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SF100694D

Kohlmeier # 2352

GEOLOGISTS LOG OF MC-5002

S. 18 Twp 49 Rge 28

MC-5002 needs shallow picks

Depth (ft)	Lithology
0-3.5	Sand, pale yellowish brown (10 YR 6/2), quartz, fine-grained, unfossiliferous.
3.5-11	Limestone, mostly yellowish gray (5 Y 7/2 to 5 Y 8/2) with some dark yellowish brown (10 YR 6/6) iron oxide surface staining, texturally variable (biomicrite and biosparite). Fossils include mollusks and corals (including Montastrea annularis), which commonly have a chalk appearance and are very soft.
11-15	Limestone, yellowish gray (5 Y 7/2) with moderate olive brown (5 Y 4/4) to olive gray (5 Y 3/2) iron oxide surface staining, biosparite, hard, high porosity. Minor (several percent) fine-grained, quartz Sand. Fossils include chalky appearing mollusk fragments, corals are less abundant than above.
15-20	Limestone, yellowish gray (5 Y 7/2), with moderate olive brown (5 Y 4/4) to olive gray (5 Y 3/2) iron oxide surface staining from 15-17, biosparite, hard, high porosity, very high permeability, major loss of mud circulation at about 17'. Minor (several percent) fine-grained quartz Sand. Minor large, diagenetically altered aragonitic mollusk fragments, common molds after small bivalves.
20-34	Limestone, yellowish gray (5 Y 7/2) to very pale orange (10 YR 8/2), biosparite, hard, moderate to high porosity including common molds after aragonitic mollusk shells. Minor (several percent) fine-grained quartz Sand.
34-40	Limestone, medium light gray (N6) to light olive gray (5 Y 6/1), biosparite, moderate hardness, moderate to high porosity, including common molds after aragonitic mollusk shells. Minor (several percent) very fine to fine-grained quartz sand.
40-50	Limestone, yellowish gray (5 Y 7/2), biosparite, moderate hardness, moderate to high porosity including common molds after aragonitic mollusk shells. Minor (several percent) very fine to fine-grained quartz sand. Limestone consists of

abundant large fossils (mollusks) in a carbonate sand matrix.

50-55	Limestone, yellowish gray (5 Y 7/2), biosparite, moderate hardness (somewhat softer than above), moderate to high porosity including common molds after aragonitic mollusk shells. Minor (several percent) very fine to fine-grained quartz sand. Limestone consists of abundant large fossils (mollusks) in a carbonate sand matrix.
55-60	Limestone, yellowish gray (5 Y 7/2), biopelsparite, soft (generally semifriable), moderate to high porosity, finer grained (fine to medium-grained) than overlying limestone. Minor (several percent) very fine to fine-grained quartz sand. Common calcitic mollusk shells.
60-75	Limestone, yellowish gray (5 Y 7/2 to 5 Y 6/2), biopelsparite, soft (generally semifriable), moderate to high porosity. Minor (several percent) very fine to fine-grained quartz sand. Minor (1%) calcitic mollusk shells.
75-80	Limestone (Coquina?), interval with extremely abundant fossils, thin-shelled calcite mollusk and minor bryozoans. Swift, rapid drilling rate. Matrix, if any, is carbonate Sand, no clay fragments were recovered. Minor phosphate.
80-85	Limestone, yellowish gray (5 Y 8/1 to 5 Y 7/2), biosparite, hard, moderate to high visible porosity (intergranular and moldic after aragonitic mollusks), minor (2-5%) quartz and (1-2%) very fine to fine sand-sized phosphate grains. Some large calcitic bivalves and internal casts of gastropods.
85-110	Limestone, biosparite, hard, yellowish gray (5 Y 8/1 to 5 Y 7/2), minor (2-5%) quartz (several and (1-2%) very fine to fine Sand-sized quartz phosphate grains. Some large calcitic bivalves and internal casts of gastropods, moderate to high visible porosity, intergranular and moldic after aragonitic mollusks. Minor (1-2%) glauconite from 100-110'.
110-125	Limestone, yellowish gray (5 Y 8/1), slightly lighter colored than overlying limestone, biosparite, hard, moderate to high visible intergranular porosity, common quartz (3-10%), trace (< 1%) phosphate. Some large calcitic bivalves and internal casts of gastropods.

GEOLOGISTS LOG OF MC-5002

125-135	Limestone, yellowish gray (5 Y 8/1), quartz biosparite, hard, moderate to high visible porosity, 10-20+% very fine to fine-grained quartz, Minor medium gray (N5) to medium olive gray (5 Y 7/1) biomicrite.
135-160	Sandstone, yellowish gray (5 Y 8/1), quartz and less abundant carbonate grains, fine-grained, fossiliferous, hard (not friable), moderate porosity, common calcitic bivalves. Trace phosphate grains, mostly silt and very fine sand-sized.
160-180	Sandstone, moderate olive brown (5 Y 4/4) and yellowish gray (5 Y 7/2), quartz, fine-grained, muddy, fossiliferous, calcite-cemented, moderate hardness and porosity. Fossils consist mostly of large bivalves.
180-200	Sandstone, yellowish gray (5 Y 7/2) and/to light olive gray (5 Y 5/2), quartz, fine-grained, muddy, fossiliferous, calcite-cemented, moderate hardness and porosity. Fossils consist mostly of large bivalves.
200-252	Sand, yellowish gray (5 Y 7/2 to 5 Y 6/2), quartz and less abundant carbonate grains, very fine to fine-grained, trace very-fine grained phosphate grains. Sand predominantly produced during drilling; few large cuttings.
252-270	Limestone, grayish orange (10 YR 7/4 to 10 YR 7/6), biosparite, hard, high visible intergranular and moldic porosity, minor sand-sized phosphate grains. Limestone consists of large fossils (bivalves, gastropods and minor bryozoans) in a carbonate sand matrix.
255-270	Limestone, biosparite, hard, High visible intergranular and moldic porosity, grayish orange (10 YR 7/4 to 10 YR 7/6). Large fossils (bivalves, gastropods and minor bryozoans) in a carbonate Sand matrix. Minor sand-sized phosphate grains. At 264' some white (N9) to yellowish gray (5 Y 8/1) biomicrite cuttings.
270-278	Limestone, grayish orange (10 YR 7/4 to 10 YR 7/6) to yellowish gray (5 Y 7/2), predominantly biosparite, hard, moderate to high visible intergranular and moldic porosity. Limestone consists of large fossils (bivalves and minor bryozoans) in a carbonate sand matrix. Some coarse shelly fragments have a very high moldic porosity.

278-300	Clay, very pale yellowish gray (5 Y 8/2) to pale greenish yellow (10 Y 8/2) and greenish gray (5 GY 6/1), subsidiary amounts of silt and very fine sand-sized quartz grains, soft, very low permeability, minor phosphate. Minor (5-10%) sandstone, yellowish gray (5 Y 7/2), quartz, fine-grained, and limestone, yellowish gray (5 Y 7/2), quartz biomicrite.
300-310	Clay, yellowish gray (5 Y 7/2) to pale greenish yellow (10 Y 7/2) and pale yellowish gray (5 Y 8/2) and pale greenish yellow (10 Y 8/2), abundant silt and fine sand-sized quartz, soft, very low permeability. Minor (1-3%) sand-sized phosphate grains.
310-318	Clay, greenish gray (5 GY 6/1 to 5 GY 5/1), abundant silt and fine sand-sized quartz and common medium sand-sized and coarser quartz grains, soft, very low permeability. Minor (1-3%) sand-sized phosphate grains.
318-335	Clay, pale olive (10 Y 6/2) and yellowish gray (5 Y 8/1 to 5 Y 7/2), subsidiary amounts of silt and fine sand-sized quartz, soft, very low permeability, minor (1-3%) sand-sized phosphate grains. Common medium sand-sized and coarser quartz grains from about 333' to 335'
335-340	Clay, greenish gray (5 GY 6/1 to 5 GY 5/1), relatively little quartz silt and sand, soft, very low permeability. Minor (1-3%) very fine and fine sand-sized phosphate grains. Very minor limestone, yellowish gray (5 Y 7/2), packed biomicrite, high moldic porosity after aragonitic mollusks,.
340-365	Clay, pale olive (10 YR 6/2) and less commonly greenish gray (5 Y 5/1 to 5 Y 6/1), subsidiary amounts of silt and very fine-grained quartz sand, soft, very low permeability. Minor (1-3%) very fine and fine sand-sized phosphate grains.
365-394	Clay, pale olive (10 YR 6/2) to greenish gray (5 Y 6/1 to 5 Y 5/1), subsidiary amounts of silt and very fine-grained quartz sand, soft, very low permeability. Common (3-5%) very fine sand to granule-sized phosphate grains. Phosphate concentration is significantly higher than in overlying clay.
394-403	Limestone, very light gray (N8), biosparite to packed biomicrite, hard, non-friable, moderate visible intergranular porosity, minor (1-2%) silt and very fine sand-sized phosphate

	grains. Minor (0-5%) very fine-grained quartz. Abundant mollusk fragments, mostly calcitic bivalves.
403-414	Limestone, yellowish-gray (5 Y 7/2) to pale greenish-yellow (10 Y 8/2), biomicrite, slightly sandy, moderately soft to moderately hard, phosphatic, abundant (50%) shell fragments (bivalves), common (5-10%) phosphate grains, high porosity (moldic).
414-415	Limestone, light gray (N7), biomicrite, moderately soft to moderately hard, phosphatic, high moldic porosity, trace 1 mm phosphate grains.
415-417	Dolomite, pale olive (10 Y 6/2), microsucrosic, hard, phosphatic, trace sand-sized phosphate grains, high apparent porosity, moderate to low permeability, ~30% shell mixed with dolomite at 417'.
417-427	Limestone, very light gray (N8) to white (N9), biomicrite, moderately soft to moderately hard, phosphatic, abundant shell (bivalve) and coral fragments, high porosity (moldic).
427-430	Limestone, yellowish-gray (5 Y 7/2), biocalcarenite (biosparite), moderately soft, phosphatic, abundant fossils (including echinoderm and coral fragments), high porosity (moldic).
430-432	Limestone, white (N9), biomicrite, sandy, moderately soft, phosphatic, abundant shell (30%), high porosity (moldic).
432-435	Limestone, white (N9), biomicrite, moderately soft, phosphatic, abundant (30%) shell fragments, high porosity (moldic).
435-440	Limestone, white (N9), biomicrite, slightly sandy (quartz), moderately hard, phosphatic, abundant shell fragments (bivalves and foraminifera), very high moldic porosity.
440-447	Limestone, yellowish-gray (5 Y 7/2), biomicrite, moderately hard, phosphatic, very high moldic porosity.
447-453	Limestone, very light gray (N8), biomicrite, moderately hard to hard, phosphatic, high to very high moldic porosity. Sand (quartz) concentration increases below 452'.

453-459	Limestone, yellowish-gray (5 Y 7/2), biomicrite, sandy, hard, phosphatic, high moldic porosity.
459-461	Limestone, yellowish-gray (5 Y 7/2), calcarenite (poorly cemented biosparite), hard, phosphatic, abundant (30%) shell fragments, high porosity (intergranular moldic).
461-474	Limestone, yellowish-gray (5 Y 7/2) to dusky yellow (5 Y 6/4), calcarenite (poorly cemented biosparite), moderate soft, phosphatic, high porosity (intergranular). Fossil abundance decreased from 471 to 474 feet.
474-475	Limestone, yellowish-gray (5 Y 7/2) to pale olive (10 Y 6/2), calcarenite (poorly cemented biosparite), moderately soft, phosphatic, , abundant coral fragments, high apparent intergranular and moldic porosity.
475-478	Limestone (90%), yellowish-gray to pale olive, as above. Clay (10%), pale olive (10 Y 6/2), partially lithified, stiff, low apparent porosity, very low permeability.
478-481	Limestone, yellowish-gray (5 Y 7/2) to pale olive (10 Y 6/2), calcarenite (poorly cemented biopelsparite, moderately soft, high good intergranular and moldic porosity.
481-492	Limestone, yellowish gray (5 Y 7/2 - 5 Y 8/1), biopelsparite, moderate hardness, moderate to high porosity, mostly intergranular, much less abundantly moldic after aragonitic bivalves. Minor (1-2%) very fine sand-sized phosphate grains. Limestone consists predominantly of fine-grained carbonate sands with sparse larger (millimeter-sized) fossil fragments, including bivalves and gastropods.
492-500	Limestone, very pale olive (10 Y 7/2 to 10 Y 7/4) and yellowish gray (5 Y 7/2), biosparite, moderate hardness, high porosity, mostly intergranular, much less abundantly moldic after aragonitic bivalves. Minor (1-2%) very fine sand-sized phosphate grains. Calcitic fossil fragments (bivalves and bryozoans) are much more abundant than in overlying limestone (10%). Minor very pale orange (10 YR 8/2) packed biomicrite was encountered at about 492 feet.
500-505	Marl, yellowish gray (5 Y 7/2) to very pale olive (10 Y 6/2), abundant very fine to fine-grained sand (carbonate), soft, very

	low permeability, common (10%) large fossil fragments (calcitic bivalves and bryozoans), 2-4% sand-sized phosphate grains, trace granule-sized phosphate grains.
505-509	Limestone, yellowish gray (5 Y 8/1), packed biomicrite and less abundantly biosparite (calcarenite), moderate hardness, moderate porosity, larger fossils include calcitic bivalves and casts of gastropods, 1-3% very fine to fine-grained phosphate grains.
509-511	Marl, pale olive (10 Y 6/2), fossiliferous (calcitic bivalves), soft, abundant carbonate sand, very low permeability.
511-513	Limestone, dolomite, and marl (subequal abundances). Limestone: yellowish gray (5 Y 8/1), packed biomicrite and less abundantly biosparite, moderate hardness, moderate porosity. Dolomite: yellowish gray (5 Y 7/2), microsucrosic. Marl, dusky yellowish green (5 GY 5/2), silty, fossiliferous (calcitic bivalves), soft, very low permeability.
513-517	Clay, dusky yellowish green (5 GY 5/2), silty, fossiliferous (calcitic bivalves), soft, very low permeability, 1-2% very coarse sand to granule-sized phosphate grains.
517-523	Marl, pale olive (10 YR 6/2) to yellowish gray (5 Y 7/2), abundant very fine-grained quartz and carbonate sand (may be more of a muddy sand), fossiliferous (calcitic bivalves), 2-4% very fine sand-sized and trace very coarse sand to granule-sized phosphate grains. Minor (<10%) limestone, yellowish gray (5 Y 8/1) biosparite.
523-525	Limestone, very pale orange (10 YR 8/2) to yellowish gray (5 Y 8/1), biosparite (calcarenite) and packed biomicrite, hard, low to moderate porosity (moldic after aragonitic fossils), 2-3% very fine to fine-grained phosphate. Large (millimeter-sized) fossil fragments include echinoderms and calcitic bivalves.
525-530	Limestone, very pale orange (10 YR 8/2) to yellowish gray (5 Y 8/1), packed biomicrite, hard, moderate porosity (moldic after aragonitc fossils), 2-3% very fine to fine-grained phosphate. Large (millimeter-sized) fossil fragments include echinoderms and calcitic bivalves. Matrix has a silty appearance.

530-535	Limestone, yellowish gray (5 Y 8/1), packed biomicrite (abundant mollusks) and minor (5-10%) biosparite, hard, low porosity. Minor dolomite, light olive gray (5 Y 6/1) at about 530 feet and 532-535 feet, which occurs as a microcrystalline replacement of the micrite matrix. Aragonite mollusk shells are consist of neomorphic and/or cement calcite.
535-542	Limestone, yellowish gray (5 Y 8/1), packed biomicrite and minor (5-10%) biosparite, hard, moderate porosity, fossil include: calcitic bivalves, and molds and casts or aragonitic bivalves and gastropods. Minor (1-2%) sand-sized phosphate grains.
542-546.5	Limestone, yellowish gray (5 Y 8/1) to very pale orange (10 YR 8/2), poorly cemented biosparite (calcarenite), soft, friable, moderate porosity and permeability, 1-3% sand-sized phosphate. Large fossils include bivalves, echinoid spines, and bryozoan fragments. The limestone from 545-546.5 feet is very poorly lithified or unlithified.
546.5-549.5	Dolomite, yellowish gray (5 Y 7/2), microsucrosic, fossiliferous, hard, moderate to high porosity (moldic after aragonitic fossils) and intercrystalline. Dolomite contains some unreplaced calcite.
549.5-552	Limestone, yellowish gray (5 Y 8/1), packed biomicrite, hard, moderate porosity (mostly moldic after aragonitic bivalves, minor large calcitic bivalve fragments, 1-2% sand-sized phosphate.
552-559	Limestone, very light olive gray (5 Y 7/1) to very pale orange (10 YR 8/2), poorly cemented biosparite (calcarenite), soft, friable, moderate porosity, 5-8% very fine sand-sized phosphate.
559-560	Dolomite, yellowish gray (5 Y 7/2), microsucrosic, fossiliferous, hard, moderate to high porosity (moldic after aragonitic fossils) and intercrystalline. Dolomite contains some unreplaced calcite.
560-562	Marl, yellowish gray (5 Y 8/1), sandy (carbonate), very soft.
562-565	Limestone, yellowish gray (5 Y 7/2), poorly cemented biopelsparite (calcarenite), fine-grained, soft, friable, high

porosity, trace phosphate, large fossil fragments are sparse.

565-569 Limestone, very pale orange (10 YR 8/2) to yellowish gray (5 Y 8/1), packed biomicrite, hard, moderate porosity (moldic after aragonitic mollusks), 1-2% sand-sized phosphate. Fossils include formerly aragonitic mollusks, calcitic bivalves, and bryozoans.

569-579 Limestone, yellowish gray (5 Y 7/2), biosparite (calcarenite), soft to moderately hard, semi-friable, moderate to high porosity, 5-10% sand-sized phosphate. Limestone consists of large (millimeter and greater-sized) bivalves and bryozoans in a fine-grained carbonate sand matrix.

579-582.5 Marl, yellowish gray (5 Y 7/2) to very pale olive (10 Y 7/2), sandy (calcareous), fossiliferous (bivalves and bryozoans), soft, 5-10% very fine to fine sand-sized phosphate.

582.5-588 Sandstone, light to medium olive gray (5 Y 5/2 to 5 Y 4/2), very fine to fine-grained, soft, semifriable, moderate porosity, minor fossils (calcitic bivalves and bryozoans), very mild reaction to hydrochloric acid.

588-590 Clay, dark olive gray (10 Y 3/2) and some light to medium olive gray (5 Y 6/1 to 5 Y 5/1), abundant quartz silt, soft, fossiliferous (calcitic bivalves), 5-10% silt to granule-sized phosphate grains.

590-595 Clay, yellowish gray (5 Y 7/2), abundant quartz silt, soft, fossiliferous (calcitic bivalves and echnoids), 5-10% silt to granule-sized phosphate grains. Approximately 10% limestone from 592-595 feet, yellowish gray (5 Y 8/1 to 5 Y 7/2), biopelmicrite to biopelsparite.

595-600 Clay, yellowish gray (5 Y 8/1, abundant quartz silt, fossiliferous (calcitic bivalves and echnoids), 5% silt to granule-sized phosphate grains.

600-605 Dolomite, light olive gray (5 Y 5/2) to yellowish gray (5 Y 7/2), microsucrosic, very hard, dense, low to moderate porosity (some vuggy pores), phosphate is abundant (10-20%) from 600-601, where it occurs as same sized grains and millimeter-sized concretions. Common (5%) unreplaced calcitic bivalves.

662-665	Clay/marl, yellowish gray (5 Y 7/2) to very pale olive (10 Y 7/2) to very pale greenish gray (5 GY 7/1), fossiliferous (bryozoans and minor bivalves), soft, trace very coarse sand to granule-sized phosphate. Contains abundant silt to very fine sand-sized peloids. Mild hydrochloric acid reaction.
665-667	Clay, very pale greenish gray (5 GY 7/1), minor fossils (bryozoans), soft, trace phosphate. More cohesive (clayey) than marl at 662-665 feet. Contains abundant silt to very fine sand-sized peloids.
667-669	Marl, pale olive (10 Y 6/2), minor fossils (bryozoans), soft. Minor siltstone-very fine-grained sandstone, pale olive (10 Y 6/2), poorly cemented, friable.
669-670	Marl, very pale yellowish gray (5 Y 8/1), fossiliferous (bryozoans), very low volume of coarse cuttings.
670-671.5	Limestone, yellowish gray (5 Y 8/1) to very pale orange (10 YR 8/2), biosparite (calcarenite), moderate hardness, high porosity, abundant large fossil fragments (calcitic bivalves and bryozoans), 2-3% phosphate fragments and granules.
671.5-676.5	Dolomite and marl Dolomite: medium olive gray (5 Y 5/1 and 5 Y 4/1), microsucrosic, very hard, low porosity, replacement of micrite. Marl: yellowish gray (5 Y 8/1), silty, soft, 5% phosphate.
676.5-678.5	Dolomite, pale to medium olive (10 Y 6/2 to 10 Y 5/2), microsucrosic, hard, high porosity, trace phosphate.
678.5-679.5	Marl, pale olive (10 Y 6/2), silty, soft, minor bivalve fragments, 1-3% very coarse sand to granule-sized phosphate grains.
679.5-683.5	Dolomite, pale olive (10 Y 6/2), microsucrosic, very hard, moderate to high porosity (mostly intercrystalline), 1-2% sand to granule-sized phosphate, 2-3% white calcitic shell fragments.
683.5-684.5	Marl, fossiliferous, very little recovery.
684.5-693.5	Limestone, yellowish gray (5 Y 8/1), poorly cemented biosparite, variable hardness, moderate to high porosity, minor bivalves, 1-5% sand-sized phosphate (abundance is

variable).

693.5-694.5	Limestone, dolomite, and marl (minor). Limestone: yellowish gray (5 Y 8/1) packed biomicrite to biosparite (calcarenite). Dolomite, very pale olive to pale olive (10 Y 7/2 to 10 Y 6/2), microsucrosic. Marl, yellowish gray (5 Y 8/1), soft.
694.5-717	Limestone, yellowish gray (5 Y 8/1), poorly cemented biopelsparite, fine to medium-grained, soft (friable) to moderately hard (variable), high porosity, very minor large fossils (bivalves and bryozoans), only trace phosphate.
717-722	Limestone, yellowish gray (5 Y 7/2), biopelmicrite/sparite, hard to moderately hard, low to moderate porosity, 1-2% sand-sized phosphate. Darker and more phosphatic than overlying limestone.
722-725	Limestone, yellowish gray (5 Y 8/1), biopelsparite (calcarenite), fine-grained, moderate hardness, moderate porosity, trace (< 1%) sand-sized phosphate. Trace (1%) large fossils (bivalves).
725-728	Limestone, yellowish gray (5 Y 8/1), biopelmicrite, moderate hardness, moderate porosity (moldic after aragonitic mollusks).
728-734	Limestone, light gray (N8) to yellowish gray (5 Y 8/1), biosparite, fine to medium-grained, 5% quartz, hard, moderate porosity, trace phosphate. Some moldic pores after aragonitic mollusks from 730-734 feet.
734-742	Limestone, yellowish gray (5 Y 8/1), biopelsparite, hard, moderate porosity, trace phosphate and minor large (millimeter-sized) fossils (bivalves). Minor (10%) dolomite, pale olive (10 Y 6/2), microsucrosic, most common 738-740 feet.
742-755	Limestone, yellowish gray (5 Y 8/1), packed biomicrite, hard, low porosity (moldic after aragonitic fossils), 2-5% skeletal phosphate grains. Large fossils include: calcitic bivalves, casts and molds of aragonitic bivalves and gastropods, neomorphosed and/or cement-filled molds of aragonitic

	mollusks, and corals from 754-755.
755-758	Limestone, very pale orange (10 YR 8/2), coral, neomorphosed, hard, very low porosity in cuttings. There could still be a high "intercoral" porosity in this interval.
758-762	Limestone, very light olive gray (5 Y 7/1), biopelsparite (calcarenite), fine-grained carbonate sand with minor larger fossil fragments, moderate hardness, high porosity, 1-5% phosphate (skeletal fragments and black grains). Larger fossil include: molds of aragonitic bivalves and gastropods, calcitic bivalves, and echnoids.
762-799.5	Limestone, yellowish gray (5 Y 8/1), biopelsparite and possible minor (<5%) biomicrite, fine to medium-grained carbonate sand with some (< 10%) larger fossils, moderately hard to hard (variable), moderate porosity (moldic and intergranular), trace very fine-grained phosphate sand. Fossils include calcitic bivalves, echinoderms, foraminifera, mollusk casts and molds, and neomorphosed and/or cement-filled molds of aragonitic mollusks.
799.5-800	Limestone, very light olive gray (5 Y 7/1) to light gray (N7). quartz biopelmicrite/sparite, abundant very fine to fine-grained quartz sand.
800-808.5	Dolomite, pale yellowish brown (10 YR 6/2) to very light olive gray (5 Y 6/2) to yellowish gray (5 Y 7/2), dense, microsucrosic, extremely hard, no visible porosity, structureless, no ghosts of precursor.
808.5-814.5	Dolomite, light olive gray (5 Y 5/2) to (5 Y 6/2), microsucrosic, replacement of fossiliferous limestone, very hard, low to moderate porosity (moldic and ?vuggy).
814.5-817	Limestone, light olive gray (5 Y 5/2), biomicrite/sparite, very fine to fine-grained, soft to moderately hard, low to moderate porosity. Limestone appears to consist of sand grains in a marly/clayey matrix.
817-818.5	Limestone, yellowish gray (5 Y 7/2), poorly cemented biopelsparite (calcarenite), very fine to fine-grained, soft to moderately hard, moderate to high porosity, minor calcitic fossil fragments.

818.5-822	Limestone, yellowish gray (5 Y 8/1), poorly cemented biopelsparite, very fine to fine-grained, soft to moderately hard (semi-friable), high porosity (intergranular and minor moldic after aragonitic fossils), large fossil fragments were not observed. Marl encountered in the 818.5 to 819.5 interval.
822-825	Limestone, yellowish gray (5 Y 8/1), biopelsparite/micrite (calcarenite), hard (not friable), moderate porosity (intergranular and minor moldic after aragonitic fossils). Large (millimeter-sized fossil fragments are common and include calcitic bivalves and molds and casts of aragonitic bivalves and gastropods.
825-829.5	Dolomite, light olive gray (5 Y 5/2), microsucrosic, very hard, low porosity, sandy appearance. This dolomite formed by replacement of carbonate sand.
829.5-832.5	Sand, yellowish gray (5 Y 7/2 to 5 Y 8/1), very fine to fine-grained quartz, minor marl at 829.5.
832.5-840	Limestone, very pale yellowish brown (10 YR 7/2), quartz biomicrite, 30+% quartz sand, approaches a sandstone composition, hard, low to moderate porosity.
840-843	Limestone (70%) and sandstone (30%) Limestone: very pale yellowish brown (10 YR 7/2), quartz biomicrite/biosparite, 30+% quartz sand, hard, moderate porosity, identifiable fossils includes mollusks. Sandstone: light olive gray (10 YR 6/2) to medium light gray (N6) and very pale yellowish brown (10 YR 7/2), calcareous, fine-grained, fossiliferous, hard, low to moderate porosity (moldic after aragonitic fossils).
843-854	Limestone, very pale yellowish brown (10 YR 7/2), poorly cemented biopelsparite (calcarenite), soft (semifriable), high porosity (intergranular and moldic), fossils include bivalves and 1-2 millimeter-sized foraminifera. Minor (<5%) micritic lithologies are present that are hard and lower porosities.
854-860	Sand, light olive gray (5 Y 6/1), very fine to fine-grained quartz, 2-3% black phosphate sand grains.