Table 1.--Lithologic description of core from Skyline core hole 1

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
240.49	241.40	0.91	Marly siltstone, mottled yellowish-brown and brown; laminated to micro-contorted bedding, calcitic, blocky, carbonaceous plant(?) fragments
241.40	278.89	37.49	No core
278.89	280.20	1.31	Marlstone, light-brownish-gray, evenly laminated, some wavy laminated, hard and blocky; 55 cm of well-laminated dark-brownish-black oil shale at 279.26 m
280.20	284.04	3.84	Marly siltstone, light-yellowish-brown; many carbonaceous plant fragments, massive to wavy laminated, much contorted bedding, hard and blocky, calcitic, locally sandy
284.04	284.71	0.67	Silty marlstone, grayish-brown and brownish-gray, laminated, hard and blocky; some carbonaceous plant fragments
284.71	297.09	12.37	Dominantly siltstone and marly siltstone with some marlstone, wavy laminated and massive; a few diagonal fractures, hard and blocky, black blobs (gilsonite?)--no recognizable plant fragments, locally sandy
297.09	303.61	6.52	Silty marlstone, light- to medium-yellowish-brown, laminated and wavy bedded; much micro-contorted bedding, hard and blocky; 14 cm massive siltstone at 303.15 m
303.61	303.89	0.27	Tuff, light-gray, very fine grained, structureless; a brown marlstone band about 2 cm thick near middle

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
303.89	306.90	3.02	Marlstone, light-yellowish-brown, evenly to wavy laminated; some blebby structure between 304.19 and 304.50 m; hard and blocky--some 2 to 4-cm-thick even layers between 304.19 and 305.14 m; locally contorted bedding between 305.56 and 305.71 m
306.90	308.76	1.86	Marly siltstone, light-brownish-gray, irregular streaky bedding, hard and blocky; numerous faint carbonaceous films
308.76	314.86	6.10	No core
314.86	319.43	4.57	Marlstone, medium- to dark-yellowish-brown, hard and blocky--a few 2- to 5-cm-thick layers in lower 0.3 m; evenly laminated with locally highly contorted bedding between 316.69 and 317.30 m and 317.60 and 317.97 m; 2-cm-thick brown marlstone breccia (soft and crumbly) at 319.25 m; 5-mm-thick tuff at 315.38 m; 20-mm-thick tuff at 316.26 m; ~10 to 20-mm-thick contorted tuff (2 tuffs) at 316.93 m
319.43	323.27	3.84	Silty marlstone, yellowish-brown, hard and blocky, wavy laminated with locally highly micro-contorted bedding, permeable--soaks up water; more marlstone and less siltstone in upper 1 m; contorted blue tuff 5 mm thick at 320.01 m; lenticular 5-mm-thick tuff at 320.09 m
323.27	324.15	0.88	Marlstone, dark-yellowish-brown, laminated, hard and blocky; light-brown 2-cm-thick tuff at base
324.15	324.95	0.79	Marlstone, light- to medium-brown, laminated and some blebby structure, hard and blocky; silty in lower 0.15 m

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
324.95	~333.76	8.81	Mostly marly siltstone, light-yellowish-gray; some broken rock but largely blocky and hard; more marly between 329.79 and 331.62 m; locally contorted bedding and some marlstone fragments in siltstone
~333.76	346.25	12.50	No core
346.25	347.41	1.16	Silty marlstone, brownish-gray; some carbonaceous fragments, laminated and wavy bedding, streaky structure
347.41	353.72	6.31	Siltstone, light-brownish-gray, generally structureless; some marlstone layers and streaks; ribbed carbonaceous plant fragments; some pits containing pyrite in lower 10 cm; some broken fragments between 348.84 and 350.82 m, permeable--soaks up water; generally hard and blocky
353.72	354.12	0.40	Oil shale, dark-yellowish-brown; laminated with some blebby structure, hard and blocky
354.12	354.48	0.37	Siltstone, pale-yellowish gray, nearly structureless--with some bedding--dark streaks and a lenticular laminated marlstone layer 6 mm thick in upper part
354.48	359.05	4.57	Oil shale, dark-yellowish brown and brownish-black; some light-yellowish-brown oil shale, evenly laminated, in bedding--parallel layers and blocks commonly 3 to 15 cm thick, hard; 3-cm irregular vug filled with earthy material at 355.79 m; pitted creamy earthy-filled vug between 356.65 and 357.26 m; asphalt-coated bedding surface at 355.40 m

Table 1. Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
359.05	360.61	1.55	Siltstone; some marly laminae, some diagonal fractures, hard and blocky, some brown hydrocarbon stains
360.61	361.68	1.07	Marlstone, medium-yellowish-brown; numerous brownish-stained siltstone or tuff layers
361.68	375.21	13.53	Siltstone, brownish-stained with hydrocarbons; numerous diagonal fractures coated with hydrocarbon, hydrocarbon odor on fresh fracture; generally structureless with some faint mottling; some hard and blocky dark-brown oil shale between 368.20 and 369.87 m, 370.03 and 370.18 m, 372.71 and 373.20 m--much of this may be out of place; 18-mm-thick light-brownish-stained tuff at 373.11 m
375.21	392.58	17.37	Oil shale, dark-yellowish-brown to blackish-brown, laminated; bluish blebs common; hard; diagonal fractures common; 5-mm-thick tuff at 378.13 m; lenticular ~10-mm-thick tuff at 378.90 m; 50-mm-thick mottled tuff at 379.48 m; 7-mm-thick lenticular tuff at 381.34 m; 65-mm-thick wavy-layered tuff at 381.46 m; contorted tuff 20 mm thick at 382.22 m; contorted tuff 20 mm thick at 384.54 m, 40-mm-thick tuff at 385.51 m. Oil-shale breccia with swelled blebs of oxidized pyrite between 386.43 and 386.61 m; diagonal fractures common; broken oil shale abundant between 386.18 and 391.97 m--about 2.1 m of core lost in this interval
392.58	395.14	2.56	Siltstone, pale-brown, hard and blocky; numerous small carbonaceous fragments; streaky in lower 11 cm; laminated marly layer 12 cm thick at 394.47 m

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
395.14	397.67	2.53	Silty marlstone, laminated--some contorted bedding, hard and blocky; some diagonal fractures
397.67	400.26	2.59	Marlstone, mottled shades of brown, wavy laminated; numerous thin tuffs between 399.35 and 399.84 m, hard and blocky; some diagonal fractures
400.26	400.45	0.18	Tuff?, pale-brown; no bedding; some ≤2-mm pits; some dark streaks; 10-mm-thick marlstone 35 mm below top
400.45	427.15	26.70	Oil shale, dark-yellowish-brown to dark-blackish-brown, laminated and banded, hard and generally blocky; many blue analcime? blebs in the upper 1.8 m; diagonal fractures are common; very prominently banded between ~423.1 and 424.1 m
427.15	430.93	3.78	Rubbly oil shale, in angular hard fragments commonly 2 to 5 cm across; some vuggy brecciated oil shale in the lower 0.6 m
430.93	434.64	3.72	Oil shale, medium-yellowish-brown; thin (2 cm) to blocky (35 cm) layers, hard, very evenly laminated
434.64	435.56	0.91	No core
435.56	438.58	3.02	Oil shale, brownish-black, prominently and evenly laminated and banded; oxidized sulfide zone between 436.78 and 437.02 m; ~7 thin tuffs between 436.17 and 436.29 m; lenticular 5-mm-thick tuff at 436.50 m; lenticular tuff ~10 mm thick at 436.75 m; 35-mm-thick tuff at 437.08; very rich grade oil shale between 437.72 and 438.33 m with irregular 22-mm-thick tuff 21 cm below top of unit; in blocky even layers 1 to 20 cm thick

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
438.58	443.91	5.33	Oil shale, yellowish-brown, evenly laminated and faintly banded, in even blocky layers 3 to 20 cm thick; yellowish-white tuff 135 mm thick at 442.26 m; 7-mm-thick tuff at 438.97 m; tuffaceous zone 20 mm thick at 443.79 m
443.91	449.46	5.55	Oil shale, dark-yellowish-brown and brownish-black, hard and smooth, blocky, evenly laminated; very prominently laminated and thin-banded between 447.14 and 448.36 m (includes Mahogany oil-shale bed); streaky structure between 446.84 and 447.14 m and 448.97 and 449.28 m; lenticular tuff lenticular tuff ~2 to 3 mm thick at 445.71 m
449.46	454.76	5.30	Oil shale, brownish-black and dark-yellowish-brown, much is fractured and broken, numerous irregular rough-surfaced fractures, no evidence of salines; 2.0 m of missing core; wavy laminated and some blebby structure
454.76	461.16	6.40	Oil shale, dark-blackish-brown and gray, mostly hard and blocky; porous brecciated zone between 457.69 and 457.90 m; carbonate-filled fractures are numerous between 457.90 and 458.54 m; broken fragments between 458.42 and 459.03 m; contorted 15-mm-thick brownish-stained tuff at 455.86 m
461.16	466.34	5.18	Oil shale; distinct streaky bedding; some smooth to irregular diagonal fractures, generally blocky

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
466.34	478.23	11.89	Oil shale, brownish-gray and dark-brownish-gray, evenly laminated; locally streaky bedding; very prominently banded between 595.88 and 596.49 m; some open nahcolite cavities; some broken rubbly oil shale and swelled and fractured pyritic oil shale; very rich oil shale 14 cm thick at 474.51 m
478.23	478.60	0.37	Tuffaceous oil shale, dark-yellowish-brown, prominently laminated and thin banded; about 12 lenticular bluish-gray tuffs 2 to 5 mm thick are scattered through unit
478.60	494.08	15.48	Mostly rubbly oil shale consisting of angular fragments and solution breccia (nahcolite cavity fillings?); 6.31 m of missing core
494.08	502.01	7.92	Oil shale, evenly to wavy laminated; locally streaky structure; some fractures; generally hard and blocky; some vertical fractures; 0.79 m of missing core; 20- to 35-mm-thick lenticular tuff at 496.40 m; 50- to 55-mm-thick lenticular tuff at 496.43 m
502.01	505.94	3.93	Tuffaceous siltstone, many dark streaks of brown marlstone parallel to subparallel bedding; hard and thick blocky, noncalcitic
505.94	512.67	6.74	Oil shale, dark-yellowish-brown, scattered nahcolite cavities to 6 cm across, wavy laminated and blebby structure; tuff 60 mm thick at 512.06 m; locally some broken irregular fragments; 3-4 lenticular tuffs 3 to 8 mm thick in 5-cm-thick zone at 512.52 m
512.67	514.50	1.83	Marlstone, yellowish-brown, evenly laminated, in smooth layers 5 to 13 cm thick; broken angular fragments between 513.59 and 514.50 m; lens of bluish-gray tuff 50 mm across at 514.32 m

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
514.50	515.02	0.52	Oil shale, dark-blackish-brown, wavy laminated; many white swelled blebs (sulfate resulting from oxidized pyrite); unit tends to split parallel to bedding along irregular surfaces; some diagonal fractures
515.02	~523.34	8.32	Oil shale, dark-yellowish-brown, streaked and evenly laminated--locally highly contorted bedding between 519.68 and 520.90 m; swelled sulfide zone between 517.86 and 518.16 m; a few nahcolite cavities to 6 cm across; 15 cm of honeycomb crystal cavity zone between 519.44 and 519.59 m; some broken fragments of oil shale
~523.34	527.12	3.78	Interbedded marlstone and siltstone; siltstone has few to many marly streaks parallel to bedding; generally forms distinct beds 5 to 19 cm thick; comprises about 25 percent of the unit; marlstone is light-yellowish-brown, evenly to wavy laminated, hard, in thin platy layers 2 to 17 cm thick and also in angular fragments; no evidence of salines; 15-mm-thick tuff with vertical wavy fractures at 524.12 m
527.12	~531.27	4.15	Partly rubbly oil shale, laminated, dark-yellowish-brown, medium-smooth blocky; 0.49 m of unit in angular fragments commonly 2 to 8 cm across
~531.27	532.49	1.22	Honeycomb oil shale; abundant crystal cavities commonly ≤1 mm across
532.49	551.98	19.51	Partly rubbly oil shale (similar to 527.12 and 531.27 m depth), very evenly to wavy laminated; distinct fine-streaky blebby structure in oil shale between 532.49 and 532.79 m; about 6.1 m of unit is in angular fragments 2 to 8 cm across; remainder is blocky with some irregular vertical fractures

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
551.98	554.77	2.77	Honeycomb oil shale, much finely pitted oil shale and bands of white (calcite after nahcolite?) crystals <1 mm across, some in dovetail twins; some oil shale free of crystal cavities; oil-shale breccia between 551.99 and 552.05 m
554.77	557.97	3.20	Oil shale, thin- to medium-blocky; few scattered crystals
557.97	561.69	3.72	Leached saliniferous oil shale, light-brown
561.69	563.27	1.58	Oil shale, dark-gray; many small oval powdery blebs parallel to bedding, some fractures
563.27	582.78	19.51	Leached saliniferous oil shale, brecciated in part; solution breccia between 575.77 and 576.68 m
582.78	583.39	0.61	Oil shale, brownish-black, very rich grade; some fractures
	583.29		Dissolution surface
583.39	586.13	2.74	Nahcolitic oil shale, large nahcolite aggregates to 25 cm; oil shale contains abundant northupite (bi-pyramidal crystals to 1 mm) and searlesite (thin rectangular platelets about 5 mm across)
586.13	590.09	3.96	Disseminated nahcolite and oil shale
590.09	594.36	4.27	White nahcolite; about 28 cm of marlstone partings; many pits 1-10 mm across
594.36 1950'	602.01 1975	7.65	Halite and some nahcolite; halite is light-smoky-gray, coarse crystalline (up to 20 mm); some banded and irregular intergrowths of brown microcrystalline nahcolite; strong hydrogen sulfide odor on fresh fracture

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
602.01	603.32	1.31	Disseminated nahcolite and oil shale, brown; about 50 percent nahcolite in very fine to fine grained crystals and some coarse nahcolite crystals; some locally abundant nahcolite crystal aggregates about 5 mm across in upper 0.3 m
603.32 1979.4'	607.16 1992	3.84	Halite, light-smoky-gray; very coarse crystals (up to ~15 mm across); some brown microcrystalline nahcolite and a few layers of marlstone as much as 2 cm thick; irregular interlocking mosaic of crystals; 30 cm of solid microcrystalline nahcolite at base
607.16	609.75	2.59	Nahcolite, halite, and oil shale; brownish-black; some blebs of light-smoky-gray coarse crystals of halite 2.5 to 10 cm across; nahcolite is in brown, fine-grained blebs (2x10 mm) and some irregular coarsely crystalline aggregates ≤2 to 3 cm across; dull-black solid hydrocarbon bleb (3x4 cm) at 608.38 m
609.75	611.98	2.23	Disseminated nahcolite and oil shale, dark-yellowish-brown; nahcolite in mostly fine grained to medium-grained disseminated crystals; estimated 30 percent nahcolite
2007.8' 611.98	2018.3' 612.16	0.18	Microcrystalline nahcolite, dense, hard, brown
612.16 2018.3'	615.09 2018	2.93	Halite and some nahcolite; irregular mixture of coarse crystalline, clear to light-smoky-gray halite and dense microcrystalline brown nahcolite; halite crystals are ≤2x3 cm; a few scattered bands of marlstone 0.5 to 10 cm thick

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
615.09	620.88	5.79	Nahcolitic oil shale, brownish-black; blebby and streaky structure in upper 1.83 m, locally very evenly laminated and massive; pyrite-rimmed nahcolite aggregates ~3 to 7 cm across; some very fine grained disseminated nahcolite in several bands as much as 20 cm thick in lower 1.5 m
2037 620.88	2042.3 622.52	1.65	Halite and some microcrystalline nahcolite; halite is medium- to coarse-crystalline; nahcolite is in wavy but distinct laminae to thin layers about 1 to 30 mm thick; some marlstone bands as much as 6 cm thick
622.52	626.33	3.81	Nahcolitic oil shale, dark-yellowish-brown; distinctive blebby and streaky structure; fine-grained nahcolite blebs and dark-brown coarse nahcolite crystals and aggregates to ~7 cm across
626.33	627.98	1.65	Halite and nahcolite; intermixed coarse crystals of halite and light-brown patches of microcrystalline nahcolite; 20-cm-thick oil shale at 627.10 m
627.98	632.95	4.97	Nahcolitic oil shale, dark-brown; numerous bands of fine-grained to microcrystalline nahcolite commonly 1 to 3 cm thick; 22-cm-thick brown microcrystalline bed of nahcolite at 629.90 m; contorted tuff 5 mm thick at 662.39 m
632.95	635.26	2.32	Halite, tinged with wispy brown organic matter; some very large halite crystals ≥5 cm; a few marlstone bands to 18 cm thick; some thin laminae to thin layers of nahcolite as much as 5 mm thick

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
635.26	650.23	14.97	Nahcolitic oil shale, brown and grayish-brown; mostly streaky structure; nahcolite is moderately to locally very abundant in scattered fine-grained crystals, brown fine-grained blebs and pyrite-rimmed dark-brown coarse-crystalline aggregates 8 to 56 cm across; locally many "blisters" of oxidized pyrite; vertical halite-filled fracture between 649.83 and 650.14 m; generally hard and blocky but tends to split roughly along bedding due to oxidization of pyrite; 132-mm-thick tuff at 639.17 m
650.23	652.64	2.41	Halite and nahcolite; halite is in clean coarse-crystalline layers ≤25 cm thick; nahcolite is in brown microcrystalline, thin, slightly contorted to even laminae and thin layers as much as 5 cm thick; 12-cm-thick microcrystalline nahcolite layer at top
652.64	656.72	4.08	Nahcolitic oil shale, medium-blackish-brown; streaked structure; some contorted fine-grained beds of nahcolite commonly 1.5 to 6 cm thick and blue-tinged pyrite-rimmed nahcolite rosettes to 10 cm across
656.72	663.43	6.71	Nahcolitic oil shale, medium-yellowish-brown, faintly laminated to locally massive; scattered 1 to 2 mm nahcolite crystals; coarse-crystalline nahcolite rosettes 5 to 9 cm across and a few dense microcrystalline nahcolite layers 3 to 16 cm thick; scattered small swelled blebs of oxidized pyrite

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
663.43	665.17	1.74	Microcrystalline nahcolite and oil shale; about 20 dense, brown, fine-grained to microcrystalline layers of nahcolite about 0.5 to 30 cm thick (50 percent nahcolite) interbedded with evenly laminated oil shale; nahcolite beds contain irregularly curly patches of creamy microcrystalline quartz; some tiny blebs of pyrite scattered in nahcolite layers
665.17	669.10	3.93	Oil shale; sparse nahcolite in rosettes and fine- to medium-grained lenses 1 to 6 cm thick; brown and brownish-black, blebby and streaky structure; a few oxidized pyrite blebs; estimated 5 percent nahcolite; many of the blebs are sub(?)angular marlstone fragments which lie parallel to the bedding; 30-mm-thick tuff (with a marlstone lamina in middle) at 668.82 m
669.10	677.91	8.81	Nahcolitic oil shale, dark-blackish-brown; generally fine-streaky structure and some even laminae; scattered large (10-35 cm) pyrite-rimmed coarsely crystalline nahcolite aggregates; hard and blocky
677.91	679.70	1.80	Nahcolite, medium- to coarse-grained, estimated 80 percent; many thin irregular layers of marlstone
679.70	687.63	7.92	Disseminated nahcolite and oil shale, dark-brown, hard and blocky; mostly fine grained disseminated nahcolite in rich oil-shale matrix; some coarsely crystalline halite blebs between 685.50 and 685.59 m; solid dense bed of brown microcrystalline nahcolite between 683.97 and 684.28 m; some local bands of evenly laminated oil shale free of nahcolite; estimated 50-60 percent nahcolite

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
687.63	690.55	2.93	Halite and some interbedded nahcolite; halite is generally light-smoky-gray, very coarse to medium crystalline; nahcolite is in thin laminae and layers to 2 cm thick; some marlstone layers 2-26 cm thick
690.55	690.95	0.40	Disseminated nahcolite and oil shale; small amount of halite
690.95	694.30	3.35	Microcrystalline nahcolite, brown, contorted bedding; some halite; very highly contorted bedding and locally pitted in upper 0.9 m; disseminated nahcolite and nahcolite rosettes in oil shale in lower 1.2 m
694.30	695.04	0.73	Nahcolitic oil shale, wavy laminated to streaky; some fine- to medium-crystalline brown nahcolite lenses
22 Sc 695.04	695.95	0.91	Halite, nahcolite, and oil shale; halite and nahcolite are poorly banded to irregularly mixed; halite is light-smoky-gray, coarsely crystalline, nahcolite is brown microcrystalline; some interbedded streaky high-grade oil shale
695.95	696.56	0.61	Nahcolite and oil shale; nahcolite is in disseminated fine- to medium-grained crystals and small rosettes to 3 cm across; several 1 to 2-cm-thick bands of microcrystalline brown nahcolite in upper 10 cm containing small, vertical halite-filled fractures; estimated 70 percent nahcolite
696.56	699.09	2.53	Nahcolitic oil shale, brownish-black; laminated and streaky structure; some nahcolite rosettes to 6 cm across, 30-cm-thick band of disseminated nahcolite at 698.60 m

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
699.09	703.23	4.15	Halite and nahcolite; halite is light-smoky-brown, medium- to coarse-crystalline, in layers commonly 5 to 10 cm thick; nahcolite is mostly in microcrystalline, irregular brown patches mixed with halite; some layers of laminated marlstone 5 to 20 mm thick
703.23	707.75	4.51	Oil shale with nahcolite and halite; dark-brownish-black, irregular lenses of mixed halite and nahcolite 7 to 20 cm thick; nahcolite also in coalescent rosettes as much as 2 cm thick; zone of disseminated nahcolite between 705.92 and 706.83 m; vertical vein of halite at 707.14 m
2322	2350.5		
707.75	716.43	8.69	Halite and nahcolite; halite is light-smoky-brown, fine- to coarse grained, in layers commonly 4 to 11 cm thick; nahcolite is light-brown, mostly microcrystalline; occurs in well-developed laminae alternating with halite; nahcolitic marlstone unit between 708.87 and 709.33 m; nahcolite becomes more abundant (~75 percent) below 714.45 m
716.43	720.09	3.60	Nahcolitic oil shale, grayish-brown; some fine-grained disseminated oxidized pyrite; irregular lenses (1-6 cm thick) of fine-grained brown nahcolite; 14-cm-thick layer of fine-grained nahcolite at 716.89 m
720.03	723.38	3.35	Disseminated nahcolite and oil shale; very fine grained disseminated nahcolite in many thin bands; some nahcolite crystals to 2 mm across
723.38	727.28	3.90	Nahcolitic oil shale, brownish-black, laminated, scattered dark-brown nahcolite aggregates 4 to 15 cm across

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
727.28	727.47	0.18	Bedded nahcolite, brown, microcrystalline to fine-grained, laminated and banded; several laminae of microcrystalline quartz
727.47	732.04	4.57	Oil shale, dark-blackish-brown; a few small nahcolite aggregates 2 to 4 cm across; many blebs of swelled pyrite between top of unit and about 727.25 m; massive structure to 727.25 m, laminated below
732.04	737.98	5.94	Disseminated nahcolite and oil shale; scattered beds and bands (6-24 cm thick) of medium-grained nahcolite and disseminated nahcolite; core shows many fractures due to numerous swelled pyrite blebs
737.98	741.21	3.23	Nahcolitic oil shale; dark-brownish-black; scattered disseminated to coalescent clumps of coarse-grained brown nahcolite crystals and some small 2 to 3 cm nahcolite aggregates; light-brown, medium-grained lens or bed of nahcolite at 738.80 m; faintly laminated
741.21	743.96	2.74	Bedded nahcolite, brown, microcrystalline, banded; 55-cm-thick bed of nahcolite-rich oil shale at 742.55 m; some laminae and blebs of microcrystalline quartz; 16-cm-thick bed of nahcolitic oil shale at 741.73 m
743.96	746.97	3.02	Nahcolitic oil shale, dark-brown; many small, coarse crystalline clumps and rosettes of nahcolite as much as 5 cm across; a few medium-grained nahcolite lenses to 8 cm; many swelled pyrite blebs have caused core to fracture along irregular surfaces parallel to bedding
746.97	747.77	0.79	Nahcolitic oil shale; faint streaky structure, black; a few dark-brown coarse-grained nahcolite aggregates to 10 cm across

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
747.77	749.84	2.07	Disseminated nahcolite and oil shale; 8 to 14-cm-thick bands of very fine grained disseminated nahcolite; 18-cm-thick band of medium-grained disseminated nahcolite at 747.98 m with 15 cm of coalescent, 1- to 4-cm-diameter nahcolite aggregates below
749.84	750.72	0.88	Oil shale, medium-grayish-brown, very faintly streaked; a few irregular brown discontinuous microcrystalline lenses of nahcolite 1.5 to 8 cm thick
750.72	753.25	2.53	Bedded nahcolite, brown, microcrystalline; much contorted bedding; intermixed with 40-50 percent oil shale in irregular stringers and layers
753.25	757.79	4.54	Nahcolitic oil shale, brown; upper 1.2 m contains mostly disseminated medium-grained nahcolite crystals and a medium-grained nahcolite lens or bed 7 cm thick; remainder of unit contains coarse-grained brown nahcolite aggregates and a few rosettes 5 to 15 cm across
757.79	782.09	24.29	Nahcolitic oil shale, mottled-brown and grayish brown; mostly streaky structure with some rounded flat fragments of marlstone parallel to bedding; scattered dark-brown coarse-crystalline nahcolite aggregates 5 to 32 cm across; four thin lenses or beds of fine-grained brown nahcolite in upper 0.5 m; about 30 cm of similar nahcolite at 760.48 m; 28 cm of disseminated nahcolite at 763.83 m (depth may be in error due to mixed core); nahcolite aggregates have swelled rims of oxidized pyrite; also some swelled streaks and blebs of oxidized pyrite

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
782.09	787.09	5.0	Oil shale, dark-brown and black, laminated; several scattered white-coated nahcolite aggregates 6 to 14 cm across; 35-cm-thick bed of fine-grained nahcolite at 785.56 m
787.09	787.63	0.55	Disseminated nahcolite and oil shale, six discrete zones 4 to 7 cm thick of disseminated medium-grained nahcolite
787.63	794.31	6.68	Nahcolitic oil shale, blebby structure, dark-brownish-black; blebs are light-brown laminated and structureless fragments of marlstone; some bluish-white-coated nahcolite aggregates 7 to 12 cm across
794.31	797.36	3.05	Oil shale, brownish-black; streaky structure; one 7-cm nahcolite aggregate near base; possible oil-shale solution breccia (or fault gouge?) between 794.49 and 794.61 m
797.36	798.09	0.73	Bedded nahcolite, medium-grained; contorted bedding, some oil-shale stringers; some nahcolite aggregates near top
798.09	815.86	17.77	Nahcolitic oil shale, brownish-black; a few scattered white-coated pyrite-rimmed nahcolite aggregates 8 to 42 cm across; 19-cm-thick band of disseminated nahcolite at 799.19 m; 21-cm-thick bed of medium- to coarse-grained nahcolite at 800.80 m (these two beds may be out of place); faint streaky structure; light brown and prominently laminated between 804.06 and 804.31 m and 804.92 and 805.34 m; streaky structure with some blebby structure between 804.67 and 810.59 m

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
815.86	816.74	0.88	Oil shale, dark-grayish-brown with steel-gray cast on core surface; bands of massive oil shale alternate with bands of very evenly laminated oil shale; several vertical very irregular fractures filled with black material
816.74	816.99	0.24	No core
816.99	817.78	0.79	Oil shale ("Sixty" bed), high-grade, dark-yellowish-brown; distinctive blebby structure, creamy bedding-parallel blebs of dolomite(?) parallel to bedding (1-5 mm thick). This informal unit is the "Sixty" oil-shale bed of Dyni (1974, figs. 2 and 3)
817.78	817.87	0.09	No core
817.87	823.36	5.49	Oil shale, brownish-black with steel-gray cast on core surface, mostly evenly laminated; gray siltstone or tuff 13 cm thick at 820.77 m; three tuffs (6, 2, 1.5 mm thick) in zone 32 mm thick at 822.08 m; prominent vertical fractures between 819.91 and 821.04 m
823.36	823.48	0.12	Tuff(?), gray, very fine grained, structureless, one vertical fracture
823.48	824.85	1.37	Oil shale, dark-yellowish-brown, prominently evenly laminated and banded; some slump structure and looped bedding, some swelled pyrite blebs in lower 20 cm
824.85	828.72	3.87	Nahcolitic oil shale, yellowish-brown, very prominently laminated and banded; some scattered nahcolite rosettes and aggregates 3 to 16 cm across; a fine-grained nahcolite nodule 9 cm thick rimmed with swelled pyrite; some stringers and blebs of swelled pyrite

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
828.72	829.36	0.64	Bedded nahcolite and oil shale; nine thin beds (5-50 mm thick) of fine-grained nahcolite interbedded with evenly laminated oil shale
829.36	831.74	2.38	Nahcolitic oil shale; numerous scattered pods of medium-grained nahcolite and rosettes and aggregates of coarse-grained nahcolite 5 to 10 cm across in massive and faintly banded, yellowish-brown oil shale
831.74	832.62	0.88	Disseminated nahcolite and oil shale; numerous bands of very fine grained to medium-grained disseminated nahcolite in yellowish-brown oil shale (~50 percent nahcolite); a 9-cm-thick band of disseminated nahcolite 12 cm above base is distinctively laminated
832.62	841.61	8.99	Nahcolitic oil shale, mottled light- to medium-yellowish-brown; blebby structure; numerous creamy dolomite(?) blebs ≤12 mm but commonly 1 to 4 mm thick scattered throughout; minor massive and laminated yellowish-brown oil shale; some scattered fine-grained nodules of siliceous nahcolite 2 to 5 cm across; a few 6- to 30-cm dark-brown coarse crystalline rosettes of nahcolite and many scattered 1- to 3-mm nahcolite crystals; some swelled pyrite blebs
841.61	843.08	1.46	Disseminated nahcolite and oil shale; much fine- to medium-grained disseminated nahcolite and some small (1 cm) coarse-grained nahcolite aggregates in massive and locally laminated yellowish-brown oil shale; about 50 percent nahcolite

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
843.08	844.51	1.43	Nahcolitic oil shale, yellowish-brown; massive and some irregularly laminated structure; well-developed rosettes and some irregular aggregates of nahcolite commonly 3 to 8 cm across
844.51	851.55	7.04	Disseminated nahcolite and oil shale, dark-yellowish brown; mostly fine grained disseminated nahcolite in many laminated bands 5 to 45 cm thick; also scattered, small dark-brown, coarse-grained nahcolite aggregates 5 to 20 mm across; estimated 40 percent nahcolite
851.55	857.92	6.37	Nahcolitic oil shale, yellowish-brown, mostly massive but locally laminated; numerous 3 to 8-cm-thick dark-brown, coarse-grained nahcolite rosettes and aggregates, numerous swelled pyrite blebs; some white streaks of bladed carbonate crystals (nahcolite?) parallel to bedding
857.92	860.45	2.53	Disseminated nahcolite and oil shale, dark-brown; nahcolite is fine-grained; estimated 70 percent nahcolite
860.45	868.86	8.41	Nahcolitic oil shale, light-yellowish-brown and dark-yellowish-brown; massive in upper 2.74 m; faint streaky structure below; some nahcolite aggregates 5 to 11 cm across; distinct blebby structure between 866.85 and 867.52 m; nahcolite is sparse in lower 3.66 m
868.86	869.90	1.04	Disseminated nahcolite and oil shale, brown; nahcolite is mostly fine to medium grained; estimated 70-80 percent nahcolite
869.90	~873.86	3.96	Oil shale, brownish-black; faint streaky structure; hard, thick bedded

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
~873.86	880.17	6.31	Oil shale, dark-blackish-brown, evenly laminated, silty; numerous healed, short vertical fractures; tends to split in smooth-surfaced layers
880.17	882.34	2.16	Disseminated nahcolite and oil shale, dark-brown; nahcolite is fine to medium grained and forms one thick band of dissmeninated crystals; estimated 80 percent nahcolite
882.34	900.41	18.07	Nahcolitic oil shale, light-yellowish-brown and brownish-black, massive, locally blebby; some steel-gray, very evenly laminated oil shale in lower part; some very large nahcolite rosettes commonly 20-35 cm across. Base of nahcolite facies at 896.84 m; some distinct, scattered star-shaped white twinned crystals ≤5 mm across between 896.87 and 898.25 m
900.41	903.79	3.38	Silty marlstone, dark-gray and dark-brownish-gray, very evenly laminated and banded; in smooth-surfaced, thin blocky layers 5 to 20 cm thick; numerous very sharp and even beds of very fine grained siltstone 1 to 20 cm thick scattered throughout most of the unit
903.79	908.21	4.42	Oil shale, dark-grayish-brown, blebby structure, hard and blocky
908.21	913.79	5.58	Oil shale; mixed, evenly laminated and thin blocky, steel-gray clayey oil shale and blocky yellowish-brown blebby oil shale; clayey oil shale contains some bright-yellow blebs and a plant(?) fragment; some algal mat(?) structure in lower 20 cm; base of unit is in very sharp contact with underlying clay-shale

Table 1.--Lithologic description of core from Skyline core hole 1--continued

Depth (meters) From	Depth (meters) To	Thickness (meters)	Lithology
913.79	929.34	15.54	Clayey oil shale and siltstone; dark-brown and blackish-brown clayey oil shale in thin layers 2 to 15 cm thick interbedded with some thin beds 3 to 18 cm thick of very fine grained steel-gray massive permeable siltstone having sharp contacts; oil shale is very evenly laminated. Some very fine grained disseminated pyrite--no evidence of oxidation and swelling. Some scattered 1- to 7-mm-thick fine-grained bluish-gray tuffs(?) between 919.55 and 920.80 m; 10-cm-thick prominently laminated unit (tuff?) at 918.70 m (may be good marker)
1,031.75 m (Total depth according to driller.)			

Note: "Swelled" pyrite refers to pyrite and marcasite(?) that has oxidized on exposure to air in the core boxes to a puffy-black material that commonly fractures and splits adjacent oil shale.

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