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NWS EARLE
5090.3a

TRANSMITTAL LETTER FOR THE DRILLERS LOGS, STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION FORMS A AND B AND PLOT PLAN
AND SOIL CLASSIFICATIONS MADE DURING MONITORING WELL DRILLING NWS EARLE
NJ
8/19/1988
NWS EARLE



DEPARTMENT OF THE NAVY

NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY 07722-5000

IN REPLY REFER TO

092

Mr. Ken Seit
New Jersey Department of Environmental Protection
Division of Water Resources
Bureau of Ground Water Quality Management
CN029
Trenton, NJ 08625

Re: MONITORING WELLS FOR CLOSURE OF 2000 GALLON UNDERGROUND WASTE OIL
STORAGE TANK-NAVAL WEAPONS STATION EARLE

Dear Mr. Seit:

Enclosed are the Drillers Logs, NJDEP Form A and B, the Plot Plan and Soil Classifications made during the Monitoring Well Drilling and are submitted in accordance with the requirements of the approved Tank Closure Plan and the Facilities NJPDES Permit No. NJ-0023540 (enclosures (1) through (4)).>
Mr. David Mooney was the Engineer In Charge of the case for the NJDEP and Ms. Linda Welcom is the Geologist In Charge.

Should you have any questions, please contact Mr. William T. Matthaey, Station Environmental Engineer at (201) 577-2146.

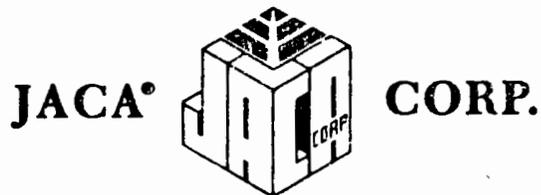
Sincerely,

A handwritten signature in cursive script, appearing to read "J. Tubello", is written over the typed name.

J. TUBELLO
Lieutenant Commander, U.S. Navy
Public Works Officer

Encl:

- (1) Drillers Logs
- (2) NJDEP Forms A and B
- (3) Plot Plan
- (4) Soil Classifications



Environmental Consultants • Engineers

August 19, 1988

Mr. William Matthaey
United States Navy
Naval Weapons Station Earle
Public Works Department, Bldg. C-29
Colts Neck, NJ 07722

Dear Mr. Matthaey:

Enclosed are drillers' logs, NJDEP Forms A and B (which include the surveying work), the plot plan and soil classifications made during the monitoring well drilling. These are to be sent to the DEP. The driller's logs, NJDEP Forms A and B, the plot plan and soil classifications are to be sent to:

Ken Seit
NJDEP
Division of Water Resources
Bureau of Ground Water Quality Mgt.
CN029
Trenton, NJ 08625

A copy of the driller's logs should be sent to:

New Jersey Dept. of Environmental Protection
Bureau of Water Allocation
CN029
Trenton, NJ 08625

I made the necessary copies and attached the addresses to where the two packets are to be sent. There is a copy of the forms for your reference.

With the packet that is to be sent to Ken Seit, please note to him that David Mooney who has left the Department, was the engineer in charge of the case. Linda Welcom is the geologist in charge of the case.

Should you have any questions please feel free to contact me.

Sincerely,


EILEEN KELBLE
Environmental Engineer

EK:kad
Enclosures

DATE
 STARTED 6/06/88
 FINISHED 6/06/88
 SHEET 1 OF 1



SUBSURFACE LOG

HOLE NO. C14-1
 SURF. ELEV. _____
 C. W. DEPTH 13.7'

PROJECT U.S. Naval Weapons Station LOCATION Colts Neck, New Jersey

DEPTH	SAMPLE NO	BLOWS ON SAMPLER					BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
		0-6	6-12	12-18	18-24	N			
0	1	4	5					Moist brown fine SAND with little medium sand, trace silt	
		7	5	12					
5	2	7	13					Same, trace fine gravel	
		14	17	27					
10	3	8	7					Same, no gravel	
		6	5	13					
15	4	3	4					Wet brown fine SAND, little medium sand and silt	
		6	5	10					
20	5	4	4					Wet brown fine SAND, trace silt	
		4	4	8					
25	6	3	3					Same	
		7	9	10					
25								Boring terminated @ 25.0'.	
30									
35									
40									

N = No. blows to drive 2 - spoon 24 - with 140 lb. pin wt. falling 30 "per blow. CLASSIFICATION driller's
 C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.
 METHOD OF INVESTIGATION 6 1/2 Hollow Stem Augers

DATE
 STARTED 6/07/88
 FINISHED 6/07/88
 SHEET 1 OF 1



SUBSURFACE LOG

HOLE NO. C14-2
 SURF. ELEV. _____
 C. W. DEPTH 12.5'

PROJECT U.S. Naval Weapons Station

LOCATION Colts Neck, New Jersey

DEPTH	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER				BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
			0-6	6-12	12-18	N			
0	/	1	2	2			Dry orange-brown Silty SAND		
			7	7	9				
5	/	2	10	21			Same (Moist)		
			25	25	46				
10	/	3	4	4			Same (Wet)		
			7	6	11				
15	/	4	2	4			Same		
			3	4	7				
20	/	5	2	2			Boring terminated @ 22.0'.		
			6	7	8				
25									
30									
35									
40									

N = No. blows to drive 2 " spoon 24 " with 140 lb. pin wt. falling 30 "per blow.

C = No blows to drive _____ " casing _____ " with _____ lb. weight falling _____ "per blow.

CLASSIFICATION driller's

METHOD OF INVESTIGATION 6 1/2 Hollow Stem Augers

DATE
 STARTED 6/07/88
 FINISHED 6/07/88
 SHEET 1 OF 1



SUBSURFACE LOG

HOLE NO. C14-3
 SURF. ELEV. _____
 C. W. DEPTH 11'

PROJECT U.S. Naval Weapons Station

LOCATION Colts Neck, New Jersey

DEPTH	SAMPLE NO	BLOWS ON SAMPLER					BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
		0-6	6-12	12-18	18-24	N			
0	1	2	3				Dry brown Sandy SILT		
			7	8	10				
5	2	9	7				Dry brown to dark grey Sandy SILT		
			9	11	16				
10	3	3	2				Moist dark brown to yellow fine SAND		
			2	6	4				
15	4	WR	2				Wet yellow fine SAND		
			3	3	5				
20	5	1	2				Same		
			3	8	5				
22.0	Boring terminated @ 22.0'.								
25									
30									
35									
40									

N = No. blows to drive 2 " spoon 24 " with 140 lb. pin wt. falling 30 " per blow. CLASSIFICATION driller's
 C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ " per blow.

DATE

STARTED 6/08/88

FINISHED 6/08/88

SHEET 1 OF 1



SUBSURFACE LOG

HOLE NO. C14-4

SURF. ELEV. _____

G. W. DEPTH 8.0'

PROJECT U.S. Naval Weapons Station

LOCATION Colts Neck, New Jersey

DEPTH	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER					BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
			0-6	6-12	12-18	18-24	N			
0		1						Black Silty SAND (strong oil odor)		
5		2	2	3				Moist medium grey-brown Sandy SILT		
				6	10	9				
10		3	WR	2				Wet brown Silty fine SAND		
				4	5	6				
15		4		5	6			Same		
				11	16	17				
								Boring terminated @ 17.0'.		
20										
25										
30										
35										
40										

N = No. blows to drive 2 " spoon 24 " with 140 lb. pin wt. falling 30 " per blow.

C = No. blows to drive _____ " casing _____ " with _____ lb. weight falling _____ " per blow.

CLASSIFICATION driller's

METHOD OF INVESTIGATION 6 1/2 Hollow Stem Augers

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Naval Weapons Station Earle - U.S. Navy
Name of Facility: Naval Weapons Station Earle
Location: Colts Neck, Monmouth Co., N.J. 07722
NJDES Number: NJ0023540

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6931):
This number must be permanently affixed to the well casing:

2 9 2 0 6 6 6 9

Longitude (one-tenth of a second):
Latitude (one-tenth of a second):
Elevation of top of casing (cap off)
(one-hundredth of a foot):
Owner's Well Number (As shown on the application or plans):

West 74°09'26.18" CC
North 40°16'06.75"
110.71
C-14-1

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Charles M. Widdis

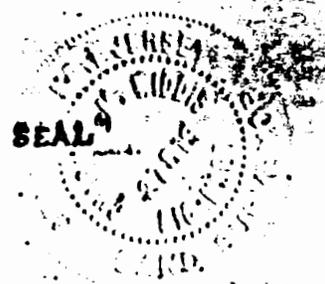
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Charles M. Widdis

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

N.J. L.S. No. 27519

PROFESSIONAL LAND SURVEYOR'S LICENSE



The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:19-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJDES permit.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Naval Weapons Station Earle - U.S. Navy
Name of Facility: Naval Weapons Station Earle
Location: Colts Neck, Monmouth Co., NJ 07722
NJPDES Number: NJ0023540

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6831):
This number must be permanently affixed to the well casing.

2 9 - 2 0 6 6 9 - 3

WELL # 2

Longitude (one-tenth of a second):
Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off) (one-hundredth of a foot):

West 74°09'25.98" *cc*
North 44°16'06.98"

Owners Well Number (As shown on the application or plans):

108.30 108.30
C-14-2

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Charles M. Widdis
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Charles M. Widdis
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

N.J. L.S. No. 27519
PROFESSIONAL LAND SURVEYOR'S LICENSE #



The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:19-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJPDES permit.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Naval Weapons Station Earle - U.S. Navy
Name of Facility: Naval Weapons Station Earle
Location: Colts Neck, Monmouth Co., NJ 07722
NJPDES Number: NJ0023540

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6831): 2 9 - 2 0 6 6 7 - 7
This number must be permanently affixed to the well casing.
Longitude (one-tenth of a second): West 74°09'23.48"
Latitude (one-tenth of a second): North 40°16'05.50"
Elevation of Top of Casing (cap off) (one-hundredth of a foot): 108.23
Owners Well Number (As shown on the application or plans): C-14-3

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Charles M. Widdis

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Charles M. Widdis

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

N.J. L.S. No. 27519

PROFESSIONAL LAND SURVEYOR'S LICENSE #

SEAL

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJPDES permit.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Naval Weapons Station Earle - U.S. Navy
Name of Facility: Naval Weapons Station Earle
Location: Colts Neck, Monmouth Co., NJ 07722
NJDES Number: NJ0023540

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Water Allocation Section, 609-984-6831):
This number must be permanently affixed to the well casing.

2 9 - 2 0 6 6 8 - 5

Longitude (one-tenth of a second):
Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off) (one-hundredth of a foot):
Owners Well Number (As shown on the application or plans):

West 74°09'25.70"
North 40°16'06.64"
104.41
C-14-4

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Charles M. Widdis

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Charles M. Widdis

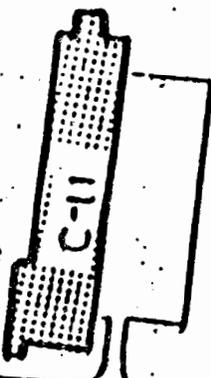
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

N.J. L.S. No. 27519

PROFESSIONAL LAND SURVEYOR'S LICENSE #

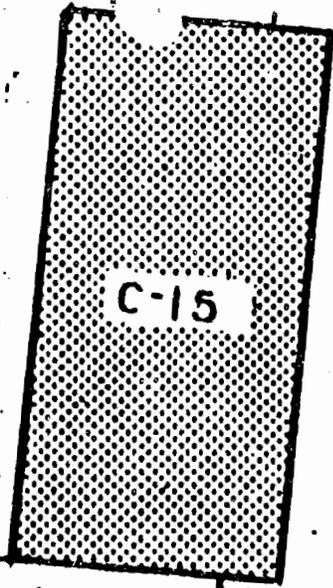


The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 719-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJDES permit.



584

520



C-15

WELL IDENTIFICATIONS

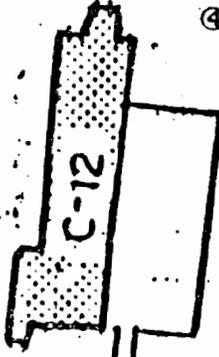
- ① C-14-1 PERMIT NO. 29-20666-9
- ② C-14-2 PERMIT NO. 29-20669-3
- ③ C-14-3 PERMIT NO. 29-20667-7
- ④ C-14-4 FLUSH MOUNTED PERMIT NO. 29-20668-5



C-31

529

QH-8



C-12

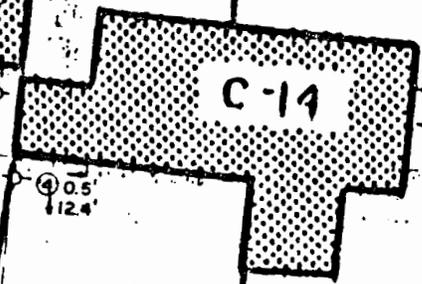
OH-9

NOTE: WELL LOCATIONS MEASURED FROM BUILDING

② 11.4' 190'

③ 32.4' 185'

④ 0.5' 124'



C-14

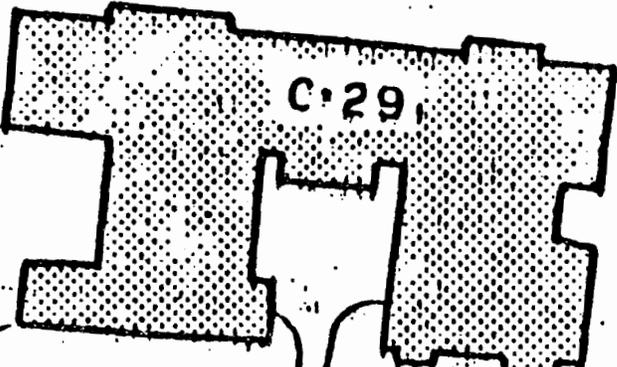
C-17

C-20

ROAD



C-13



C-29

③ 31.3' 18.7'

ROAD



C-49



X-3

583

SWIMMING POOL

536

Well C-14-1
Permit No. 2920666-9

<u>Depth</u>	<u>Lithologic Description</u>
0-2'	90% sand, 9% clay, 1% gravel. USDA SCS classification: sand. Color: 10 YR 5/6 yellowish brown. Less than 1% gravel consisting of quartz fragments up to .25" diameter. Sample is dry.
5-7'	5-5.3 99% fine sand, 1% gravel size. USDA SCS classification: sand. Quartz fragments Color: 10 YR 3/4 dark yellowish brown. 5.3-5.5 same lithology Color: 10 YR 5/6 yellowish brown. 5.5-5.9 same lithology Color: 10 YR 6/6 brownish yellow. 5.9-6.3 90% sand, 10% quartz gravel USDA SCS classification: sand. 6.3-6.4 95% sand, 5% quartz gravel. 6.5-7.0 same lithology Color: 10 YR 3/3 dark brown. Sample is dry.
10-12'	Sample is homogeneous. Color: 10 YR 6/8 brownish yellow. 85% quartz sand, 15% silt. USDA PSCS classification: loamy sand. Sample end is moist.
13.5	Water level
15-17'	98% sand, 2% silt. USDA SCS classification: loamy sand. Color: 2.5 Y 5/6 light olive brown to 2.5 Y 6/8 olive yellow. Sample is wet.
20-22'	98% sand, 2% silt. USDA SCS classification: sand. Color: 2.5 Y 5/4 light olive brown. Sample is wet.
25-27'	98% sand, 2% silt. Dark brown roots are present. Color: 10 YR 3/2 very dark grayish brown. Sample is wet.

Well Depth 26 feet

Well C-14-2
Permit No. 2920669-3

<u>Depth</u>	<u>Blow Count</u>	<u>Lithologic Description</u>
0-2'	2-2-7-7	<u>0-1 ft.</u> 50% sand, 50% silt. Sandy loam/silt loam. Roots present. Color: 5 YR 4/1 dark gray. <u>1-1.5 ft.</u> 70% clay, 25% silt, 5% sand. USDA SCS classification: clay. Color: 7.5 YR 6/8 reddish yellow and 10 YR 6/2 light brownish gray. <u>1.5-2 ft.</u> 90% fine sand, 10% silt. USDA SCS classification: sand. Color: 1.5-1.75 ft.: 10 YR 7/6 yellow. 1.75-2 ft.: 10 YR 7/8 yellow.
5-7'	10-21-25-25	<u>5-5.25 ft.</u> 70% silt, 30% sand. Silt loam <1% coarse quartz fragments up to .25" diameter. Color: 10 YR 4/2 dark grayish brown. <u>5.25-5.5 ft.</u> 50% sand, 50% silt Sandy loam/silt loam. Color: 10 YR 4/2 dark grayish brown. <u>5.5-6.0 ft.</u> 30% of total is quartz fragments greater than 1/4" diameter. 50% sand, 50% silt (silt loam, sandy loam). <u>6.0-6.5 ft.</u> sample is moist. 60% silt, 40% quartz sand, 10% of total contains quartz fragments > 1/4" diameter. <u>6.5-6.75 ft.</u> gravel layer. Rounded quartz fragments 1/4" to 1/2" diameter. <u>6.75-7.0 ft.</u> 75% silt, 25% quartz sand. USDA SCS classification: silt loam. Color: 10 YR 3/2 very dark grayish brown.
10-12'	4-4-7-6	<u>10-10.5 ft.</u> 50% quartz sand, 50% silt. Sandy loam/silt loam. Color 2.5 Y 5/4 light olive brown. <u>10.5-12 ft.</u> 80% sand, 20% silt. Loamy sand. Color: 2.5 YR 5/4 light olive brown.
Groundwater at 12 feet		
15-17'	2-4-3-4	70% fine quartz sand, 30% micaceous silt. Sandy loam. Sample is very homogeneous. Color: 2.5 YR 5/6 red.
20-22'	2-2-6-7	80% sandy (70% quartz, 30% ferromagnesian minerals) 20% micaceous silt. Color: 2.5 YR 5/6 light olive brown. Sample is homogeneous.

Well C-14-3
Permit No. 2920667-7

<u>Depth</u>	<u>Blow Count</u>	<u>Lithologic Description</u>
0-2'	2-3-7-8	<p>0-.5 ft. 90% silt, 10% sand. USDA SCS classification: silt. Roots present. 4% quartz fragments to 1/4" diameter. Color: 5 YR 2.5/1 black.</p> <p>.5-.9 ft. 80% sand, 20% silt. Loamy sand. Color: 10 YR 4/6 dark yellowish brown.</p> <p>.9-2.0 ft. 95% sand, 10% silt. Color: 10 YR 5/2 grayish brown.</p>
5-7'	9-7-9-11	<p>5-5.5 50% silt, 50% clay. Silty clay. Color: 2.5 YR 2.5/2 very dusky red.</p> <p>5.6-7.0 80% silt, 20% sand. Silt loam. Color: 10 YR 3/2 very dark grayish brown.</p>
10-12'	3-2-2-26	<p>10-10.15 ft. 15% sand, 85% silt. Silt. Color: 2.5 Y 3/2 very dark grayish brown.</p> <p>10.15-10.5 ft. 50% sand, 50% silt. Sandy loam/silt loam. Color: 2.5 Y 6/4 light yellowish brown.</p> <p>11 ft - water table.</p> <p>10.5-12 ft. 65% sand, 35% silt. Sandy loam. Color: 10.5 Y 6/8 olive yellow.</p>
15-17'	WR-2-3-3	<p>15% silt, 85% sand. Sample is homogeneous. Loamy sand, sand consists of 50% quartz, 30% ferromagnesia minerals, 20% plagioclase and mica.</p>
20-23'	WR-2-3-8	<p>Same as above (loamy sand). All sand is fine grained.</p>

Well C-14-4
Permit No. 2920668-5

<u>Depth</u>	<u>Blow Count</u>	<u>Lithologic Description</u>
0-2'	Driven with sledge hammer Recovery: 1.35 ft.	0-1.2 ft. 65% sand, 35% silt. Sandy loam. 1.2-1.5 ft. 50% silt, 50% sand. Silty loam, sandy loam.
5-7'	2-3-6-10 1.35 ft. recovery	Sample moist. .8 ft. of medium gray brown loam (35% sand, 40% silt, 25% clay). .35 ft. of clay. Light gray and orange in color. .5 ft. - 70% sand, 30% silt. Sandy loam, dark olive brown.
Drill rod wet at 9'		
10-12'	WR-2-4-5 1.5 ft. recovery	60% sand, 40% silt. Sandy loam, olive brown color. Sand content: 50% quartz, 40% ferromagnesian minerals, 10% mica.
15-17'	5-6-11-16 1.6' ft. recovery	15-16 ft. 70% sand, 30% silt. Sandy loam, olive brown. Sand composed of quartz, ferromagnesian minerals and mica. 16-17 ft. 50% sand, 50% silt. Sandy loam/silt loam. <5% white mottling. Color: orange brown.

Depth of well - 19.7 ft.