

Georgia Geological Survey, well no. 3113

Lowndes County, Georgia

Hunt Petroleum Corp., J. T. Stalvey no. 1

TD 8552

Geophysical datum: Kelly bushing 167.2 feet above sea level;  
Ground level is 157.2 feet

logged by student at West Georgia College, 1976

0-1300 no samples

1300-1310 80% sandy limestone; sand 1/8-1/2 mm, white N9  
 15% light olive gray 5Y6/1 chert  
 5% gray calcareous siltstone, light to medium gray N5-N7  
 trace of grayish red 5R4/2 siltstone (cave?)  
 trace charcoal and possibly fossils

1310-1320 lithologies as above  
 65% limestone  
 25% chert, light gray N7 to intermediate olive gray 5Y5/1  
 10% gray siltstone N7, calcareous  
 trace of grayish red siltstone 5R4/2

1320-1330 Lithologies same as 1300-1310  
 85% white N9 limestone  
 14% chert, light gray N7 and olive gray 5Y5/1  
 1% gray N7 siltstone, calcareous

1330-1340 same as above

1340-1350 same as above

1350-1360 60% pinkish gray 5YR7/2, fine grained sandstone  
 30% sandy limestone as 1300-1310  
 6% chert, same as 1320-1330  
 4% light gray siltstone, calcareous  
 trace of charcoal

1360-1370 lithologies as above  
 85% white limestone  
 7% light brownish gray and olive gray chert  
 7% sandstone  
 1% gray siltstone  
 trace of grayish red siltstone and phosphate

1370-1380 lithologies as above  
 80% limestone; 10% sandstone; 9% chert; 1% siltstone

1380-1390 lithologies as above  
 60% limestone; 39% gray to pink chert; 1% glauconite  
 trace of charcoal

1390-1400\* 95% limestone, abundant forams  
 4% glauconite  
 1% grayish red siltstone, sandstone  
 trace of angular quartz grains, about 2mm

1400-1410 same as above

1410-1420 60% very sandy, white N9 limestone  
 40% pinkish gray to white chert  
 trace of glauconite, sand and siltstone

- 1420-1430 70% sandy limestone  
29% brownish gray to white chert  
1% glauconite  
trace of quartz and siltstone
- 1430-1440 as above; limestone very sandy
- 1440-1450 60% sandy limestone  
40% chert N6 to 5YR4/1  
trace of glauconite and quartz; possibly forams
- 1450-1460 70% sandy limestone, white  
30% chert, white to brownish gray  
trace of glauconite
- 1460-1470 50% sandy limestone  
50% chert as above  
trace of glauconite
- 1470-1480 60% sandy limestone  
40% chert  
trace of glauconite
- 1480-1490 60% sandy limestone  
40% chert, white to pinish gray to dark gray  
trace of glauconite and grayish red silstone (cave?)
- 1490-1500 Same as above; trace of charcoal
- 1500-1510 59% chert, light gray to brownish gray  
40% sandy limestone, white  
1% glauconite  
trace of grayish red and calcareous light gray siltstone
- 1510-1520 same as above; no siltstone
- 1520-1530\* Same as 1500-1510  
trace of grayish red siltstone  
pale red stain on some chert and limestone, possible forams
- 1530-1540 90% white sandy limestone  
5% chert, light gray to brownish gray  
5% glauconite  
trace of grayish red siltstone
- 1540-1550 same as above; no siltstone
- 1550-1560 85% white sandy limestone  
5% angular, coarse to medium quartz sand grains  
5% chert, light gray to brownish gray  
5% glauconite; note. This glauconite and that above is  
in the limestone
- 1560-1570 55% chert, light gray to olibe gray  
45% limestone, sandy, white  
trace glauconite,pyrite

- 1570-1580 same as above, but no glauconite
- 1580-1590 sample missing
- 1590-1600\* 95% limestone, white, no sandy, abundant forams, bryozoa  
2% chert, white to very light gray  
3% glauconite, mostly nodules in the limestone
- 1600-1610 92% limestone as above  
5% glauconite  
3% chert, white to olive gray  
trace of fossils
- 1610-1620 95% limestone as above, fossiliferous  
3% chert, white to olive gray  
2% glauconite
- 1620-1630 as above
- 1630-1640 94% limestone, white(as 1590-1600)  
3% glauconite  
3% chert, white to olive gray  
trace of red siltstone and quartz grains
- 1640-1650 sample missing
- 1650-1660 96% limestone, white, fossiliferous, forams, bryozoa  
2% glauconite  
2% chert, white to olive gray  
trace of grayish red siltstone
- 1660-1670 55% midium light gray, fine grained micaceous sandstone  
35% clean limestone, white, fossiliferous (abundant  
bryozoa)  
4% quartz grains, 1-2 mm, white, transparent, moderate  
reddish orange 10R6/6  
3% grayish red siltstone  
3% chert, white to light brownish gray  
trace of glauconite, obsidian?, charcoal
- 1670-1680\* 60% gray sandstone, same as above  
25% limestone, white, fossiliferous  
5% chert, white to borwnish gray  
5% sand grains as 1660-1670  
5% grayish red siltstone  
trace of glauconite, obsidian, charcoal, bone
- 1680-1690 lithologies as above  
50% sandstone; 20% fossiliferous limestone; 6% red  
siltstone; 12% chert; 12% angular quartz grains  
trace of glauconite and charcoal

- 1690-1700 lithologies same as 1670-80.  
 60% sandstone  
 15% fossiliferous limestone  
 10% chert  
 10% quartz sand, same as 1680-90  
 5% red siltstone  
 trace of glauconite, purplish gray chert, charcoal,  
 pinkish yellow clay, orange, fine grained sandstone
- 1700-1710 90% sandstone, white to light gray, fine grained  
 2% chert, white to brownish gray  
 2% quartz, angular, transparent to milky to medium reddish  
 orange  
 1% white limestone  
 2% grayish red siltstone  
 3% light greenish gray siltstone, probably glauconitic  
 trace of glauconite, charcoal, mica sheets to 2mm, phos-  
 phate
- 1710-1720 same as above
- 1720-1730 same as above, trace of obsidian and fine grained grayish  
 red sandstone
- 1730-1740 70% clean, white, fossiliferous limestone  
 10% gray and white sandstone, as in 1700-10  
 10% chert, light gray to brownish gray  
 8% quartz grains  
 1% grayish red siltstone  
 1% glauconite and glauconitic siltstone (greenish gray)  
 trace of charcoal, pyrite, glauconite, medium grained sand-  
 stone, obsidian? embedded in limestone
- 1740-1750 40% clean fossiliferous white limestone  
 40% sandy white limestone with fossils  
 5% chert, light gray to brownish gray  
 5% glauconitic siltstone, greenish gray 5GY6/1  
 5% light gray siltstone  
 5% quartz grains  
 trace of mica, charcoal, glauconite, red siltstone
- 1750-1760 85% light gray, very calcareous, glauconitic, fine grained  
 sandstone  
 5% chert, same as 1740-50  
 5% glauconitic siltstone  
 3% limestone, clean, fossiliferous, white  
 2% grayish red siltstone  
 trace of glauconite in sandstone, light gray siltstone,  
 mica, quartz, fish vertebrae

- 1760-1770 same as above, no pyrite; trace of dark grayish red purple chert 5RP3/2
- 1770-1780 same as above, noticeable increase in glauconite, possibly to 1%, no purple chert
- 1780-1790 40% chert, white to dark olive gray 5Y3/1  
30% pure white limestone  
15% white sandy limestone  
15% light gray calcareous sandstone  
trace of glauconite, greenish gray glauconitic siltstone, angular transparent quartz grains, grayish red siltstone
- 1790-1800 30% chert, very light gray to brownish gray  
40% sandy limestone, white to very light gray  
20% pure white limestone, fossiliferous  
10% sandstone, light gray to medium light gray  
trace of glauconitic siltstone, glauconite, medium light gray siltstone, subrounded to angular, transparent quartz sand grains
- 1800-1810 25% chert as above  
20% clean white limestone  
40% sandy limestone, as above  
1% glauconitic siltstone as above  
14% sandstone as above  
trace glauconite, quartz sand as above, some of the quartz is dark reddish brown, grayish red siltstone as above
- 1810-1820\* 60% gray sandstone as above  
1% quartz grains as above  
1% red siltstone as above  
10% chert as above, also dark yellowish brown  
10% clean limestone as above, fossils  
trace of phosphate, sandy limestone as above, glauconite, pyrite, glauconite and red siltstones as above; fossils are forams, bryozoans and pelecypods
- 1820-1830 50% calcareous sandstone as above  
20% chert as above  
26% clean limestone as above; fossiliferous  
2% quartz grains as above  
2% red siltstone as above  
trace of glauconite, siltstone as above, mica, glauconite, phosphate and pyrite
- 1830-1840 60% gray sandstone, glauconitic as above  
20% clean limestone white to very light gray  
10% sandy limestone as above  
5% chert as above  
2% red siltstone as above  
3% quartz grains, about 2mm, rounded to angular, transparent to reddish brown, some pale yellowish green; trace of glauconite, phosphate, very light gray calcareous siltstone, pyrite and mica; forams, bryozoa, pelecypods

- 1840-1850\* same as above; very interesting fossils; no glauconitic siltstone
- 1850-1860 10% gray sandstone as above  
30% clean white limestone as above  
50% sandy limestone as above  
4% quartz grains as above  
1% red siltstone as above  
5% chert as above  
trace of glauconite, pyrite, mica, phosphate, light gray siltstone
- 1860-1870 65% gray sandstone as above  
10% chert as above  
10% clean limestone as above  
10% sandy limestone as above  
5% quartz grains as above  
trace of phosphate, glauconitic siltstone, mica, bone, glauconite, red siltstone, gray calcareous siltstone
- 1870-1880\* 77% light gray sandstone as above  
10% chert as above  
10% white limestone, pure to slightly sandy  
2% quartz grains as above  
1% red siltstone as above  
trace of glauconite, glauconitic siltstone, mica, light gray siltstone; fossils
- 1880-1890\* same as above; trace of red siltstone, pyrite
- 1890-1900\* 60% sandstone as above  
20% limestone as 1870-80  
15% chert as above  
1% red siltstone as above  
4% quartz grains as above  
trace of glauconite, mica, glauconitic siltstone, pyrite, bone, phosphate; pelecypods, forams, bryozoa
- 1900-1910 95% sandstone, calcareous, glauconitic, very fine grained, very light gray  
2% chert as above  
2% clean limestone as above  
1% quartz grains as above  
trace of red siltstone, glauconite, calcareous clay, pinkish gray 5YR 8/1
- 1910-1920 96% sandstone as above; 2% limestone as above; 1% chert as above; 1% quartz grains as above  
trace of red siltstone, glauconitic siltstone, mica, phosphate, glauconite

- 1920-1930 same as above
- 1930-1940 same as above; trace of phosphate
- 1940-1950 same as above
- 1950-1960 98% sandstone as above  
1% chert as above  
1% clean limestone as above  
trace of quartz grains, glauconitic siltstone, red siltstone,  
glauconite, clay as in 1900-10
- 1960-1970 same as above; no glauconitic siltstone, free glauconite  
or clay
- 1970-1980 same as above; no clay, definite phosphate, interesting  
fossils
- 1980-1990 99% sandstone as above; 1% clean limestone, calcite crystals  
trace of chert, red siltstone, quartz, glauconite siltstone  
which is 5YR6/4 ; some gray siltstone which is encrusting  
the sandstone, medium gray N5
- 1990-2000 same as above; no brown siltstone, trace of phosphate
- 2000-2010 same as above, no phosphate, no brown siltstone, no free  
glauconite
- 2010-2020 97% sandstone as above; 2% limestone as above; 1% chert  
trace of red siltstone, moderate reddish brown chert 10R4/6,  
and quartz
- 2020-2030 sample missing
- 2030-2040 98% sandstone; 1% chert; 1% limestone-crystalline calcite  
trace of red siltstone, gray siltstone as in 1980-90,  
quartz subangular to subrounded
- 2040-2050\* 100% sandstone as above, light gray  
trace of glauconite, quartz grains, red siltstone, chert,  
phosphate; fossils
- 2050-2060 100% sandstone as above; decreased glauconite;  
trace of quartz, chert, fossils
- 2060-2070 100% sandstone as above  
trace of chert, clean white limestone, fossils
- 2070-2080 100% sandstone. Note! These sandstones which are white  
to light gray below 1900 feet are very calcareous and  
are being called sandstones rather than limestones  
because they have at least 50% sand grains, and probably  
more.  
trace of chert, quartz, red siltstone

- 2080-2090 100% light gray sandstone  
trace of clean, white limestone, cleavage faces apparent,  
obviously crystalline; chert
- 2090-2100\* 100% sandstone as above  
trace of quartz grains, clean limestone, black sphere
- 2100-2110 99% sandstone as above  
1% clean limestone, fossils  
trace of quartz, chert
- 2110-2120 70% calcareous, very fine grained, glauconitic sandstone,  
white to light gray N7, micaceous  
30% white, aphanitic limestone, some calcite crystals  
trace of chert as above, quartz grains as above, red siltstone  
as above; shark tooth
- 2120-2130 same as above; trace of glauconite and pyrite
- 2130-2140 same as above; no pyrite
- 2140-2150 as above; pyrite
- 2150-2160 same as above
- 2160-2170 same as above; trace of chert, grayish red siltstone,  
glauconite, pyrite, forams
- 2170-2180 30% sandstone as above  
60% medium light gray N6 siltstone, calcareous, micaceous;  
10% limestone as above  
trace of chert, red siltstone, pyrite
- 2180-2190 same as above
- 2190-2200 same as above; no apparent pyrite
- 2200-2210 90% siltstone as above  
5% chert as above  
5% limestone, white, aphanitic  
trace of glauconite, mica, forams, coarse sand grains,  
grayish red siltstone
- 2210-2220 95% gray siltstone, bryozoa in matrix  
5% chert and limestone as above  
trace of pyrite, red siltstone and quartz grains
- 2220-2230 no sample.

note! from about 2170 to here, the sand seems to have graded  
to fine silt

- 2230-2240 98% medium light gray N6, clayey, calcareous, micaceous,  
siltstone with bryozoa and glauconite  
2% white, aphanitic limestone  
trace of chert
- 2240-2250 same as above; trace of pyrite in silt matrix
- 2250-2260 same as above; some limestone as in the siltstone matrix  
and bryozoa  
trace of red siltstone --cave and subangular quartz==cave
- 2260-2270 same as above; trace of fine, subangular quartz grains;  
chert, and pyrite in the siltstone
- 2270-2280 same as above
- 2280-2290\* 98% siltstone as above  
2% white limestone as above  
bryozoa, forams  
trace of pyrite in siltstone, chert, and quartz grains
- 2290-2300 same as above; siltstone is glauconitic and pyritic
- 2300-2310 same as above; trace of grayish red siltstone
- 2310-2320 99% silty clay, medium light gray, calcareous  
1% limestone
- 2320-2330 same as above
- 2330-2340 same as above
- 2340-2350 same as above
- 2350-2360 100% siltstone as above; trace of limestone
- 2360-2370 99% siltstone as above  
1% limestone  
trace of fine grained quartz
- 2370-2380 50% siltstone as above  
48% siltsized quartz grains, unconsolidated, subangular  
2% limestone as above
- 2380-2390 100% silty clay as 2310-20
- 2390-2400 same as above
- 2400-2440 same as above
- 2440-2450 same as above; clay is micaceous; trace of limestone
- 2450-2460 same as above; trace of siltstone and limestone
- 2460-2470 same as above; no limestone
- 2470-2480 same as above

- 2470-2480 same as above
- 2480-2490\* 98% siltstone as above  
2% limestone as above, forams, bryozoa  
trace of chert, medium grained angular quartz
- 2490-2500 same as above; trace of red siltstone, forams, bryozoa
- 2500-2510 99% siltstone as above  
1% limestone, forams, bryozoa
- 2510-2520 same as above; trace of chert
- 2520-2530 same as above
- 2530-2540 98% siltstone as above  
1% limestone, forams, bryozoa  
1% pyrite
- 2540-2550 99% siltstone as above  
1% limestone, forams  
trace of coarse grained quartz, subangular
- 2550-2560 same as above; no chert, trace of red siltstone, forams,  
trace of phosphate in the siltstone
- 2560-2570 100% siltstone as above; trace of limestone, chert, forams
- 2570-2580 98% clayey siltstone; 1% pyrite. the clay is calcareous,  
dark gray N3  
trace of white aphanitic limestone, chert, phosphate, forams,  
fibrous calcite, very pale orange to pale yellowish  
brown 10YR8/2 to 10YR6/2
- 2580-2590\* same as above, no chert
- 2590-2600\* same as above
- 2600-2610\* 89% siltstone as above  
10% white aphanitic limestone  
1% pyrite,  
foraminifera, oyster frags.  
trace of clay as above
- 2610-2620 same as above; trace of medium grained subangular quartz
- 2620-2630\* same as above; bryozoa
- 2630-2640\* same as above; no bryozoa
- 2640-2650 sample missing
- 2650-2660\* same as above

- 2660-2670 same as above; trace of clay as 2570-80; no oyster parts
- 2670-2680\* same as above; pelecypod fragments
- 2680-2690\* same as above; no pelecypods
- 2690-2700\* same as above
- 2700-2730 no samples
- 2730-2740 95% silty claystone as above, calcareous  
5% limestone as above  
pyrite, foraminifera
- 2740-2840 same as above
- 2840-2850\* 96% clayey siltstone as above  
3% limestone as above  
1% pyrite, red siltstone (cave) and chert (cave), quartz,  
forams, and bryozoa
- 2850-2900\* same as above
- 2900-2910\* 90% gray siltstone as above  
7% oyster fragments  
1% pyrite  
2% white limestone as above  
trace of red siltstone (cave), glauconite, quartz, forams,  
ostracoda, pelecypods, echinoid spines
- 2910-2930 same as above, no ostracods
- 2930-2940 93% gray siltstone as above  
4% oyster parts  
1% pyrite  
2% white limestone as above  
forams, spines, pelecypods  
traces as above
- 2940-2950 90% siltstone as above  
5% white sandy limestone, glauconitic, with fossils and  
fragment impressions  
traces as above; forams, echinoids, pelecypods
- 2950-2960 96% siltstone as above  
2% limestone as above  
2% oyster parts  
trace of pyrite, quartz grains, red siltstone, forams,  
ostracods, pelecypods
- 2960-3000 same as above

- 3000-3010 same as above, plus echinoid spines
- 3010-3020 95% clay as 2380-90  
5% limestone as above
- 3020-3100 same as above
- 3100-3110 50% siltstone as above  
50% calcareous, very fine grained sandstone, subangular  
grains, micaceous, glauconitic  
trace of white limestone as above, oyster parts, pelecypods,  
ostracods, forams, pyrite
- 3110-3120 same as above
- 3120-3130 60% sandstone as above  
40% siltstone as above  
traces as above
- 3130-3140 clay as in 3010-20  
trace of white limestone
- 3140-3160 same as above
- 3160-3170 60% siltstone as above  
40% sandstone as above  
traces as above; pelecypods etc.
- 3170-3180 same as above
- 3180-3190 50% siltstone as above  
50% sandstone as above  
traces as above, plus ostracods, forams, some phosphate
- 3190-3200 same as above
- 3200-3210 same as 3180-90; no pyrite or oyster parts
- 3210-3220 40% sandstone as above  
50% siltstone as above  
10% calcareous shale, brownish gray 5YR4/1 to medium dark  
gray N4  
forams, ostracods, pelecypods
- 3220-3230 30% sandstone  
30% siltstone  
20% white aphanitic limestone  
10% phosphate  
10% shale as above  
sparse forams, pelecypods

- 5230-3240 30% siltstone  
20% sandstone  
20% shale  
15% limestone  
15% phosphate  
traces of red siltstone, pyrite (in the sandstone),  
oyster parts, pelecypods, sparse forams
- 5240-3260 as above
- 5260-3270 40% siltstone  
40% sandstone, glauconitic  
5% phosphate  
10% white limestone  
5% quartz grains, coarse, subangular  
trace of glauconitic siltstone (cave) and oyster parts
- 5270-3280 as above; trace of greensand (glauconitic sandstone)
- 5280-3290 40% siltstone  
30% sandstone  
10% phosphate  
20% limestone, white and gray  
pelecypod fragments  
trace of phosphate, medium to coarse grained subangular quartz  
grains
- 5290-3300 70% siltstone as above  
20% sandstone as above  
8% shell fragments  
2% phosphate  
trace of chalk and quartz
- 5300-3310 60% siltstone  
25% sandstone  
10% chalky limestone  
5% phosphate  
trace of quartz
- 5310-3320 50% siltstone  
25% sandstone  
20% limestone as 3300-10  
5% phosphate  
trace of shell fragments, quartz
- 5320-3330 50% siltstone  
25% sandstone  
15% phosphate  
10% chalky limestone  
trace of shell fragments, up to 1% pyrite, quartz grains
- 5330-3340 same as above

- 3340-3350 40% siltstone  
25% sandstone  
25% phosphate  
10% limestone  
shell fragments and quartz
- 3350-3360 40% calcareous shell fragments, white and light gray  
N4-N7  
30% white limestone  
10% siltstone  
10% phosphate  
10% sandstone
- 3360-3380 same as above
- 3380-3390 10% siltstone  
50% shell fragments  
20% sandstone  
10% phosphate  
10% chalky limestone  
trace of pyrite
- 3390-3400 same as above
- 3400-3410 40% siltstone  
25% sandstone  
25% shell fragments  
7% white limestone  
3% phosphate  
trace of pyrite
- 3410-3420 same as above
- 3420-3430 40% siltstone  
20% sandstone  
25% shell fragments  
10% limestone  
5% phosphate  
trace of pyrite
- 3430-3440 50% siltstone  
20% shell fragments  
25% limestone  
5% sandstone
- 3440-3450 same as above
- 3450-3460 50% siltstone  
45% limestone, very light gray N6 to light gray N7  
5% shell fragments  
trace of pyrite, phosphate, sandstone

- 3460-3470 60% siltstone  
40% calcareous sandstone, grading to limestone  
trace of pyrite, phosphate, shell fragments
- 3470-3490 same as above
- 3490-3500 70% siltstone  
30% sandstone, as above  
traces as above
- 3500-3510 same as above
- 3510-3520 same as 3460-70
- 3520-3530 75% siltstone  
25% sandstone  
traces as above
- 3530-3540 same as above
- 3540-3550 75% siltstone  
20% sandstone  
5% limestone  
traces as above
- 3550-3560 same as above
- 3560-3570 95% sand grains, coarse, transparent, colorless to stained  
pink and green, subangular, quartz and feldspar(5%)  
5% siltstone (cave)  
trace of phosphate and pyrite
- 3570-3650 same as above, but decreasing siltstone (2% here at bottom)
- 3650-3660 same as above; trace of light olive brown siltstone 5Y5/6
- 3660-3700 same as above
- 3700-3710 100% sand, green absent, mostly colorless to pink  
trace of gray siltstone, glauconite
- 3710-3950 lithology is essentially the same as above. 3900-3950  
has between 2-5% gray siltstone as above. (see description  
of 3560-3570)
- 3950-3960 100% sand as above  
trace of glauconitic siltstone, iron oxide of some sort,  
phosphate, glauconite, mica, reddish brown 10R4/4  
micaceous siltstone
- 3960-3970 same as above, reddish brown siltstone

- 3970-3980 same as above
- 3980-3990 90% sand as above  
5% gray siltstone as above  
5% red siltstone as above  
trace of phosphate, calcareous, glauconitic sandstone
- 3990-4000 90% sand  
7% red siltstone  
3% gray siltstone  
traces as above, mica
- 4000-4010 same as above- some sand grains appear to be feldspar  
subhedral, coarse
- 4010-4020 100% sand as above  
trace of gray and red siltstone  
trace of mica, glauconitic siltstone, phosphate, limestone,  
and glauconitic, calcareous sandstone
- 4020-4030 99% sand  
1% red siltstone  
traces as above
- 4030-4060 same as above
- 4060-4070 85% quartz sand as above  
10% red siltstone  
5% gray siltstone  
trace of phosphate
- 4070-4100 same as above
- 4100-4110 75% sand  
18% red siltstone  
7% gray siltstone  
traces as above
- 4110-4150 same as above
- 4150-4160 60% red siltstone  
20% gray siltstone  
20% sand as above  
trace of calcareous sandstone (cave), mica flakes and small  
books
- 4160-4170 same as above; trace of mica
- 4170-4180 same as above
- 4180-4190 90% quartz sand  
5% red siltstone; 5% gray siltstone; traces as above

- 4190-4300 same as above
- 4300-4310 70% sand  
15% red siltstone  
15% gray siltstone  
traces as above
- 4310-4320 same as above, trace of phosphate
- 4320-4330 same as 4310-20
- 4330-4340 same as above
- 4340-4350 80% sand  
10% gray siltstone  
10% red siltstone  
trace of mica, phosphate, miscellaneous lithologies
- 4350-4360 85% sand  
8% red siltstone  
7% gray siltstone  
traces as above
- 4360-4370 as above
- 4370-4380 80% quartz sand  
5% gray siltstone  
5% red siltstone  
10% miscellaneous lithologies (see 4410-4420)  
traces of chalky limestone and mica
- 4380-4390 50% sand  
10% gray siltstone  
5% red siltstone  
35% miscellaneous lithologies
- 4390-4400 same as above
- 4400-4410 same as above, small sample
- 4410-4420 30% sand  
10% gray siltstone  
10% red siltstone  
50% miscellaneous lithologies  
75% dark reddish brown 10R3/4 rhyolite? and quartzite?  
often with a white shell  
10% grayish olive 10Y4/2 rhyolite? and tuff? to  
pale olive 10Y6/2  
10% pale brown 5YR5/2 to dark yellowish brown 10YR4/2  
to dark yellowish orange 10YR6/6  
5% others similar to these

- 4420-4430 15% sand  
5% gray siltstone  
10% red siltstone  
70% miscellaneous lithologies
- 4430-4440 80% miscellaneous lithologies  
10% sand  
3% gray siltstone  
7% red siltstone
- 4440-4450 55% miscellaneous lithologies  
10% quartz sand  
30% red siltstone  
5% gray siltstone
- 4450-4460 small sample  
30% red siltstone  
10% quartz sand  
60% miscellaneous lithologies  
white to light gray sandstone  
chalky material  
trace of gray siltstone
- 4460-4470 as above
- 4470-4480 85% miscellaneous lithologies  
sample for thin section is moderate yellowish brown  
10YR4/2 quartzite?  
10% quartz sand  
5% red siltstone
- 4480-4490 90% miscellaneous lithologies  
8% quartz sand  
2% red siltstone
- 4490-4500 same as above
- 4500-4510 no record
- 4510-4520 20% coarse, rounded to subangular quartz  
5% red siltstone  
65% miscellaneous lithologies  
10% gray siltstone
- 4520-4530 50% gray siltstone  
10% quartz as above  
10% red siltstone  
30% miscellaneous lithologies
- 4530-4540 same as above
- 4540-4550 60% gray siltstone; 30% red siltstone; 8% miscellaneous  
lithologies; 7% quartz sand

4550-4560 small sample  
same as above

4560-4570 60% red siltstone  
30% gray siltstone  
8% miscellaneous lithologies  
2% quartz sand

4570-4580 60% gray siltstone  
30% red siltstone  
8% miscellaneous lithologies  
2% quartz sand

4580-4590 40% sand grains, very fine to coarse grained, angular :  
subrounded  
25% gray siltstone  
30% red siltstone  
5% miscellaneous lithologies

4590-4600 30% sand grains as above  
30% gray siltstone  
30% red siltstone  
10% miscellaneous lithologies

4600-4610 same as above

4610-4620 25% sand grains as above  
40% gray siltstone  
30% red siltstone  
5% miscellaneous lithologies

4620-4630 small sample  
same as above

4630-4640 same as above

4640-4650 small sample  
40% red siltstone  
30% gray siltstone  
15% quartz sand  
15% miscellaneous lithologies

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