine satiny to waxy streaks. Faint streaked bedding.
1736.0	1737.0	Oil shale: Dark grayish brown to medium brown; very common satiny to waxy streaks and zones. Faint streaked bedding. Some short tight high angle fractures.
1737.0	1739.0	Oil shale: Brown to grayish brown. Faint streaked bedding and very fine laminae. Mostly irregular vuggy core pieces and rubble. Some brecciated and earthy porous fragments. Partly grab sampled; length uncertain.
Bottom of core		