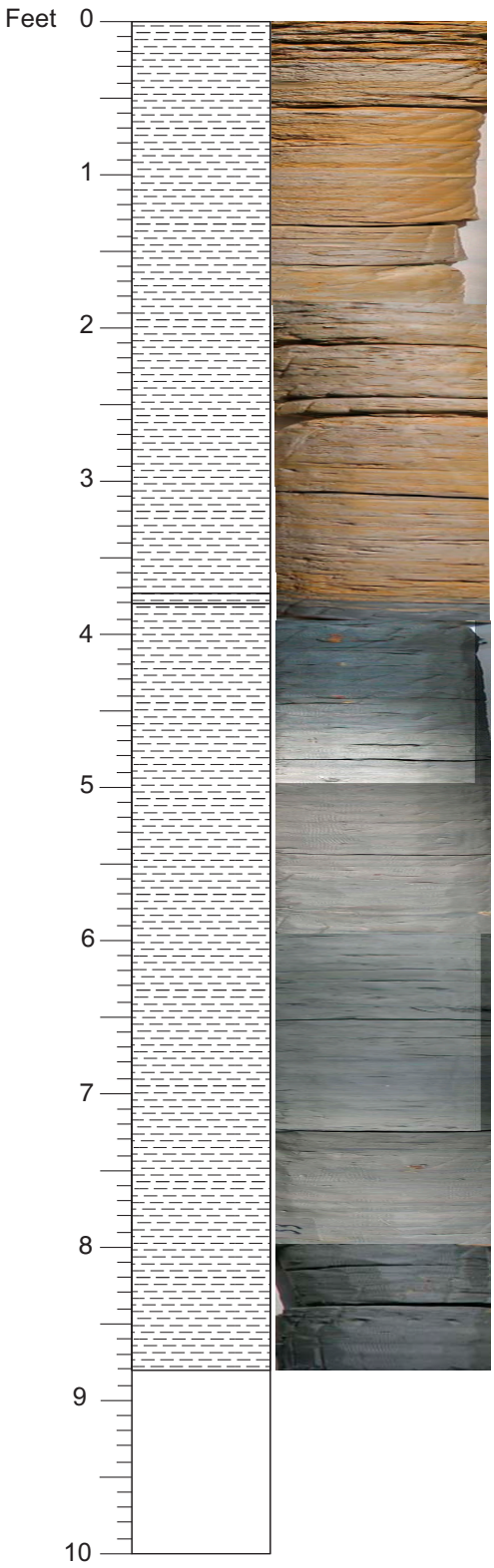
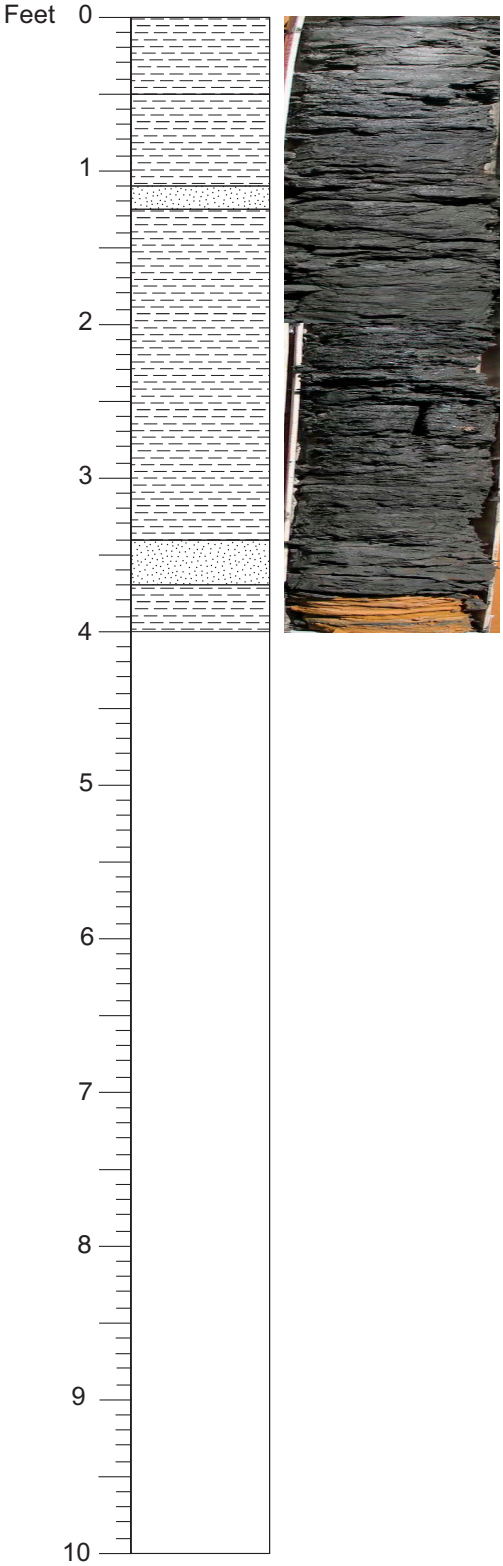


CLAY; slightly silty to silty, yellow to light gray; limonitic concretions (< 1mm diameter); thin yellow laminations at top, more mottled at bottom; ?paleosol, ? tidal; light gray (10YR 7/1) and brownish yellow (10YR 6/6)

CLAY; yellow and dark gray laminae; contact zone 3.75-3.85 ft

CLAY; silty; fainty laminated; thin wispy laminae to broken by burrowing; flecked with organic matter, pyrite concretion at 6.4 ft; interpretation: estuarine or subaqueous tidal flat; gray (2.5Y 5/0)

Core #4
Start depth: 25 ft
Stop depth: 35 ft
Recovery: 8.7 ft
Date: 5/9/11
Described by: PPM, KGM



CLAY; gray, silty as above

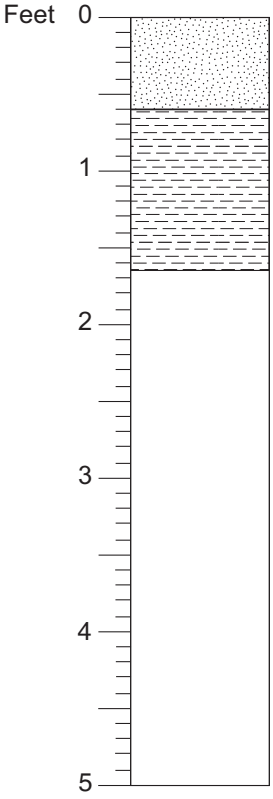
CLAY; sandy (10-20%); friable and homogenized (bioturbated?) (lagoon); green with black (2.5/10Y)

SAND bed

SAND; muddy

CLAY; sand, interlaminated with muddy very fine-to-fine sand and sandy clay; tidal flat; brownish yellow (10YR 6/6), streaks of gray (10YR 6/1)

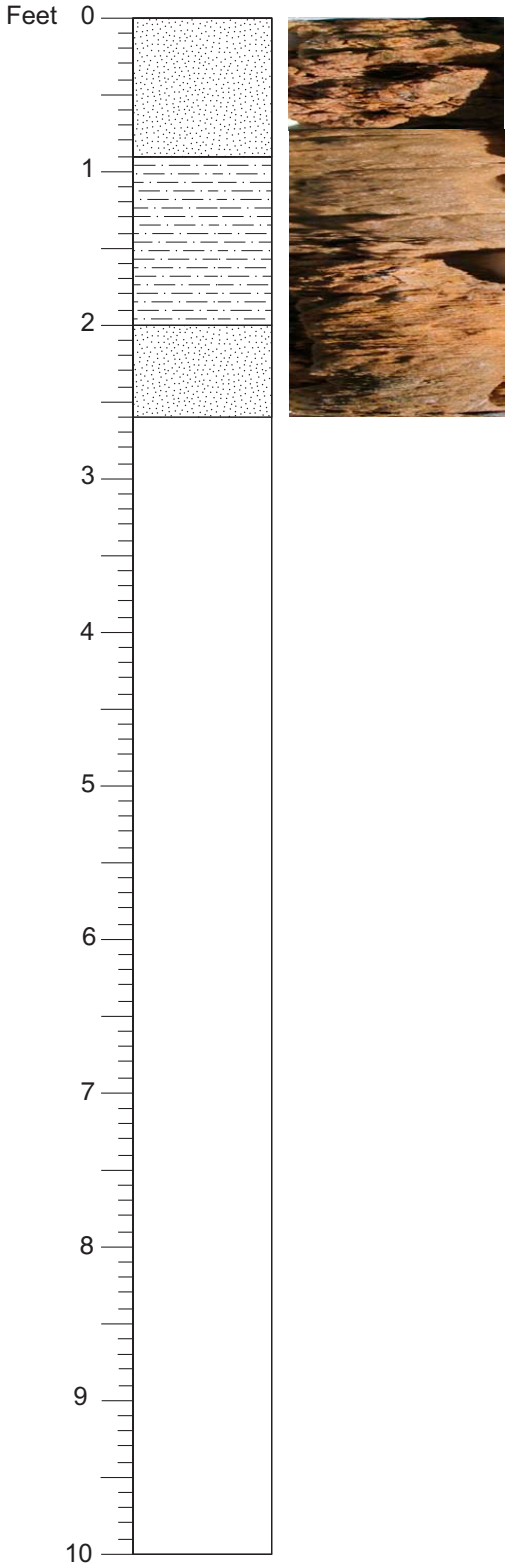
Core #5
Start depth: 35 ft
Stop depth: 45 ft
Recovery: 4.0 ft
Date: 5/9/11
Described by: KGM



SAND; fine-very fine, intermixed/interlaminated with,sandy clay, irregular laminae; brownish yellow (10YR 6/6) to gray and light gray (10YR 6/1-7/1)

CLAY; silty with very fine-fine sand laminae, scattered limonite concretions (“soily”); gray (10YR 6/1) with some light gray (10YR 7/1), sandier laminae are brownish yellow (10YR 6/6)

Core #6
Start depth: 45 ft
Stop depth: 50 ft
Recovery: 1.65 ft
Date: 5/9/11
Described by: KGM, PPM

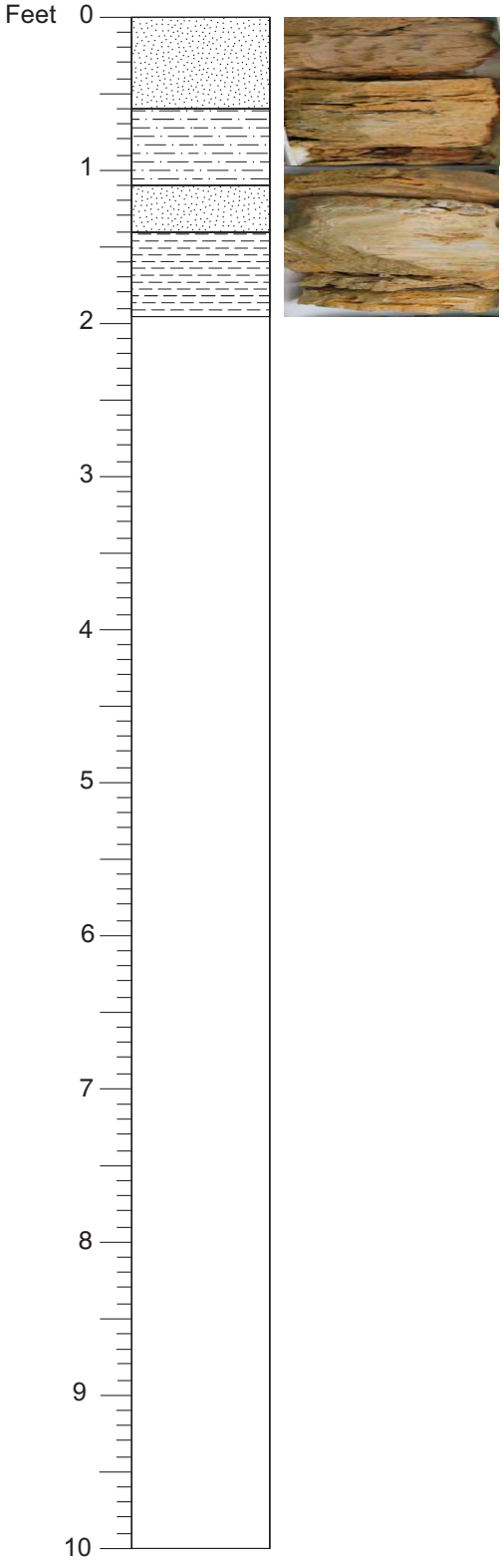


SAND; medium; quartz, with rare/trace ohm; homogenous bed, possibly caved; light yellowish brown (2.5Y 6/4)

CLAY; sandy, medium with occasional coarse grains; very rare ohms, cross-bedded, pebbles likely caved

SAND; medium-coarse, some very coarse; massive; yellow (2.5Y 7/8)

Core #7
Start depth: 50 ft
Stop depth: 60 ft
Recovery: 2.6ft
Date: 5/10/11
Described by: KGM



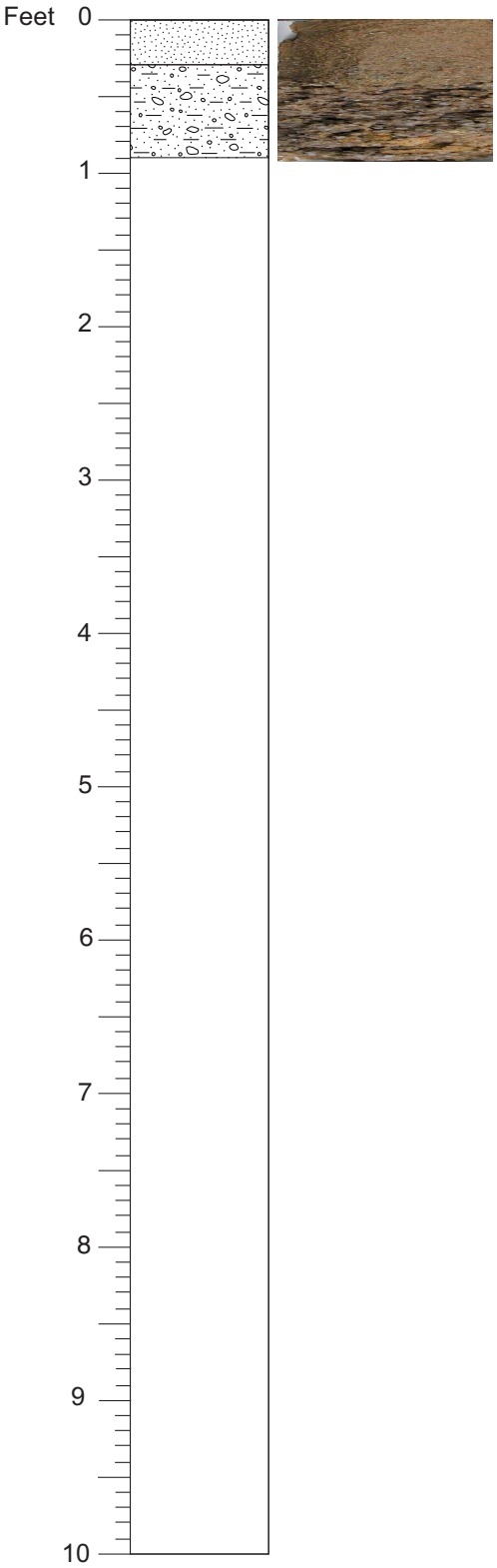
SAND; medium, fines down section; moderate sorting; ohm <1%; olive yellow (2.5Y 6/6)

CLAY; sandy, with ohm and yellow laminae; pale yellow (2.5Y 7/4)

SAND

CLAY; slightly micaceous, 1.95 ft slightly sandier, mud flat?

Core #8
Start depth: 60 ft
Stop depth: 70 ft
Recovery: 2 ft
Date: 5/10/11
Described by: KGM

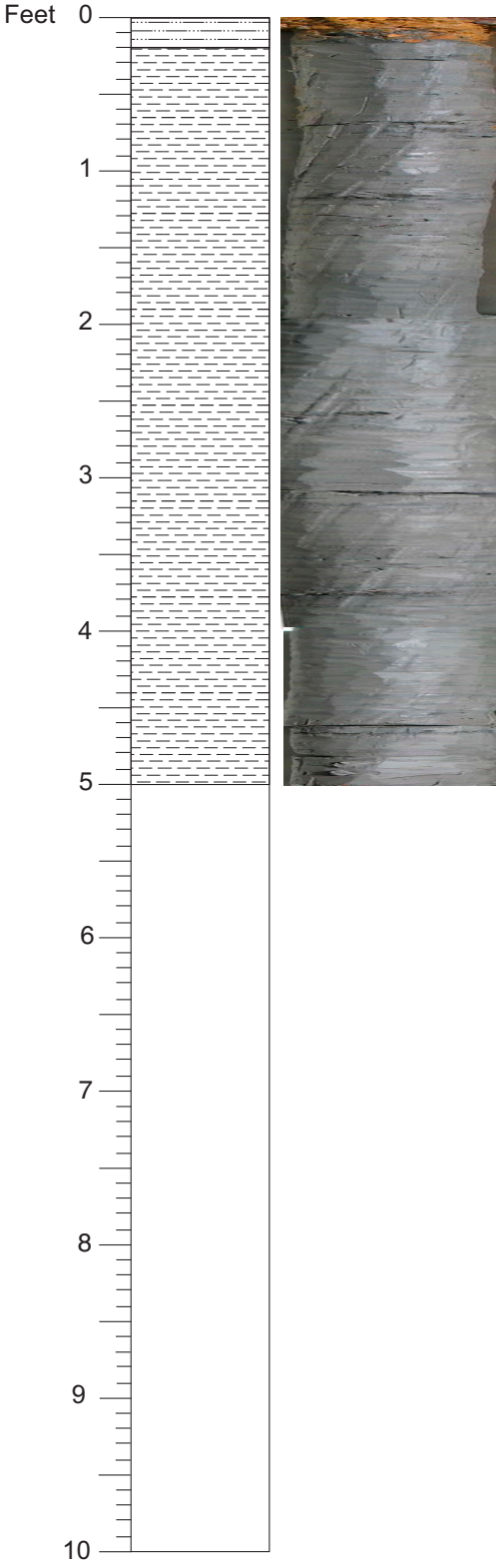


SAND; coarsening down from mud at top to very coarse at bottom with granules to small pebbles (to 5 mm), 0-0.3 ft is moderately sorted and the change to coarse is quick, some soft clayey silt blebs to 4 cm diameter at bottom: olive (5Y 5/6); channel sand

Core #9
Start depth: 70 ft
Stop depth: 80 ft
Recovery: 0.9 ft
Date: 5/10/11
Described by: JVB, RDB

80-90 ft - drilled without coring

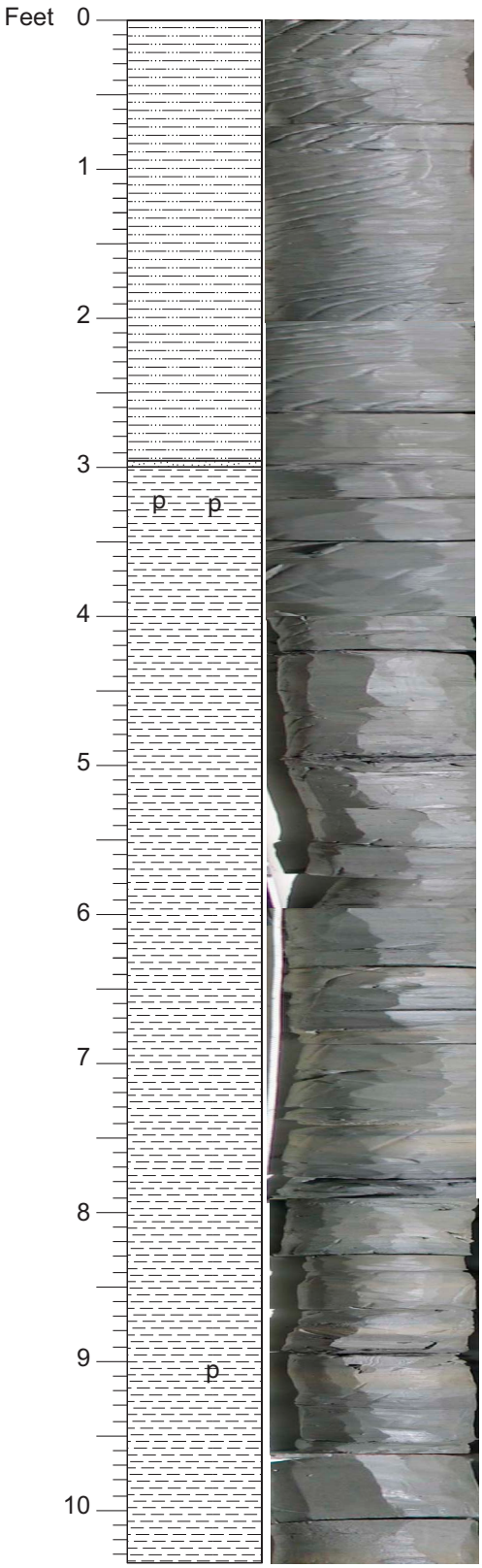
Core #10
Start depth: 90 ft
Stop depth: 100 ft
Recovery: 0.0ft
Date: 5/10/11
Described by: KGM



Caved? GRAVEL, Iron-cemented sandstone; limonitic

CLAY; slightly silty, slightly micaceous, interlaminated gray clay and organic-rich dark gray clay, ~2 cm laminae; pyrite 2.4, 2.9 ft, pyritized shell? 1.0, 3.6 ft, bedding wavy, laminated, black laminae contain common disseminated lignite; black-more discontinuous 2-6 cm wavy; proprodelta, light: greenish gray (10GY 6/1); dark: dark greenish gray (10GY 4/1); Kirkwood Formation

Core #11
Start depth: 100ft
Stop depth: 110 ft
Recovery: 5.0ft
Date: 5/10/11
Described by: JVB, KGM

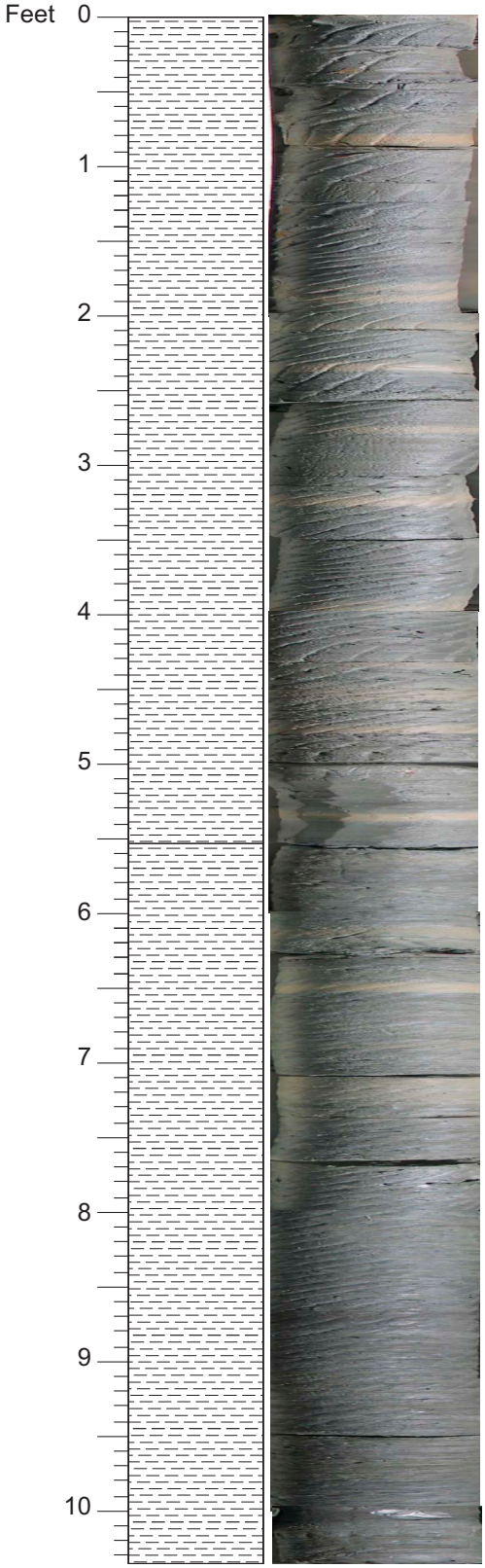


CLAY; silty, laminated; to CLAY, slightly micaceous; top 3 ft similar to core 11 with thin dark laminae (1-2 mm) and thicker (1.5-2 cm couplets) scattered organics throughout slightly ; lamiane are more regular at top; pyrite bed/nodule 3.2 ft; dark gray (10GY 6/1)

Silty sand lens

Clay; very finely laminated to homogenous; slightly lighter gray; contains a few thin washouts of silt laminae; pyrite nodule 9.3 ft; becomes lighter gray down section; greenish gray (5GY 5/1)

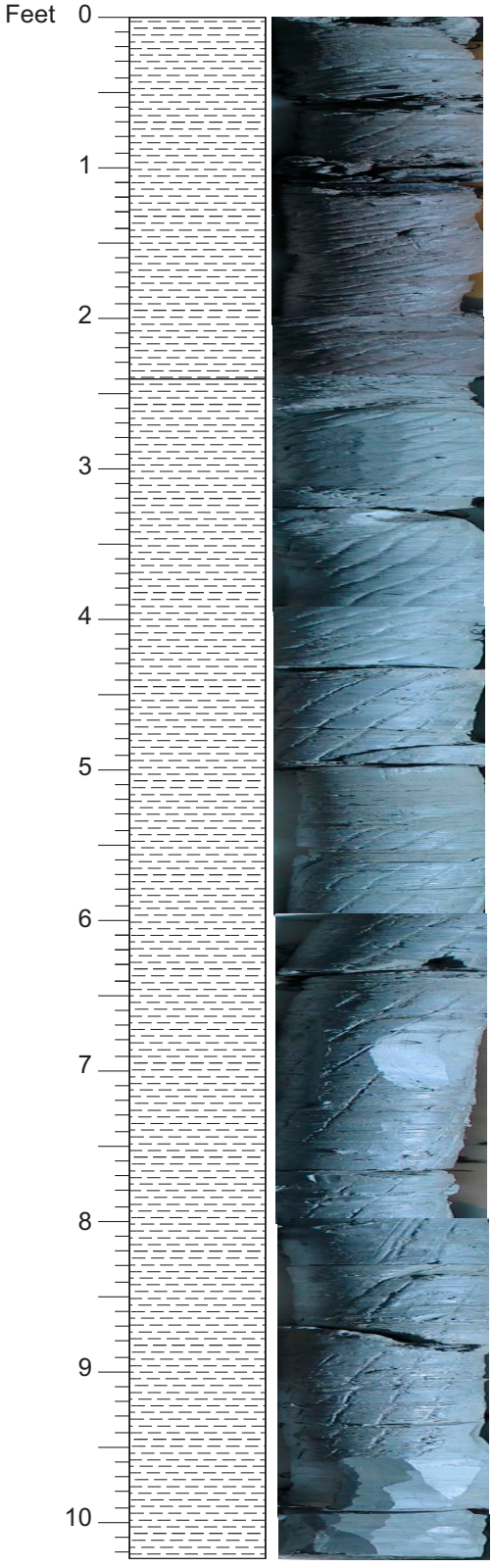
Core #12
Start depth: 110 ft
Stop depth: 120 ft
Recovery: 10.35 ft
Date: 5/10/11
Described by: JVB, KGM



CLAY, not much silt; light and dark laminae/beds; whiter beds seem more regular: 1.77-1.85, 2.33-2.38, 2.72-2.72, 3.2-3.25, 3.9-4.0, 4.35-4.44, 4.75-4.8, 5.3-5.35, 6.15-6.2, and 6.5-6.57 ft; disseminated organics; rare fine mica; green beds: greenish gray (5Y 5/1); white beds: pale yellow (5Y 7/3)

CLAY; slightly silty; more laminated, slightly darker; 2 cm-scale couplets of lighter-darker with laminations within couplets; dark clay at bottom; dark greenish gray (10GY 4/1), no white beds below 8 ft,

Core #13
Start depth: 120 ft
Stop depth: 130 ft
Recovery: 10.35 ft
Date: 5/10/11
Described by: JVB, KGM

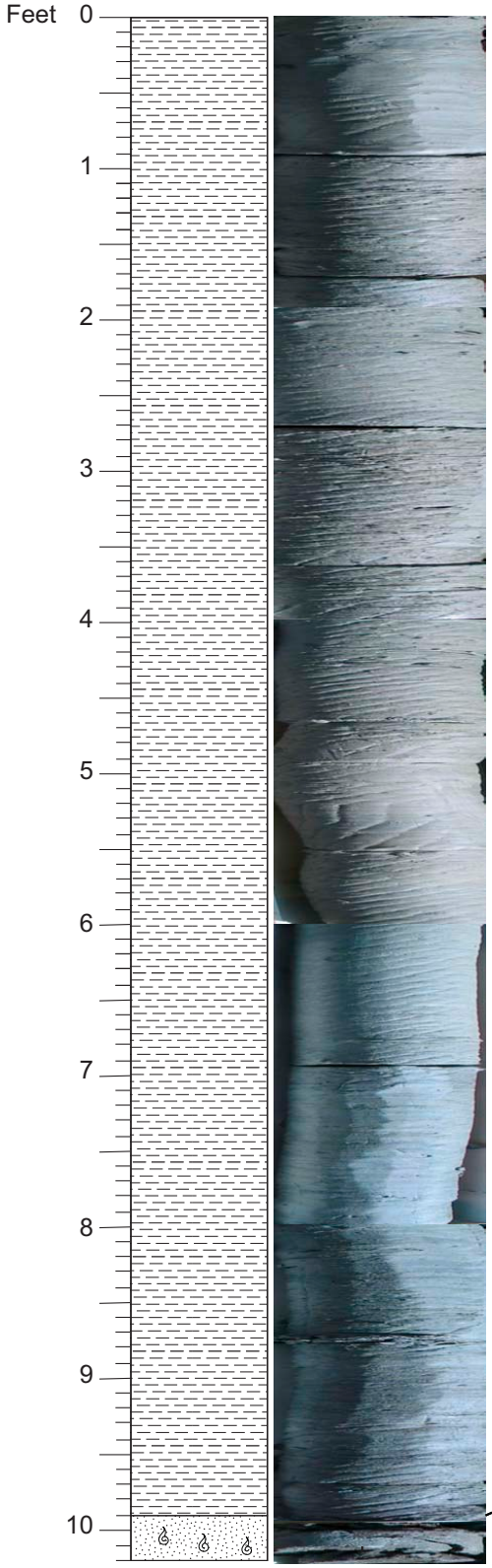


CLAY; “chocolate” clays, slightly silty, lignitic, slightly micaceous; lignite laminae at 1.1 ft; finely laminated (2 mm scale), few lignite chunks, pyrite 0.3 ft; very dark grayish brown (10YR 3/2)

2.4 ft sharp contact (planar)

CLAY; slightly silty, laminated to bioturbated, dark laminae are lighter, similar to core above; dark greenish gray (10Y 4/1)

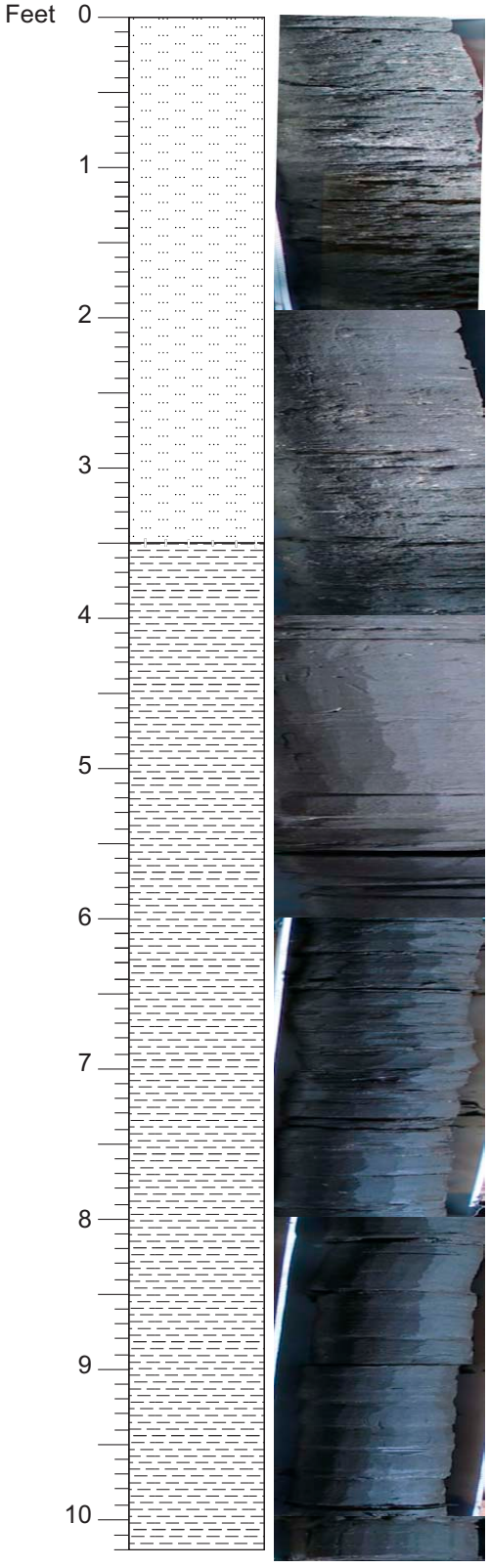
Core #14
Start depth: 130 ft
Stop depth: 140 ft
Recovery: 10.25 ft
Date: 5/10/11
Described by: JVB, KGM



CLAY; laminations/beds of light clay and dark clay some wavy laminae at 1-2 ft; slightly micaceous; much like Kirkwood above “green clays”; light beds: greenish gray (10Y 5/1), dark beds: dark greenish gray (5GY 4/1), the wavy beds might suggest high sedimentation rates

Core #15
Start depth: 140 ft
Stop depth: 150 ft
Recovery: 10.2 ft
Date: 5/10/11
Described by: JVB, KGM

SAND; bed with shells

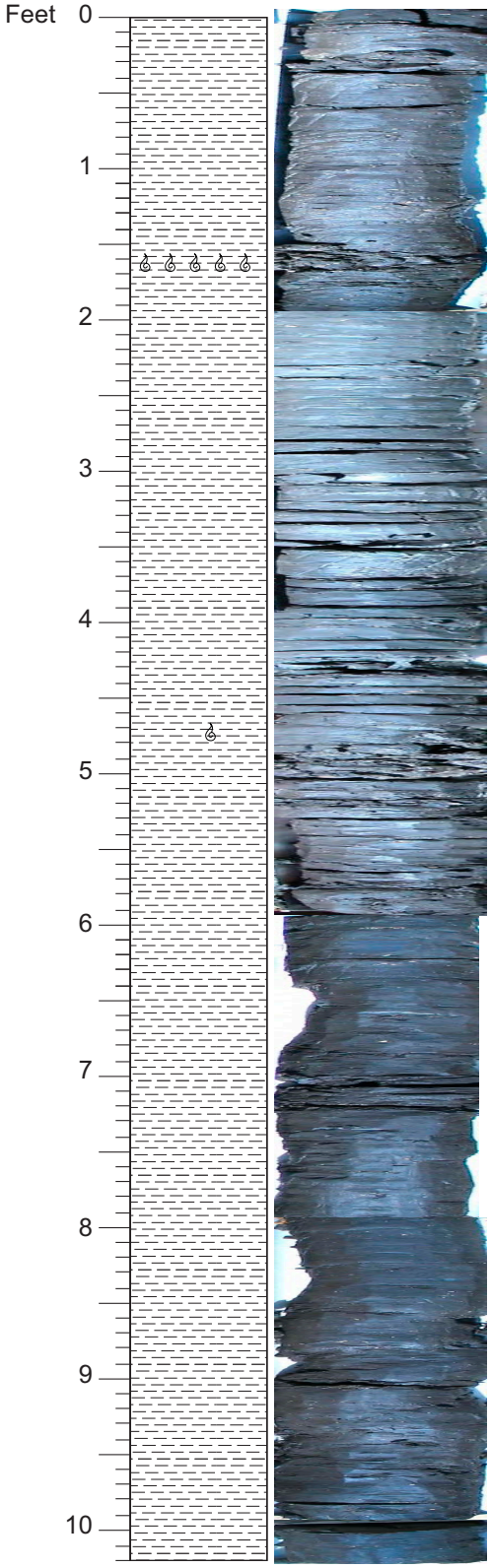


SILT; clayey to clay, silty all very sandy (very fine-fine; nearly 50% in places), fines downward, shells very common, mostly thin shelled bivalves, some larger (>3 cm) some smaller (2 mm) many fragments; shell is <5% volume; somewhat laminated, laminae disrupted by bioturbation and shells, sand mostly quartz rare mica, some dark grains, both ohm and plant debris; dark greenish gray (10GY 3/1)

Gradational contact

CLAY; slightly silty, homogenous to faintly laminated; thin-shelled bivalves, mostly <15 mm uncommon in up 2 ft to rare in lower part; no clear burrows (homogenized by bioturbation?); clay fairly stiff; very dark grayish brown (2.5Y 3/2)

Core #16
Start depth: 150 ft
Stop depth: 160 ft
Recovery: 10.2 ft
Date: 5/11/11
Described by: JVB, PPM

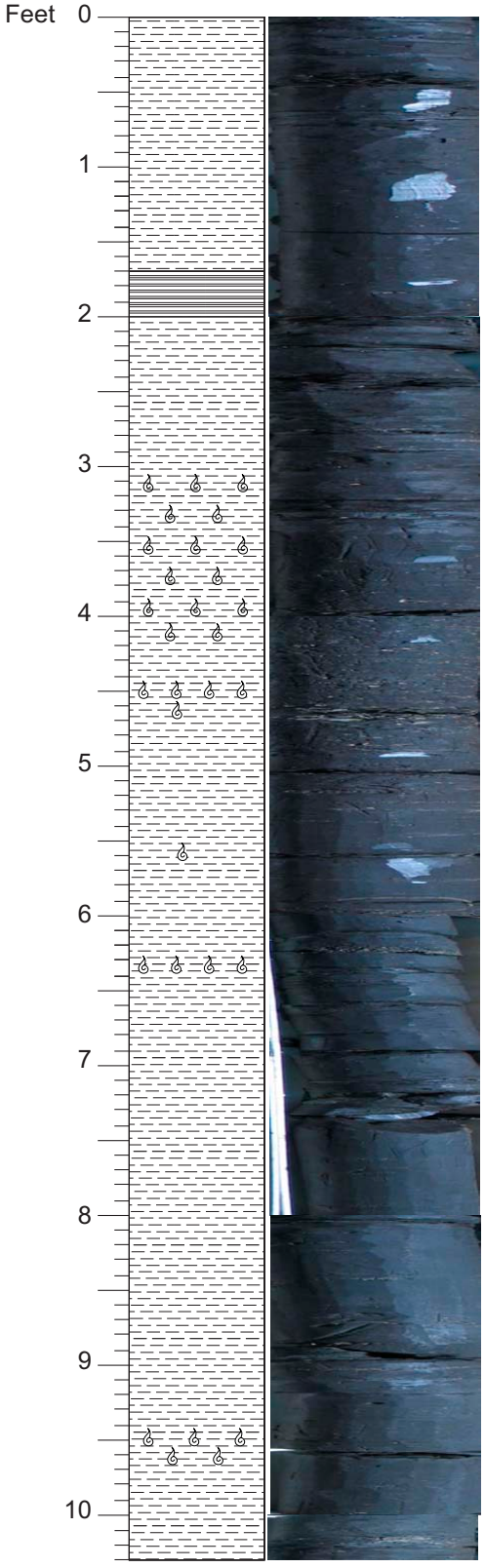


CLAY; finely silty, rare silt; trace mica, homogenous, <0.5 cm bivalve shell fragments; fewer shell fragments downwards; very dark grayish brown (2.5Y 3/2)

shell concentration

Gastropod shell

Core #17
Start depth: 160 ft
Stop depth: 170 ft
Recovery: 10.2 ft
Date: 5/11/11
Described by: TB



CLAY; finely silty, finely laminated (0.5-1cm); generally homogenous core; bivalve, gastropod shell fragments and whole shells; visible fine laminations (1.7-2.0 ft), dark olive brown (2.5Y 3/3)

Concentrated shell fragments

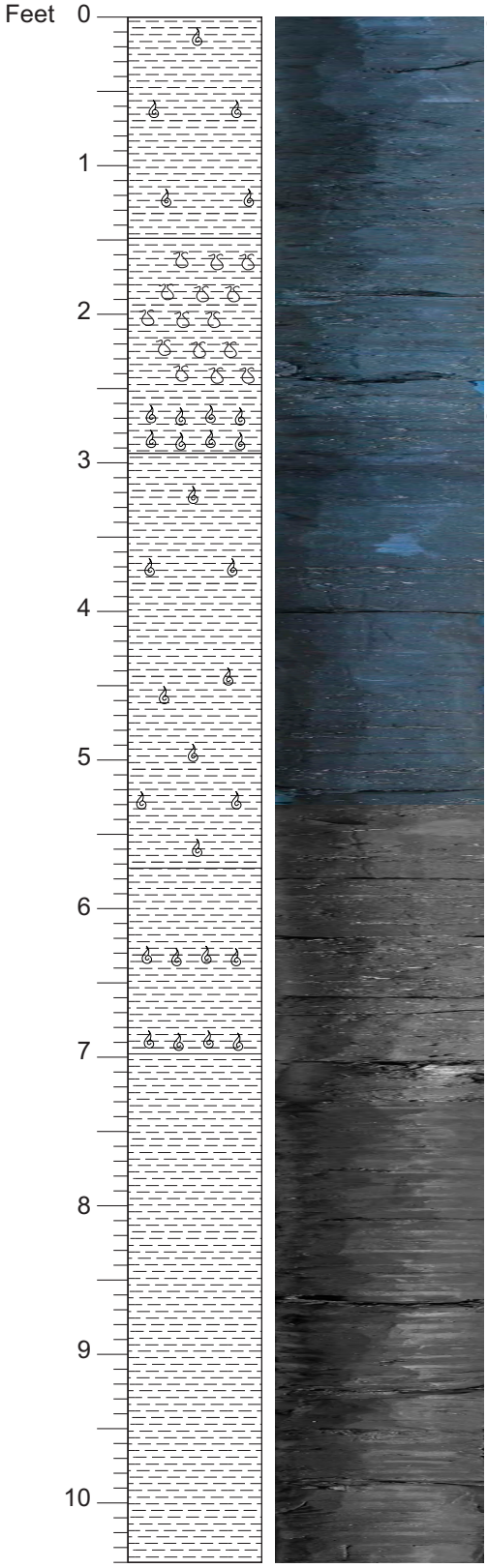
Concentrated shell fragments; gastropod

4 cm bivalve shell

Concentrated shell fragments

Core #18
Start depth: 170 ft
Stop depth: 180 ft
Recovery: 10.3 ft
Date: 5/11/11
Described by: TB

concentrated shell fragments



CLAY, finely silty, abundant bivalve shell fragments small <0.5 cm; olive (5Y 4/3)

Burrows common

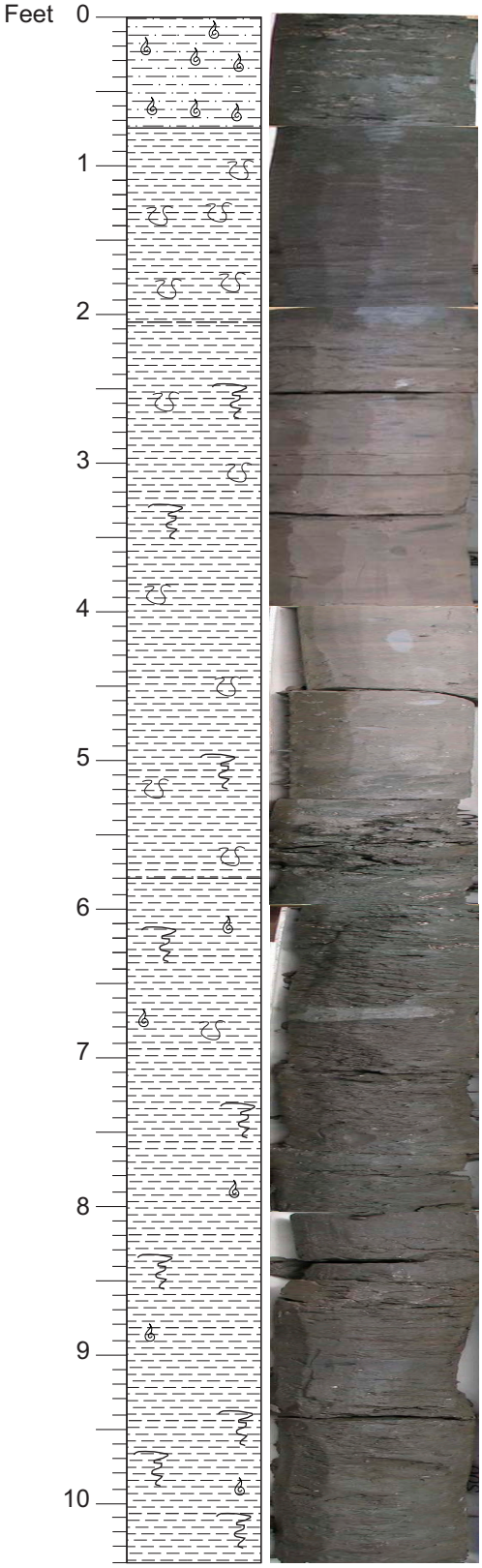
Concentrated shell fragments

dark olive gray (5Y 3/2)

gradual change to a lighter olive; olive (5Y 4/3)

Homogenous, few shell fragments; dark olive gray (5Y 3/2)

Core #19
Start depth: 180 ft
Stop depth: 190 ft
Recovery: 10.4 ft
Date: 5/11/11
Described by: TB



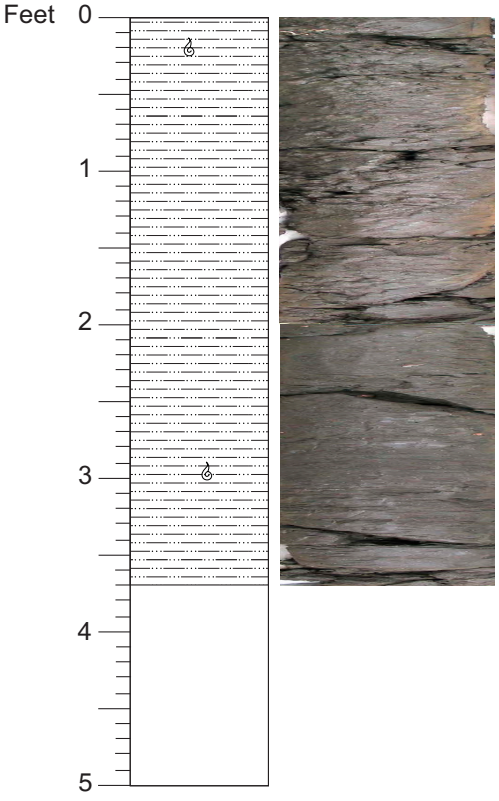
CLAY; finely silty, very fine sand, bivalve shell fragments; faint burrows across lower contact; dark olive gray (5Y 3/2)

CLAY; micaceous, very fine sand, quartz; abundant sub-horizontal to horizontal burrows, ~1cm diameter, dark fill in a lighter matrix, distinct burrows across lower boundary

CLAY; lighter than above; burrowed, burrows contain very fine sand compared with clay, mix of burrow types, dark fill in light matrix, include sub-horizontal to horizontal, 5-10 mm, rare subvertical burrows ~3mm, common small ?subvertical ~1 mm; olive gray (5Y 5/2) on top changing to olive gray (5Y 4/2). lighter at bottom

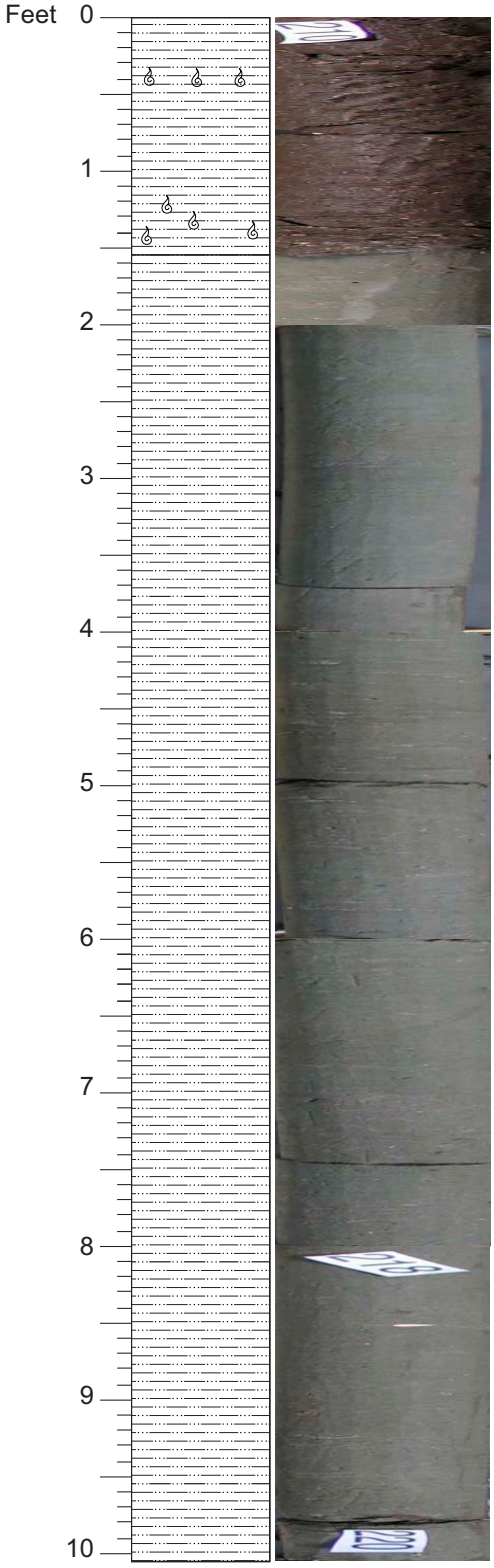
CLAY; very sandy; very fine sand, abundant mica, 3% ohm, small amount of plant material, shell fragments; faintly laminated disrupted by bioturbation, faint burrows-horizontal; 6.7-6.8 ft is a large diameter burrow (?), about 2 cm diameter, sub-horizontal, light gray clay fill; olive gray (5Y 4/2)

Core #20
Start depth: 190 ft
Stop depth: 205 ft
Recovery: 10.4 ft
Date: 5/11/11
Described by: TB, PPM
Note: 15 ft drilled; drillers overdrilled by 5 ft and lost a lot of material



SAND; very muddy and changes down to CLAY; very silty and sandy (quartz), 2-3 % OHM, rare mica, rare bivalve shells, mostly whole fragments, sand-sized plant fragments; finely laminated, disrupted by bioturbation; dark olive gray (5Y 3/2) (a brown shade)

Core #21
Start depth: 205 ft
Stop depth: 210 ft
Recovery: 3.7 ft
Date: 5/11/11
Described by: TB, PPM

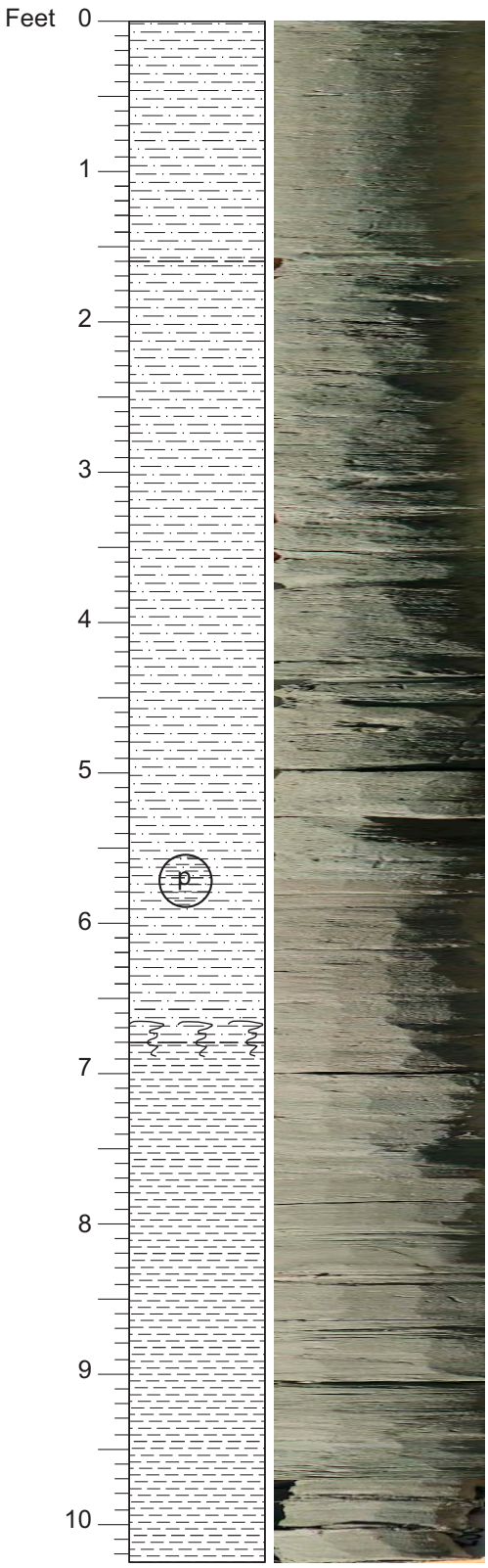


SAND; very muddy (silt and clay), sand is mostly very fine quartz, some (2-3%) ohm, common sand-sized plant debris; bioturbation disrupts laminae; scoattered shells and shell fragments (bivalve) with concentrations at 0.3 and 1.35-1.55 ft, sandier near bottom; dark olive gray (5Y 3/2)

1.5-1.55 irregular but sharp contact with dark rim just underneath

CLAY; very sandy, silty; sand is a subequal mixture of very fine quartz and forams and very fine-fine dark grains, dark grains include glauconite and ohm; faintly laminated, overprinted by extensive bioturbation, bivalve shells scattered throughout, rare coarse quartz grains somewhat randomly scattered throughout, glauconite grains are very dark/black, mostly very fine but some larger fine-grained, well-rounded ones; burrows mostly horizontal-subhorizontal, gives lithology a mottled lighter to darker gray green look, some back-filled with sandier material, small mm scale short branching burrows (*Helminthoides*) and larger (near-cm scale) burrows; core fairly dense and coherent; dark greenish gray (5GY 4/1) or slightly lighter green

Core #22
Start depth: 210 ft
Stop depth: 220 ft
Recovery: 10.05 ft
Date: 5/11/11
Described by: PPM, TB, JVB



CLAY; very sandy, silty; sand is very fine, abundant forams (planktonic and benthic) and dark grains (ohm and glauconite) and lesser quartz; fairly homogenous; slightly irregular color suggests burrowing; scattered (uncommon) but regular shells, thin bivalves; some glauconite grains are fine, rounded; glauconite is dark (black), rare medium to coarse quartz grains; dark greenish gray (5GY 4/1)

Sort of abrupt

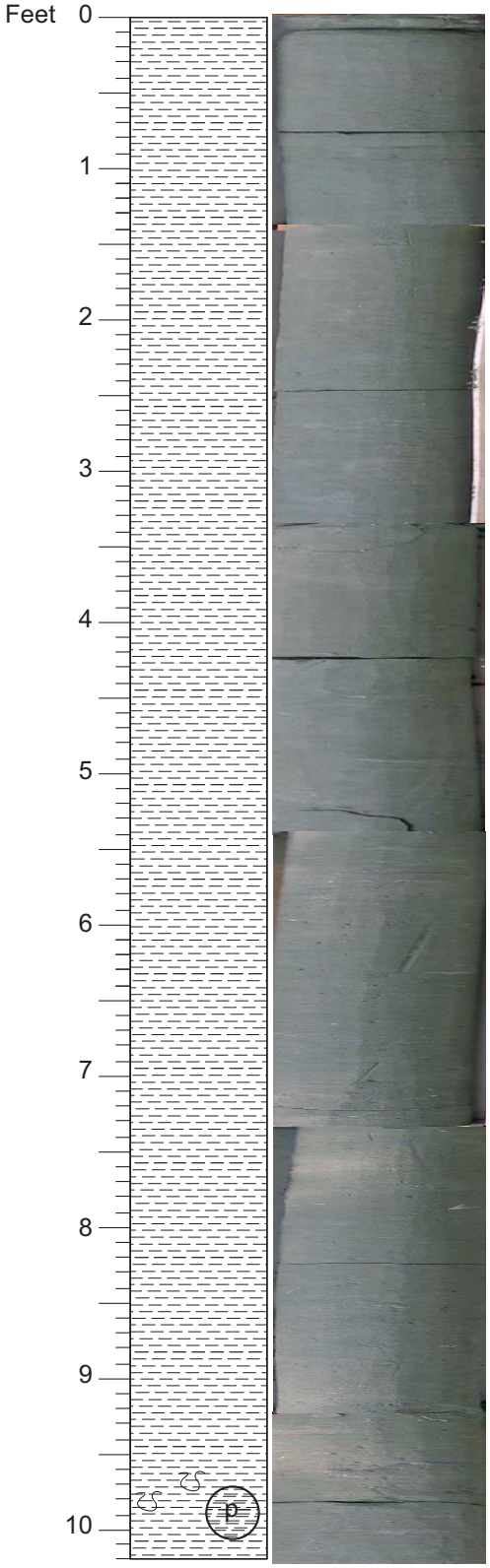
CLAY; sandy but less than above, sand is very fine, abundant foraminifers (planktonic and benthic) and glauconite (very fine-fine, mostly dark some smaller lighter green); faintly but definitely laminated with disruptions indicating bioturbation, scattered shell fragments/debris, mostly <2 mm but up to ~1 cm, also contains rare medium and coarse quartz grains; somewhat "pockmarked" with mm-scale burrow holes; dark greenish gray (5GY 4/1), slightly lighter than above

Phosphate grain

Diffuse contact (burrowed but faint because there is little color contrast)

CLAY; slightly sandy and silty, sand includes foraminifers (mostly abundant) and lesser glauconite (very fine) and lesser quartz (very fine and silt); faintly laminated, more so toward bottom; sand content decreases downward; faint burrows (little contrast w/ lithologies from above) in upper 0.5 ft; greenish gray (10GY 5/1), lighter than above

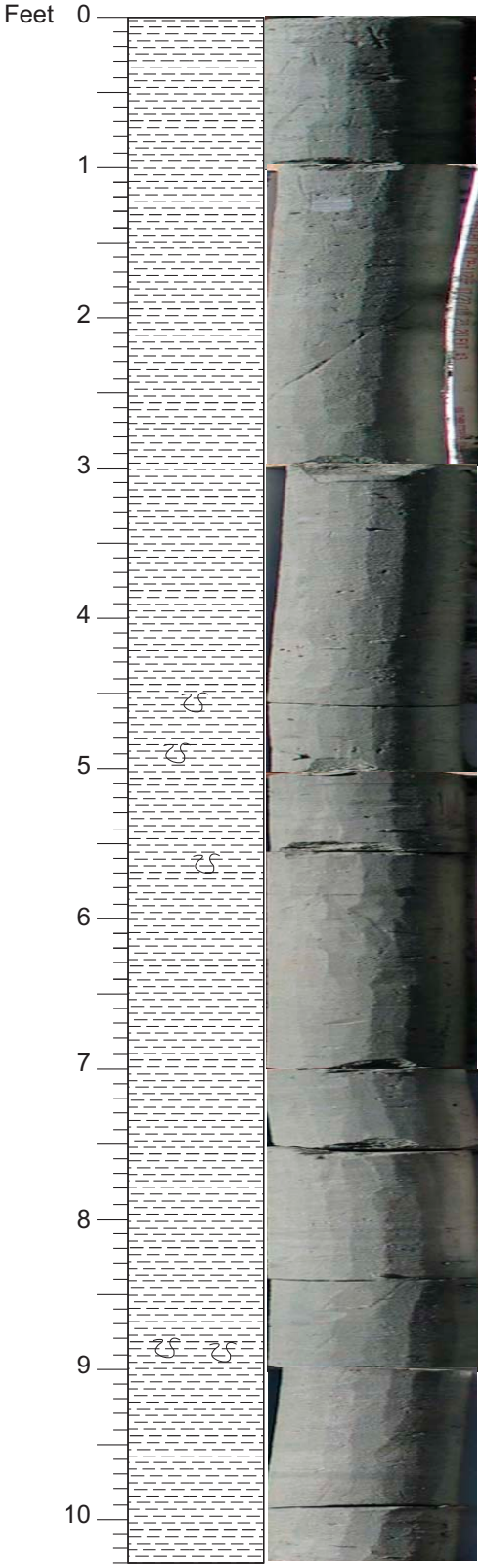
Core #23
Start depth: 220 ft
Stop depth: 230 ft
Recovery: 10.25 ft
Date: 5/11/11
Described by: PPM, JVB, KGM



CLAY; slightly sandy, silty, sand is mostly forams (planktonic and benthic), lesser glauconite, glauconite is mostly black, rare green; upper 0.15 ft. is faintly but distinctly laminated, below is very faintly laminated but essentially homogenous; small (<1mm) burrows represented by tiny pockmarks; greenish gray (10GY 5/1)

Core #24
Start depth: 230 ft
Stop depth: 240 ft
Recovery: 10.2 ft
Date: 5/11/11
Described by: PPM, TB

Small 1x2 mm phosphate pellet?
Burrows near bottom, 0.2-0.5 mm diameter, subhorizontal, filled with sandier material (including rare medium-coarse quartz) and darker grayish matrix

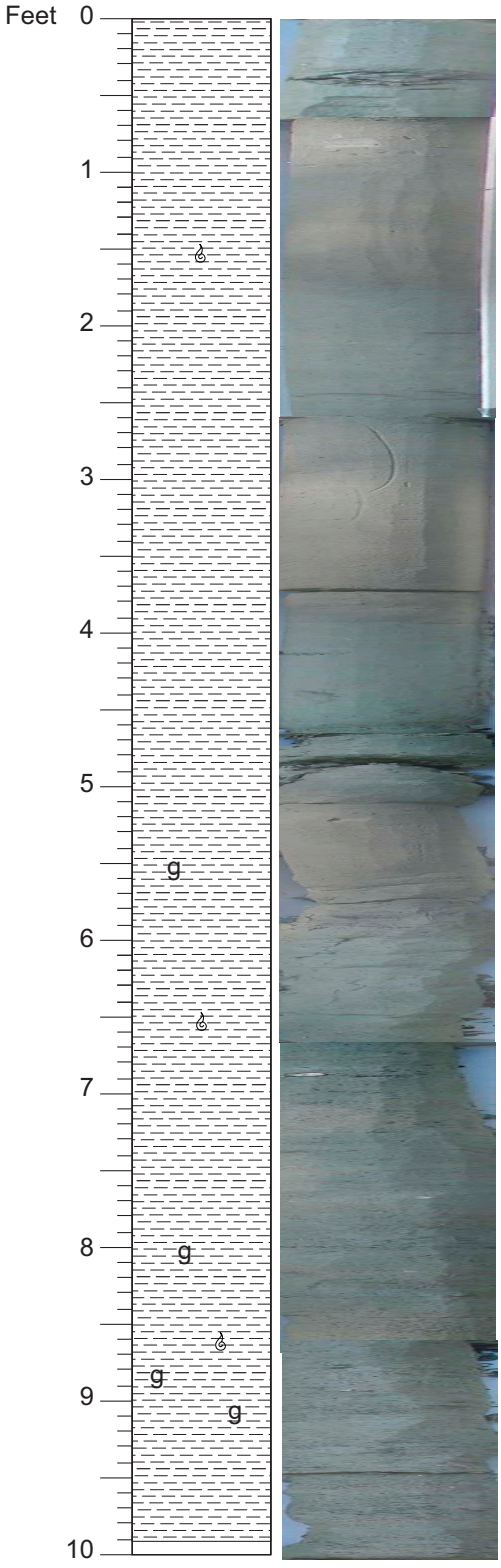


CLAY; sandy, sand mostly is forams, glauconite, black with some green, rare shell fragment (bivalve?), homogenous; greenish gray (10GY 5/1); (Shark River Formation?)

Burrows-horizontal 1-2 cm width

Burrow with sandier infilling, horizontal and 3 cm width

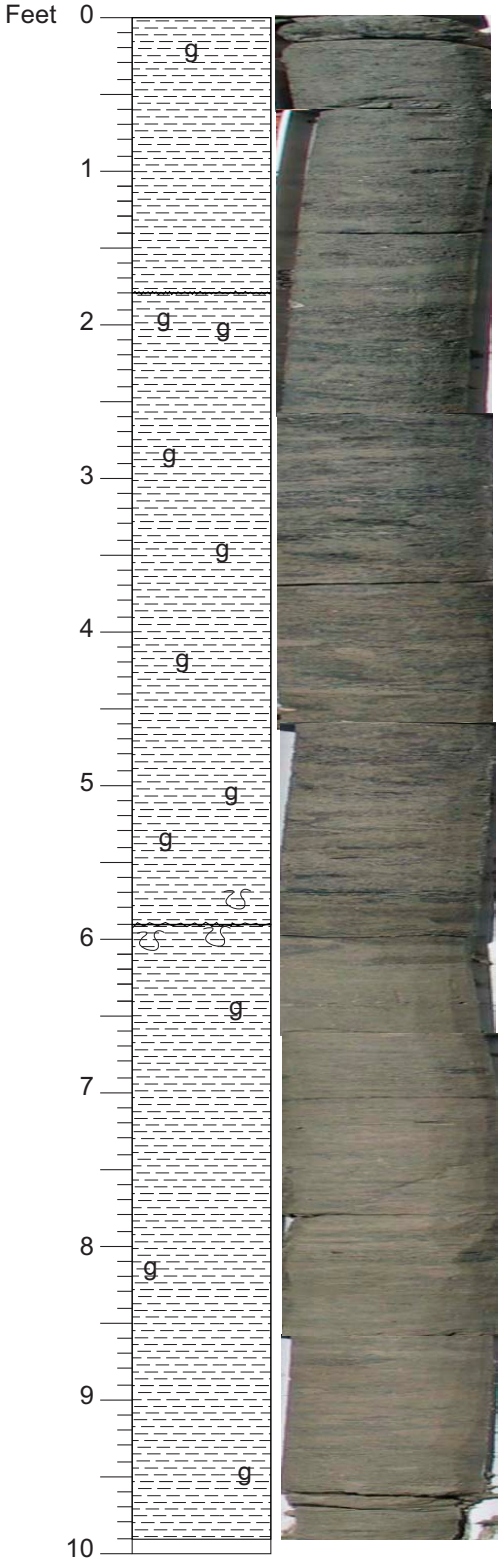
Core #25
Start depth: 240 ft
Stop depth: 250 ft
Recovery: 10.3 ft
Date: 5/12/11
Described by: TB



CLAY; silty, slightly glauconitic, increase in glauconite downwards; trace mica (medium to coarse), benthic forams; glauconite is often in burrows; greenish gray (10GY 5/1); (Shark River Formation?)

Core #26
Start depth: 250 ft
Stop depth: 260 ft
Recovery: 9.9 ft
Date: 5/12/11
Described by: TB

Glauconite more concentrated



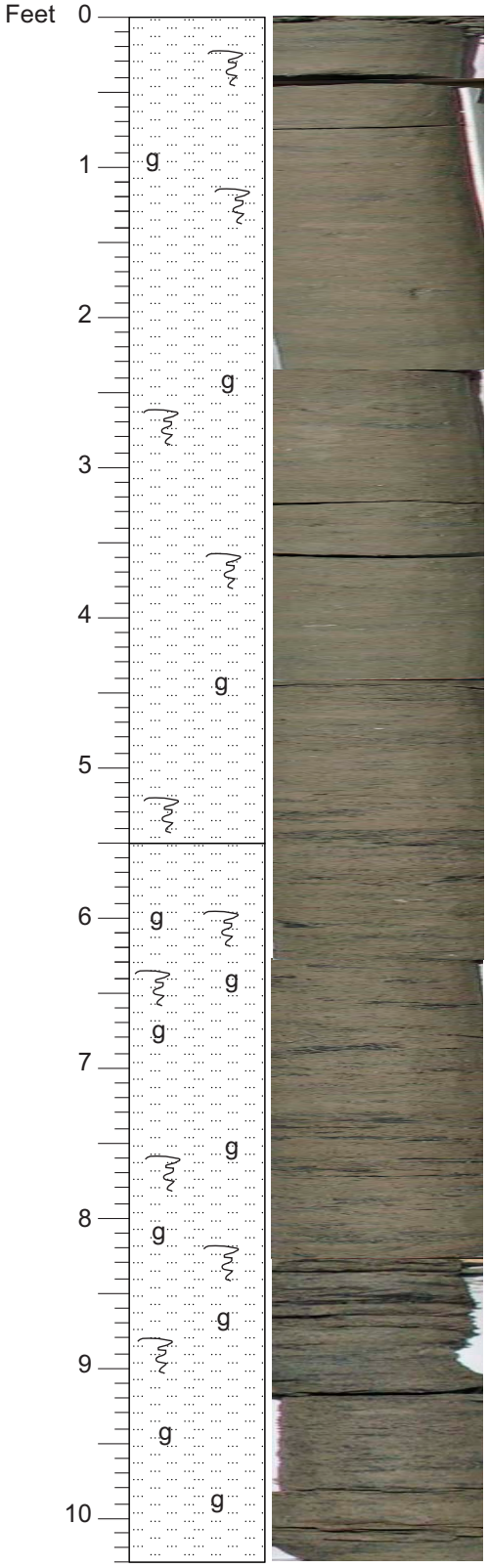
CLAY; slightly sandy and silty; sand consists of glauconite (30%) glauconite in burrows up to 90%; glauconite is medium to fine sand, burrows are 3 cm in width, shell fragments, forams,quartz grains abundant; greenish gray (10GY 5/1)

CLAY; more glauconite than above, shells fragments, fewer forams than above, most of sand (medium to fine) is glauconite, with quartz sand and fine mica?; greenish gray (10GY 5/1)

1.5 cm diameter burrows burrowed overlying mud downward

CLAY; 5 % sand, consists of fine to very fine glauconite; common forams, uncommon shell fragments; heavily bioturbated, (5/5GY); (Manasquan Formation?)

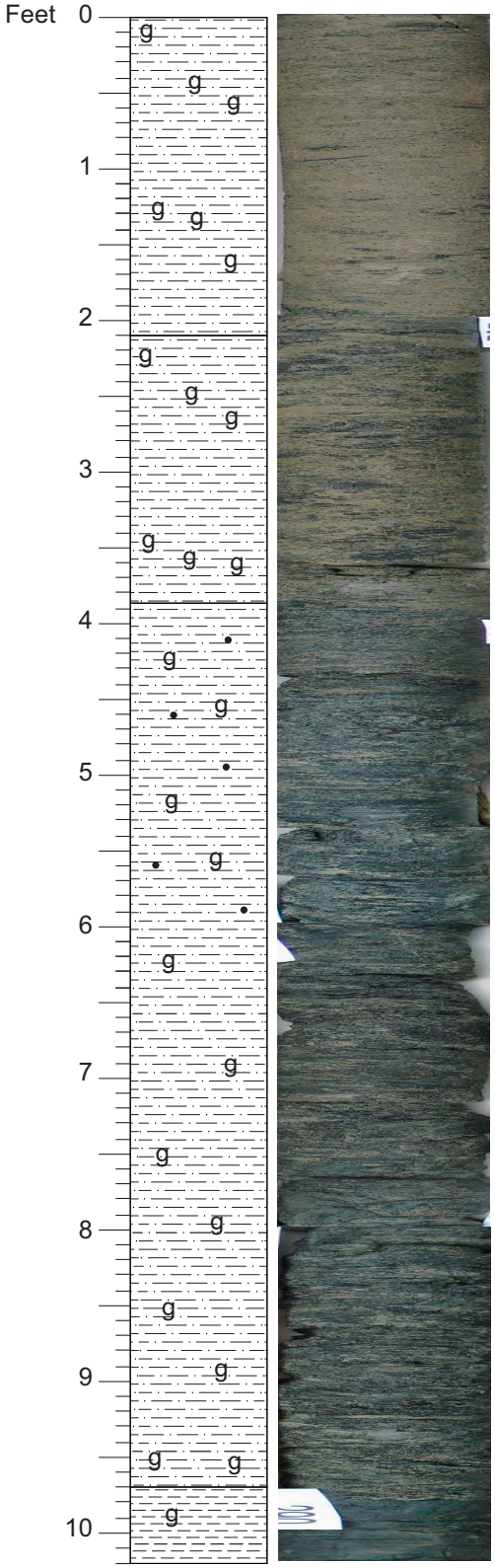
Core #27
Start depth: 260 ft
Stop depth: 270 ft
Recovery: 9.9 ft
Date: 5/12/11
Described by: JVB, TB, PS



SILT; slightly clayey, 10-15% glauconitic, fine sand, scattered shells, scattered phosphate grains; heavily bioturbated, burrows 2 cm across, core very hard, burrows are possibly indurated; (5Y 5/3)

SILT; clayey; more glauconite than above and coarser than above (medium); glauconite concentrated it burrows, overall highly bioturbated, large range of burrow size; shells less common; (5Y 5/3)

Core #28
Start depth: 270 ft
Stop depth: 280 ft
Recovery: 10.3 ft
Date: 5/12/11
Described by: JVB



CLAY; sandy, ~10% glauconite, heavily bioturbated; clay is yellow; olive brown (2.5YR 4/3)

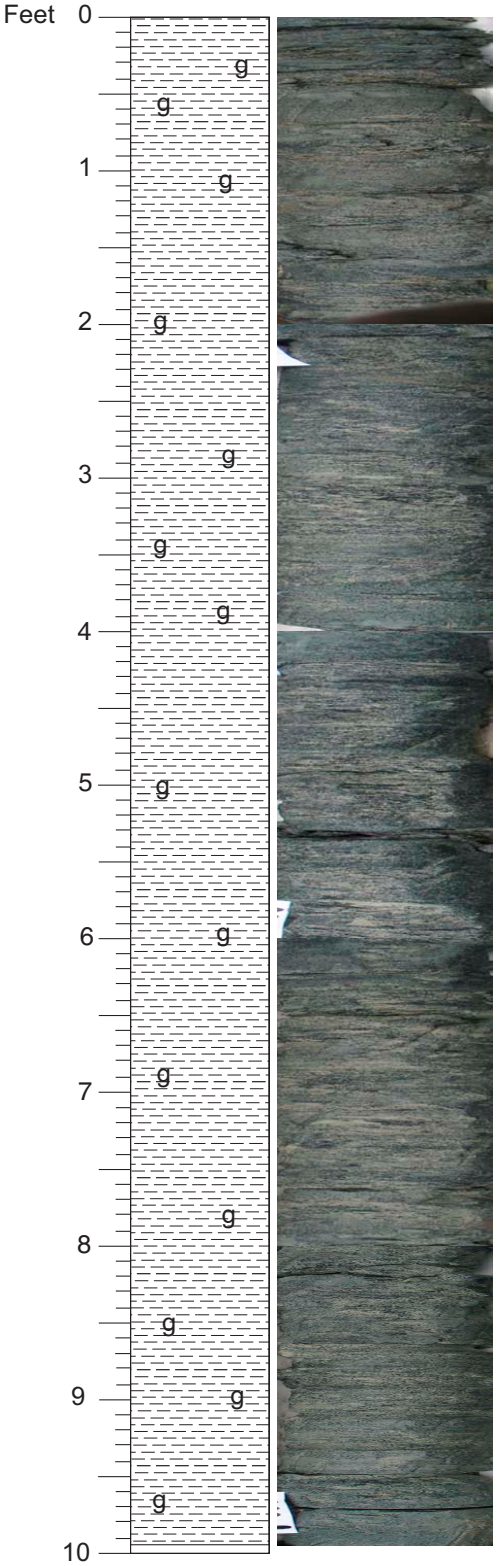
CLAY; sandy, >25% glauconite, spectacular bioturbation, many horizontal burrows; (2.5YR 4/3 to 5G 3/1)

3.85 ft

SAND; glauconite (>50%), clayey; clayier laminae every 6-10 cm, heavily bioturbated; dark greenish gray (5G 3/1)

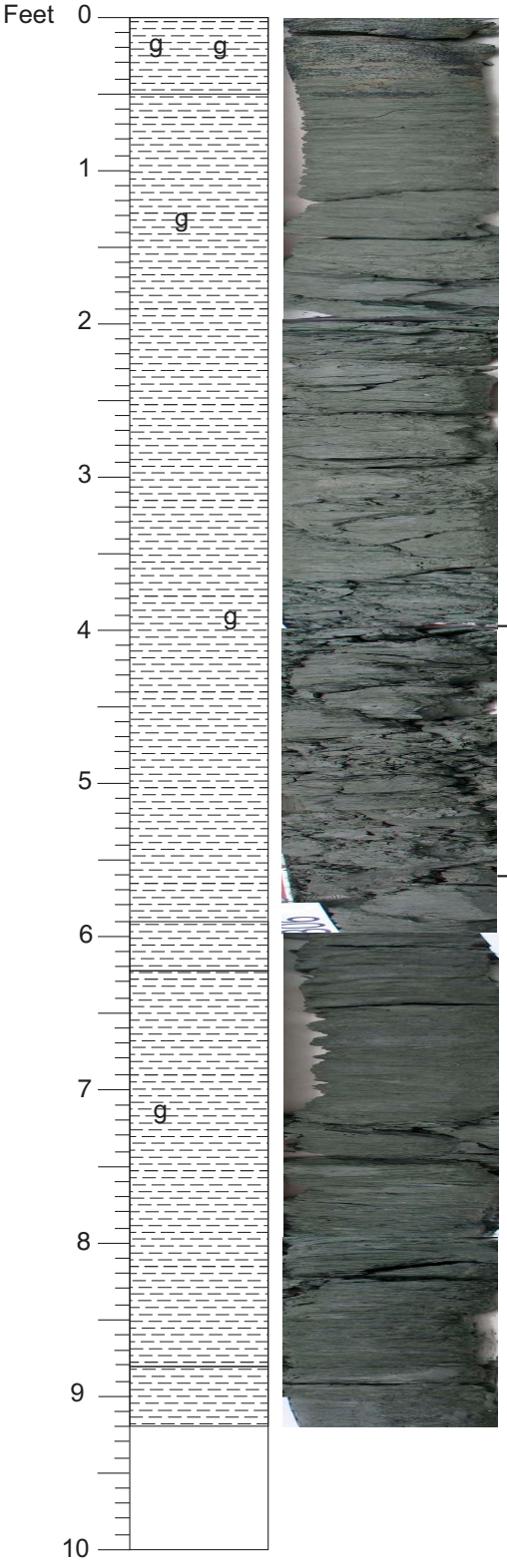
Core #29
Start depth: 280 ft
Stop depth: 290 ft
Recovery: 10.2 ft
Date: 5/13/11
Described by: KGM, DM, SE

CLAY; glauconitic >25%; clay is green; dark grayish green (5G 3/2)



CLAY; glauconitic, with a few clayey glauconite sandy layers; heavily bioturbated; 25-50% glauconite, yellow clay; light brownish gray (2.5Y 6/2) and dark greenish gray (5G 4/1)

Core #30
Start depth: 290 ft
Stop depth: 300 ft
Recovery: 9.95 ft
Date: 5/13/11
Described by: KGM, SE, RM



CLAY; glauconite; 25-40% glauconite; light brownish gray (2.5Y 6/8)

Burrowed contact at 300.6 ft, a few rip ups to 0.4 ft, burrow to 0.7 contact sharp otherwise

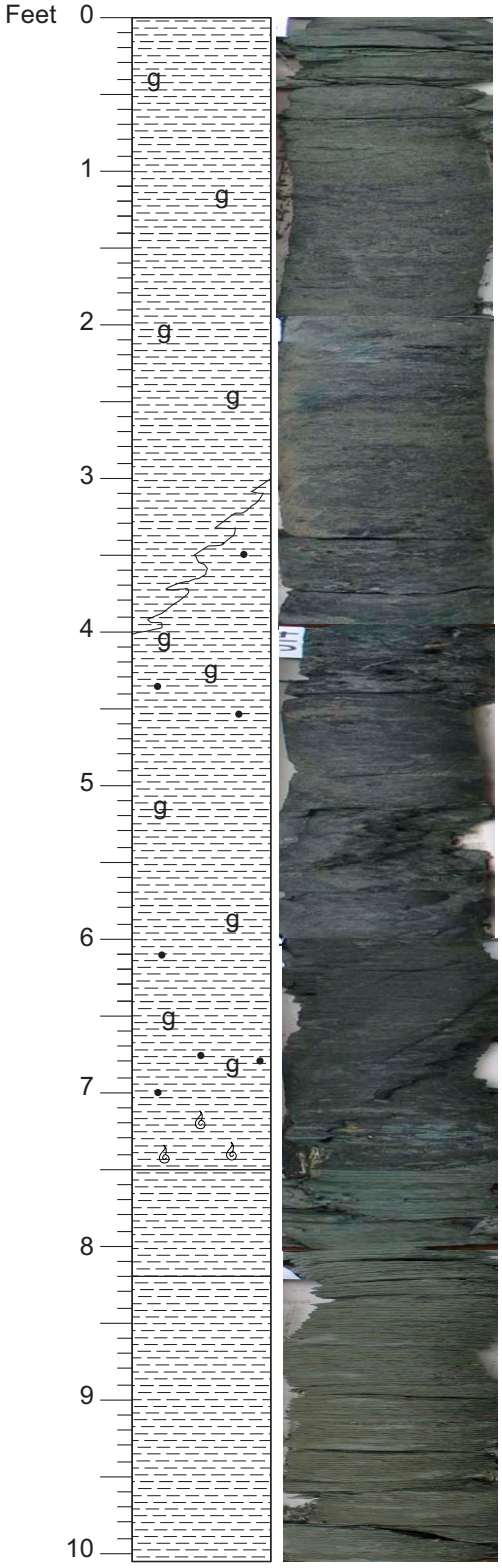
CLAY; slightly glauconitic (1-3%), trace mice and shell material; laminated; greenish gray (5G 5/1)

Disturbed

More glauconite ~5%

Slightly more glauconite (10%)

Core ##31
Start depth: 300 ft
Stop depth: 310 ft
Recovery: 9.2 ft
Date: 5/13/11
Described by: KGM, SE, RM



CLAY; glauconite becoming increasingly glauconitic down section, scattered shells/forams, very heavily bioturbated, trace mica, trace quartz; (5GY 4/1)

SAND; glauconite > 50%; clayey, otherwise as above; greenish black (10G 2.5/1)

Clay laminae from beneath are bioturbated, large (>1 cm) rip up clasts to 7.1 ft

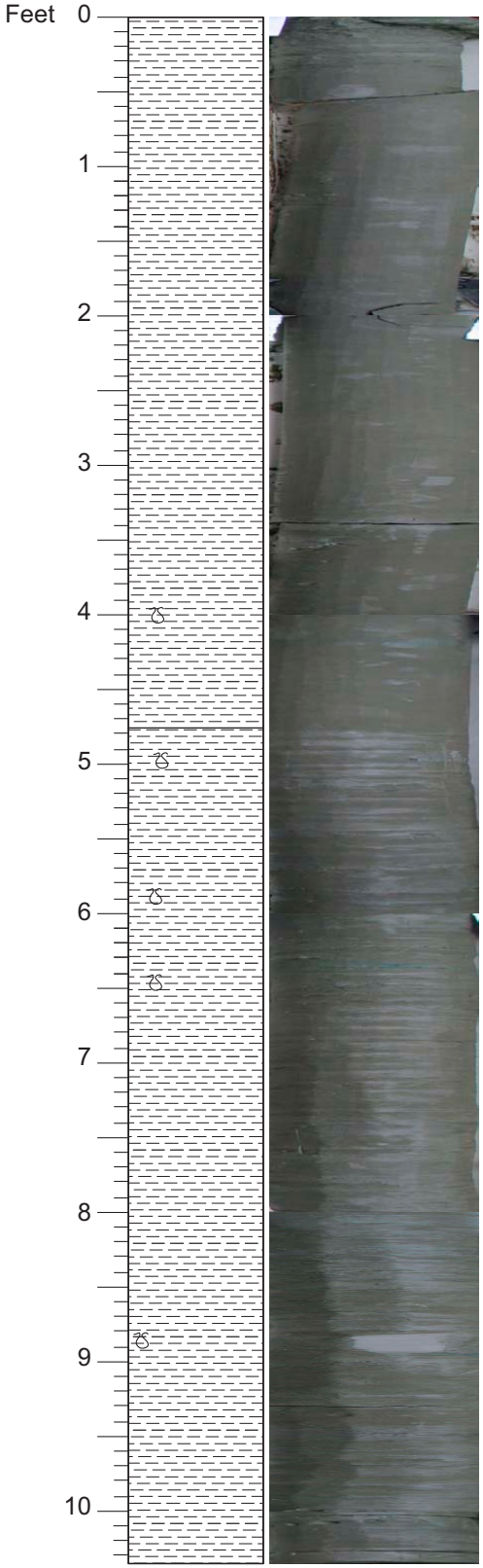
Sideritized shell

Contact; 317.5 ft,
CLAY; trace mica; dark greenish gray (5G 4/1)

Slight color change 8.2 ft

CLAY; lighter green; very rare glauconite; greenish gray (10Y 5/1)

Core #32
Start depth: 310 ft
Stop depth: 320 ft
Recovery: 10.05 ft
Date: 5/13/11
Described by: KGM, DM, RM

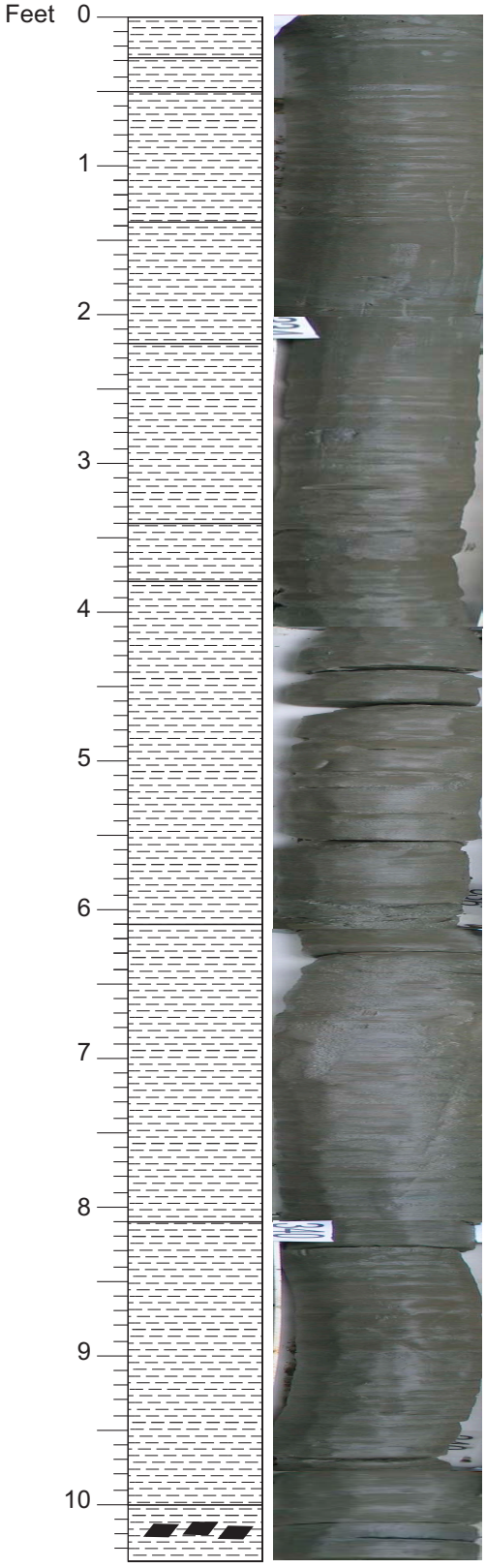


CLAY; very slightly silty; rare mica, trace glauconite, pyrite nodule present; faint darker laminations broken by moderate to intense bioturbation; foramifera; greenish gray (10GY 4/1)

More laminations

CLAY; very slightly silty; interlaminated, greenish with whitish swelling, clay layers; ~8 lam in 10 cm, laminate are thin 1 mm, slightly irregular; scattered burrows, possible bed of ~1 cm of white clay; light gray (10GY 7/1)

Core #33
Start depth: 320 ft
Stop depth: 330 ft
Recovery: 10.35 ft
Date: 5/16/11
Described by: KM, ZS, DB, RAT, PPM



CLAY; very slightly silty; trace mica, possibly a trace of glauconite; interlaminated green and whitish; greenish gray (10Y 5/1)

more laminations

less laminations

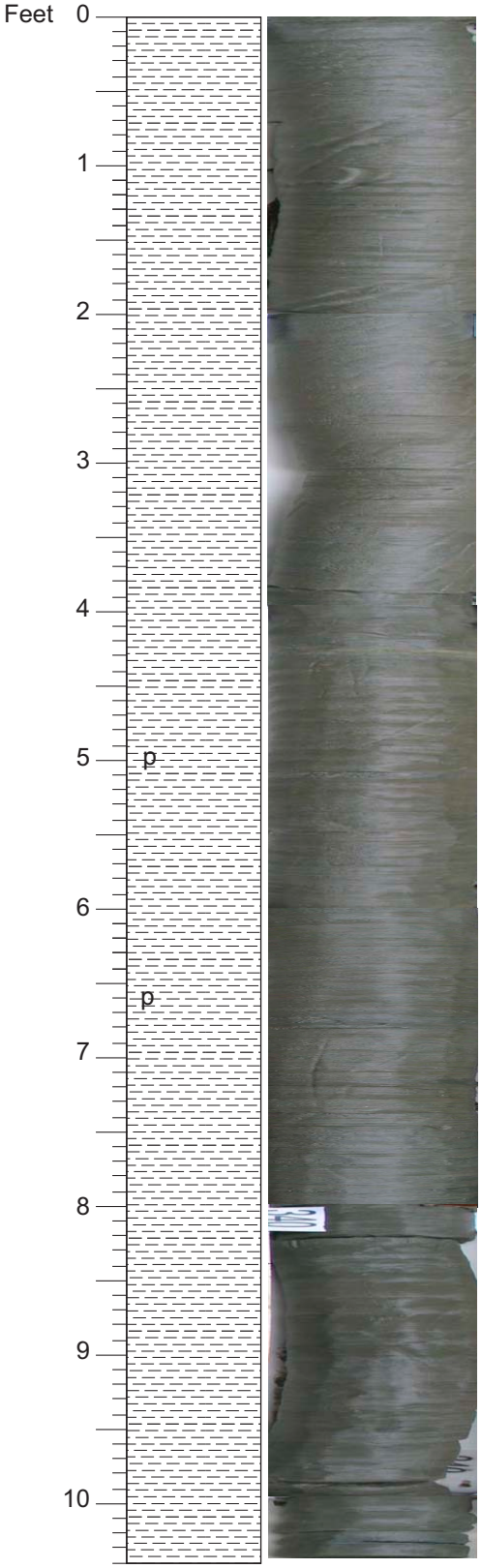
less laminationa

~3 cm laminae

More lamination ~1 cm scale, 10GY 4/1 light gray

Core #34
Start depth: 330 ft
Stop depth: 340 ft
Recovery: 10.4 ft
Date: 5/16/11
Described by: KGM, JT

Lignite



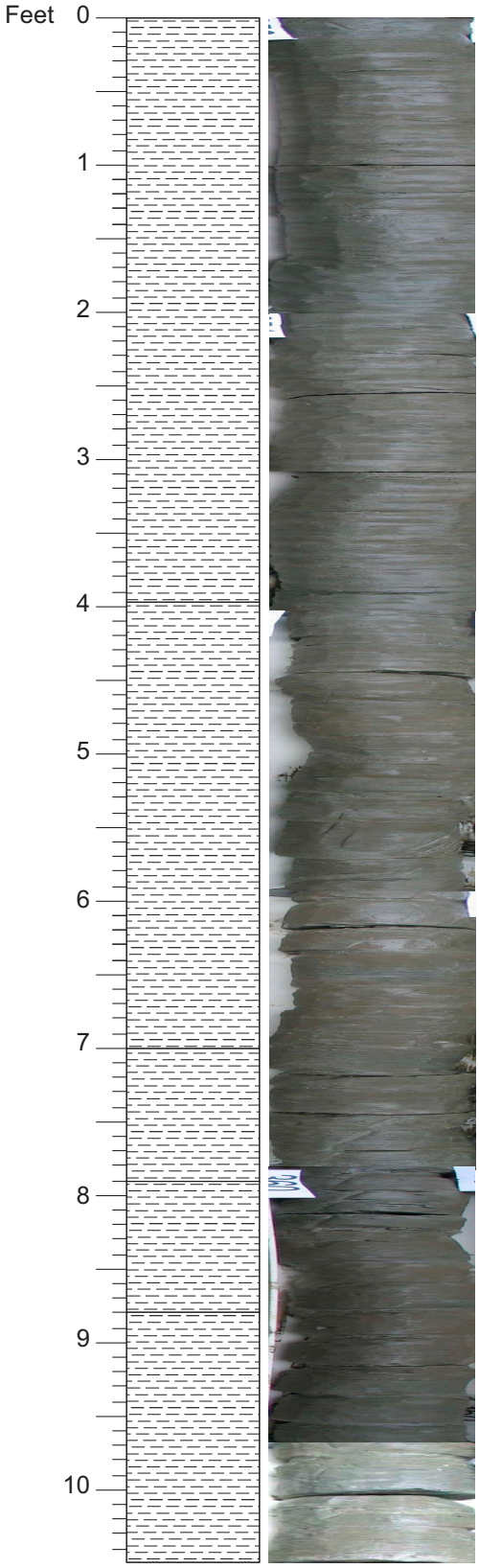
CLAY; laminated, very slightly silty, mica mostly; core firm and dense, lighter glaze sticky, laminations are slightly irregular, probably bioturbated, thicker lighter/sticky laminations, 1.5 cm light color lamination/sticky, 1cm dull lamination; greenish gray (10Y 5/1)

Lighter colored, harder laminations, irregular finely laminated, more prominent whitish laminate below

Laminations are of equal size between lights and dark below

1cm light color lamination; 1cm dull/dark lamination

Core #35
Start depth: 340 ft
Stop depth: 350 ft
Recovery: 10.4 ft
Date: 5/16/11
Described by: DB



CLAY; very slightly silty; interlaminated green and whitish clay; top ~4 ft, lamination couplets are ~2 cm increasing to ~2.5 cm; ~4 to 7 ft laminations are ~3 cm; lignite noted, submillimeter to millimeter scale white clay; greenish gray (10Y 5/1 to 6/1)

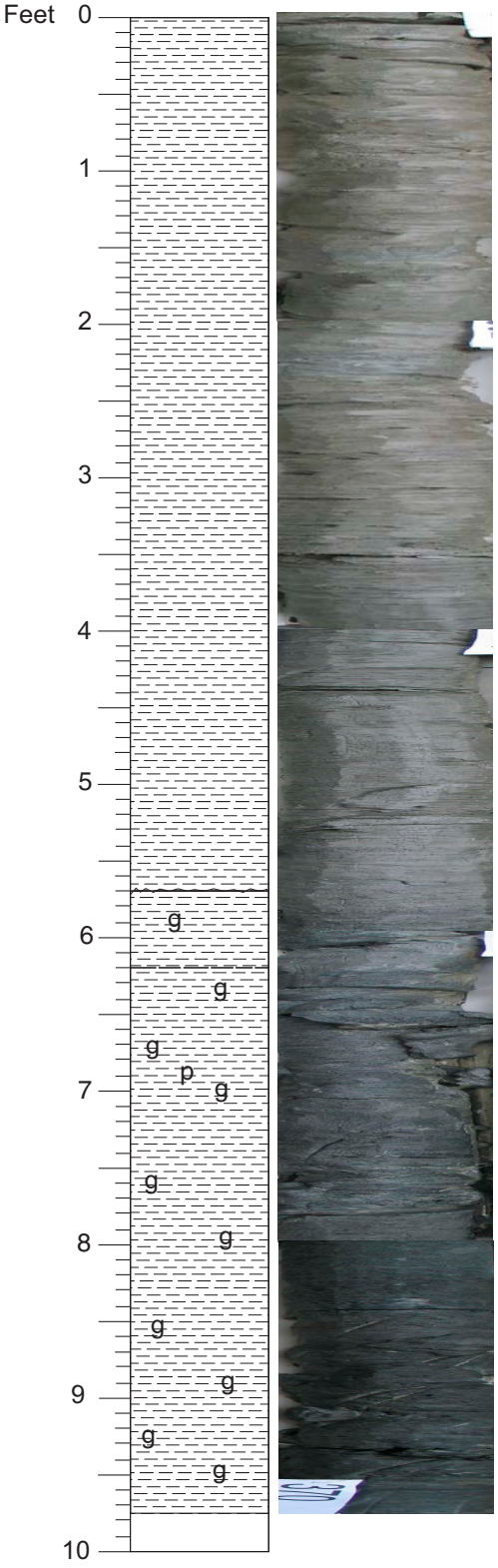
Hard $CaCO_3$

CLAY; shiny, gummy; greenish gray to dark greenish gray (10Y 5/1 to 4/1)

Contact
CLAY; slightly darker green; 10Y 4/1

CLAY; slightly silty; laminated, no “white” clay; mm-scale laminae; denserand duller

Core #36
Start depth: 350 ft
Stop depth: 360 ft
Recovery: 10.5 ft
Date: 5/16/11
Described by: KGM, DB, PPM



CLAY; very slightly silty; laminated green mm scale laminae bundled into 0.2-0.4 ft (5-10 cm), more massive are clayier; still "shiny"; greenish gray (10Y 6/1)

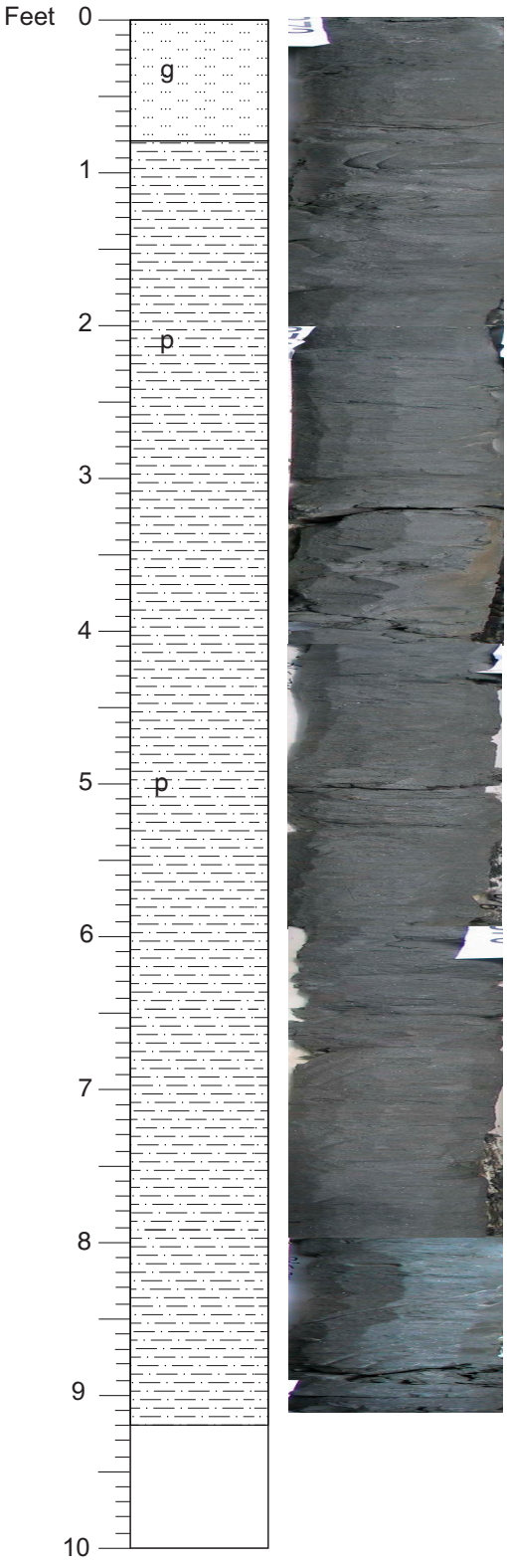
glauconite increases downwards below here

heavily burrowed

5.7 ft; contact no obvious rip ups; clay burrowed to 6.2

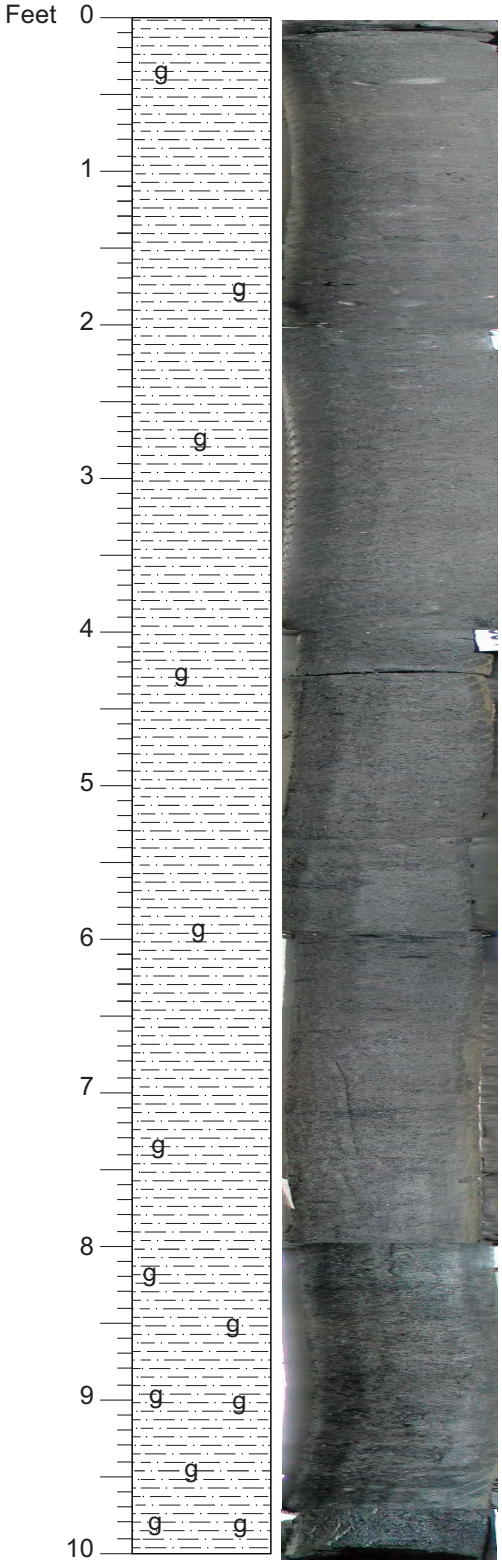
CLAY; glauconitic (to 40%); phosphate grain, slightly micacious, slightly quartzose (up to 1% on face), shell fragments, heavily bioturbated; dark greenish gray (10Y 3/1) (Vincentown Formation)

Core #37
Start depth: 360 ft
Stop depth: 370 ft
Recovery: 9.8 ft
Date: 5/16/11
Described by: KGM, PPM, DB



SILT; clayey slightly sandy; glauconitic (20%), micaceous (1-3%), laminated to cross-laminated; burrowed; scattered pyrite; lamination at top are ~1 cm spacing, millimeter scale, but are ~3 mm at bottom; dark greenish gray (10Y 4/1) to gray)N 4/1)

Core #38
Start depth: 370 ft
Stop depth: 380 ft
Recovery: 9.2 ft
Date: 5/16/11
Described by: KGM, DB

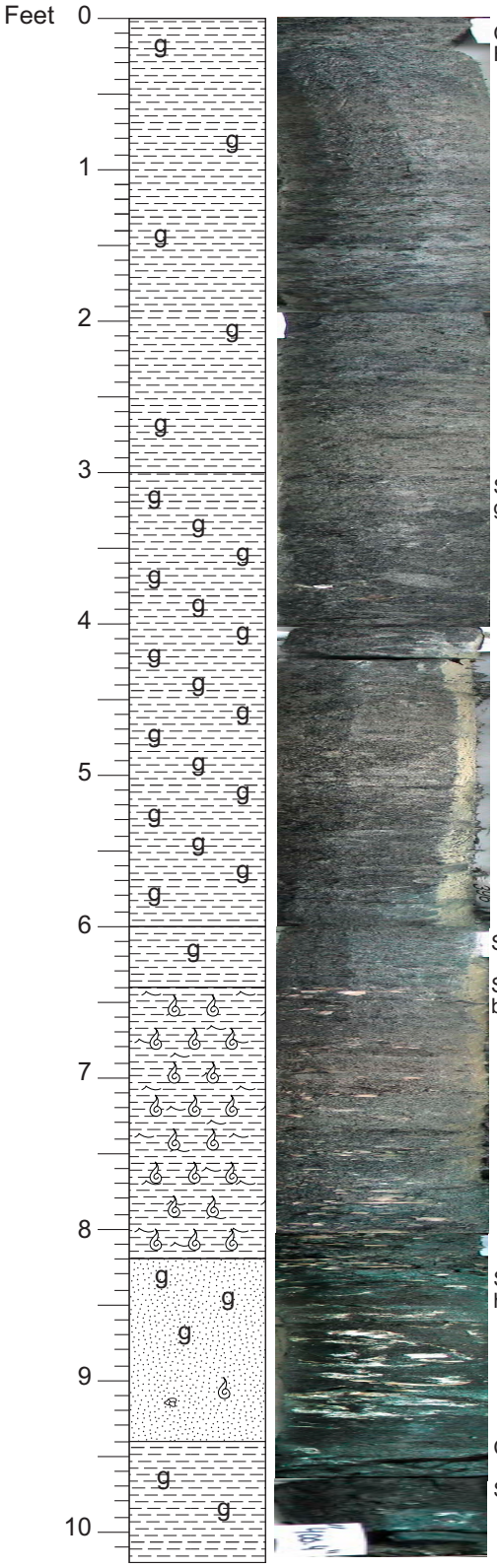


CLAY; clayey, slightly sandy; very fine quartz sand, becoming increasingly glauconitic down section, lignite, micaceous, mica decreases downsection, bone fragment; heavily burrowed where burrowing occurs, few laminate (1.5 ft); dark greenish gray (10GY 4/1)

Core #39
Start depth: 380ft
Stop depth: 390 ft
Recovery: 10 ft
Date: 5/16/11
Described by: KGM, PPM

25% glauconite; dark greenish gray (5GY 3/1)

40% glauconite



CLAY; glauconitic, beautifully burrowed: greenish gray (5 GY 4/1) (Vincentown Formation)

SAND; glauconite; clayey; very heavily burrowed, brown clay matrix; dark greenish gray (5GY 3/1) (Hornerstown Formation)

SAND; clay matrix is greener than above

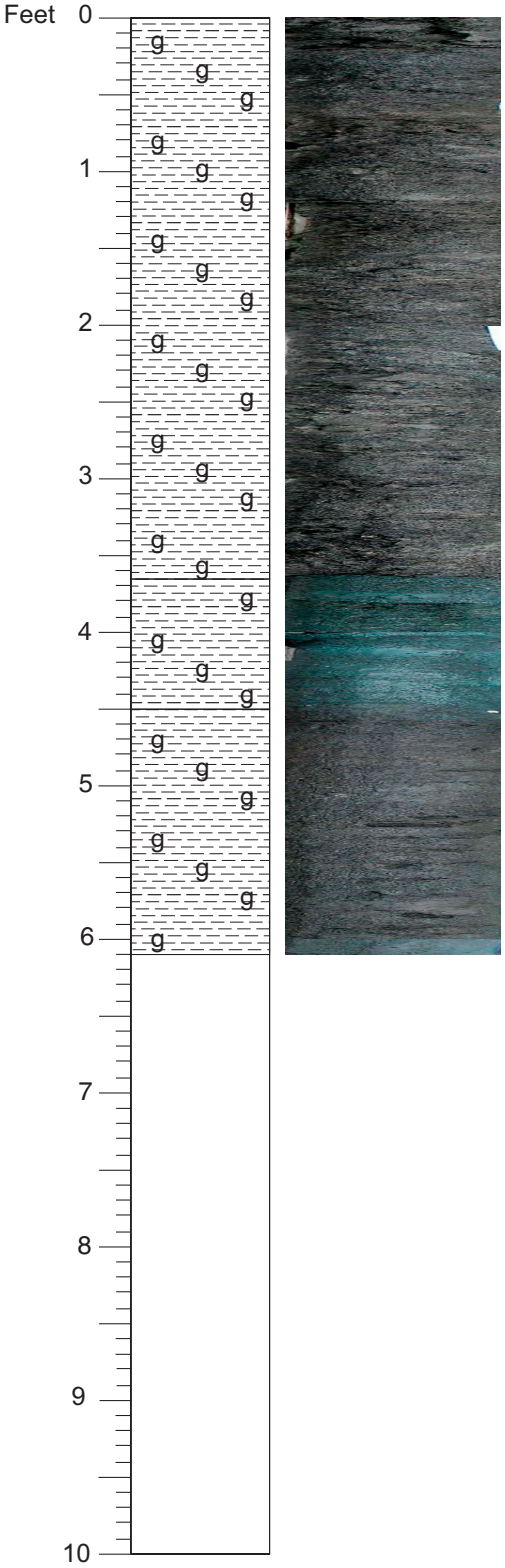
SAND; glauconite; clayey; similar to above, but shelly, most shells are broken

SAND; glauconite; slightly clayey; phosphorescent green clay matrix; shell hash to whole shells, including *Gryphaea dissimilis*; black (N2.5)

Contact; possible sequence boundary

SAND, glauconite; clayey

Core #40
Start depth: 390 ft
Stop depth: 400 ft
Recovery: 10.2 ft
Date: 5/16/11
Described by: KGM, DB

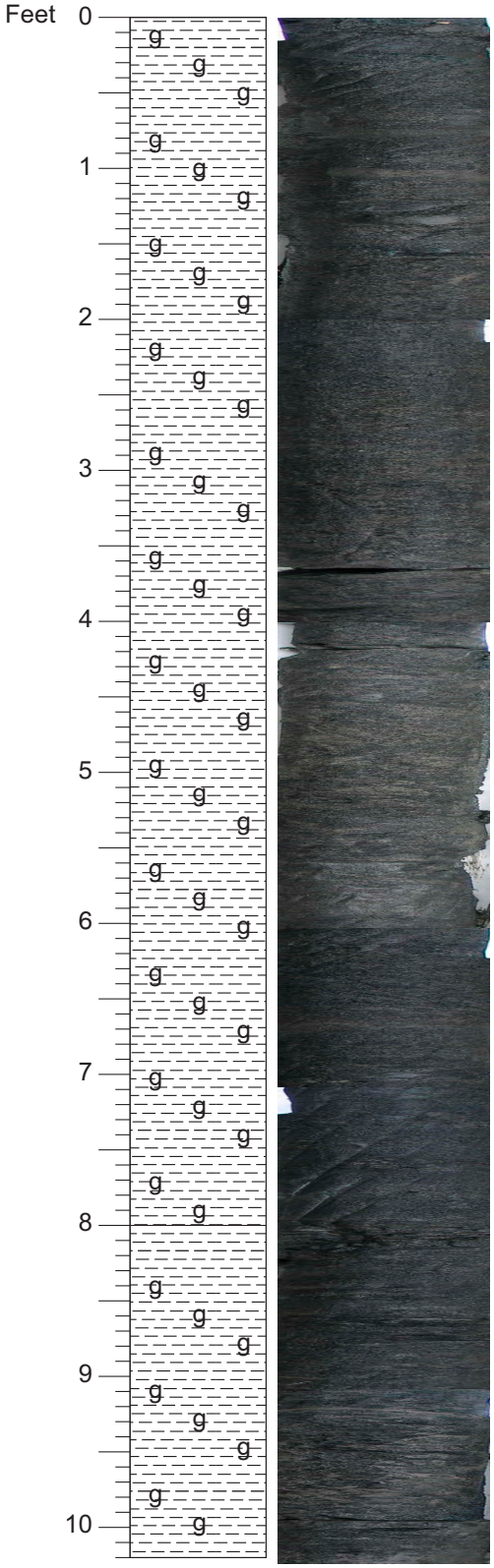


SAND; glauconite; clayey; heavily burrowed, brownish gray clay matrix; scattered shell material; (10Y 3/1)

3.65 ft; Contact, sharp, sequence boundary?
SAND; glauconite; clayey with phosphorescent green matrix; scattered shell; greenish gray (5G 5/1)

SAND; glauconite; clayey; very slighty silty (quartz only in silt fraction), brownish clay matrix; scattered shell, very heavily burrowed; black (N 3/1)

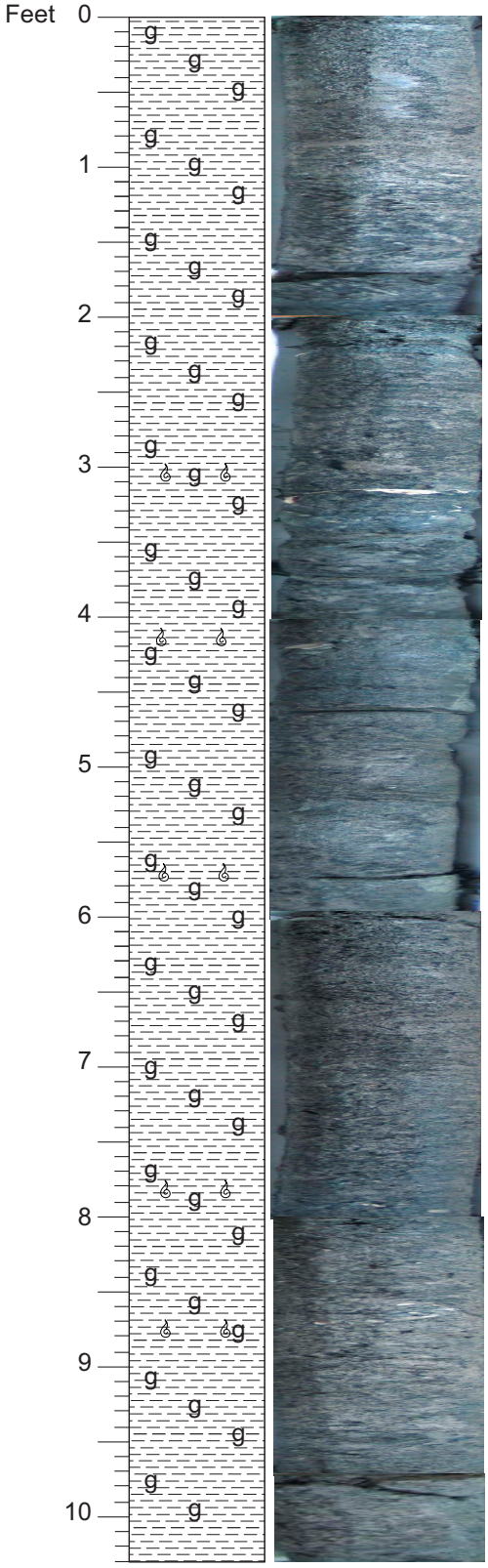
Core #41
Start depth: 400 ft
Stop depth: 410 ft
Recovery: 6.1 ft
Date: 5/16/11
Described by: KGM, DB



CLAY; glauconite sand, to SAND; glauconite; clayey; scattered shell; very bioturbated; gray clay matrix; greenish gray (5GY 3/1)

CLAY; glauconite, to clayey glauconite sand, more clay lined burrows than above, large burrows; dark greenish gray (10Y 3/1)

Core #42
Start depth: 410 ft
Stop depth: 420 ft
Recovery: 10.2 ft
Date: 5/16/11
Described by: KGM

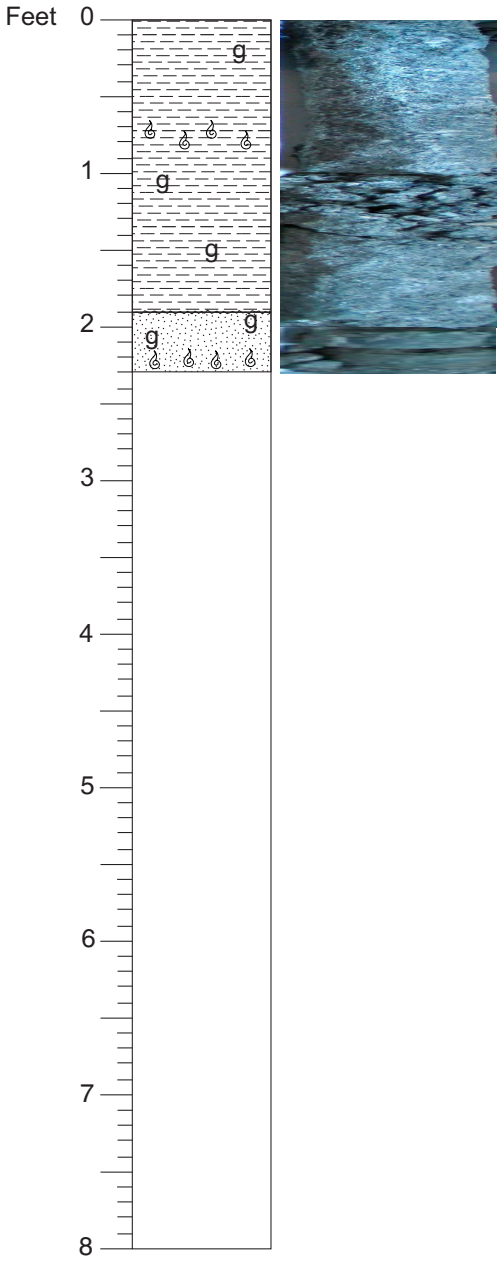


CLAY; slightly silty, sand, mostly glauconite (dark green and light gray), (may not be insitu just on outside of core), uncommon pyrite and quartz (8.75-10.3 ft); heavily bioturbated, burrows mostly horizontal, a few are subvertical, 3-4 mm diameter; dark greenish gray

Increase glauconite concentrated, (3-3.7 ft)

Layers of shells and shell fragments:
3.1 ft
4.2 ft
5.65 ft
7.85 ft
8.75 ft

Core #43
Start depth: 420 ft
Stop depth: 430 ft
Recovery: 10.3 ft
Date: 5/17/11
Described by: JVB, DM, SE,TB

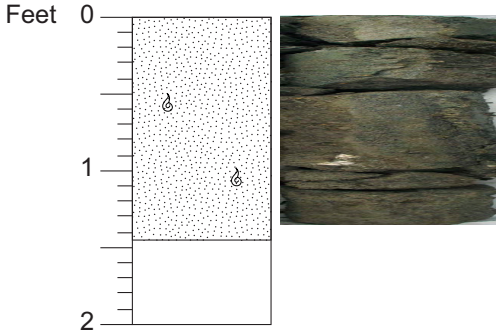


CLAY; sand (mostly glauconite), quartz grains (may be washed up), slightly silty; large (1 cm) and small shell fragments throughout (<1%), heavily bioturbated, (Navesink Formation?)

SAND; most medium to fine up but up to coarse grained; dominated by quartz; glauconite sand, mud matrix (making it sticky), (Mount Laurel Formation?)

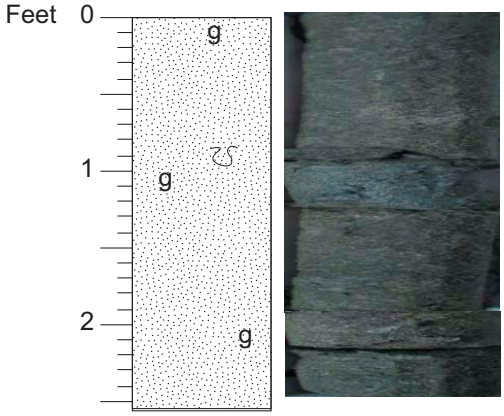
1) Drillers not that the hard clay (1.9-2.25 ft) may have blocked the coring shoe.
2) Drillers also noted that there was “grinding” in the lower part of this run and was slower progress - possibly hard phosphatic interval?

Core #44
Start depth: 430 ft
Stop depth: 440 ft
Recovery: 2.3 ft
Date: 5/10/11
Described by: DM, SE, TB



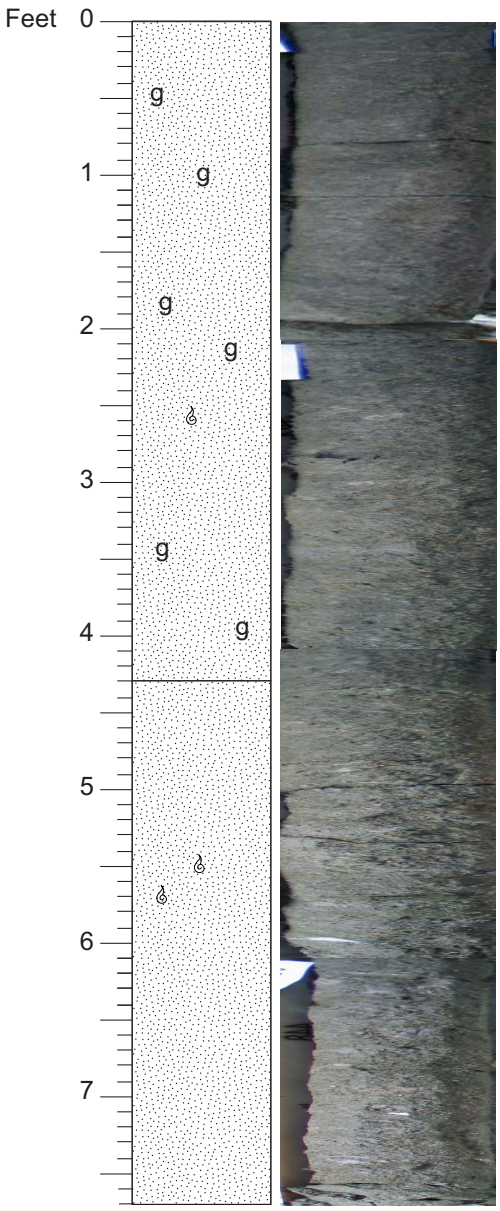
SAND; quartz, glauconitic, silty and clayey; scattered shells and shell fragments, large shell at 1ft, smaller shell at 0.65 ft; heavily bioturbated and horizontal to subvertical burrows; large quartz to coarse sand in burrow fill at 0.3 ft; dark green gray (5GY 4/1)

Core #45
Start depth: 438ft
Stop depth: 440ft
Recovery: 1.45 ft
Date: 5/16/11
Described by: JVB, SE, CL, EM



SAND; medium to coarse; glauconite and coarse quartz, mud matrix, rare shell fragments; burrow? at 0.9 ft sub angular, mud infilling; quartz>glauconite; dark greenish gray (4/10y)

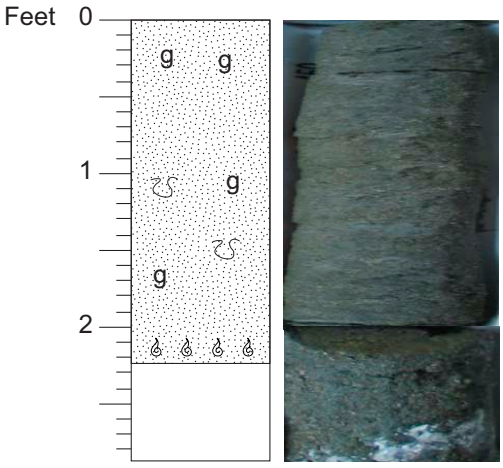
Core ##46
Start depth: 440 ft
Stop depth: 442.56 ft
Recovery: 2.53 ft
Date: 5/17/11
Described by: SE/TB



SAND; medium; quartz, glauconite; subangular, moderate-poor sorting, abundant silt and clay; glauconite is generally finer than quartz, more quartz than glauconite; bioturbated, shells rare, belemnite at 2.7 ft, sampled for Sr; dark greenish gray (5GY 3/1)

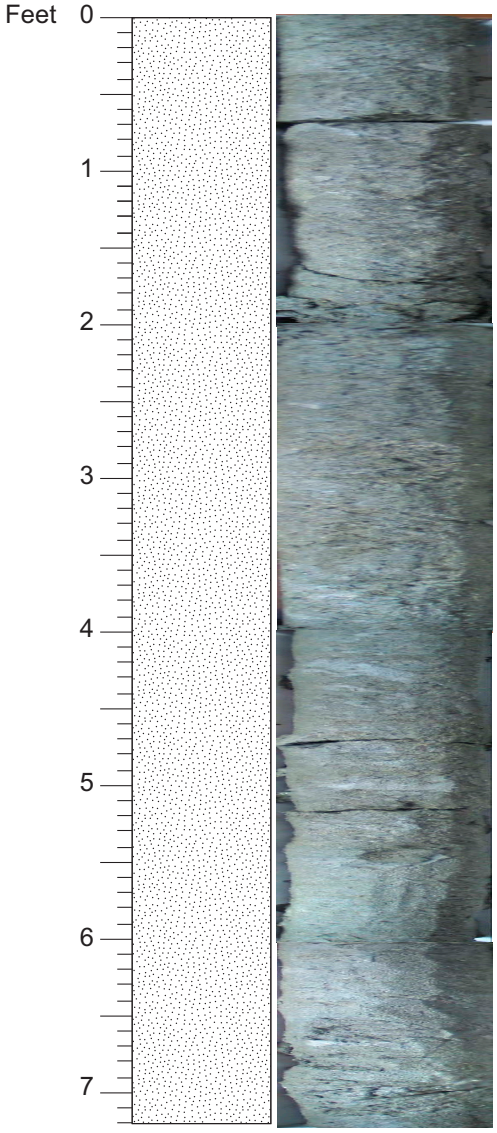
SAND; medium, finer than above, poorly sorted, more silt; there is rhythmic bedding with laminated silt beds and 3cm coarser beds, looks real; between fine beds it is bioturbated, 5.7 ft oyster shell; numerous granules and small pebbles, to 5 mm; dark greenish gray (10Y 4/1)

Core #47
Start depth: 442.56 ft
Stop depth: 450 ft
Recovery: 7.7 ft
Date: 5/17/11
Described by: JVB, RB, SE



SAND; silty, minor clay; quartz, minor glauconite, more silt than previous cores, clay lined burrows at 0.9 and 1.5 ft, shell bed at base, slightly cemented, core; dark greenish gray (10Y 4/1)

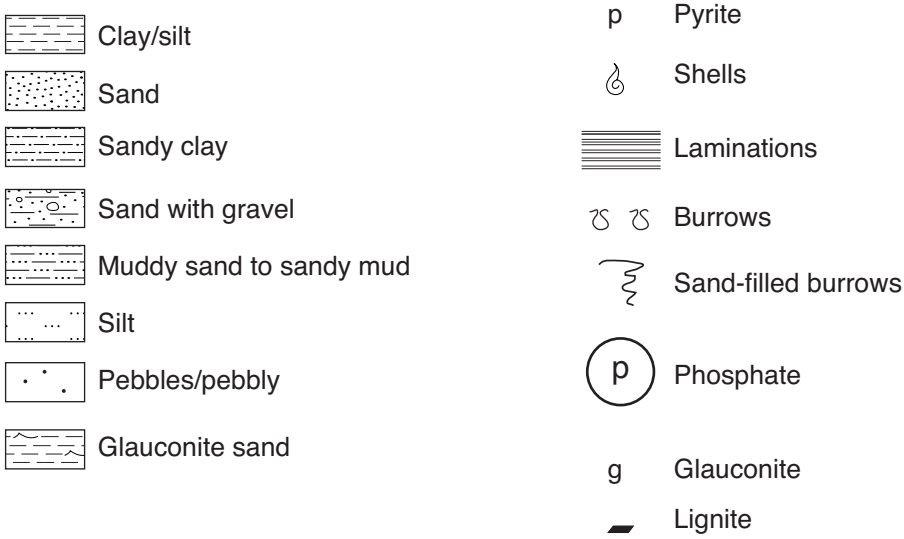
Core #48
Start depth: 450 ft
Stop depth: 452.87 ft
Recovery: 2.25 ft
Date: 5/17/11
Described by: JVB, SE, TB



SAND; medium, silty; quartz, less glauconite; fines down section, bioturbated, no shells noted; dark greenish gray (5GY 4/1)

Core #49
Start depth: 452.9 ft
Stop depth: 460 ft
Recovery: 7.2 ft
Date: 5/17/11
Described by: JVB, SE, TB

Key


Clay/silt
Sand
Sandy clay
Sand with gravel
Muddy sand to sandy mud
Silt
Pebbles/pebbly
Glauconite sand
p
Pyrite
Shells
Laminations
Burrows
Sand-filled burrows
p
Phosphate
g
Glauconite
Lignite