

Tidewater Associated Oil Company  
Delaware City

Ec 14-01

Driller: Shultes &amp; Sons

Elevation: About  
~~15~~ feet  
6

Test Hole #13

Rotary table 4 feet above land surface

Depth(LSD,Feet)	Core or Cuttings	Description	Formation
0 - 6	cuttings	reddish-brown fine to medium, mostly subrounded glauconitic sand.	Redbank?
6	core	green, very fine sand, silt, and clay; some brick-red spots. Very glauconitic. Little muscovite.	Mt.Laurel-Navesink
11	core	do	do
16	core	do. Many small shell fragments.	do
21	core	do, but more clayey. Shell fragments. Calcareous	do
26	core	green, very fine, silty, micaceous, glauconitic sand. Slightly calcareous	do
31	core	Grey-blue very fine, silty, micaceous glauconitic sand.	Wenonah
36	core	Blue very fine, silty, very micaceous sand, some glauconite.	Crosswicks
41	core	do.	do
46	core	do	do
51	core	do	do
56	core	do, but becoming more clayey	do
61	core	do	do
66	core	blue very micaceous sandy clay.	do
71	core	do	do
76	core	do	do
81	core	do	do
86	core	dark blue micaceous clay.	do
91	core	do	do
96	core	do	do
101	core	do	do
106	core	white tough clay	Raritan Pat
111	core	fine to medium white sand	
116	core	fine, white, well-sorted, subangular, clean, sand.	
121	core	pink and light red clay.	
126	core	white very fine, very silty sand.	

Depth (LSD, Feet)	Core or Cuttings	Description	Formation
131	core	4 inches of white clay, rest white fine to medium clean sand.	
136	core	brick-red silty fine sand.	
141	core	Variegated clay, mostly red, some white.	
146	core	White, very fine, very silty and clayey sand, some mica.	
151	core	White plastic silty clay.	
156	core	Grey gritty clay.	
161	core	light gray to white micac- eous clay.	
166	core	Grey tough clay.	
171	core	Grey micaceous clay.	
176	core	Grey micaceous clay and very fine clayey micaceous sand.	
181	core	Dark grey fine sandy clay with <u>plant leaves!</u> Recognizable?	
186	core	Grey very fine clayey sand.	
191	core	Grey very fine clayey sand.	
196	core	do. (Small recovery)	
201	?	Grey to black fine to coarse clayey sand.	
206	core	Grey, very fine silty sand; some mica. (8" recovery)	
211	core	Grey, fine, well sorted sand with a little silt.	
216	core	Greyish sandy clay.	
221	core	Red and grey variegated clay.	

Test Hole #13 (Continued)

<u>Depth</u>	<u>Description</u>
311	(core) brown tough clay.
316	(core) dark gray very tough clay, and one thin (1") layer of gray fine, well sorted sand with some mica.
321	(core) dark gray very tough clay.
326	(core) dark gray tough fine sandy clay.
331	(core) light gray very fine to fine well sorted sand with little silt and clay. Some mica.
336	(core) light gray, nearly white, fine, angular to subangular, well-sorted sand, some mica.
341	(core) gray, with some black, very fine to fine, poorly sorted silty sand.
346	(core) gray, very fine silty sand grading into gray sandy clay.
351	(core) gray very fine, angular, well-sorted sand with some silt, and some mica.
356	(core) light gray, fine to medium, mostly fine, subangular quartz sand with some silt and clay.
361	(core) do, grading into gray very clayey very fine sand.
366	(core) dark gray fine sandy clay with lignite.
371	(core) gray, very fine to fine, subangular sand with some silt and clay.
376	(core) dark gray very fine to medium, angular to subrounded silty sand, very abundant black small particles, probably lignite.
381	(core) gray slightly sandy clay.
386	(core) gray tough clay
391	(core) variegated, predominantly red and white, tough clay.
396	(core) do.
401	(core) do.
406	(core) gray, some red slightly sandy clay
411	(core) tough gray clay.
416	(core) gray silty and clayey very fine sand with mica.
421	(core) brownish-gray and black fine slightly clayey fine subangular to subrounded sand with abundant small black minerals as in 376' core. Some mica some lignite and marcasite

Test Hole #13 (Continued)

<u>Depth</u>	<u>Description</u>
226	(core) gray sandy silt and clay.
231	(core) gray and red variegated slightly sandy clay.
236	(core) gray and greenish very sandy clay, some mica.
241	(core) gray and grayish-brown very clayey sand with lignite.
246	(core) gray very fine silty sand, some black minerals.
251	(core) variegated, very fine sandy clay, mostly light gray and brick-red.
256	(core) do.
261	(core) gray very clayey fine sand.
266	(core) gray, very fine, slightly silty angular well sorted quartz sand with some mica and black minerals.
271	(core) gray, very fine, silty and clayey, subangular poorly sorted quartz sand with some mica. Some larger rounded quartz grains.
276	(core) gray, very fine, clayey quartz sand, some mica
281	(core) dark gray very fine, silty and clayey sand, some mica.
286	(core) light gray fine to medium, subangular to rounded quartz sand with a little silt and clay.
291	(core) bluish-gray very sandy clay with small, rounded 1/4 inch pebbles.
296	(core) gray, fine and some medium subangular to rounded quartz sand with a little lignite, and a few small pebbles.
301	(core) gray slightly sandy, tough clay.
306	(core) light gray, silty, clayey very fine sand.

Well No. 13 Continued

- 426 Light gray brown fine sand with some silt and lignite.
- 431 Light brownish gray very fine sand and dark gray to black silty clay, both
- 436 Light gray and some red clay with some silt. with lignite.
- 441 Red and gray silty clay; some very fine sand.
- 446 Red and gray clay; some silt.
- 451 Rustbrown, and gray and yellow sandy clay, sand is fine.
- 456 2 layers: dark gray clay with some silt; light gray clayey fine sand.
- 461 Light gray clayey fine sand.
- 466 Gray sandy clay and clayey fine sand with shell fragments and lignite  
and hard cemented pieces.
- 471 Light gray and some red clay.
- 476 Gray clayey very fine sand (some pebbles and cemented pieces at one end  
of the core, contamination).
- 481 Red and gray silty clay (more of those cemented pieces).
- 486 Light gray silty clay.
- 491 Gray and brown clay with some silt.
- 496 Dark purplish gray clay.
- 501 Gray and red silty clay; some very fine sand.
- 506 Brown-gray clay.
- 511 purplish-gray clay.
- 516 Light and dark gray clayey silt with some very fine sand and lignite in  
other places silty very fine sand.
- 521 Dark gray and black clay with an abundance of lignite.
- 526 Dark gray with some yellow silty clay with some very fine sand and lignite.
- 531 Dark gray silty clay with some very fine sand and lignite.
- 536 Dark gray silty with some fine sand, and some light gray very fine  
sand; lignite.
- 541 Dark gray clayey fine sand and silty clay; lignite.
- 546 Dark gray soft clayey fine sand with a lot of small hard cemented pieces.
- 551 2 layers: light gray, clean, fine sand; more of the last.
- 556 Red, gray and some yellow clay.
- 561 Red and gray clay.

# 13 Continued

566	Core	Grey very clayey very angular fine sand.
571	Core	Grey tough clay.
576	Core	Grey very fine, angular, very silty sand, some mica.
581	Core	Do
586	Core	Dark grey very fine, angular, very silty and clayey sand with mica.
591	Core	Do
596	Core	Dark grey very fine sandy micaceous clay.
601	Core	Dark grey slightly sandy clay, some mica.
606	Core	Do
611	core	gray, very fine angular silty sand.
616	core	gray, fine, angular sand with a little silt, pebble (1 inch), and mica.
621	core	do.
626	core	gray, fine, angular sand with a few small pebbles, a little silt, and a gray clay streak. A few small pebbles.
631	core	do.
636	core	gray, very fine silty sand, some gray clay streaks.
641	core	gray, very fine to fine, well sorted, angular clean quartz sand, some mica.
	ditch	fine, clean sand.
646	core	gray, a very fine very silty sand and gray clay streaks.
651	core	gray very fine very clayey sand, with mica.
656	core	gray very sandy clay with mica.
661	core	gray fine, angular, well sorted sand with gray clay streaks.
666	core	gray, very fine to fine, angular, well sorted sand, some silt and clay.
671	core	gray, very fine to fine, well sorted angular sand, some silt and clay.
676	core	do.
681	ditch	(no core) do. Core: white, fine, well sorted, sand very little silt.
686	?	gray, fine to coarse gritty sand, a little silt and clay.
691	core	dark gray silt and clay, some lignite.
696	core	gray fine to coarse sand and grit, very little silt and clay.
701	core	gray, medium, angular, well-sorted clean sand, some sandy clay streaks.
706	core	gray, very coarse, gritty, pebbly sand, with considerable clay.
711	core	dark coarse, pebbly, very clayey sand.
716	core	dark gray tough clay.
721	core	small pebbles in a matrix of clay.

726	core	dark gray, sandy, micaceous silt with some lignite.
731	core	weathered basement rock.
736	core	do
741	core	do
746	core	do