

Georgia Geological Survey well no. 551

Wayne County, Georgia, Drilling permit no. 60

Humble Oil and Ref. Co., Union Bag Camp Paper no. 1

TD 4552

logged by Larry E. Jordon, completed July 28, 1976, Emory University

note: This is the first well ever logged by Jordon.

\* after the depth indicates a microfossil sample was taken and is in a slide  
in the sample envelope.

GGS no. 651

Wayne Co.

Humble Oil Co., Union Camp no. 1

summary

- 0-40 no samples
- 40-490 basically sand or sandstone, limy zones, large pebbles (over 4 mm) from 130 to 350 feet.
- 490-870 Very light gray fossiliferous, silky, pure limestone
- 870-1410 Limy sandstone, occasionally grading to sandy limestone; local zones of chert and gravel
- 1410-2550 Sandy limestone, often dolomitic, occasionally grading to limy sandstone. Dolomitic zones from 1490 to 1640, 1680 to 1710, 1810-2550 feet. Traces of gypsum at 2070-2080
- 2550-3180 Sandstone, some limy zones. Mica and feldspar quite persistent; very glauconitic
- 3180-3380 Sandy, dolomitic limestone
- 3380-3400 no samples
- 3400-3690 shale and siltstone, sandy and/ or limy, occasionally dolomitic
- 3690-3700 no samples
- 3700-3790 siltstone, limy and sandy- zones of sandy limestone
- 3790-4020 arkosic sandstone
- 4020-4120 clayey, limy siltstone
- 4120-4310 silty sand (micaceous), grading to sandy siltstone and back to silty clayey sand
- 4310-4356 basement? appears to be welded tuff as described by Chowns
- 4356 definitely basement- aphanitic black igneous rock-looks like basalt.

accessories:

- phosphate--persistently present from 40 to 520 feet, 880-1760, 1890-2970
- glauconite--common from 1650-3330, 3540-3690, 4120-4130
- pyrite, found with glauconite

- 0-40 no samples
- 40-50 gravel, poorly sorted, light gray N7, .25-3 mm, angular quartz sand; several igneous (10-15 mm) pebbles; phosphate
- 50-60 as above
- 60-70 Fossiliferous, poorly sorted, 1/4-1 mm, angular, limy sand; phosphate
- 70-80 Clean, poorly sorted, .25-1 mm, subrounded quartz sand; phosphate
- 80-90 Soft, medium dark gray N4, medium sorted (.25-.5 mm) subrounded clayey sand; phosphate
- 90-100 Soft, medium dark gray, N4, medium sorted, .25-.5 mm, subrounded, clayey, dolomitic sand; phosphate
- 100-110 As above
- 110-120 Soft, medium dark gray N4, poorly sorted, 1/8-1mm, subrounded, clayey, dolomitic sand; phosphate
- 120-130 Medium light gray N6, fossiliferous, poorly sorted, 1/8-1 mm, subrounded, clayey, limy sand; phosphate
- 130-140 Medium light gray, N6, poorly sorted, fine grained 1/8-1/2 mm, pebbly (4 mm) rounded, clayey gravel; phosphate
- 140-150 Medium light gray N6, medium sorted. fine grained, 1/8-.5 mm, pebbly limy gravel; phosphate
- 150-160 Medium light gray N6, fossiliferous, medium sorted, fine grained, 1/8-1/2 mm, subrounded, pebbly, limy gravel; phosphate.
- 160-170 Medium light gray N6, medium sorted, fine grained, 1/8-1/2 mm, subrounded, pebbly gravel; phosphate
- 170-180 Medium light gray N6, medium sorted, fine grained, 1/8-1/2 mm, subrounded, pebbly gravel; phosphate
- 190-220 As above
- 220-230 Medium light gray, N6, medium sorted, fine grained, subrounded, pebbly, limy gravel; phosphate
- 230-240 As above
- 240-250 Medium gray, N5, medium sorted, fine grained, subrounded, pebbly, clayey gravel; phosphate
- 250-270 As above
- 270-280 Medium light gray N6, medium sorted, fine grained, subrounded, pebbly clayey gravel; phosphate; about 60% sand, 40% limestone (in grains 4-8 mm, light gray N7)

- 280-290 As above; small magnetic spheres
- 290-300 Medium light gray N6, well sorted, medium grained, sub-rounded pebbly, clayey, limy gravel; phosphate; small magnetic spheres 1.5 mm; shell fragments with asphalt stains. 70% sand, 30% limestone, light gray N7
- 300-310 As above, 55% sand, 45% limestone
- 310-320 Gravel, consisting of: medium light gray N6, medium sorted, coarse grained, pebbly, dark yellowish brown 10YR4/2 chalky limestone; hard, light olive gray 5Y6/1, micro-crystalline, well sorted, coarse grained, clayey limy (carbonate cemented) sandstone; phosphate. 50% sand, 30% sandstone; 20% limestone
- 320-330 As above; 35% sand, 30% limestone; 32% sandstone; phosphate
- 330-340 As above, 25% sand, 35% limestone, 35% sandstone; phosphate
- 340-350 Hard, light gray N7, well sorted, coarse grained, cherty limy sandstone; phosphate
- 350-360 Hard, light gray N7, medium sorted, medium grained limy sandstone; phosphate; lignite
- 360-370 Medium light gray N6, medium sorted, sub rounded, very coarse grained sand; highly phosphatic; 75% sand, 20% phosphate
- 370-380 Medium light gray, N6, medium sorted, subrounded, very coarse grained limy sandstone; highly phosphatic; about 65% sand grains; 10% limestone fragments; 20% phosphate
- 380-390 Medium light gray N6, well sorted, subrounded, well sorted, very coarse grained limy sand; 10-15% phosphate
- 390-400 Medium light gray N6, medium sorted, subangular, very coarse grained limy sand; highly phosphatic, about 10%
- 400-410 Medium light gray, N6, poorly sorted to subrounded, very coarse grained limy sand; phosphate 10%

- 450-470 As above. fossil fragments are coarse but individual grains of material not distinguishable under the microscope.
- 470-480 As above, the interbedded limestone is now about 35% of total; large fragments of pelecypod shell; phosphate--cave?
- 480-490 as 440-450
- 490-500 Very light gray, N8, fossiliferous, slightly porous, sandy, cryptocrystalline limestone; many sand grains--cave?
- 500-510 Very light gray N8, fossiliferous, slightly porous, cryptocrystalline limestone; phosphate--cave?
- 510-520 As above
- 520-560 As above, no phosphate
- 560-570 Very light gray N8, fractured, fossiliferous, slightly porous, cryptocrystalline limestone; gastropod fragments
- 570-580 Very light gray N8, fossiliferous, slightly porous, coarse grained (large fossil fragments) cryptocrystalline limestone (coquina)
- 580-630 As above
- 630-640 Hard, very light gray, N8, platy, fractured, silky, non porous cryptocrystalline limestone
- 640-650 As above
- 650-660 Hard, very light gray N8, platy, fractured, fossiliferous, silky, non porous, cryptocrystalline limestone
- 660-670 As above
- 670-680 Hard, very light gray, N8, fractured, fossiliferous, silky, non porous, cryptocrystalline limestone
- 680-690 Hard, very light gray, N8, fractured, fossiliferous, silky, slightly porous, cryptocrystalline limestone (coquina)
- 690-700 Vitreous, medium gray, N5, well sorted, very coarse grained sand; phosphate
- 700-710 Hard, very light gray N8, fossiliferous, silky, non porous, cryptocrystalline limestone (coquina)
- 710-720 Hard, very light gray, N8, fossiliferous, silky, porous, cryptocrystalline limestone (coquina)
- 720-760 As above

- 760-790 As above
- 790-800 Very light gray, N8, hard, fractured, non porous, cryptocrystalline limestone; recrystallized limestone in large amounts.
- 800-810 As 790-800, large amount of recrystallization
- 810-820 As above
- 820-830 As above, also crystalline dolomite
- 830-840 "cave"
- 840-850 "cave"
- 850-860 Very light gray N8, fractured, slightly porous, cryptocrystalline limestone; lignite
- 860-870 As above
- 870-880 Fresh, hard, white, N9, fractured, slightly fossiliferous, earthy, slightly porous, cryptocrystalline limestone; a great deal of recrystallization; lignite; phosphate
- 880-890 Fine grained, subrounded limy quartz sand; phosphate
- 890-900 Fresh, hard, white, N9, fractured, slightly fossiliferous (pelecypods and gastropods), cryptocrystalline sandy limestone; lignite; phosphate (much recrystallization)
- 900-910 As above; gastropod fragments
- 910-920 Light gray N7, fine grained, well sorted, subrounded quartz sand; lignite; phosphate
- 920-940 As above
- 940-950 Fine grained, medium light gray, N6, well sorted, subrounded sand; phosphate
- 950-970 As above
- 970-980 Fresh, hard, medium light gray N6, resinous, slightly porous, fine grained crystalline, sandy limy dolomite; phosphate
- 980-990 As at 970-980, interbedded limestone coquina)
- 990-1000 Fine grained, medium light gray N6, well sorted, subround limy sand; phosphate
- 1000-1060 As above; phosphate

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- 1060-1070 Fine grained, medium light gray N6, well sorted, subrounded pebbly, limy sand (gravel); phosphate
- 1070-1080 Medium grained, light gray N6, medium sorted, subrounded pebbly limy gravel; phosphate
- 1080-1090 Medium grained, light gray N6 well sorted, subrounded, pebbly, limy gravel; phosphate.
- 1090-1100 Fine grained, light gray N6, well sorted, subrounded, limy (20% limestone) sand; phosphate.
- 1100-1110 As above
- 1110-1120 Fine grained, light gray N6, well sorted, subrounded limy sand(lime in the form of fossil fragments-pelecypods, gastropods, bryozoa); phosphate
- 1120-1200 As above
- 1200-1210 Fine grained, light gray N6, well sorted, subrounded, quartz sand interbedded with very light gray N8, fresh, fractured, earthy, slightly porous, fossiliferous limestone (gastropods and bryozoa and forams); about 70% sand and 30% limestone
- 1210-1220 As above; bryozoa, pelecypod, forams; about 50% sand, 50% limestone
- 1220-1240 As above
- 1240-1250 Very light gray N8, fresh, fractured, earthy, slightly porous, cryptocrystalline fossiliferous limestone (bryozoa); 30% sand, 70% limestone; phosphate
- 1250-1260 As above, still much sand--cave?
- 1260-1270 Very light gray N8, fresh, fractured, earthy, slightly porous, cryptocrystalline, sandy, limestone
- 1270-1280 As above
- 1280-1290 Fine grained, light gray N6, well sorted, subrounded, limy (25-30%) sand; bryozoa and gastropod fragments
- 1290-1300 As above, 25-30% limestone
- 1300-1310 Same as above
- 1310-1320 As above, 15-20% limestone
- 1320-1330 As above, 25-30% limestone

- 1330-1340 Fine grained, medium light gray N6, well sorted, subrounded limy sand; bryozoa and forams; --phosphate and lignite--cave?
- 1340-1370 As above
- 1370-1380 Fine grained, medium light gray N6, well sorted, subrounded sand; and white N9 fossiliferous, fractured, silky, slightly porous, cryptocrystalline fossiliferous limestone. 50% sand, 50% limestone
- 1380-1390 As above, 70% sand, 30% limestone
- 1390-1400 As above, 50% sand, 50% limestone
- 1400-1410 As above, 70% sand, 30% limestone
- 1410-1420 Limestone as above 80%; sand 20%
- 1420-1430 As above, 50% sand, 50% limestone
- 1430-1440 As above, 25% sand, 75% limestone
- 1440-1450 Freshly fractured, very light gray N8, fossiliferous, silky, non porous cryptocrystalline limestone and sandstone; 10% sand
- 1450-1460 As above, 20% sand
- 1460-1470 As above, 30% sand
- 1470-1480 As above, 35% sand
- 1480-1490 As above, 50% sand
- 1490-1500 Fine grained, medium light gray N6, well sorted, subrounded, dolomitic, limy (45%) sand
- 1500-1510 Fresh, earthy, very light gray N8, slightly porous, microcrystalline, dolomitic, sandy limestone  
diabase? pieces of black, basic igneous rock, undefined black phenocryst. Also pieces of fresh, hard, earthy sandy siltstone with well rounded quartz grains (about 85% limestone, 10% dolomite and 5% siltstone; pieces of plastic bag---igneous rock and siltstone part of the cement casing.
- 1510-1520 Fresh, light gray N7, fractured, earthy, slightly porous, microcrystalline, slightly clayey dolomitic limestone; also basic igneous rock and siltstone as above --cement? 80-85% limestone, 5% siltstone, 5-10% dolomite
- 1520-1530 Fresh, medium light gray N6, fossiliferous, earthy, powdery, slightly porous, clayey, dolomitic limestone 5-10% dolomite; limestone with phosphate pellets.

- 1530-1540 As above, appears to be limestone as at 1510-20 and dolomite. Chert, grayish red 10R4/2
- 1540-1550 As above, chert yellowish brown 10YR5/4
- 1550-1560 As above  
see below
- 1550-1560 Fresh, hard, silky, non porous, fossiliferous, above cryptocrystalline dolomitic sandy limestone; sand grains subrounded (.5-1 mm); 55% limestone, 40% sand; 5% dolomite
- 1560-1570 As at 1530-1540
- 1570-1580 As above
- 1580-1590 As above but more fine grained sand
- 1590-1600 As above
- 1600-1610 Leached, soft, light gray N7, phosphatic, earthy (powdery), porous, microcrystalline slightly clayey, dolomitic limestone; about 5% dolomite
- 1610-1620 As above
- 1620-1630 As above, 5-10% dolomite
- 1630-1640 As above, less than 5% dolomite
- 1640-1650 Leached, soft, light gray N7, slightly phosphatic, earthy (powdery), porous, microcrystalline slightly clayey limestone
- 1650-1660 Leached, soft, light gray N7, glauconitic, earthy, porous, microcrystalline, slightly clayey limestone
- 1660-1670 Soft, light gray N7, glauconitic, slightly phosphatic, earthy, porous, microcrystalline clayey limestone; anhydrite, very slight amount
- 1670-1680 As above
- 1680-1690 Fresh, soft, light gray N7, slightly phosphatic, glauconitic, earthy, porous, microcrystalline, slightly clayey slightly dolomitic (3%) limestone
- 1690-1710 As above.
- 1710-1720 Fresh, soft, light gray N7, slightly phosphatic, glauconitic, earthy, porous, microcrystalline slightly sandy limestone.
- 1720-1730 As above

- 1730-1740 As above, with an interlayered fresh, hard, very light gray N8, platy, silky, non porous limestone
- 1740-1750 Soft, leached, light gray N7, fractured, slightly fossiliferous (forams), resinous, porous, fine grained recrystallized limestone, with interbedded fresh, hard, very light gray N8 platy, silky, non porous limestone
- 1750-1760 Soft, fresh, light gray N7, glauconitic, fractured, resinous, porous, fine grained limestone; small bit of phosphate
- 1760-1770 As above
- 1770-1780 Soft, leached, light gray N7, glauconitic, fossiliferous (forams and megafossils), fractured, earthy, porous, microcrystalline limestone
- 1780-1810 As above
- 1810-1820 Hard, leached, very light gray N8, fossiliferous, fractured, silky, non porous, cryptocrystalline sandy dolomitic limestone, mixed with limestone as at 1770-1780
- 1820-1830 As above
- 1830-1840 Soft, leached, light gray N7, fractured, slightly fossiliferous, earthy, porous, microcrystalline, clayey, dolomitic limestone.
- 1840-1850 Soft, leached, light gray N7, fractured, slightly fossiliferous, earthy, porous, microcrystalline limestone which is dolomitic and sandy.

This is a material made up of grains of different kinds of limestone-sand and a clastic dolomite made of carbonate matter.

- 1850-1860 Several different rock types  
Soft, leached, light gray N7, earthy, porous microcrystalline clayey limestone  
Platy, very light gray N8 silky, non porous, cryptocrystalline limestone  
rounded sand  
light brownish gray 5YR6/1 dolomite (crystalline)
- 1810-1850 can also follow the above description
- 1860-1890 As above \*<sup>1860-</sup>1870
- 1890-1900 Mixture, soft, leached, medium light gray N6, earthy, porous, microcrystalline limestone; hard, fresh, white N9 to very light gray N8 fossiliferous (forams and bryozoans), silky, slightly porous, cryptocrystalline limestone; glauconite and phosphate pebbles; most of the material is calcareous (limestone) but appears to have been transported; crystalline dolomite.

- 1900-1910\* Fresh, hard, white N9, fossiliferous, pyritic, very glauconitic, dull, slightly porous, cryptocrystalline sandy, clayey, dolomitic limestone; evidence of rolling (transportation); about 15-25% of the sample is glauconite; round frosted sand grains; about 5% sand; 10% dolomite (dark yellowish brown 10YR4/2); phosphate forams, bryozoans, shark's tooth
- 1910-1920\* As above, round, frosted quartz grains
- 1920-1930 As above, glauconite about 5%
- 1930-1940 As above
- 1940-1950 As above
- 1950-1960 Fresh, hard, medium light gray N6, glauconitic, fossiliferous, earthy, slightly porous, microcrystalline sandy limestone; feldspar; also white limestone--cave?
- 1960-1970 Fresh, hard, medium gray, N6, glauconitic, fossiliferous, slightly porous, microgranular sandy dolomitic limestone; feldspar and bryozoa
- 1970-1980 As above, and pyrite
- 1980-1990 Fresh, hard, light gray N7, pyritic, slightly glauconitic, fossiliferous, silky, slightly porous, cryptocrystalline clayey, dolomitic limestone; feldspar
- 1990-2020 As above
- 2020-2030 Fresh, hard, medium light gray N6, very glauconitic, earthy, slightly porous, microcrystalline, dolomitic, clayey limestone; phosphate
- 2030-2040 As above
- 2040-2050 Fresh, hard, light gray N7, glauconitic, fossiliferous, silky, cryptocrystalline, clayey limestone; bryozoa
- 2050-2060 As above; shark tooth
- 2060-2070 Fresh, hard, light gray N7, fossiliferous, silky cryptocrystalline limestone
- 2070-2080 Fresh, hard, light gray N7, phosphatic, slightly porous, cryptocrystalline clayey dolomitic limestone; gypsum frosted, round quartz grains
- 2080-2090\* As above; phosphate
- 2090-2100 Very light gray N8, fresh, hard, glauconitic, fossiliferous, silky, slightly porous, cryptocrystalline, sandy, dolomitic limestone; frosted, rounded quartz grains.

- 2100-2110 Fresh, hard, very light gray N8, glauconitic, silky, slightly porous, cryptocrystalline limestone
- 2110-2120 As above
- 2120-2130 Fresh, hard, very light gray N8, fossiliferous, silky, slightly porous, cryptocrystalline limestone; phosphate
- 2130-2140 Fresh, hard, very light gray N8, earthy, slightly porous, cryptocrystalline, sandy, dolomitic limestone; forams and bryozoa; phosphate
- 2140-2150 As above, about 20% crystalline dolomite, pale yellow-brown 10YR6/2
- 2150-2160 As above, 30% dolomite
- 2160-2170\* Fresh, hard, white N9, fossiliferous (forams) silky slightly porous, cryptocrystalline sandy dolomitic limestone; phosphate
- 2170-2180 As above
- 2180-2190 Fresh, hard, very light gray N8, fossiliferous (forams, bryozoans, pelecypods), earthy, slightly porous, microcrystalline, sandy, dolomitic limestone; 25% sand; phosphate
- 2190-2200 Fresh, hard, very light gray N8, slightly fossiliferous, earthy, slightly porous, microcrystalline dolomitic sandy limestone; glauconite
- 2200-2210 As above
- 2210-2220 Fresh, hard, very light gray N8, feldspathic, greasy, porous, dolomitic limy sandstone; about 30% limestone
- 2220-2230 As above, slightly fossiliferous; phosphatic
- 2230-2240 As above, slightly fossiliferous; glauconitic; phosphatic
- 2240-2250 Fresh, hard, light gray N7, earthy, slightly porous, microgranular, dolomitic, sandy limestone
- 2250-2260 As above
- 2260-2270 Fresh, hard, very light gray N8, fossiliferous, glauconitic, resinous, slightly porous, microcrystalline sandy limestone; about 30% sand

- 2270-2280 Fresh, hard, very light gray N8, fossiliferous (bryozoans), resinous, slightly porous, microcrystalline dolomitic, sandy limestone; about 30% sand
- 2280-2290 As above; limy sandstone at 2210 cave?; phosphate about 20% sandstone
- 2290-2300 Fresh, hard, very light gray N8, fossiliferous (bryozoa and pelecypod parts). resinous, slightly porous, microcrystalline dolomitic sandy limestone; about 20% sand; phosphate
- 2300-2310 As above
- 2310-2320 Fresh, hard, light gray N7, slightly porous, glauconitic, resinous, medium grained dolomitic sandy limestone 20% sandstone; phosphate
- 2320-2330 As above, feldspathic, glauconitic, phosphatic
- 2330-2360 As above, no feldspar
- 2360-2370 As above, about 40% sand
- 2370-2380 Pinkish gray 5YR8/1, glauconitic, resinous, porous, medium grained, well sorted, subrounded, dolomitic limy sand; phosphate
- 2380-2390 As above
- 2390-2400 Light gray N7, glauconitic, pyritic, resinous, porous, medium grained, well sorted, subrounded, dolomitic, limy sand
- 2400-2420 As above
- 2420-2430 Light gray N7, glauconitic, vitreous, porous, medium grained, dolomitic, sandy limestone; phosphate
- 2430-2440 Fresh, hard, very light gray N8, fossiliferous (forams, bryozoans, shark teeth), glauconitic, silky, slightly porous, cryptocrystalline dandy dolomitic limestone; gypsum
- 2440-2450 As above, includes pyrite
- 2450-2470 As above, no pyrite
- 2470-2480 Fresh, hard, light gray N7, glauconitic, pyritic, resinous, porous, microcrystalline, sandy, dolomitic limestone; phosphate
- 2480-2490 As above
- 2490-2500 Fresh, hard, white N9, fossiliferous, silky, non porous, cryptocrystalline dolomitic limestone; phosphate; a great amount of cave; gypsum; also limestone as at 2470-2480

- 2500-2550 As above
- 2550-2560 As above, except very sandy, about 35%--cave?
- 2560-2570 Medium light gray N6/light brownish gray 5YR 6/1, glauconitic, pyritic, resinous, medium grained, well sorted, subrounded limy sand
- 2570-2590 As above
- 2590-2600 Light gray N7, glauconitic, resinous, porous, fine grained, subangular, well sorted, limy sand; phosphate
- 2600-2620 As above
- 2620-2630 Light gray N7, vitreous, porous, very fine grained, subangular, well sorted sand; phosphate
- 2630-2670 As above
- 2670-2680 Light gray N7, pyritic, glauconitic, resinous, very fine grained (1/8-1/16 mm) subangular, well sorted, clayey sand. Some limestone is present but is likely caving; phosphate present; clay does not show up in the unwashed sample.
- 2680-2710 As above, still a lot of cave.
- 2710-2720 Light gray N7, resinous, subangular, very fine grained, clayey sand; phosphate
- 2720-2730 As above
- 2730-2740 Light gray N7, resinous, subangular, very fine grained clayey sand; some grains stained with limonite; phosphate
- 2740-2750 Light gray N7, pyrite, glauconite, micaceous, resinous, subangular, well sorted, very fine grained, clayey sand; limonite stains; phosphate
- 2750-2800 As above
- 2800-2810 Light gray, N7, micaceous, resinous, subangular, very fine grained clayey sand; phosphate
- 2810-2820 Light gray N7, micaceous, resinous, subangular, very fine grained clayey sand; phosphate
- 2820-2830 As above
- 2830-2840 As above, except small fragments of limestone present
- 2840-2850 Light gray N7, micaceous, glauconitic, pyritic, limonitic, subangular, very fine grained, clayey sand; phosphate

- 2850-2860 Light gray, N7, micaceous, pyritic, glauconitic, subangular, fine grained sand; phosphate
- 2860-2870 Light gray N7, micaceous, glauconitic, pyritic, subangular, fine grained sand; phosphate; 3-5% glauconite
- 2870-2880 Light gray N7, pyritic, glauconitic, subangular, well sorted, fine grained sand; phosphate; 3% glauconite and about 5-8% fragments of white N9 fossil limestone fragments (bryozoa)
- 2880-2910 As above
- 2910-2920 Light gray N7, pyritic, glauconitic, subangular, fine grained sand; phosphate; 5% glauconite
- 2920-2930 Light gray N7, pyritic, glauconitic, subrounded, fine grained sand; phosphate; less than 5% glauconite
- 2930-2950 As above
- 2950-2960 Light gray, N7, pyritic, glauconitic, subrounded, porous, lime cemented medium grained sandstone; phosphate
- 2960-2970 As above
- 2970-2980 Medium light gray N6, pyritic, glauconitic, subangular, fine grained, limy sand; phosphate; about 5% glauconite; about 10% limestone
- 2980-2990 Light gray N7, pyritic, glauconitic (5%), subangular, well sorted, fine grained limy sandstone, less than 5% limestone; sand grains as well as sandstone present; sand grains seem to be like loose sand grains
- 2990-3000 As above, except only about 3% glauconite
- 3000-3020 As above
- 3020-3030 Light gray N7, pyritic, glauconitic (5%), resinous, porous, lime cemented fine grained subangular limy sandstone
- 3030-3040 As above
- 3040-3050 Light gray N7, pyritic, glauconitic (2%), resinous, porous, lime cemented, fine grained subangular sandstone and sand
- 3050-3060 As above
- 3060-3070 Light gray N7, pyritic, feldspathic, glauconitic (3-5%), resinous, porous, lime cemented, fine grained subangular sand and sandstone
- 3070-3090 As above

- 3090-3110 As above, about 2% glauconite
- 3110-3120 Light gray N7, pyritic, glauconitic (2%), resinous, fine grained, subangular sand
- 3120-3130 As above, a small amount of glauconite
- 3130-3140 Medium light gray N6, pyritic, glauconitic, dull, porous, microcrystalline sandy limestone; about 45% sand, 55% limestone
- 3140-3150 As above, about 58% limestone, 40% sand, 2% glauconite and pyrite
- 3150-3160 As above
- 3160-3170 Medium light gray N6, feldspathic, dull, porous, microcrystalline sandy limestone; about 45% sand, 55% limestone
- 3170-3180 Medium light gray N6, feldspathic, glauconitic, pyritic (traces of each), dull, subangular dolomitic limy sand about 50% sand, 25% limestone, 25% dolomite; phosphate also several blebs of black material which melted upon ignition, apparently asphalt
- 3180-3190\* Medium light gray N6, glauconitic, fossiliferous, pyritic, dull, subangular, well sorted, dolomitic, limy sand; phosphate; about 50% sand, 35% limestone, 15% dolomite; forams
- 3190-3200\* Medium gray N5, glauconitic, fossiliferous, earthy, porous, microcrystalline sandy limestone; phosphate (striated pelecypod parts, of aragonite); about 55% limestone, 45% sand
- 3200-3210 Very light gray N8, glauconitic, feldspar, fossiliferous, earthy, slightly porous, cryptocrystalline, sandy, dolomitic limestone; frosted quartz grains; dolomite is pinkish gray 5YR 8/1; 5% sand, 15% dolomite; 80% limestone; phosphate.
- 3210-3220 As above; about 5% sand (frosted quartz), 20% dolomite (pinkish gray 5YR8/1, 75% limestone; phosphate; a slight amount of red staining on some of the limestone grains
- 3220-3230 Very light gray N8, glauconitic, fossiliferous, silky, porous, cryptocrystalline, sandy, dolomitic limestone; phosphate; 5% sand (frosted), 25% dolomite, 70% limestone dolomite is pinkish gray 5YR8/1; bryozoa, aragonite clam parts.

- 3230-3240 As above, 5% quartz, 15% dolomite, 80% limestone
- 3240-3250 Very light gray N8, glauconitic, fossiliferous (bryozoa and pelecypods), silky, slightly porous, cryptocrystalline sandy dolomitic limestone; phosphate; 5% sand, 20% dolomite; 75% limestone; also several pieces of lignite
- 3250-3260 Light gray N7, glauconitic, feldspathic, fossiliferous, silky, earthy, slightly porous, cryptocrystalline, sandy dolomitic limestone; 20% sand; 15% dolomite; 65% limestone.
- 3260-3270 Medium dark gray N4, glauconitic, fossiliferous, earthy slightly porous, microcrystalline, slightly dolomitic limestone; also light gray N7 limestone as above; phosphatic; about 10% sand; 10% dolomite; 80% limestone; pelecypods and bryozoa
- 3270-3280 As above; pelecypod and bryozoan parts; phosphate; 5% sand; 10% dolomite; 85% limestone
- 3280-3290 light gray N7, glauconitic, pyritic, fossiliferous, silky, earthy, slightly porous, cryptocrystalline, sandy dolomitic limestone; phosphate; some iron stains on some grains; 5% sand; 10% dolomite; 85% limestone
- 3290-3300 Medium gray N5, fossiliferous (forams, pelecypods), earthy, porous, cryptocrystalline, dolomitic, sandy limestone; 5% dolomite; 10% sand; 85% limestone; phosphate.
- 3300-3310 Medium gray N5, fossiliferous (pelecypod parts), pyritic, glauconitic, earthy, porous, cryptocrystalline sandy dolomitic limestone; phosphate; 5% sand; 15% dolomite; 80% limestone
- 3310-3320 As above; 5% quartz; 25% dolomite; 70% limestone; phosphate
- 3320-3330 As above; 5% dolomite, 5% quartz; 90% limestone; phosphate
- 3330-3340 Medium gray N5, feldspathic, pyritic, fossiliferous, earthy, porous, microcrystalline sandy, dolomitic limestone; phosphate; 5% sand; 10% dolomite; 85% limestone
- 3340-3350 As above; 15% sand; 10% dolomite; 75% limestone; phosphate
- 3350-3360 As 3330-3340; about 15% sand; 5% dolomite; 80% limestone; phosphate

- 3360-3370 As above; 20% quartz, 5% dolomite; 75% limestone; phosphate ; pelecypod parts
- 3370-3380 As above; 20% sand; 5% dolomite; 75% limestone; phosphate
- 3380-3400 no sample coming over shale shaker
- 3400-3410 Fresh, soft, fissile, medium dark gray N4 pyritic, earthy, limy shale; about 10% lime, 90% shale
- 3410-3420 As above, many sabre like particles--sponge spicules or echinoid spines
- 3420-3430 As 3400-3410
- 3430-3440 Fresh, soft, fissile, medium dark gray N4, earthy, limy shale; some chert, lignite, and phosphate.
- 3440-3450 Fresh, soft, medium dark gray N4, earthy, limy shale and siltstone, about 10% limestone
- 3450-3460 As above, slightly pyritic
- 3460-3470 As 3440-3450, earthy, slight amount of sand (about 5%)
- 3470-3480 As above
- 3480-3490 Fresh, soft, medium dark gray N4, earthy, slightly limy shale; some dolomite--cave?
- 3490-3500 As above; lignite
- 3500-3510 Fresh, soft, medium dark gray N4, earthy, limy shale and silt; 10% lime, 20% shale, 70% silt.
- 3510-3520 As above
- 3520-3530 Fresh, soft, medium dark gray N4, pyritic, fossiliferous, earthy, limy siltstone; 15% lime, 85% siltstone
- 3530-3540 Fresh, soft, medium dark gray N4, pyritic, glauconitic, fossiliferous, earthy, limy siltstone; 15% sand, 15% limestone, 70% siltstone
- 3540-3550 Fresh, soft, medium dark gray N4, pyritic, glauconitic, earthy, sandy limy siltstone; also traces of dolomite; 10% sand; 15% lime, 75% siltstone
- 3550-3560 As above
- 3560-3570 As above; phosphate
- 3570-3580 Fresh, soft, medium dark gray N4, fossiliferous, earthy, dolomitic, limy siltstone' about 5% dolomite, 15% limestone, 80% siltstone; lignite; phosphate

- 3725-3748 (core) Fresh, hard, medium bluish gray 5B5/1, micaceous, fractured, dull, slightly porous, microcrystalline, sandy, silty limestone; lignite; 10% sand; 25% siltstone, 65% limestone.
- 3748-3758 Fresh, hard, medium gray N5, dull, limy, clayey siltstone; about 5% lime, 10% clay, 85% siltstone (core)
- 3770-3780 Fresh, soft, medium dark gray N4, micaceous, fossiliferous (pelecypods), earthy, sandy, limy siltstone; 5% sand, 10% limestone; 85% siltstone. traces of gypsum and talc?
- 3780-4360 no record of cuttings- all the following are cores
- 3759-3783 Fresh, hard, medium dark gray N4, pyritic, dull, sandy limy siltstone; 20% sand; 20% limestone; 60% siltstone
- 3784-3793 Fresh, hard, medium gray N5, fossiliferous, dull to pearly, slightly porous, fine grained sandy silty limestone; 5% sand, 15% silt, 80% limestone, made up largely of pelecypod fragments (pearly)
- 3794-3871 Fresh, hard, yellowish gray 5Y8/1, pyritic, micaceous, fossiliferous, medium sorted, subangular, lime cemented porous, coarse grained, slightly arkosic sandstone. trace of phosphate
- 3872 (core) Fresh, hard, yellowish gray 5Y8/1, dull, medium sorted, subrounded, lime cemented, porous, very coarse grained sandstone
- 3894-3898.9 Fresh, hard, yellowish gray 5Y8/1, micaceous, resinous, well sorted, subrounded, lime cemented, slightly porous, very coarse grained sandstone; also interlayered--fresh, hard, light brownish gray 5Y26/1 micaceous, feldspathic, dull, well sorted, subrounded, lime cemented, slightly porous, fine grained arkosic sandstone.
- 3898.9-3928.5 no recovery
- 3928.5-3934 Light gray N7, pyritic, slightly feldspathic, micaceous, resinous, poorly sorted, subangular, medium grained sand
- 3934-3943 no recovery
- 3943-3945 Fresh, soft, dark greenish gray 5G4/1 dull, clayey siltstone
- 3945-3967 no recovery
- 3963-3979.5 Fresh, hard, yellowish gray 5Y8/1, micaceous, resinous, well sorted, subangular, lime cemented, very slightly porous coarse grained sandstone; 3-5% is lignite

- 3580-3590 Fresh, soft, medium dark gray N4, fossiliferous (aragonite pelecypod parts), earthy, lolomitic limy siltstone; 5% dolomite; 15% limestone; 80% siltstone; small blade like objects (echinoid spines or sponge spicules)
- 3590-3600 As above
- 3600-3610 Fresh, soft, medium dark gray N4, fossiliferous (pelecypod parts), earthy, sandy limy siltstone; 5% sand, 20% limestone; 75% siltstone
- 3610-3620 As above; 5% sand, 20% limestone; 75% siltstone
- 3620-3630 Fresh, soft, medium dark gray N4, fossiliferous (pelecypod parts), glauconitic, pyrite, earthy, slightly limy siltstone; 5% sand; 20% limestone; 75% siltstone
- 3630-3640 As above
- 3640-3650 As above; phosphate and lignite
- 3650-3660 Fresh, soft, medium dark gray N4, fossiliferous, glauconitic, earthy, sandy, limy siltstone; 5% sand; 20% limestone; 75% siltstone
- 3660-3670\* As above
- 3670-3680 Fresh, soft, medium dark gray N4, fossiliferous (aragonite pelecypod parts), glauconitic, pyritic, earthy, dolomitic, limy siltstone; 5% dolomite; 20% limestone; 75% siltstone
- 3680-3690 As above; asphalt stains
- 3690-3700 no samples
- 3700-3710 Fresh, soft, medium gray N5, pyritic, micaceous, fossiliferous, earthy, limy sandy siltstone; 15% sand; 15% limestone; 70% siltstone; lignite and traces of gypsum; many pelecypod fragments; phosphate
- 3710-3720 As above; no gypsum seen; chert (medium bluish gray SB5/1, great number of pelecypod fragments; phosphate; 25% sand, 15% limestone, 60% siltstone; also some leached, hard, very light gray N8, dull, slightly porous, medium grained, lime cemented angular, well sorted sandstone
- 3720-3730 As above; olive gray chert 5Y4/1, pelecypod fragments, phosphate; no gypsum or lignite
- 3730-3770 no cuttings, cores

- 3979.5-3996.5 Fresh, hard, yellowish gray 5Y8/1, micaceous, pyritic, resinous, well sorted, subangular, lime cemented very slightly porous, coarse grained sandstone
- 3996.5-4022.5 Fresh, hard, light gray N7, micaceous, pyritic, resinous, well sorted, subangular, lime cemented, very slightly porous, coarse grained sandstone
- 4022.5-4060 Fresh, hard, light olive gray 5Y6/1, micaceous, feldspathic, dull, fossiliferous, sandy limy siltstone; many pelecypod parts; medium gray N5, pearly; lignite
- 4061-4120 Fresh, hard, banded [alternating light brownish gray 5YR6/1 and medium gray N6], micaceous, dull, clayey limy siltstone
- 4121-4163.5 Light olive gray 5Y6/1, micaceous, glauconitic, resinous, coarse grained, subangular, well sorted, slightly silty sand
- 4163.5-4178 Fresh, hard, light gray N7, micaceous, glauconitic, resinous, medium sorted, subangular, silica cemented slightly porous, coarse grained, lightly limy sandstone
- 4180-4185.5 Fresh, soft, medium light gray N6, slightly micaceous dull, sandy, clayey siltstone
- 4185.5-4195 no recovery
- 4195-4203 Fresh, soft, grayish red purple (5RP4/2) micaceous, dull, fine grained, subangular, well sorted, silty sandstone
- 4204-4230 Fresh, hard, light brownish gray 5YR6/1, dull, slightly sandy, clayey siltstone; about 5% sand
- 4230-4255 Fresh, soft, medium yellowish brown 10YR5/4, dull, clayey, sandy siltstone (or mudstone); about 15% sand
- 4256-4259 Fresh, hard, light gray N7, micaceous, dull, well sorted, silica cemented, slightly porous, subangular, fine grained, clayey sandstone
- 4260-4264.5 Fresh, soft, grayish red purple (5RP5/2) micaceous, dull, clayey siltstone
- 4264.5-4309 [reads 4204.5] Fresh, hard, very light gray N8, slightly stained, micaceous, well sorted, silica cemented, porous, coarse grained clayey sandstone
- 4310-4329 Fresh, soft, pale red 10R6/2 and medium yellowish brown 10YR5/4, dull ??
- 4329-4356.5 As above
- 4356-4542 Fresh, hard, grayish black N2, aphanitic, appears to be basic igneous rock, i.e., basalt