

FIELD CORE AND SAMPLE DESCRIPTION

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<u>Interval</u>	<u>Description</u>
<u>Core #1: 717-728'. Cut 11'; recovered 11'.</u>	
717.0 - 721.0'	Marlstone, medium brown to black, laminated, core massive and intact except for 45° fracture at 717.8'.
721.0 - 723.0'	As above, grading to lighter colors with minor black. Fracture at 721.5', 75° (off vertical).
723.0 - 728.0'	Predominantly fawn gray brown marlstone, barren or very lean. Core badly fractured 723.0-723.8' and 726.3-727.4'. Part of lower fractured zone appears to be result of torque.
<u>Core #2: 728-749'. Cut 21'; recovered 21'.</u>	
728.0 - 729.4'	Marlstone, brown.
729.4 - 729.8'	Marlstone, black, laminated with above marlstone.
729.8 - 733.0'	Marlstone, tan to dark brown, laminated with minor black. 30° off vertical fracture at 732.1-733.0'.
733.0 - 735.5'	Marlstone, dark brown, laminated with black.
735.5 - 737.0'	Marlstone, dark brown to black.
737.0 - 739.4'	Marlstone, medium brown, badly fractured, with white precipitate along fractured surfaces.
739.4 - 741.5'	Marlstone, brown to dark brown.
741.5 - 742.2'	As above, with 30° off vertical fractures.
742.2 - 749.0'	Marlstone, dark brown to black, laminated. Irregular swirl bedding (slump) 743-744'.

<u>Interval</u>	<u>Description</u>
<u>Core #3: 749-771'. Cut 22'; recovered 22'.</u>	
749.0 - 754.4'	Marlstone, medium to light brown, laminated.
754.4 - 759.0'	Marlstone, black, laminated with brown, grading down to medium brown by 759'. 45° fracture at 756'. Vertical fracture 759.6-760.5'.
759.0 - 768.0'	Marlstone, medium to light brown, laminated.
768.0 - 771.0'	Marlstone, medium brown, laminated with black. 30° fracture at 769'.
<u>Core #4: 771-794.6'. Cut 23.6'; recovered 22'.</u>	
771.0 - 778.2'	Marlstone, medium brown. Massive mineral clusters at 771.0', 771.4', and 772.6'. Fracture 30° off vertical 774.7-775.8'.
778.2 - 789.8'	Marlstone, dark brown to black, laminated. Near vertical fracture at 780', and 784.5-785.5'. Interbeds of light brown marlstone near base.
789.8 - 793.0'	Marlstone, dark chocolate brown. Several 45° fractures in bottom 2' and fractures from torque.
793.0 - 794.6'	Lost.
<u>Core #5: 794.6-803.2'. Cut 8.6'; recovered 7.0'.</u>	
794.6 - 801.6'	Marlstone, light to dark brown, laminated. 45° fractures at 795.5', 797.0', 799-801'.
801.6 - 803.2'	Lost.
<u>Core #6: 803.2-821.3'. Cut 18.1'; recovered 15.4'.</u>	
803.2 - 805.7'	Marlstone, medium to dark brown, thin analcite at 804.1'.
805.7 - 806.0'	Analcite. 30° off vertical fracture.
806.0 - 813.1'	Marlstone, light brown to black, laminated. 45° fracture at 811'.

<u>Interval</u>	<u>Description</u>
<u>Core #6 (continued)</u>	
813.1 - 817.0'	Marlstone, dark brown to black, laminated. 3" analcite at 815.0-815.3' and several thin irregular analcites from there to 817.0'.
817.0 - 818.6'	Marlstone, dark brown, badly fractured.
818.6 - 820.3'	Missing.
<u>Core #7: 821.3-831.6'. Cut 10.3'; recovered 11.3'.</u>	
820.3 - 821.3'	Marlstone, dark brown, badly fractured.
821.3 - 823.6'	Marlstone, dark brown, several 45° fractures.
823.6 - 826.0'	Marlstone, medium brown, badly fractured.
826.0 - 829.9'	Marlstone, dark brown to black, vertical fracture at 828'.
829.9 - 831.6'	Marlstone, dark brown, badly fractured.
<u>Core #8: 831.6-842.6'. Cut 11.0'; recovered 11.0'.</u>	
831.6 - 833.0'	Marlstone, dark brown, fractured.
833.0 - 834.5'	Marlstone, dark brown to black, intact.
834.5 - 837.7'	Marlstone, dark brown. 1" tuff at 834.6', 4" tuff at 834.8-835.2', 2" tuff at 835.6-835.8'. All fractured surfaces coated with white (generally not calcareous) precipitate.
837.7 - 838.3'	Marlstone, black. All fractured surfaces coated with white precipitate.
838.3 - 839.9'	Marlstone, dark brown. All fractured surfaces coated with white precipitate.

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Core #8 (continued)

- 839.9 - 840.6' 7" analcite bed. All fractured surfaces coated with white precipitate.
- 840.6 - 842.6' Marlstone, dark brown, fractured at base.

Core #9: 842.6-854.4'. Cut 11.8'; recovered 11.8'.

- 842.6 - 843.3' Marlstone, medium brown, fractured (torque and rolling in core barrel.).
- 843.3 - 846.0' Marlstone, black, laminated with dark brown. 30° fracture at 845'.
- 846.0 - 847.5' Predominantly wavy bedded tan tuff interbedded with medium brown marlstone.
- 847.5 - 848.3' Marlstone, dark brown, with vertical fractures with white precipitate on fractured surface.
- 848.3 - 854.4' Marlstone, dark brown to medium. Laminated, irregular bedded tuff, possibly somewhat analcitized at 848.6-848.8'. 0.1' black, light weight marlstone 851.3-852.4'. Fracture 30° off vertical 852.4-853.7'.

Core #10: 854.4-867.3'. Cut 12.9'; recovered 12.9'.

- 854.4 - 860.4' Marlstone, dark brown, intact except for torque breakage upper 1/2 foot.
- 860.4 - 861.1' As above, with thin 0.05-0.1' analcite.
- 861.1 - 862.9' Marlstone, dark brown.
- 862.9 - 863.3' Wavy analcite.
- 863.3 - 867.3' Marlstone, dark brown, fracture 30° and torque fractures 864.5-865.5'. 0.2' wavy analcite bottom of interval.

<u>Interval</u>	<u>Description</u>
<u>Core #11: 867.3-872.5'. Cut 5.2'; recovered 5.2'.</u>	
867.3 - 872.5'	Marlstone, medium to dark brown. Badly fractured 867.3-871.0'.
<u>Core #12: 872.5-887.7'. Cut 15.2'; recovered 15.2'.</u>	
872.5 - 873.0'	Marlstone, light brown, with wavy analcite.
873.0 - 876.6'	Marlstone, dark brown to black, wavy analcite at 874.6' (0.2'). Core intact.
876.6 - 878.2'	Marlstone, dark brown.
878.2 - 880.6'	Marlstone, light brown, intact, but recemented breccia.
880.6 - 882.4'	Marlstone, light brown.
882.4 - 887.7'	Marlstone, light brown to gray, badly fractured. White precipitate on fractured surfaces.
<u>Core #13: 887.7-906.7'. Cut 19.0'; recovered 19.0'.</u>	
887.7 - 888.8'	Marlstone, medium brown.
888.8 - 889.2'	Nahcolite bed (framework only).
889.2 - 890.3'	Marlstone, dark brown.
890.3 - 890.6'	Two nahcolite casts.
890.6 - 895.6'	Marlstone, medium to dark brown. Nahcolite cast at 891.5'.
895.6 - 896.8'	Marlstone, dark brown, badly fractured.
896.8 - 897.2'	Tuff.
897.2 - 900.4'	Marlstone, dark brown to black, badly fractured 898.6-899.4'.

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<u>Interval</u>	<u>Description</u>
<u>Core #13 (continued)</u>	
900.4 - 904.2'	Predominantly wavy bedded tan tuff, interbedded with marlstone, dark brown. Several small nahcolite casts.
904.2 - 906.7'	Marlstone, medium gray brown. 45° fracture at 905' and 30° fracture at 906'.
<u>Core #14: 906.7-928.2'. Cut 21.5'; recovered 19.9'.</u>	
906.7 - 915.0'	Marlstone, dark brown. 75° fracture at 908'. 30° fracture at 909'. 30° fracture at 911'. 45° fracture at 912.5'. Recemented brecciation at 915'.
915.0 - 916.7'	Marlstone, gray brown, fractured.
916.7 - 918.4'	Marlstone, dark brown.
918.4 - 919.7'	Marlstone, dark brown, fractured.
919.7 - 922.5'	Marlstone, dark brown, several 45-30° fractures.
922.5 - 924.5'	Marlstone, dark brown, fractured rubble.
924.5 - 925.0'	Marlstone, medium brown. 30° fracture.
925.0 - 925.4'	Marlstone, medium brown rubble.
925.4 - 926.3'	Marlstone, medium to light brown.
926.3 - 926.6'	Marlstone, dark brown rubble.
926.6 - 928.2'	Lost.
<u>Core #15: 928.2-938.6'. Cut 10.4'; recovered 10.4'.</u>	
928.2 - 928.6'	Marlstone, medium chocolate brown.
928.6 - 929.6'	Marlstone, dark brown, broken up.
929.6 - 935.5'	Marlstone, dark gray brown (intact).
935.5 - 935.9'	Large nahcolite cast.

<u>Interval</u>	<u>Description</u>
<u>Core #15 (continued)</u>	
935.9 - 938.3'	Marlstone, dark brown. Nahcolite casts at 936.5' and 937.3'. Large cast 937.6-938.2'.
938.3 - 938.6'	Marlstone, black.
<u>Core #16: 938.6-962.2'. Cut 23.6'; recovered 22.8'.</u>	
938.6 - 939.7'	Marlstone, dark brown, homogeneous, intact.
939.7 - 943.5'	Marlstone, light brown, intact.
943.5 - 945.7'	Marlstone, black.
945.7 - 952.0'	Marlstone, dark brown. 45° fractures at 947.5', 948.4', 951.3'.
952.0 - 953.1'	Marlstone, light brown.
953.1 - 957.0'	Marlstone, dark brown to black, intact. Large nahcolite cast at 954'.
957.0 - 961.4'	Marlstone, as above, grading to marlstone, light brown, intact.
961.4 - 962.2'	Lost.
<u>Core #17: 962.2-974.5'. Cut 12.3'; recovered 12.3'.</u>	
962.2 - 964.4'	Marlstone, dark brown.
964.4 - 971.9'	Predominantly marlstone, light to medium brown. Nahcolite cast at 967'. Core intact.
971.9 - 974.5'	Marlstone, dark brown to black. Bottom foot ground to small pieces.
<u>Core #18: 974.5-1000.7'. Cut 26.2'; recovered 24.7'.</u>	
974.5 - 981.9'	Marlstone, medium to dark brown. Broken up top 0.6' and at 979.0-980.2'. 981.9' - Nahcolite cast.
981.9 - 984.0'	Marlstone, medium to light brown, broken up.

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<u>Interval</u>	<u>Description</u>
<u>Core #18 (continued)</u>	
984.0 - 989.2'	Marlstone, light brown; "poker chip" shale with white precipitate along bedding planes and random vertical fractured seams. ("A" Groove)
989.2 - 992.0'	Marlstone, light brown to dark brown, badly broken up.
992.0 - 999.2'	Marlstone, tan, generally intact, but breaks easily along bedding planes.
999.2 - 1000.7'	Lost.
<u>Core #19: 1000.7-1029.2'. Cut 28.5'; recovered 27.5'.</u>	
1000.7 - 1001.0'	Broken nahcolite cast.
1001.0 - 1001.4'	Marlstone, black.
1001.4 - 1002.5'	Marlstone, buff.
1002.5 - 1002.7'	Nahcolite cast? Large vug.
1002.7 - 1006.3'	Marlstone, predominantly buff.
1006.3 - 1006.5'	Analcite.
1006.5 - 1013.0'	Marlstone, black and dark brown, laminated.
1013.0 - 1015.0'	Marlstone, light brown.
1015.0 - 1018.0'	Marlstone, light gray brown. (Broken 1016-1017', nahcolite vug?)
1018.0 - 1018.4'	Marlstone, black.
1018.4 - 1025.4'	Marlstone, predominantly light brown to light gray brown. (Vertical fracture 1024-1025'.)
1025.4 - 1026.0'	Analcite bed.

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<u>Interval</u>	<u>Description</u>
<u>Core #19 (continued)</u>	
1026.0 - 1028.2'	Marlstone, light gray brown. Two 30° fractures 1027-1028'.
<u>Core #20: 1029.2-1060.1'. Cut 30.9'; recovered 31.9'.</u>	
1028.2 - 1029.2'	Marlstone, medium brown, badly broken up.
1029.2 - 1030.8'	Marlstone, medium to light gray brown.
1030.8 - 1031.0'	Marlstone, dark brown, broken.
1031.0 - 1031.5'	Marlstone, medium brown to buff.
1031.5 - 1031.7'	Marlstone, as above, with wavy bedded analcite.
1031.7 - 1032.1'	Mahogany Marker.
1032.1 - 1032.6'	Marlstone, dark brown, with wavy bedded analcite.
1032.6 - 1037.6'	Marlstone, dark brown, intact.
1037.6 - 1040.6'	Marlstone, dark brown, with long, slightly off vertical, fracture.
1040.6 - 1041.0'	Marlstone, dark brown.
1041.0 - 1047.0'	Marlstone, dark brown to black, laminated. 45° fracture at 1044'.
1047.0 - 1060.1'	Marlstone, dark brown. Several irregular fractures, probably mainly torque.
<u>Core #21: 1060.1-1082.2'. Cut 22.1'; recovered 22.1'.</u>	
1060.1 - 1065.0'	Marlstone, dark brown to black.
1065.0 - 1068.4'	Marlstone, dark brown.

<u>Interval</u>	<u>Description</u>
<u>Core #21 (continued)</u>	
1068.4 - 1068.7'	Tuff.
1068.7 - 1070.3'	Marlstone, dark brown.
1070.3 - 1071.3'	Marlstone, black.
1071.3 - 1074.5'	Marlstone, dark brown.
1074.5 - 1075.4'	Nahcolite.
1075.4 - 1082.2'	Marlstone, dark brown, with vertical fracturing, 1077-1081'.
<u>Core #22: 1082.2-1092.0'. Cut 9.8'; recovered 9.8'.</u>	
1082.2 - 1083.6'	Marlstone, dark brown, vertical fracturing.
1083.6 - 1089.0'	Predominantly marlstone, light brown to tan. Broken up 1087-1089'.
1089.0 - 1092.0'	Marlstone, dark brown, intact.
<u>Core #23: 1092.0-1099.5'. Cut 7.5'; recovered 7.5'.</u>	
1092.0 - 1094.0'	Marlstone, dark brown to gray brown, badly broken up. Large nahcolite cast in part.
1094.0 - 1098.0'	Marlstone, light to dark gray brown. Badly broken 1095-1096'.
1098.0 - 1099.5'	Marlstone, light gray to tan. Badly broken up.
<u>Core #24: 1099.5-1120.3'. Cut 20.8'; recovered 18.8'.</u>	
1099.5 - 1103.6'	Marlstone, dark brown. Nahcolite vug at 1102'.
1103.6 - 1111.5'	Marlstone, medium to light brown, with numerous large nahcolite vugs. Core badly broken.

<u>Interval</u>	<u>Description</u>
<u>Core #24 (continued)</u>	
1111.5 - 1117.0'	Marlstone, medium to dark brown. Badly broken in part.
1117.0 - 1118.3'	Nahcolite zone (small empty crystal casts).
<u>Core #25: 1120.3-1131.0'. Cut 10.7'; recovered 12.7'.</u>	
1118.3 - 1120.3'	Marlstone, dark brown, fractured.
1120.3 - 1125.8'	Marlstone, light to dark brown.
1125.8 - 1126.2'	Poorly developed nahcolite zone (empty).
1126.2 - 1131.0'	Marlstone, predominantly medium to light gray brown. All badly broken up. White precipitate on fractured surfaces.
<u>Core #26: 1131.0-1146.3'. Cut 15.3'; recovered 15.3'.</u>	
1131.0 - 1132.3'	Marlstone, light gray brown.
1132.3 - 1134.4'	Marlstone, medium to light brown. Badly broken. Large empty nahcolite cavity.
1134.4 - 1136.3'	Marlstone, light brown to dark brown.
1136.3 - 1137.0'	Marlstone, black.
1137.0 - 1146.3'	Marlstone, medium to light brown. Badly broken last 4'. Poorly developed nahcolite framework in parts of 1139-1143'.
<u>Core #27: 1146.3-1154.0'. Cut 7.7'; recovered 7.7'.</u>	
1146.3 - 1147.8'	Marlstone, dark brown. Badly broken; empty nahcolite vugs.
1147.8 - 1150.4'	Marlstone, dark brown.

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<u>Interval</u>	<u>Description</u>
<u>Core #27 (continued)</u>	
1150.4 - 1151.4'	Marlstone, medium brown.
1151.4 - 1154.0'	Marlstone, dark gray to light gray brown. Badly broken up.
<u>Core #28: 1154.0-1164.2'. Cut 10.2'; recovered 10.2'.</u>	
1154.0 - 1158.0'	Marlstone, dark brown, badly fractured. Several thin bands, reddish brown earthy material (tuff or very fine nahcolite framework).
1158.0 - 1159.0'	Reddish brown earthy material.
1159.0 - 1161.0'	Marlstone, medium brown.
1161.0 - 1162.0'	Marlstone, medium gray.
1162.0 - 1164.2'	Marlstone, dark brown, badly fractured.
<u>Core #29: 1164.2-1172.8'. Cut 8.6'; recovered 8.6'.</u>	
1164.2 - 1165.8'	Marlstone, dark brown. First appearance pinpoint white carbonate crystals at 1164.5-1165.0'.
1165.8 - 1167.0'	Marlstone, dark brown, with nahcolite framework, very fine crystalline.
1167.0 - 1172.8'	Marlstone, dark brown, all badly broken up. Small white calcareous crystals throughout.
<u>Core #30: 1172.8-1178.2'. Cut 5.4'; recovered 5.4'.</u>	
1172.8 - 1178.2'	Marlstone, medium gray brown. All badly broken up.
<u>Core #31: 1178.2-1207.8'. Cut 29.6'; recovered 28.0'.</u>	
1178.2 - 1184.0'	Shale, medium to light gray, earthy (non-marlstone). ("B" Groove).

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<u>Interval</u>	<u>Description</u>
<u>Core #31 (continued)</u>	
1184.0 - 1189.0'	Marlstone, medium gray, with tendency to poker chip.
1189.0 - 1191.4'	Gray tuff zone. Abundant white calcite.
1191.4 - 1195.0'	Oil shale, dark brown to black.
1195.0 - 1206.2'	Marlstone, tan to dark brown, laminated. Interval broken up, 1195-1198', 1201-1204', 1204.5-1206'.
<u>Core #32: 1207.8-1226.8'. Cut 19.0'; recovered 20.6'.</u>	
1206.2 - 1207.0'	Marlstone, buff.
1207.0 - 1210.5'	Marlstone, medium brown to gray, with several thin zones small empty nahcolite vugs.
1210.5 - 1211.2'	Tuff, tan.
1211.2 - 1211.7'	Tuff, medium gray.
1211.7 - 1213.2'	Tuff, tan.
1213.2 - 1224.4'	Marlstone, medium gray brown.
1224.4 - 1226.8'	Marlstone, dark brown to black.
<u>Core #33: 1226.8-1253.7'. Cut 26.9'; recovered 26.9'.</u>	
1226.8 - 1234.5'	Marlstone, medium to dark gray brown. Nahcolite vug at 1230.3'.
1234.5 - 1237.5'	Marlstone, medium brown.
1237.5 - 1245.0'	Marlstone, predominantly dark brown. Nahcolite vugs at 1238.0, 1238.5, 1239.5, 1240.0' - up to 2 to 3" in size, well developed.
1245.0 - 1247.0'	Marlstone, dark to medium brown. Recemented slump brecciation zone.

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<u>Interval</u>	<u>Description</u>
<u>Core #33 (continued)</u>	
1247.0 - 1253.7'	Marlstone, medium to dark brown, broken up. Scattered nahcolite vugs.
<u>Core #34: 1253.7-1282.8'. Cut 29.1'; recovered 29.1'.</u>	
1253.7 - 1255.1'	Marlstone, dark brown. (Intact.)
1255.1 - 1257.0'	Marlstone, medium brown. Nahcolite vug at 1256.4'.
1257.0 - 1258.5'	Marlstone, dark brown to black, laminated.
1258.5 - 1260.8'	Marlstone, medium gray brown. Fractured.
1260.8 - 1261.7'	Tuff.
1261.7 - 1263.0'	Marlstone, tan.
1263.0 - 1263.7'	Marlstone, medium gray brown.
1263.7 - 1272.3'	Marlstone, various shades brown to black, laminated. Intact except for 45° fracture at 1267'.
1272.3 - 1272.6'	Tuff.
1272.6 - 1273.6'	Marlstone, light gray brown.
1273.6 - 1274.7'	Marlstone, dark brown, broken up.
1274.7 - 1277.0'	Marlstone, dark brown to black.
1277.0 - 1278.7'	Marlstone, dark brown.
1278.7 - 1282.0'	Marlstone, medium reddish brown to tan, earthy. Broken up.
1282.0 - 1282.8'	Marlstone, dark brown.
<u>Core #35: 1282.8-1305.0'. Cut 22.2'; recovered 19.8'.</u>	
1282.8 - 1286.0'	Marlstone, dark brown to black.

<u>Interval</u>	<u>Description</u>
<u>Core #35 (continued)</u>	
1286.0 - 1286.4'	Marlstone, brown, broken. Nahcolite vug.
1286.4 - 1287.0'	Marlstone, dark brown.
1287.0 - 1289.4'	Marlstone, medium brown.
1289.4 - 1290.3'	Marlstone, black to dark brown.
1290.3 - 1296.0'	Marlstone, medium to light brown.
1296.0 - 1298.7'	Marlstone, medium brown to tan.
1298.7 - 1302.6'	Marlstone, medium gray brown. Generally broken. 10° fracture 1300-1301'.
<u>Core #36: 1305.0-1309.6'. Cut 4.6'; recovered 7.0'.</u>	
1302.6 - 1305.0'	Marlstone, dark brown, badly broken up.
1305.0 - 1307.6'	Marlstone, dark brown, badly broken up (mainly torque).
1307.6 - 1309.6'	Marlstone, dark brown.
<u>Core #37: 1309.6-1335.5'. Cut 25.9'; recovered 25.9'.</u>	
1309.6 - 1314.0'	Marlstone, tan with nahcolite vugs. Broken.
1314.0 - 1317.5'	Marlstone, dark brown to black, intact.
1317.5 - 1321.5'	Marlstone, light gray brown.
1321.5 - 1321.7'	Nahcolite vug.
1321.7 - 1325.0'	Marlstone, medium to dark brown.
1325.0 - 1326.7'	Marlstone, medium brown, broken.
1326.7 - 1329.4'	Marlstone, medium to dark brown, intact.

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<u>Interval</u>	<u>Description</u>
<u>Core #37 (continued)</u>	
1329.4 - 1332.8'	Marlstone, medium gray brown. Broken up.
1332.8 - 1333.4'	Marlstone, dark brown.
1333.4 - 1335.5'	Predominantly medium to light gray tuff. Generally broken up.
<u>Core #38: 1335.5-1365.3'. Cut 29.8'; recovered 29.8'.</u>	
1335.5 - 1338.0'	Marlstone, black.
1338.0 - 1340.0'	Marlstone, brown.
1340.0 - 1345.3'	Marlstone, light grayish brown to brown. Badly broken up.
1345.3 - 1348.0'	Marlstone, brown.
1348.0 - 1354.3'	Marlstone, medium gray brown. Broken up 1348-1352'.
1354.3 - 1354.8'	Tuff, tan.
1354.8 - 1365.3'	Marlstone, medium grayish brown with streaks of dark gray.
<u>Core #39: 1365.3-1395.5'. Cut 30.2'; recovered 30.2'.</u>	
1365.3 - 1366.0'	Marlstone, black.
1366.0 - 1369.0'	Marlstone, light gray to brown. Tuff 1367.7-1368.0'.
1369.0 - 1372.0'	Marlstone, light gray, clayey.
1372.0 - 1375.5'	Marlstone, light brown, abundant white calcareous crystals. Broken up 1373.5-1374.5'.
1375.5 - 1378.0'	Marlstone, light gray brown.
1378.0 - 1379.2'	Marlstone, earthy, tan (probably high tuff content).

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<u>Interval</u>	<u>Description</u>
<u>Core #39 (continued)</u>	
1379.2 - 1387.4'	Marlstone, light gray to tan. Abundant white calcareous crystals.
1387.4 - 1390.3'	Marlstone, dark brown.
1390.3 - 1390.5'	Orange tuff zone.
1390.5 - 1395.5'	Marlstone, gray brown to gray and tan. Abundant calcareous crystals.
<u>Core #40: 1395.5-1425.4'. Cut 29.9'; recovered 29.9'.</u>	
1395.5 - 1425.4'	Light gray, clayey marlstone. Breaks fairly easily. Broken up at 1413-1415.5', 1416.5-1417.5'.
<u>Core #41: 1425.4-1455.7'. Cut 30.3'; recovered 30.3'.</u>	
1425.4 - 1425.7'	Marlstone, dark brown.
1425.7 - 1430.3'	Marlstone, medium gray, shaly. Some distorted bedding associated with bed displacement. Pinpoint porosity in part.
1430.3 - 1436.5'	Marlstone, buff to light gray, shaly. Core is intact, but bedding is distorted and appears to be recemented breccia in part.
1436.5 - 1443.0'	Marlstone, shaly, light gray to tan. Disturbed bedding and recemented breccia.
1443.0 - 1455.7'	As above.
1455.7 - 1458.1'	Pipe correction.
<u>Core #42: 1458.1-1488.4'. Cut 30.3'; recovered 30.3'.</u>	
1458.1 - 1461.0'	Marlstone, dark brown. Intact (porous) but badly distorted by slump and breccia.

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<u>Interval</u>	<u>Description</u>
<u>Core #42 (continued)</u>	
1461.0 - 1472.8'	Shale, gray and marlstone, brown. Intact, but recemented breccia considerably disturbed (porous).
1472.8 - 1476.2'	Marlstone, dark brown. Intact. Massive, non-porous.
1476.2 - 1480.5'	Shale, gray, marly. Contorted and brecciated but recemented (porous).
1480.5 - 1480.7'	Tuff, tan.
1480.7 - 1484.2'	Marlstone, dark gray brown. 45° fracture at 1483'. Intact.
1484.2 - 1488.4'	Marlstone, dark brown (non-porous). Intact. Nahcolite vug at 1486.3'.
<u>Core #43: 1488.4-1518.5'. Cut 30.1'; recovered 30.1'.</u>	
1488.4 - 1492.4'	Marlstone, dark brown to black. Tough, rich, homogeneous. 45° fractures at 1488.4-1489' and 1490.6'.
1492.4 - 1493.2'	Marlstone, shaly, light gray, broken.
1493.2 - 1498.3'	Marlstone, dark brown, homogeneous.
1498.3 - 1500.1'	Marlstone, buff, shaly, earthy.
1500.1 - 1509.4'	Marlstone, medium to dark brown. Nahcolite vug at 1503', 1507.5'.
1509.4 - 1516.3'	Marlstone, dark brown to light brown. Several scattered small nahcolite vugs. Pyrite associated with vugs.
1516.3 - 1518.5'	Marlstone, dark brown to black.

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<u>Interval</u>	<u>Description</u>
<u>Core #44: 1518.5-1548.8'. Cut 30.3'; recovered 28.0'.</u>	
1518.5 - 1524.5'	Marlstone, buff, brown.
1524.5 - 1532.0'	Marlstone, medium brown. Several nahcolite vugs.
1532.0 - 1546.5'	Marlstone, dark brown. Intact. Small nahcolite vug at 1541'. 3" nahcolite vug at 1543'.
1546.5 - 1548.8'	Lost.
<u>Core #45: 1548.8-1578.8'. Cut 30.0'; recovered 29.4'.</u>	
1548.8 - 1552.0'	Marlstone, dark brown, homogeneous.
1552.0 - 1559.0'	Marlstone, shaly, light gray brown, earthy in part.
1559.0 - 1561.0'	Marlstone, dark brown.
1561.0 - 1563.0'	Marlstone, dark brown to black. Several large nahcolite vugs.
1563.0 - 1575.0'	Marlstone, shaly, buff brown to gray. Lean to barren. Broken 1570-1571', 1572.5-1572.9'.
1575.0 - 1578.2'	Marlstone, medium gray brown.
1578.2 - 1578.8'	Lost.
<u>Core #46: 1578.8-1608.8'. Cut 30.0'; recovered 30.0'.</u>	
1578.8 - 1583.4'	Marlstone, medium to dark gray brown. Small nahcolite vug at 1580'.
1583.4 - 1586.0'	Marlstone, buff brown, broken up.
1586.0 - 1599.0'	Marlstone, medium brown.
1599.0 - 1608.8'	Marlstone, medium to dark brown. 30° fracture at 1601' and 1603'. Otherwise all intact.
<u>Core #47: 1608.8-1638.8'. Cut 30'; recovered 30'.</u>	
1608.8 - 1630.4'	Marlstone, dark brown. Homogeneous. Intact. Large nahcolite vug 1610-1611'. 15° fracture 1612-1613'.

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<u>Interval</u>	<u>Description</u>
<u>Core #47 (continued)</u>	
1630.4 - 1636.4'	Marlstone, medium chocolate brown, with irregular interbeds of buff shale and small nahcolite vugs.
1636.4 - 1638.8'	Marlstone, very dark brown.
<u>Core #48: 1638.8-1668.8'. Cut 30'; recovered 29'.</u>	
1638.8 - 1640.6'	Marlstone, dark brown to black, laminated.
1640.6 - 1643.4'	Marlstone, dark brown.
1643.4 - 1648.0'	Marlstone, light gray brown, with irregular recemented fractured seams at 1646-1648'. Numerous thin reddish brown earthy interbeds.
1648.0 - 1650.0'	Marlstone, dark brown, with several nahcolite vugs.
1650.0 - 1651.9'	Oil shale, black, light, rich. Nahcolite vug.
1651.9 - 1657.0'	Marlstone, light gray brown, shaly.
1657.0 - 1658.2'	Marlstone, buff, shaly with thin reddish brown interbeds of earthy shale.
1658.2 - 1667.8'	Marlstone, dark brown, pock marked with small nahcolite vugs. Several large vugs.
<u>Core #49: 1668.8-1697.8'. Cut 29.0'; recovered 30'.</u>	
1667.8 - 1668.8'	Marlstone, dark brown. Intact.
1668.8 - 1672.0'	Marlstone, dark brown. Homogeneous, intact.
1672.0 - 1676.5'	Marlstone, medium gray brown. Broken in part. 15° fracture at 1673-1674' with white precipitate on fractured surface.
1676.5 - 1678.5'	Marlstone, medium reddish brown.

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<u>Interval</u>	<u>Description</u>
<u>Core #49 (continued)</u>	
1678.5 - 1679.0'	Tuff, reddish brown.
1679.0 - 1688.2'	Marlstone, medium gray brown.
1688.2 - 1692.0'	Marlstone, dark brown.
1692.0 - 1694.5'	Marlstone, medium gray brown. Broken in part. 15° fracture 1693-1694'.
1694.5 - 1697.8'	Marlstone, dark brown.
<u>Core #50: 1697.8-1727.8'. Cut 30'; recovered 26.0'.</u>	
1697.8 - 1698.7'	Marlstone, black. Rich.
1698.7 - 1700.2'	Marlstone, dark brown.
1700.2 - 1703.0'	Marlstone, light gray brown, broken up.
1703.0 - 1704.0'	Marlstone, dark brown.
1704.0 - 1704.3'	Marlstone, black.
1704.3 - 1705.0'	Marlstone, dark brown.
1705.0 - 1706.6'	Marlstone, dark brown to black. Large vug 1705-1705.4'.
1706.6 - 1711.0'	Marlstone, dark brown. Several small nahcolite vugs 1706.6, 1707.7' and large nahcolite development 1708.4- 1709.1'. First appearance of nahcolite.
1711.0 - 1720.2'	Marlstone, medium reddish brown to medium gray brown. Numerous nahcolite vugs ranging in size from tiny to 3", all empty.
1720.2 - 1723.8'	Marlstone, medium to dark brown. Intact. Thin, earthy seam in bottom 6" where broken up.
1723.8 - 1727.8'	Lost.

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<u>Interval</u>	<u>Description</u>
<u>Core #51: 1727.8-1759.1'. Cut 31.3'; recovered 13.9'.</u>	
1727.8 - 1729.0'	Marlstone, dark brown, with pinpoint porosity bleeding soapsuds. 2" nahcolite vug at 1729.8'.
1729.0 - 1739.0'	Marlstone, dark brown. Nahcolite vug at 1729.3'. Large one at 1730.5-1731.0'. 30° fractures at 1733' and 1734' and 1737'; otherwise intact.
1739.0 - 1741.7'	Marlstone, medium reddish brown. Several thin streaks of pinpoint porosity, bleeding soapsuds. Nahcolite vug at 1740.2'.
<u>Core #52: 1759.1-1772.2'. Cut 13.1'; recovered 30.5'.</u>	
1741.7 - 1759.1'	Marlstone, medium to dark brown. Homogeneous, all intact. No nahcolite or vugs.
1759.1 - 1772.2'	Marlstone, as above.
<u>Core #53: 1772.2-1802.8'. Cut 30.6'; recovered 30.6'.</u>	
1772.2 - 1792.6'	Marlstone, dark chocolate brown, laminated in part, but mainly fairly homogeneous. Core completely intact, in long pieces.
1792.6 - 1800.4'	Marlstone, medium reddish brown, with nahcolite aggregates at 1795.6, 1797 and 1800'. Second appearance of nahcolite.
1800.4 - 1802.8'	Marlstone, dark brown.
<u>Core #54: 1802.8-1833.2'. Cut 30.4'; recovered 30.4'.</u>	
1802.8 - 1833.2'	Marlstone, dark brown, homogeneous. Intact (no nahcolite or nahcolite vugs). Several carbonaceous partings or thin zones of black carbonaceous accumulation (pyrrhotite) between 1821 and 1832'. Pinpoint porosity bleeding soapsuds as follows: 1803.3-1803.7'; 1804.0-1805.4'; 1806.8-1807.3'; 1813.9-1814.1'; 1815.9-1816.2'; 1822.7-1822.9'; 1824.2-1825.0'.

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<u>Interval</u>	<u>Description</u>
<u>Core #55: 1833.2-1863.5'. Cut 30.3'; recovered 30.3'.</u>	
1833.2 - 1839.0'	Marlstone, brown-dark brown, streaked, lenticular bedding. Moderately rich. Some flat pebble conglomerate 1833.2-1834.5'. Scattered FeS ₂ nodules in lower part. Solid.
1839.0 - 1842.0'	Marlstone, dark gray brown, thin laminated, banded. Dense. Solid.
1842.0 - 1846.2'	Marlstone, buff-tan-tan brown, thin laminated, banded. Bleeding gas throughout from pinpoint porosity. Solid.
1846.2 - 1849.0'	Marlstone, tan-brown-dark brown, thin laminated, banded. Some irregular tan marlstone nodules. Bleeding gas from spots. Solid. Scattered crystals 1/8-1/2" - not nahcolite.
1849.0 - 1852.4'	Marlstone, dark brown-dark gray brown, thin laminated, banded. Solid. Scattered crystals as above.
1852.4 - 1853.6'	Marlstone, brown-tan brown. Irregular bedded. Flat pebble conglomerate. Scattered crystals of what? 1/8-3/4" in size.
1853.6 - 1857.2'	Marlstone, dark brown, thin laminated, banded. Rich. Bleeding gas in spots. Scattered hairline bands of white crystals (dawsonite?). Solid.
1857.2 - 1863.5'	Marlstone, tan-tan brown-gray tan, thin laminated, banded. Scattered irregular flat pebble conglomerate from 1858.6-1860.1'. Solid.
<u>Core #56: 1863.5-1893.9'. Cut 30.4'; recovered 30.4'.</u>	
1863.5 - 1885.0'	Marlstone, dark brown-dark gray brown, thin laminated, banded. Solid.
1885.0 - 1893.9'	Marlstone, tan, tan brown-gray, thin laminated, banded. Solid. Kerogen filled fracture from 1888.6-1889.9' - thick brown waxy tar or kerogen.

<u>Interval</u>	<u>Description</u>
<u>Core #57: 1893.9-1924.2'. Cut 30.3'; recovered 30.3'.</u>	
1893.9 - 1902.9'	Marlstone, gray, tan-brown, thin laminated, banded.
1902.9 - 1910.3'	Marlstone, tan brown and gray brown, thin laminated, banded to massive. 3" gray ash nodule at 1905.1'.
1910.3 - 1924.2'	Marlstone, tan brown, thin laminated, banded. Irregular gray ash nodules 1911.9-1912.7' and 1915.1-1915.6'. Vertical fracture 1915.7-1916.6'. Core broken 1920.3-1924.0' - result of core barrel action.
<u>Core #58: 1924.2-1954.1'. Cut 29.9; recovered 29.9'.</u>	
1924.2 - 1924.4'	Marlstone, brown, thin laminated, banded. Burned.
1924.4 - 1926.2'	Marlstone, brown-tan brown, thin laminated, banded.
1926.2 - 1954.1'	Marlstone, buff-tan-brown, with some gray, thin laminated, banded. Nahcolite: 3" nodule at 1926.3', 4" at 1926.9', 8" at 1927.7', 6" and 2" at 1929.3'. Bed of 1/8-1/4" crystals 1930.8-1931.0'. 6" nodule at 1931.9', 1/4-1/2" crystals 1933.0-1933.3'. 2" bed of crystals 1934.8'. 1" bed of crystals 1935.1'. 4" bed of very coarse crystals 1939.2'. 1" nodule at 1939.4', 1" and 2" nodules at 1939.7'. 1" bed of very fine crystals at 1941.4'. 3" irregular nodule at 1943.1', 2" nodule at 1943.5', 2" nodule at 1945.1', 1" nodule at 1945.7'. Beds and nodules 1946.5', 1947.0', 3" nodule 1947.4', 3" 1947.5', 1" nodule at 1947.7', 3" at 1948.3'. Bedded 1" nodules at 1949.3'. 1/2 to 1" bands from 1950.1-1951.1' - 20% nahcolite. Several 1" nodules at 1951.5', 1" band of very fine crystals at 1951.7'. 4" nodule at 1953.2', several 1" nodules at 1953.5'.
<u>Core #59: 1954.1-1984.0'. Cut 29.9'; recovered 26.1'.</u>	
1954.1 - 1959.3'	Marlstone, tan, thin laminated, banded, with nahcolite nodules. 1" band of nahcolite crystals at 1954.5', 2" nahcolite nodule at 1954.6', 2" nodules at 1955.3'. Nahcolite crystal bed at 1955.7' (3" thick). 3" nodule at 1958.4', 2" nodule at 1957.4', 3" at 1959.1'. Bleeding gas from nahcolite and core from 1954.6-1955.9'.

<u>Interval</u>	<u>Description</u>
<u>Core #59 (continued)</u>	
1959.3 - 1963.8'	Marlstone, brown, thin laminated, banded. 1" nahcolite nodule at 1960.3', 1960.4', 1960.9'. Also scattered 1/4" nahcolite crystals in interval to 1961.0'.
1963.8 - 1972.2'	Marlstone, dark brown, thin laminated, banded. Rich.
1972.2 - 1977.0'	Marlstone, cream-buff-tan with some gray, thin laminated, banded.
1977.0 - 1980.2'	Marlstone, dark brown, thin laminated, banded. Rich. All core is solid.
<u>Core #60: 1984.0-2010.7'. Cut 26.7'; recovered 21.9'.</u>	
1980.2 - 1981.0'	Marlstone, as above.
1981.0 - 1985.2'	Marlstone, tan brown, thin laminated, banded.
1985.2 - 1989.3'	Marlstone, dark gray brown, banded, with some gray.
1989.3 - 1991.4'	Marlstone, brown-dark brown-gray brown-tan brown, thin laminated, banded.
1991.4 - 1994.8'	Marlstone, dark brown, thin laminated, banded.
1994.8 - 1999.0'	Marlstone, brown-gray brown, thin laminated, banded. Bleeding gas in spots 1995.5-1996.3'.
1999.0 - 2002.1'	Marlstone, dark brown, thin laminated, banded. Rich. All core is solid.
<u>Core #61: 2010.7-2031.4'. Cut 20.7'; recovered 27.8'.</u>	
2002.1 - 2020.6'	Marlstone, brown-dark brown-dark gray brown, thin laminated, banded. Rich.
2020.6 - 2029.9'	Marlstone, gray, with some tan banding, thin laminated, banded. Vertical fractures from 2021.9-2022.2', 2022.3-2024.3', 2026.1-2027.4', 2028.2-2028.6'.

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<u>Interval</u>	<u>Description</u>
<u>Core #62: 2031-2064'. Cut 33'; recovered 15.3'.</u>	
2029.9 - 2034.0'	Marlstone, gray tan, gray and tan banded, thin laminated. Vertical fractures.
2034.0 - 2041.5'	Marlstone, dark gray brown, massive.
2041.5 - 2045.2'	Marlstone, dark gray, gray brown, thin laminated, banded.
<u>Core #63: 2064-2080'. Cut 16'; recovered 30'.</u>	
2045.2 - 2046.6'	Marlstone, gray and tan, thin laminated, banded.
2046.6 - 2049.0'	Marlstone, tan-brown, thin laminated, banded.
2049.0 - 2055.8'	Marlstone, dark brown, thin laminated, banded. Occasional streak of black in irregular lenticular banding.
2055.8 - 2060.1'	Marlstone, dark brown, thin laminated, banded, with many irregular lenticular black bands.
2060.1 - 2075.0'	Marlstone, tan-brown, thin laminated, with many irregular black pyrite nodules. Last foot broken.
2075.0 - 2076.3'	Marlstone, dark brown, thin laminated, banded. Broken.
2076.3 - 2080.0'	Core lost - probably lost at 2029.9-2033.9'.
<u>Core #64: 2080.0-2110.3'. Cut 30.3'; recovered 30.2'.</u>	
2080.0 - 2086.0'	Marlstone, dark brown, thin laminated, banded.
2086.0 - 2088.0'	Marlstone, tan-brown-gray, thin laminated, banded.
2088.0 - 2090.8'	Marlstone, tan brown with streaked irregular lenticular bedding.

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<u>Interval</u>	<u>Description</u>
<u>Core #64 (continued)</u>	
2090.8 - 2096.0'	Marlstone, buff-tan-brown-gray, thin laminated, banded. Bleeding gas in few spots.
2096.0 - 2105.2'	Marlstone, dark brown, thin laminated. Scattered banding.
2105.2 - 2107.2'	Marlstone, tan brown, thin laminated, banded. Bleeding gas in spots.
2107.2 - 2110.2'	Marlstone, dark gray brown, banded. Bleeding gas in spots.
<u>Core #65: 2110.3-2140.5'. Cut 30.2'; recovered 30.3'.</u>	
2110.2 - 2111.0'	Marlstone, as above.
2111.0 - 2115.1'	Marlstone, tan brown, irregular lenticular bedding Rich. Some flat pebble conglomerate.
2115.1 - 2119.2'	Marlstone, dark brown, thin laminated, banded.
2119.2 - 2121.3'	Marlstone, tan brown, thin laminated, banded. Some contorted bedding near base.
2121.3 - 2127.0'	Marlstone, dark brown-dark gray brown, thin laminated, banded. Slightly shaly.
2127.0 - 2128.0'	Marlstone, dark brown, thin laminated, banded. Rich.
2128.0 - 2132.1'	Marlstone, gray-tan-brown, thin laminated, banded.
2132.1 - 2140.5'	Marlstone, shaly, dark gray-dark gray brown-dark brown, thin laminated, banded. Biscuity.
<u>Core #66: 2140.5-2170.0'. Cut 29.5'; recovered 29.5'.</u>	
2140.5 - 2144.9'	Marlstone, shaly, as above.
2144.9 - 2147.1'	Marlstone, brown-dark brown, with some tan, thin laminated, banded.

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Interval

Description

Core #66 (continued)

2147.1 - 2156.3' Marlstone, buff-tan-light brown, thin laminated, banded, with streaks of lenticular bedding.

2156.3 - 2157.5' Marlstone, dark brown. Rich.

2157.5 - 2167.9' Marlstone, dark gray brown, dark brown with scattered bands of light brown, thin laminated, banded. Badly broken 2164.2-2165.2'.

2167.9 - 2170.0' Marlstone, gray tan to brown, thin laminated, banded.

Core #67: 2170.0-2200.7'. Cut 30.7'; recovered 30.7'.

2170.0 - 2171.7' Marlstone, shaly, dark brown-black, thin laminated, banded.

2171.7 - 2178.0' Marlstone, dark brown-dark gray brown, thin laminated, banded, with several tan bands in last 18".

2178.0 - 2186.0' Marlstone, buff-tan-brown, thin laminated, banded; also with some light gray.

2186.0 - 2192.1' Marlstone, shaly, dark gray brown, thin laminated, banded. 3" porous dolomitic band at 2191.0', 2" at 2191.5' and 3" at 2192.1'.

2192.1 - 2200.7' Shale, marly, thin laminated, banded. Much broken and biscuity. Scattered beds of tan and gray tan dolomite.

Core #68: 2200.7-2231.0'. Cut 30.3'; recovered 30.3'.

2200.7 - 2202.4' Marlstone, light gray and tan, thin laminated, banded.

2202.4 - 2206.3' Marlstone, buff-tan-brown, thin laminated, banded.

2206.3 - 2213.3' Marlstone, shaly, brown and gray with some tan, thin laminated, banded. Has many 1-3" tan, fractured dolomite beds. Broken in part.

<u>Interval</u>	<u>Description</u>
<u>Core #68 (continued)</u>	
2213.3 - 2231.0'	Marlstone, shaly and shale, marly, gray, gray brown and tan brown, thin laminated, banded. Badly broken and biscuity. Scattered vertical fractures.
<u>Core #69: 2231.0-2261.0'. Cut 30'; recovered 13.5'.</u>	
2231.0 - 2232.3'	Shale and marlstone, as above.
2232.3 - 2233.9'	Marlstone, tan-gray-brown, thin laminated, banded.
2233.9 - 2238.9'	Marlstone, shaly, dark gray-brown, thin laminated, banded. Broken and biscuity.
2238.9 - 2243.0'	Marlstone, dark brown to brown black, thin laminated, banded.
2243.0 - 2244.5'	Marlstone, buff-tan-brown, thin laminated, banded.
<u>Core #70: 2261.0-2276.0'. Cut 15'; recovered 22.1'.</u>	
2244.5 - 2246.0'	Marlstone, as above, with 3" tan dolomite bed at top.
2246.0 - 2266.6'	Marlstone, dark brown-brown, thin laminated, banded, with scattered laminae of tan. Solid. 3" tan dolomite bed at 2254.5' and 1" at 2255.3', 4" at 2261.2' and 3" at 2266.5'.
2266.6 - 2272.9'	Lost.
<u>Core #71: 2276.0-2303.1'. Cut 27.1'; recovered 18.2'.</u>	
2272.9 - 2274.6'	Marlstone, as above.
2274.6 - 2288.5'	Marlstone, brown-dark brown, with some tan interbeds, thin laminated, banded. 2" brown dolomite at 2288.2'. Bleeding brown, waxy crude from 2" dolomite bed at 2280.3'.

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<u>Interval</u>	<u>Description</u>
<u>Core #71 (continued)</u>	
2288.5 - 2291.1'	Marlstone, dark gray brown, thin laminated, banded. Several lenticular calcite bands 2290.2-2290.5'.
<u>Core #72: 2303.1-2322.0'. Cut 18.9'; recovered 25.0'.</u>	
2291.1 - 2294.9'	Lost - ground up.
2294.9 - 2297.0'	Marlstone, as above.
2297.0 - 2299.0'	Marlstone, tan-brown-dark brown, thin laminated, banded.
2299.0 - 2305.0'	Marlstone, dark brown, thin laminated, banded.
2305.0 - 2312.0'	Marlstone, brown-dark brown, thin laminated, banded.
2312.0 - 2318.3'	Marlstone, shaly, dark brown, thin laminated, banded. Biscuity and badly broken.
2318.3 - 2319.9'	Marlstone, tan-brown-dark brown, thin laminated, strongly banded.
<u>Core #73: 2322.0-2350.0'. Cut 28'; recovered 30.1'.</u>	
2319.9 - 2326.0'	Marlstone, dark brown, thin laminated, banded. Slightly biscuity.
2326.0 - 2328.1'	Marlstone, tan-brown-dark brown, thin laminated, strongly banded.
2328.1 - 2332.8'	Marlstone, dark brown, thin laminated, banded. Rich.
2332.8 - 2340.6'	Marlstone, tan to dark brown, thin laminated, banded. Rich.
2340.6 - 2345.7'	Marlstone, shaly, dark brown-brown-tan-brown and gray, thin laminated. banded. 1" brown ash at base.

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<u>Interval</u>	<u>Description</u>
<u>Core #73 (continued)</u>	
2345.7 - 2350.0'	Marlstone, brown-dark brown, thin laminated, banded.
<u>Core #74: 2350.0-2383.0'. Cut 30'; recovered 29.6'.</u>	
2350.0 - 2353.0'	Marlstone, as above, some black.
2353.0 - 2360.3'	Shale, marly, dark gray with scattered gray laminae. Biscuity and broken.
2360.3 - 2376.7'	Marlstone, brown-dark brown, thin laminated, banded. Moderately rich. Some biscuity.
2376.7 - 2379.6'	Marlstone, shaly, dark gray and brown. Biscuity.
2380.0 - 2383.0'	Kelly correction.
<u>Core #75: 2383-2411'. Cut 28'; recovered 30'.</u>	
2379.6 - 2394.0'	Marlstone, shaly as above. Mostly solid core (less Kelly correction).
2394.0 - 2401.0'	Marlstone, shaly, dark gray brown, thin laminated, banded.
2401.0 - 2404.8'	Marlstone, tan-brown-dark brown, thin laminated, banded.
2404.8 - 2412.6'	Marlstone, dark gray brown, thin laminated, banded, with several 1/2" bands of tan dolomite. Badly broken 2409.5-2411.0'.
<u>Core #76: 2411-2441'. Cut 30'; recovered 30'.</u>	
2412.6 - 2430.1'	Marlstone, brown-dark brown, thin laminated, banded. Rich.
2430.1 - 2434.0'	Marlstone, shaly, dark gray brown to tan brown at base, thin laminated, banded.
2434.0 - 2442.9'	Shale, marly, dark gray, with some dark brown bands. Blocky.

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Interval

Description

Core #77: 2441-2471.4'. Cut 30.4'; recovered 25.3'.

2442.9 - 2456.6' Shale, marly, dark gray with some brown bands. Many 1 4-1" tan dolomite bands from 2452 to 2456.6'.

2456.6 - 2459.4' Marlstone, dark brown, thin laminated, banded, with many bands of tan brown. (Orange Marker)

2459.4 - 2461.5' Marlstone, dark gray brown, thin laminated, banded. Slightly shaly.

2461.5 - 2467.9' Marlstone, slightly shaly, gray tan-gray brown-dark brown, thin laminated, banded. 1/2" gray ash at 2464.7 and 1/4" at 2465.2'. Vertical fracture 2466.6-2467.9'.

2467.9 - 2468.2' Marlstone, shaly, brown-black, thin laminated, banded.

Core #78: 2471.4-2500.1'. Cut 28.7'; recovered 30'.

2468.2 - 2472.9' Marlstone, as above. Orange painted core chip at 2470.0'. (Orange Marker!)

2472.9 - 2499.1' Marlstone, shaly, brown, dark brown to black. Interbedded with some tan beds. Thin laminated. Core solid except for 2493.0-2496.7', where badly broken. Core looks moderately rich!

Core #79: 2500.1-2530'. Cut 29.9'; recovered 29.9'.

2499.1 - 2503.0' Shale, marly, dark brown to black, banded.

2503.0 - 2529.6' Marlstone, shaly, brown-dark brown, banded. 1" white ash at 2521.1'.

Total Depth: 2530.0' (driller)
2524.0' (log)