# Appendix 4.3

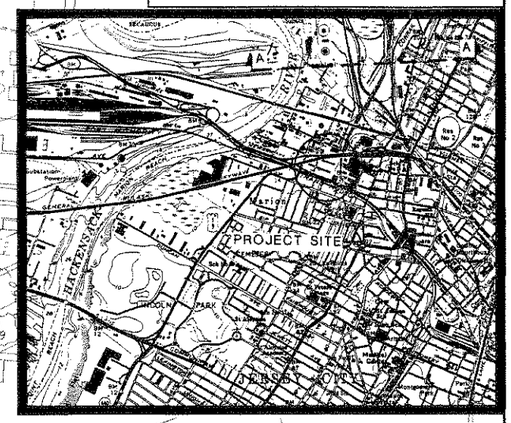
## Geotechnical Data – Soil Boring Logs

# SITE A
## Soil Boring Logs and Boring Location Plans

| FED. ROAD DIV. NO. | FED. AID PROJECT NO. | STATE | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | N.J. | | | |

STRUCTURE NO.

SCALE: 1" = 100'




LOCATION MAP

BORINGS BY
ECOLOGY & ENVIRONMENT

PROPOSED RETAINING WALLS

PROPOSED RETAINING WALL

PROPOSED BRIDGE OVER WALLIS AVENUE

EXISTING TRACK TO BE REMOVED

PROPOSED BRIDGE OVER NEWARK AVENUE

LEGEND:

● – EXISTING BORING LOCATION

⊕ – PROPOSED BORING LOCATION

AS DRILLED

NEW JERSEY DEPARTMENT OF TRANSPORTATION
BRIDGES AND STRUCTURES DESIGN

CONRAIL CONNECTION OF THE
NORTHERN BRANCH AND THE P & H BRANCH

ROUTE: SEC.: STA.:
MUNICIPALITY: JERSEY CITY COUNTY: HUDSON

BORING LOCATION PLAN

| CONTROL SECTION | | JOB NO. | |
|---|---|---|---|
| DES. BY | | CHK. BY | |
| DWN. BY | | CHK. BY | |
| EST. BY | | CHK. BY | |
| SPECS. BY | | | |

IN CHARGE OF

| REVISION | BY | C'K'D | DATE |
|---|---|---|---|
| ADJUSTED BASE LINE | D K | J F P | 1-14-91 |

HARDESTY & HANOVER
CONSULTING ENGINEERS
NEW YORK, NEW YORK

Date MAY 1989 Scale 1" = 100'

Bridge Sheet No. 8 of 8

HARDESTY & HANOVER CONSULTING ENGINEERS

ROUTE: LOCAL NAME: Marion Junction TEST HOLE NO. C-4

SECTION: Conrail Connection of the Northern Branch and P&H Branch

STATION: K15+74 OFFSET: 13'RT REFERENCE LINE: Survey Baseline GROUND LINE ELEVATION: 28.9

BORINGS MADE BY: EMPIRE DATE STARTED: 3-5-90

INSPECTOR: Ed Vierno DATE COMPLETED: 3-6-90

Elevation G.W.T.
0 Hr. +8.9' Date: 3-5-90
24 Hr. +8.9' Date: 3-7-90
ft. P.P. Installed Date:

| Depth | Casing Blows | Sample No. | Depth From | Depth To | Blows on Spoon 0-6 | 6-12 | 12-18 | Rec. | Sample ID and Profile Change | Strata |
|---|---|---|---|---|---|---|---|---|---|---|
| | HOLLOW STEM AUGERS | J-1 | 0.0 | 1.5 | 2 | 3 | 5 | 0.7' | Black cf SAND, trace (+) Silt, trace m Gravel (cinders) (fill) | |
| 5 | | J-2 | 5.0 | 6.5 | 6 | 7 | 11 | 0.7' | Black w/ red brown cf SAND, little Silt, trace mf Gravel (fill) | |
| 10 | | J-3 | 10.0 | 10.3 | 100/4" | - | | 0.3' | Brown SILT, little cf Sand, trace mf Gravel (fill) | 14.0 |
| 15 | | J-4 | 15.0 | 16.5 | 8 | 4 | 5 | 0.7' | Red brown SILT, some cf Sand, trace f Gravel | |
| 20 ▼ | | J-5 | 20.0 | 21.5 | 2 | 2 | 1 | 1.5' | Red br. SILT, some (-) cf Sand, little (-) mf Gravel | |
| 25 | | J-6 | 25.0 | 26.5 | 7 | 7 | 10 | 1.5' | Brown cf SAND, little (+) Silt, trace (+) f Gravel | 30.0 |
| 30 | | J-7 | 30.0 | 31.5 | 10 | 18 | 20 | 1.5' | Brown SILT, little cf SAND, trace f Gravel | |
| 35 | | J-8 | 35.0 | 36.5 | 10 | 12 | 15 | 1.5' | Brown SILT, trace (-) Sand | 39.0 |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3-1/2 |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

HARDESTY & HANOVER — CONSULTING ENGINEERS

ROUTE: LOCAL NAME: Marion Junction — TEST HOLE NO. C-4

SECTION: Conrail Connection of the Northern Branch and P&H Branch

STATION: K-15+74 OFFSET: 13'RT REFERENCE LINE: Survey Baseline GROUND LINE ELEVATION: 28.9

BORINGS MADE BY: EMPIRE DATE STARTED: 3-5-90

INSPECTOR: Ed Vierno DATE COMPLETED: 3-6-90

| Elevation G.W.T. | | |
|---|---|---|
| 0 Hr. | +8.9' | Date: 3-5-90 |
| 24 Hr. | +8.9' | Date: 3-7-90 |
| ___ ft. P.P. Installed | | Date: |

| Casing Blows | Sample No. | Depth | | Blows on Spoon 0/6 | 6/12 | 12/18 | Rec. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| HOLLOW STEM AUGERS | J-9 | 40.0 | 41.5 | 6 | 8 | 19 | 1.5' | Brown f SAND, little (-) Silt | |
| | | | | | | | | | 42.5 |
| | J-10 | 45.0 | 46.5 | 29 | 35 | 60 | 1.5' | Brown SILT, some (+) mf Gravel, little (-) cf Sand | |
| | J-11 | 50.0 | 51.5 | 27 | 65 | 22 | 1.5' | SAME | |
| | | | | | | | | | 55.0 |
| | J-12 | 55.0 | 56.5 | 3 | 4 | 11 | 0.5' | Br. f SAND, little (-) Silt, trace f Gravel | |
| | J-13 | 60.0 | 61.5 | 17 | 43 | 17 | 0.5' | Br. cf SAND, little Silt, trace m Gravel | |
| | J-14 | 65.0 | 66.5 | 27 | 54 | 56 | 1.0' | Red/br. cf SAND, some (+) mf Gravel, little Silt | |
| | J-15 | 70.0 | 71.5 | 38 | 67 | 80 | 1.0' | Red/br cf SAND, little (-) Silt, trace (-) f Gravel | |
| | J-16 | 75.0 | 75.4 | 100/5" | ---- | ---- | 0.3' | Red/br cf SAND, little (+) f Gravel, little (-) Silt | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3 1/2" |
| Nominal I.D. of Split Barrel Sampler | 1⅜" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ___

All descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ___

Inferred Change in Strata - - - - -

HARDESTY & HANOVER — CONSULTING ENGINEERS

**ROUTE:** **LOCAL NAME:** Marion Junction **TEST HOLE NO.** C-4

**SECTION:** Conrail Connection of the Northern Branch and P&H Branch

**STATION:** K15+74 **OFFSET:** 13'RT **REFERENCE LINE:** Survey Baseline **GROUND LINE ELEVATION:** 28.9

**BORINGS MADE BY:** EMPIRE **DATE STARTED:** 3-5-90

**INSPECTOR:** Ed Vierno **DATE COMPLETED:** 3-6-90

| Elevation G.W.T. | | Date |
|---|---|---|
| 0 Hr. | +8.9' | 3-5-90 |
| 24 Hr. | +8.9' | 3-7-90 |
| ____ P.P. Installed | | Date: |

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | J-17 | 80.0 | 80.9 | 43 | 100 | 5"-- | 0.8' | Red/br cf SAND, little (-) Silt, trace mf Gravel | |
| HS A | | | | | | | | | |
| | J-18 | 85.0 | 86.5 | 38 | 59 | 80 | 0.8' | Red/br. cf SAND, little (-) Silt, trace f Gravel | 86.5' |
| | | | | | | | | BOTTOM of HOLE | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3 1/2" |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ____

Inferred Change in Strata - - - - -

HARDESTY & HANOVER — CONSULTING ENGINEERS

ROUTE: — LOCAL NAME: Marion Junction — TEST HOLE NO. C-5

SECTION: Conrail Connection of the Northern Branch and P&H Branch

STATION: K14+64 — OFFSET: 10'RT — REFERENCE LINE: Survey Baseline — GROUND LINE ELEVATION: 28.8

BORINGS MADE BY: EMPIRE — DATE STARTED: 3-5-90

INSPECTOR: Ed Vierno — DATE COMPLETED: 3-7-90

Elevation G.W.T.: 0 Hr. +8.8' Date 3-7-90; 24 Hr. +4.3' Date 3-8-90; ____ ft. P.P. Installed Date

| | CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change |
|---|---|---|---|---|---|---|---|---|---|
| | | J-1 | 0.0 | 1.5 | 6 | 6 | 10 | 0.7' | Black cf SAND, (CINDERS) (fill) |
| 5 | | J-2 | 5.0 | 6.5 | 5 | 3 | 4 | 0.5' | SAME |
| | | | | | | | | | Start hole 3-5-90, stop 10'. Re-start 3-7-90 new rig |
| 10 | | J-3 | 10.0 | 11.5 | 3 | 3 | 8 | 0.8' | Black w/red cf SAND, some Silt (fill) |
| | AUGERS | | | | | | | | 12.5' |
| 15 | | J-4 | 15.0 | 16.5 | 6 | 7 | 4 | 0.7' | Red/br SILT, some mf Gravel, little cf Sand |
| 20 | | J-5 | 20.0 | 21.5 | 4 | 5 | 5 | 0.8' | Black w/red SILT, little cf Sand, trace f Gravel |
| | | | | | | | | | 22.5' |
| 25 | | J-6 | 25.0 | 26.5 | 17 | 14 | 16 | 1.5' | Brown cf SAND, some Silt, trace (-) f Gravel w/grey clay lamination @ 26' |
| | STEM | | | | | | | | |
| 30 | | J-7 | 30.0 | 31.5 | 13 | 9 | 5 | 1.5' | Dark br. cf SAND, some (+) Silt |
| | HOLLOW | | | | | | | | 32.5' |
| 35 | | J-8 | 35.0 | 36.5 | 4 | 6 | 7 | 1.5' | Dark grey clayey SILT, trace (+) f Sand, w/ f Sand laminations |
| 40 | | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3 1/2" |
| Nominal I.D. of Split Barrel Sampler | 1⅜" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ____

Inferred Change in Strata ----------

HARDESTY & HANOVER — CONSULTING ENGINEERS

**ROUTE:**  **LOCAL NAME:** Marion Junction  **TEST HOLE NO.** C-5

**SECTION:** Conrail Connection of the Northern Branch and P&H Branch

**STATION:** K14+64 **OFFSET:** 10'RH **REFERENCE LINE:** Survey Baseline **GROUND LINE ELEVATION:** 28.8

**BORINGS MADE BY:** Empire **DATE STARTED:** 3-5-90

**INSPECTOR:** Ed Vierno **DATE COMPLETED:** 3-7-90

| Elevation G.W.T. | | |
|---|---|---|
| 0 Hr. | +8.8' | Date: 3-7-90 |
| 24 Hr. | +4.3' | Date: 3-8-90 |
| ft. P.P. Installed | | Date: |

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | J-9 | 40.0 | 41.5 | 10 | 16 | 19 | 1.5' | Brown f SAND, some Silt, w/grey clayey Silt laminations | 41.5 |
| | J-10 | 45.0 | 46.5 | 22 | 23 | 32 | 1.5' | Dark grey/w br. varved clayey SILT. (slightly organic) | |
| | J-11 | 50.0 | 51.5 | 4 | 14 | 7 | 1.0' | SAME | |
| AUGERS | J-12 | 55.0 | 56.5 | 19 | 22 | 20 | 1.0' | Red/br. cf SAND, some (-) Silt, trace f Gravel. | 55.0 |
| | J-13 | 60.0 | 61.5 | 60 | 13 | 18 | 1.0' | SAME | |
| STEM | J-14 | 65.0 | 66.5 | 19 | 16 | 18 | 0.7' | Red/br. cf SAND, some Silt, little mf Gravel | |
| HOLLOW | J-15 | 70.0 | 71.5 | 22 | 26 | 19 | 0.7' | SAME | |
| | J-16 | 75.0 | 76.5 | 57 | 63 | 80 | 0.5' | SAME | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3 1/2" |
| Nominal I.D. of Split Barrel Sampler | 1⅜" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

HARDESTY & HANOVER — CONSULTING ENGINEERS

ROUTE: — LOCAL NAME: Marion Junction — TEST HOLE NO. C-5

SECTION: Conrail Connection of the Northern Branch and P&H Branch

STATION: K14+64 — OFFSET: 10'RT — REFERENCE LINE: Survey Baseline — GROUND LINE ELEVATION: 28.8

BORINGS MADE BY: EMPIRE — DATE STARTED: 3-5-90

INSPECTOR: Ed Vierno — DATE COMPLETED: 3-7-90

Elevation G.W.T.
0 Hr. +8.8' Date 3-7-90
24 Hr. +4.3' Date 3-8-80
____ ft. P.P. Installed Date

| | CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 6/12 12/18 | | | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | J-17 | 80 | 81.5 | 20 | 34 | 52 | 0.8' | Red/br. cf SAND, some (-) Silt, little (-) mf Gravel | |
| | | | | | | | | | Bottom of Hole | 81.5' |
| 5 | | | | | | | | | | |
| | HSA | | | | | | | | | |
| 10 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 10 | | | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 3 1/2" |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ____

Inferred Change in Strata

HARDESTY & HANOVER — CONSULTING ENGINEERS

OUTE: LOCAL NAME: Marion Junction — TEST HOLE NO. B-6

ECTION: Conrail Connection of the Northern Branch and P&H Branch — 15.6 (New)

TATION: D16+56 OFFSET: 40' RT REFERENCE LINE: Survey Baseline GROUND LINE ELEVATION: 21.6 (Orig.)

ORINGS MADE BY: EMPIRE DATE STARTED: 2-19-90

NSPECTOR: Ed Vierno DATE COMPLETED: 2-21-90

Elevation G.W.T.
0 Hr. +9.6' Date: 2-20-90
24 Hr. +9.6' Date: 2-22-90
ft. P.P. Installed Date:

| Depth | Casing Blows | Sample No. | Depth from | Depth to | Blows 0/6 | Blows 6/12 | Blows 12/18 | Rec. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|---|
| | HOLLOW STEM AUGERS | J-1 | 0 | 1.5 | 1 | 1 | 2 | 1.1' | Black-brown f SAND, some (+) Silt w/ roots fibers | |
| 5 | | J-2 | 5.0 | 6.5 | 6 | 21 | 12 | 0.9' | Red br. SILT, some (+) cf Sand, trace Gravel | |
| 10 | | J-3 | 10.0 | 11.5 | 7 | 8 | 7 | 1.1' | Lt brown f SAND, little Silt | |
| 15 | | J-4 | 15.0 | 16.5 | 15 | 18 | 23 | 0.2' | Brown cf SAND, little Silt | |
| 20 | | | | | | | | | | 20.0 |
| | | J-5 | 20.0 | 21.5 | 8 | 13 | 12 | 0.3' | No Recovery<br>2nd Attempt Dark grey clayey SILT | |
| 25 | | J-6 | 25.0 | 26.5 | 7 | 8 | 9 | 1.5' | Red brown Clayey SILT | |
| 30 | | J-7 | 30.0 | 31.5 | 3 | 6 | 5 | 1.5' | SAME | |
| 35 | | J-8 | 35.0 | 36.5 | 4 | 5 | 7 | 1.5' | SAME | |
| | | | | | | | | | | 38.0 |
| 40 | | | | | | | | | Removed Augers (Plugged) Then Continued | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

HARDESTY & HANOVER — CONSULTING ENGINEERS

ROUTE: LOCAL NAME: Marion Junction TEST HOLE NO. B-6

SECTION: Conrail Connection of the Northern Branch and P&H Branch

STATION: D16+56 OFFSET: 40' Rt REFERENCE LINE: Survey Baseline GROUND LINE ELEVATION: 15.6

BORINGS MADE BY: EMPIRE DATE STARTED: 2-19-90

INSPECTOR: Ed Vierno DATE COMPLETED: 2-21-90

Elevation G.W.T.
0 Hr. +9.6' Date: 2-20-90
24 Hr. +9.6' Date: 2-22-90
ft. P.P. Installed Date:

| Depth | Casing Blows | Sample No. | Depth from | Depth to | Blows 0/6 | Blows 6/12 | Blows 12/18 | Rec. | Sample ID and Profile Change | Strata |
|---|---|---|---|---|---|---|---|---|---|---|
| 40' | HOLLOW STEM AUGERS | J-9 | 40.0 | 41.5 | 5 | 5 | 6 | 1.5' | Red br cf SAND, some SILT, trace (-) f Gravel | |
| 45 | | J-10 | 45.0 | 46.5 | 5 | 8 | 12 | 1.5' | SAME w/ little f Gravel | |
| 50 | | J-11 | 50.0 | 51.5 | 15 | 20 | 25 | 1.5' | Red br cf SAND, little (+) mf Gravel little Silt | |
| 55 | | J-12 | 55.0 | 56.5 | 15 | 45 | 30 | 1.5' | Red br cf SAND, little Silt, trace f Gravel | 59.0 |
| 60 | | J-13 | 60.0 | 61.5 | 14 | 30 | 25 | 1.5' | Red br. SILT, little (+) cf Sand, trace m Gravel | 64.0 |
| 65 | | J-14 | 65.0 | 66.5 | 10 | 12 | 22 | 1.5' | Red br. f SAND, little (+) Silt | 71.5 |
| 70 | | J-15 | 70.0 | 71.5 | 18 | 18 | 25 | 1.5' | Red br f SAND, and Silt | |
| 75 | | | | | | | | | BOTTOM of HOLE<br>*NOTE: Hole moved North 7' off slope, new Elev. 6.0' Lower= 15.6' | |
| 80 | | | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" |
| Nominal I.D. of Split Barrel Sampler | 1⅜" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against H&H if he finds that the actual conditions do not conform to those indicated by this log.

Core Dia. ____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ____

Inferred Change in Strata - - - - -

NEW JERSEY DEPARTMENT OF TRANSPORTATION

# STANDARD LEGEND

Water Main (Size)
Gas Main (Size)
Telephone Conduit
Electric Conduit
Electric Conduit, Highway
Existing Sanitary Sewers and Storm Drains
Proposed Sanitary Sewers and Storm Drains
Pavements
Shoulders
Slopes
Center Line or Base Line
Right Of Way Lines Access Permitted
No Access
Twp., City, County Line
Property Lines
Curbs
Fences
Wire Rope Guide Fence
Beam Guide Rail
Inlets (B or E)

NOTE: Curb pieces for Inlets, Type B are 10" unless otherwise indicated

NEW MONUMENT
Existing Monument
Scarifying Existing Pavement
Pavement Excavation
Building to be Demolished
Building to be Removed and Paid for Under Clearing Site
Demolition No. & Parcel No. of Building to be Demolished
Borings
Boring Symbol
Water Gate Valve
Gas Gate Valve
Pole No. & Type (Guy, Light, Etc.)
Hydrant
Traffic Light
Traffic Control Box
Deciduous Trees (Size, Kind)
Bush
Evergreens
Hedges
Existing R.C. End Sect. or C.M. Headwall
Existing Headwall
Existing Headw. & Apron
Proposed R.C. End Sect. or C.M. Headwall
Proposed Headwall
Proposed Headw. & Apron
Bridge Approach Slabs And Transition Slabs
High Point
Low Point

All Measurements To Face Of Line From Center Line

NORTH POINT TO BE USED ON STANDARD CONSTRUCTION SHEETS WHERE BEARINGS REFER TO N.J. PLANE COORDINATE SYSTEM

N.J. PLANE COORDINATE SYSTEM

CITY OF JERSEY CITY

COUNTY OF HUDSON

MATCH LINE STA. 89+00

| EXISTING CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | Δ | RADIUS | TANGENT | LENGHT |
| E1 | 19°-06'-10.0" | 380.00' | 63.94' | 126.89' |

BM NO 1 - S.W. CORNER INLET HEAD NEWARK AVE. B STA. 7+71, 12.4' LT. ELEV. 11.73'

BM NO 2 - SOUTHERLY SIDE GUY POLE SPIKE 0.5' UP NEWARK AVE. ℄ STA. 10+66, 51.5 LT. ELEV. 12.06

RT 1&9T AT PULASKI SKYWAY

001 008 001-003

482W-1 to 10

1/3

107

SURFACE DESIGN SQUAD

CITY OF JERSEY CITY

COUNTY OF HUDSON

| EXISTING CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | Δ | RADIUS | TANGENT | LENGTH |
| E2 | 80°-34'-02.0" | 270.00' | 228.84' | 379.66' |
| E3 | 9°-24'-40.0" | 1000.00' | 82.31' | 164.26' |

| PROPOSED CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | Δ | RADIUS | TANGENT | LENGTH |
| BL1 | 89°-56'-42.0" | 270.00' | 265.90' | 424.01' |

WALLIS AVE.

DALES AVE.

MEAD AVE.

BROADWAY

ROUTE U.S. 189 (T) N.B.

ROUTE U.S. 189 (T) S.B.

MATCH LINE STA. 98+00

MATCH LINE STA. 89+00

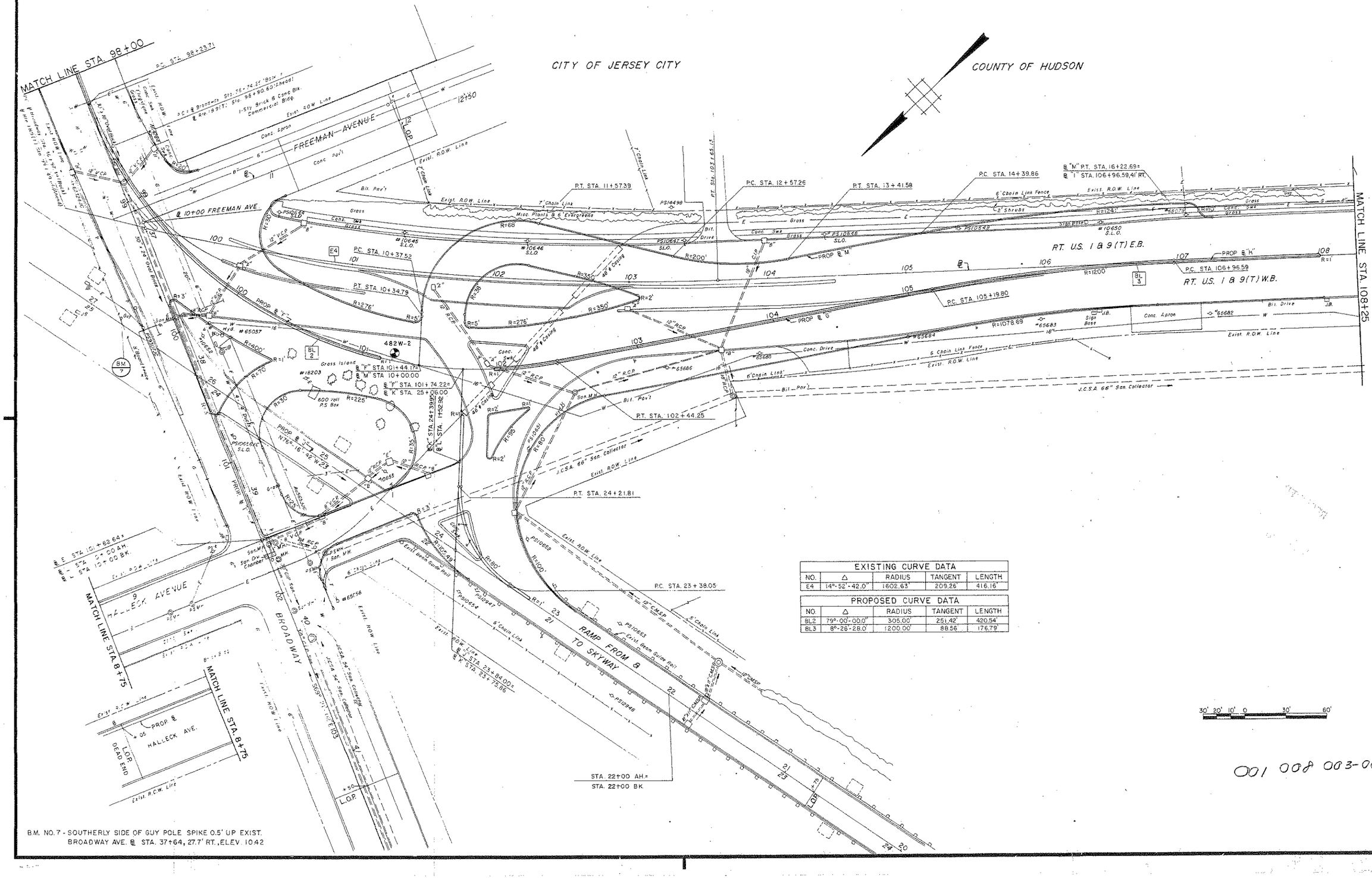
P.T. STA. 94+11.50 ℄ "D"
℄ "E" STA. 94+11.50, 3.00' LT.

P.C. STA. 89+87.49
P.C. Sta. 27+58.79

B.M. NO. 3 – BOLT IN BASE PLATE REAR OF MONUMENT, ELEV. 17.25'
B.M. NO. 4 – NORTH EAST CORNER BOTTOM OF STEP HOUSE NO. 153, ELEV. 14.82'
B.M. NO. 5 – SOUTHERLY HYDRANT BOLT EXIST. BROADWAY AVE. ℄ STA. 33+14, 28.8' LT., ELEV. 12.27'
B.M. NO. 6 – NORTHERLY HYDRANT BOLT EXIST. BROADWAY AVE. ℄ STA. 35+45, 18.8' LT., ELEV. 12.71'

30' 20' 10' 0 30' 60'

001 008 002-003




| EXISTING CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | Δ | RADIUS | TANGENT | LENGTH |
| E4 | 14°-52'-42.0" | 1602.63' | 209.26' | 416.16' |

| PROPOSED CURVE DATA | | | | |
|---|---|---|---|---|
| NO. | Δ | RADIUS | TANGENT | LENGTH |
| BL2 | 79°-00'-00.0" | 305.00' | 251.42' | 420.54' |
| BL3 | 8°-26'-28.0" | 1200.00' | 88.56' | 176.79' |

B.M. NO. 7 - SOUTHERLY SIDE OF GUY POLE SPIKE 0.5' UP EXIST. BROADWAY AVE. @ STA. 37+64, 27.7' RT., ELEV. 10.42

001 008 003-003

3/3

Form SO-2 2/79

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 3

SECTION: Route 440 to Tonnelle Avenue

STATION: 89+54 OFFSET: 27' Rt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/12/80

INSPECTOR: Lord DATE COMPLETED: 6/12/80

Elevation G.W.T.

0 Hr. Dry Date: 6/12/80

24 Hr. Date:

ft. P.P. Installed Date:

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" of Concrete Sidewalk | 0.5' |
| | S-1 | 1.5' | 3.0' | -- | -- | -- | 8" | FILL - Black & Yellow CF Sand, some (+) Silt, some MF Gravel. | 3.0' |
| | | | | | | | | BOTTOM OF HOLE | |
| | | | | | | | | NOTE: Boring 3½' from abutment, 6'9" from curb. | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Core Dia.

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata

Inferred Change in Strata

Form SO-2 2/79

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 4

SECTION: Route 440 to Tonnelle Avenue

STATION: 88+62 OFFSET: 29' Rt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/12/80

INSPECTOR: Lord DATE COMPLETED: 6/12/80

| Elevation G.W.T. | | Date |
|---|---|---|
| 0 Hr. | Dry | Date: 6/12/80 |
| 24 Hr. | | Date: |
| ft. P.P. Installed | | Date: |

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" Concrete Sidewalk | 0.5' |
| | S-1 | 0.5' | 1.0' | -- | -- | -- | 4" | Black & Grey CF Sand, and MF Gravel, little (+) Silt. | 1.0' |
| | | | | | | | | Refusal | |
| | | | | | | | | NOTE: Boring 1½' from abutment, 6'9" from curb. | |

Depth scale: 5, 10, 15, 20, 25, 30, 35, 40

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Core Dia. _____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata _____

Inferred Change in Strata - - - - -

Form SO-2 2/79

# NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 5

SECTION: Route 440 to Tonnelle Avenue

STATION: 88+63 OFFSET: 29' Lt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/12/80

INSPECTOR: Lord DATE COMPLETED: 6/12/80

Elevation G.W.T.
0 Hr. Date:
24 Hr. Date:
ft. P.P. Installed Date:

| CASING BLOWS | SAMPLE NO. DEPTH | | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" Concrete | 0.5' |
| | | | | | | | | 6" - CF Sand | 1.0' |
| | | | | | | | | Refusal | |

NOTE: Boring 1½' from abutment, 6'9" from curb.

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The Information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

Form SO-2 2/79

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 6

SECTION: Route 440 to Tonnelle Avenue

STATION: 89+52 OFFSET: 27' Lt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/13/80

INSPECTOR: Lord DATE COMPLETED: 6/13/80

| Elevation G.W.T. | | |
|---|---|---|
| 0 Hr. | | Date: |
| 24 Hr. | | Date: |
| ft. P.P. Installed | | Date: |

| CASING BLOWS | SAMPLE NO. DEPTH | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|
| | | | | | | 6" - Concrete | 0.5' |
| | | | | | | 6" - CF SAND. | 1.0' |
| | | | | | | Refusal | |
| | | | | | | NOTE: Boring 2½' from abutment, 7' from curb. | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

Form SO-2 2/79

# NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 7

SECTION: Route 440 to Tonnelle Avenue

STATION: 89+53 OFFSET: 22' Rt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/13/80

INSPECTOR: Lord DATE COMPLETED: 6/13/80

Elevation G.W.T.

0 Hr. Date:

24 Hr. Date:

ft. P.P. Installed Date:

| Depth | CASING BLOWS | SAMPLE NO. DEPTH | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | 6" - Concrete | 0.5' |
| | | | | | | | FILL - Black & Grey CF Sand, and CF Gravel, trace (+) Silt. | 3.0' |
| 5 | | | | | | | BOTTOM OF HOLE | |
| | | | | | | | NOTE: Boring 6½' from abutment, 2½' from curb. | |
| 10 | | | | | | | | |
| 15 | | | | | | | | |
| 20 | | | | | | | | |
| 25 | | | | | | | | |
| 30 | | | | | | | | |
| 35 | | | | | | | | |
| 40 | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

Form SO-2 2/79

# NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 8

SECTION: Route 440 to Tonnelle Avenue

STATION: 88+62 OFFSET: 24.5'Rt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/13/80

INSPECTOR: Lord DATE COMPLETED: 6/13/80

Elevation G.W.T.
0 Hr. Date:
24 Hr. Date:
_____ ft. P.P. Installed Date:

| CASING BLOWS | SAMPLE NO. | DEPTH | Blows on Spoon 0/6 6/12 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|
| | | | | | 6" - Concrete | 0.5' |
| | | | | | Grey & Brown CF Gravel, and CF Sand, trace (+) Silt. | 3.0' |
| | | | | | BOTTOM OF HOLE | |
| | | | | | NOTE: Boring 6' from abutment, 2' from curb. | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

Core Dia. _____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata _____

Inferred Change in Strata _____

Form SO-2 2/79

# NEW JERSEY DEPARTMENT OF TRANSPORTATION

ROUTE: 1 & 9T LOCAL NAME: Probe - R.R. Bridge at Newark Avenue TEST HOLE NO. 482W - 10

SECTION: Route 440 to Tonnelle Avenue

STATION: 88+62 OFFSET: 26.5'Rt. REFERENCE LINE: Route 1 & 9T CL GROUND LINE ELEVATION:

BORINGS MADE BY: Servillo DATE STARTED: 6/13/80

INSPECTOR: Lord DATE COMPLETED: 6/13/80

Elevation G.W.T.
0 Hr. Date:
24 Hr. Date:
ft. P.P. Installed Date:

| CASING BLOWS | SAMPLE NO. DEPTH | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|
| | | | | | | 6" - Concrete | 0.5' |
| | | | | | | Black & Grey CF Sand, and CF Gravel, little Silt. | 1.0' |
| | | | | | | Refusal | |
| | | | | | | NOTE: Boring 4' from abutment, 4' from curb. | |

Depth scale: 5, 10, 15, 20, 25, 30, 35, 40

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 2½" XXX |
| Nominal I.D. of Split Barrel Sampler | 1½" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against the State if he finds that the actual conditions do not conform to those indicated by this log.

New Jersey Department of Transportation

Bureau of Geotechnical Engineering

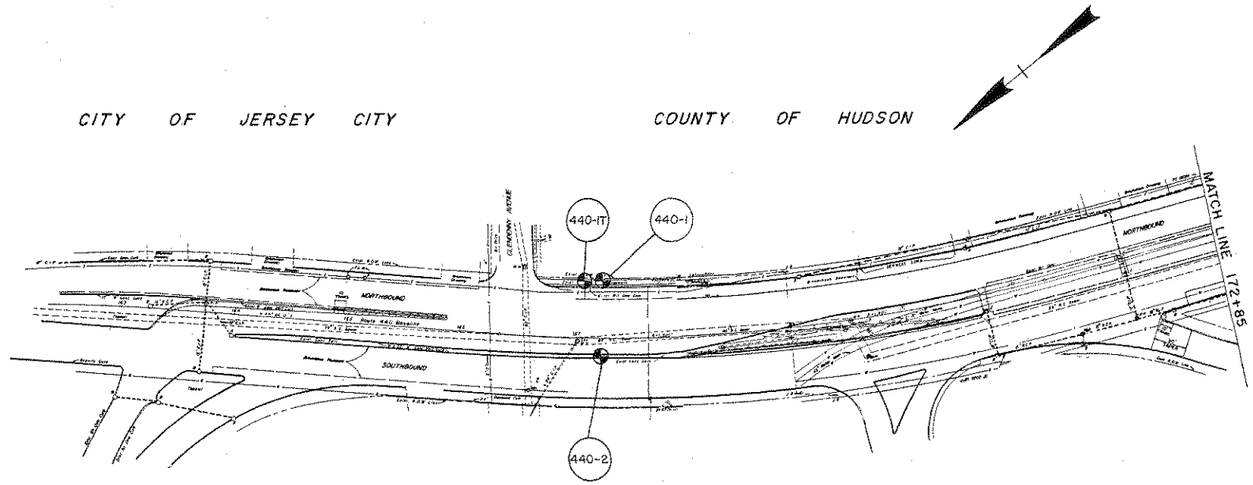
Core Dia. ______

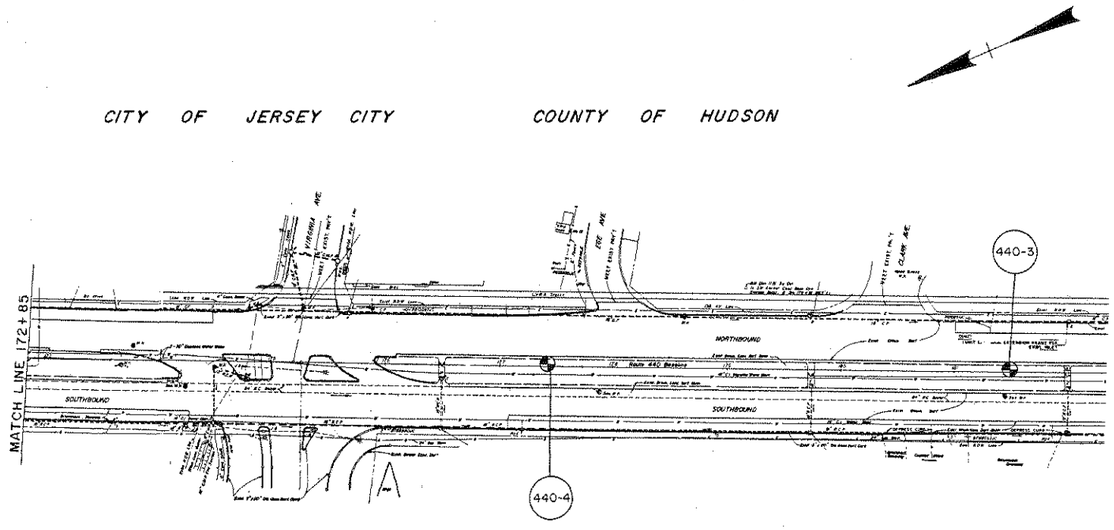
Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

# SITE B
## Soil Boring Logs and Boring Location Plans




60 0 60 120
SCALE IN FEET

NEW JERSEY DEPARTMENT OF TRANSPORTATION

# BORING LOCATION PLAN

SIGNS AND SIGN STRUCTURES
AT VARIOUS LOCATIONS
CONTRACT NO. 3
ROUTE 440
M.P. 23.25 TO M.P. 22.80

8/8

Made By: RC
Traced By: WTS
Checked By: LP
In Charge Of: PBPrentice
Reviewed By: [illegible]

ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-1T

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 167+29 OFFSET: 46.5' L REFERENCE LINE: Baseline GROUND LINE ELEVATION: 99.90

BORINGS MADE BY: Ray Feliciano, Jr. DATE STARTED: 11-5-87

INSPECTOR: Art Leong DATE COMPLETED: 11-5-87

Elevation G.W.T.
0 Hr. Date:
24 Hr. Date:
ft. P.P. Installed Date:

| Depth | CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0-6 | 6-12 | 12-18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Press (to 8') | | | | | | | | Pressed Casing to 8' | |
| 5 | | | | | | | | | | |
| | | S-1 | 8.0' | 9.5' | 6 | 3 | 3 | 0.33' | c-f GRAVEL, some (-) c-f Sand, trace Silt, Top - c-f GRAVEL | 10.5' |
| 10 | | T-1 | 10.0' | 12.0' | Press | | | 2.0' | Bottom - Grey Clayey SILT w/roots & fibers | |
| | | S-2 | 12.0' | 13.5' | 3 | 3 | 3 | 1.3' | SAME | 14.5' |
| | | T-2 | 13.5' | 15.5' | Press | | | 1.0' | SAME | |
| 15 | | S-3 | 15.5' | 17.0' | 4 | 5 | 6 | 1.3' | Grey m-f SAND, some (-) Silt | 17.0' |
| | | | | | | | | | Bottom of hole | |
| | | | | | | | | | 3" O.D. Split Spoon Sampler Used | |
| 20 | | | | | | | | | | |
| 25 | | | | | | | | | | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 2 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

# ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-1

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 167+32 OFFSET: 46.5' L REFERENCE LINE: Baseline GROUND LINE ELEVATION: 99.90

BORINGS MADE BY: Ray Feliciano, Jr. DATE STARTED: 11-4-87

INSPECTOR: Art Leong DATE COMPLETED: 11-5-87

Elevation G.W.T.
5 Hr. 92.50 Dated 11-5-87
Hole Closed Dated 11-5-87
ft. P.P. Installed Dated

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | S-1 | 0.0' | 1.5' | 9 | 8 | 8 | 1.0' | Black & brown c-f SAND, little m-f Gravel, little Silt | |
| 4 | | | | | | | | | |
| 14 | | | | | | | | | |
| 11 | | | | | | | | | |
| 5 16 | | | | | | | | | |
| 10 | S-2 | 5.0' | 6.5' | 6 | 4 | 4 | .75' | c-f GRAVEL, little (+) c-f Sand, trace Silt | |
| 11 | | | | | | | | | |
| 9 | | | | | | | | | |
| 8 | S-3 | 8.0' | 9.5' | 9 | 4 | 3 | .33' | m-f GRAVEL, some (+) c-f Sand, trace Silt (3 attempts) | 9.5' |
| 10 10 | | | | | | | | | |
| 5 | | 10.0' | 11.5' | 2 | 1 | 2 | .33' | No recovery (3 attempts) | |
| 5 | | | | | | | | | |
| 7 | | | | | | | | | |
| 10 | S-4 | 13.0' | 14.5' | W/H | 1 | 3 | 1.0' | Grey Clayey SILT w/fibers (Nose of spoon 1" of m-f Sand) | 14.5' |
| 11 | | | | | | | | | |
| 23 | S-5 | 15.0' | 16.5' | 3 | 3 | 6 | 1.1' | Grey f SAND, some Silt, w/roots | |
| 42 | | | | | | | | | |
| 78 | | | | | | | | | |
| 55 | | | | | | | | | |
| 32 | | | | | | | | Red brown c-f SAND, little f Gravel, little (-) Silt | 20.5' |
| ↑ | S-6A | 20.0' | 21.5' | 9 | 6 | 10 | 1.0' | Grey SILT & CLAY | |
| | S-6B | | | | | | | | 23.0' |
| | | | | | | | | | |
| Washed Ahead | | | | | | | | | |
| | S-7 | 25.0' | 26.5' | 16 | 20 | 23 | 1.1' | Red brown m-f SAND, trace Silt | |
| | | | | | | | | | 28.0' |
| ↓ | | | | | | | | | |
| 49 | S-8 | 30.0' | 31.5' | 10 | 11 | 14 | 1.0' | Red brown SILT, trace f Gravel, trace m-f Sand | |
| 55 | | | | | | | | | |
| 61 | | | | | | | | | |
| 72 | | | | | | | | | |
| 79 | | | | | | | | | |
| ↑ | S-9 | 35.0' | 36.5' | 24 | 15 | 20 | 1.1' | Red brown SILT, some (-) c-f Gravel, trace c-f Sand | |
| Mud | | | | | | | | | 38.0' |
| ↓ | | | | | | | | W/H = wt. of hammer | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 1 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

Core Dia. _____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Approximate Change in Strata _____

Inferred Change in Strata _____

# ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-1

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 167+32 OFFSET: 46.5' L REFERENCE LINE: Baseline GROUND LINE ELEVATION: 99.90

BORINGS MADE BY: Ray Feliciano,Jr. DATE STARTED: 11-4-87

INSPECTOR: Art Leong DATE COMPLETED: 11-5-87

Elevation G.W.T.

0 Hr. Date:

24 Hr. Date:

ft. P.P. Installed Date:

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| | S-10 | 40.0' | 41.5' | 10 | 10 | 23 | 1.0' | Red brown f SAND, some Silt, trace (+) f Gravel | 41.5' |
| | | | | | | | | Bottom of hole | |

5

10

15

20

25

30

35

40

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 1 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

# ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-2

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 167+32 OFFSET: 12' R REFERENCE LINE: Baseline GROUND LINE ELEVATION: 100.31

BORINGS MADE BY: Ray Feliciano,Jr DATE STARTED: 11-3-87

INSPECTOR: Art Leong DATE COMPLETED: 11-3-87

| Elevation G.W.T. | | Date |
|---|---|---|
| 0 Hr. | 92.51 | 11-3-87 |
| 24 Hr. | 93.01 | 11-4-87 |
| ft. P.P. Installed | | Date: |

| Depth | Casing Blows | Sample No. | Depth (from) | Depth (to) | Blows on Spoon 0-6 | 6-12 | 12-18 | Rec. | Sample ID and Profile Change | Strata |
|---|---|---|---|---|---|---|---|---|---|---|
| | 34 | | | | | | | | 18" Asphalt & Concrete | |
| | 9 | S-1 | 1.5' | 3.0' | 6 | 4 | 3 | 0.5' | Black & brown c-f SAND, some Silt, | |
| | 13 | | | | | | | | little m-f Gravel | |
| | 14 | | | | | | | | | |
| | 10 | | | | | | | | | |
| 5 | 11 | S-2 | 5.0' | 6.5' | 5 | 6 | 9 | 0.5' | Grey c-f SAND, little (-) m-f Gravel, | |
| | 13 | | | | | | | | trace (+) Silt | |
| | 15 | | | | | | | | | |
| | 8 | S-3 | 8.0' | 9.5' | 5 | 18 | 21 | 0.17' | One Piece of c Gravel (3 attempts) | |
| 10 | 12 | | | | | | | | | |
| | 27 | S-4 | 10.0' | 11.5' | 12 | 10 | 3 | 0.17' | c-f GRAVEL, little (+) c-f Sand, | |
| | 16 | | | | | | | | trace Silt (2 attempts) | 13.0' |
| | 12 | | | | | | | | | |
| | 17 | | | | | | | | | |
| 15 | 19 | | | | | | | | | |
| | 10 | S-5 | 15.0' | 16.5' | 1 | 0 | 1 | 0.75' | Brown PEAT | |
| | 10 | | | | | | | | | |
| | 14 | | | | | | | | | 19.0' |
| | 10 | | | | | | | | | |
| 20 | 17 | | | | | | | | | |
| | Washed Ahead | S-6 | 20.0' | 21.5' | 18 | 10 | 9 | 1.5' | Red brown m-f SAND, little c-f Gravel, little Clayey Silt | |
| 25 | | | | | | | | | Red brown Clayey SILT, little (+) m-f | |
| | | S-7 | 25.0' | 26.5' | 12 | 13 | 10 | 1.0' | Gravel, little (+) c-f Sand | 26.5' |
| | | | | | | | | | Bottom of hole | |
| 30 | | | | | | | | | | |
| 35 | | | | | | | | | | |
| 40 | | | | | | | | | | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 1 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Core Dia. ______

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ______

Inferred Change in Strata - - - - - -

# ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-3

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 181+50 OFFSET: 0.5' R REFERENCE LINE: Baseline GROUND LINE ELEVATION: 100.95

BORINGS MADE BY: Ray Feliciano, Jr. DATE STARTED: 11-3-87

INSPECTOR: Art Leong DATE COMPLETED: 11-3-87

Elevation G.W.T.
0 Hr. 92.65 Date: 11-3-87
24 Hr. 93.55 Hole Collapsed Date: 11-4-87
_____ ft. P.P. Installed Date:

| | CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 6/12 12/18 | | | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | S-1 | 0.0' | 1.5' | 2 | 6 | 8 | 1.25' | Brown m-f SAND, little (+) Silt, trace m-f Gravel (w/roots) | |
| | 15 | | | | | | | | | |
| | 17 | | | | | | | | | |
| | 19 | | | | | | | | | |
| 5 | 21 | | | | | | | | | |
| | 8 | S-2 | 5.0' | 6.5' | 3 | 4 | 3 | 0.75' | Brown m-f SAND, trace (+) Silt, trace m-f Gravel | |
| | 7 | | | | | | | | Brown & black m-f SAND, little Silt, | |
| | 6 | | | | | | | | | |
| | 5 | S-3A | 8.0' | 9.0' | 2 | 1 | 1 | 1.0' | trace f Gravel | 9.0' |
| 10 | 5 | S-3B | 9.0' | 9.5' | | | | | Brown PEAT | |
| | 7 | S-4 | 10.0' | 11.5' | 1 | 1 | 1 | 1.5' | SAME | |
| | 8 | S-5A | 11.5' | 12.5' | | | | | SAME | 12.5' |
| | 11 | S-5B | 12.5' | 13.0' | 1 | 2 | 3 | 1.0' | Grey m-f SAND, trace (+) Silt | |
| | 26 | | | | | | | | | |
| 15 | 19 | | | | | | | | | |
| | 20 | S-6 | 15.0' | 16.5' | 9 | 4 | 9 | 1.0' | Grey m-f SAND, some Silt | |
| | 27 | | | | | | | | | |
| | 35 | | | | | | | | | |
| | 52 | | | | | | | | | |
| 20 | 55 | | | | | | | | | |
| | | S-7 | 20.0' | 21.5' | 7 | 9 | 11 | 1.3' | Red brown f SAND, some (+) Silt | 22.0' |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 25 | | | | | | | | | | |
| | | S-8 | 25.0' | 26.5' | 2 | 6 | 8 | 0.75' | Red brown Clayey SILT, little (-) c-f Sand, trace f Gravel | 27.0 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 30 | | | | | | | | | | |
| | | S-9 | 30.0' | 31.5' | 22 | 52 | 60 | 1.5' | Red brown f SAND, little (+) Silt | 31.5' |
| | | | | | | | | | Bottom of hole | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 35 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 40 | | | | | | | | | | |

Drilling Mud Used

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 1 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

Core Dia. _____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Approximate Change in Strata _____

Inferred Change in Strata _____

ANDREWS & CLARK, INC.

ROUTE: HES-SORT North LOCAL NAME: Route 440 - Jersey City TEST HOLE NO. 440-4

SECTION: Signs and Sign Structures at Various Locations (Assumed Datum EL. 100.00)

STATION: 177+27 OFFSET: 0.5' L REFERENCE LINE: Baseline GROUND LINE ELEVATION: 101.28

BORINGS MADE BY: Ray Feliciano, Jr. DATE STARTED: 11-2-87

INSPECTOR: Art Leong DATE COMPLETED: 11-2-87

Elevation G.W.T.

| | | Date |
|---|---|---|
| 0 Hr. | 94.78 | 11-2-87 |
| | Hole Closed | 11-2-87 |
| | ft. P.P. Installed | |

| CASING BLOWS | SAMPLE NO. | DEPTH | | Blows on Spoon 0/6 | 6/12 | 12/18 | REC. | Sample ID and Profile Change | |
|---|---|---|---|---|---|---|---|---|---|
| 7 | S-1 | 0.0' | 1.5' | 4 | 8 | 11 | 1.0' | Brown c-f SAND, little (+) Silt, trace (+) | |
| 15 | | | | | | | | m-f Gravel (fill) | |
| 18 | | | | | | | | | |
| 15 | | | | | | | | | |
| 10 | | | | | | | | | |
| 8 | S-2 | 5.0' | 6.5' | 5 | 4 | 4 | 0.75' | Brown f SAND, trace (+) Silt | |
| 6 | | | | | | | | (1/4" Clayey Silt Seam) | |
| 4 | | | | | | | | | |
| 4 | S-3 | 8.0' | 9.5' | 2 | 2 | 1 | 0.5' | Black c-f GRAVEL, little c-f Sand, | |
| 4 | | | | | | | | trace (+) Silt | |
| 9 | S-4 | 10.0' | 11.5' | 2 | 1 | 1 | 0.42' | SAME | |
| 6 | | | | | | | | | |
| 4 | | | | | | | | | |
| 7 | | | | | | | | | |
| 16 | | | | | | | | | |
| 27 | S-5 | 15.0' | 16.5' | 10 | 15 | 19 | 1.0' | Grey m-f SAND, trace Silt | |
| 34 | | | | | | | | | |
| 43 | | | | | | | | | |
| 49 | | | | | | | | | |
| 51 | | | | | | | | | |
| 48 | S-6 | 20.0' | 21.5' | 10 | 14 | 12 | 1.0' | Red brown c-f SAND, little (+) m-f | |
| 46 | | | | | | | | Gravel, trace Silt | |
| 67 | | | | | | | | | |
| 110 | | | | | | | | | |
| 103 | | | | | | | | | |
| | S-7 | 25.0' | 26.5' | 22 | 21 | 30 | 1.0' | Red brown f SAND, some (+) Silt | 26.5' |
| | | | | | | | | Bottom of hole | |

| | |
|---|---|
| Nominal I.D. of Drive Pipe | 4" |
| Nominal I.D. of Split Barrel Sampler | 1 3/8" |
| Weight of hammer on Drive Pipe | 300 lbs. |
| Weight of hammer on Split Barrel Sampler | 140 lbs. |
| Drop of hammer on Drive Pipe | 24" |
| Drop of hammer on Split Barrel Sampler | 30" |

The Contractor shall make his own subsurface investigations in order to satisfy himself of the actual subsurface conditions. The information contained on this log is not warranted to show the actual subsurface conditions. The Contractor agrees that he will make no claims against A & C, Inc. if he finds that the actual conditions do not conform to those indicated by this log.

Andrews & Clark, Inc.

Core Dia. ____

Soil descriptions represent a field identification after D.M. Burmister unless otherwise noted.

Approximate Change in Strata ____

Inferred Change in Strata - - - -

# SITE C
# Soil Boring Logs and Boring Location Plans

| BORING NO. | ℄ STATION | OFFSET |
|---|---|---|
| U/D 1 | 303+30 | 215' LT. |
| 2 | 303+90 | 5' RT. |
| 3 | 303+17 | 395' RT. |
| 4 | 300+70 | 35' RT. |
| U/D 5 | 297+87 | 50' LT. |
| 6 | 296+65 | 295' LT. |
| 7 | 290+80 | 705' LT. |
| 8 | 295+35 | 83' RT. |
| 9 | 292+20 | 83' RT. |
| 16 | 298+45 | 240' LT. |
| 17 | 294+70 | 355' LT. |
| U/D 18 | 299+25 | 510' LT. |
| 19 | 298+85 | 305' RT. |
| 20 | 293+90 | 705' LT. |
| 21 | 303+80 | 505' LT. |
| 22 | 291+70 | 75' LT. |
| 26 | 292+65 | 325' LT. |
| 27 | 290+60 | 298' LT. |
| 28 | 300+90 | 505' RT. |

MODIFIED PIERHEAD AND BULKHEAD LINE APPROVED BY THE ACTING SECRETARY OF WAR DECEMBER 9, 1929

NEW JERSEY STATE HIGHWAY DEPARTMENT

ROUTE 440 FREEWAY

# BORING CONTRACT – B

CLARKE, HARTMAN & DUNN, INC.
CONSULTING ENGINEERS
JERSEY CITY NEW JERSEY

SCALE: 1" = 100'
DATE
DRAWING No. 3

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

Started: Date 6/15/65 Time 1530
Finished: Date 6/17/65 Time 1200

JOB NO. Rte 440
HOLE NO. U/D.5
Sheet No. 1 of 3

Client N. J. S. H. D.

Location Route 440 Freeway Newark Bay, Contract B.

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | | | | | | | |
| 2 | -2.3' | | | | | MLW | |
| 3 | | | | | | WATER | |
| 4 | -4.0 | | | | | 4'0" | |
| 5 | | P | S1 | P | P | Gr. O & S layers of f S | Rec 24" |
| 6 | | P | | P | P | | |
| 7 | | P | S2 | P | P | Gray Organic SILT with | |
| 8 | | P | | P | P | do fine SAND layers. | Rec 24" |
| 9 | | 6 | S3 | P | P | | |
| 10 | -10.0 | 8 | | 7 | 5 | do 10'0" | Rec 24" |
| 11 | | 7 | S4 | 8 | 8 | Gr. br f S, t. g | Rec 24" |
| 12 | | 9 | | | | | |
| 13 | | 13 | | | | Gray brown fine SAND, | |
| 14 | | 15 | | | | trace Silt | |
| 15 | | 24 | | | | | |
| 16 | -16.0 | 22 | S5A | 7 | 9 | Gr br f S, t. g 16'0" | Rec 24" |
| 17 | | 18 | S5B | 14 | 13 | Rd Gy C l.+, cfS, l.f.G. | |
| 18 | | 45 | | | | | |
| 19 | | 45 | | | | | |
| 20 | | 62 | | | | (See Pg 2 for stratum description) | |

Boring Contractor WARREN GEORGE INC. Driller P. Hopkins Helper C. Kennedy & J. Hammond
Casing I.D. 4" Hammer Weight 300 lb. Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 3"
Supervisor A. Mendolia

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D 5
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 67 | | | | | |
| 22 | | 67 | S6 | 9 13 | 10 15 | Rd Sy C, s.m fG | Rec 24" |
| 23 | | 100 | | | | | |
| 24 | | 130 | U1 | P P | P P | Rd Sy C, t. f G | Rec 20" |
| 25 | | 135 | | | | | |
| 26 | | 137 | S7 | 7 13 | 11 15 | Rd Sy C, t. f G | Rec 24" |
| 27 | | 133 | | | | | |
| 28 | | 185 | | | | | |
| 29 | | 191 | U2 | P P | P P | Rd Sy C, t. f G | Rec 22" |
| 30 | | 203 | | | | | |
| 31 | | 216 | S8 | 8 13 | 12 17 | Rd Sy C, t. f G | Rec 24" |
| 32 | | 224 | | | | | |
| 33 | | 197 | | | | | |
| 34 | | 241 | | | | Red Silty CLAY, | |
| 35 | | 265 | | | | | |
| 36 | | 248 | S9 | 6 12 | 8 14 | Rd Sy C, t.- f G | Rec 24" |
| 37 | | 257 | | | | | |
| 38 | | 310 | | | | | |
| 39 | | 335 | | | | little fine Gravel. | |
| 40 | | 327 | | | | | |
| 41 | | 209 | U3 | P P | P P | Rd Sy C, s. m f G | Rec 24" |
| 42 | | 271 | | | | | |
| 43 | | 286 | S10 | 7 11 | 9 15 | Rd Sy C, s.m f G | Rec 24" |
| 44 | | 294 | | | | | |
| 45 | | 312 | | | | | |
| 46 | | 271 | S11 | 5 8 | 7 10 | Rd C, t.f G, ptgs Sy | Rec 24" |
| 47 | | 303 | | | | | |
| 48 | | 330 | | | | | |
| 49 | | 316 | | | | | |
| 50 | | 375 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D 5
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 287 | S 4 | P P | | Rd Sy C, s.m f G | Rec 22" |
| 52 | | 303 | | | | | |
| 53 | | 316 | S 12 | 9 11 | | Rd Sy C, s. f G | Rec 24" |
| 54 | | 321 | | 12 13 | | | |
| 55 | | 340 | | | | Red Silty CLAY, | |
| 56 | | 307 | S 13 | 5 7 | | Rd Sy C, ptgs S, vvd. | Rec 24" |
| 57 | | 331 | | 8 7 | | | |
| 58 | | 346 | | | | little fine Gravel. | |
| 59 | | 354 | | | | | |
| 60 | | 346 | | | | | |
| 61 | | 310 | S | P P | | | |
| 62 | | 337 | | P P | | Rd Sy C, t. f G, ptgs f S, vvd | Rec 22" |
| 63 | | 355 | S 14 | 7 8 | | Rd Sy C, t. f G, ptgs f S, vvd | Rec 24" |
| 64 | | 407 | | 8 10 | | | |
| 65 | | 386 | | | | | |
| 66 | -66.0 | 380 | S 15A | 10 17 | | Rd Sy C, s. c f G, w. rk fgmts 66'0" | Rec 24" |
| 67 | | 500+ | S 15B | 109 85 | | Rd f S, t. f G & rk fgmts | |
| 68 | | 500+ | | | | | |
| 69 | | | S 16 | 87 62 | | Rd f S, s. m f G & rk fgmts 70'0" | Rec 24" |
| 70 | -700 | | | 80 120 | | | |
| 71 | | | | | | End of boring at 70'0" | |
| 72 | | | | | | Red fine SAND, little fine | |
| 73 | | | | | | Gravel & rock fragments. | |
| 74 | | | | | | | |
| 75 | | | | | | | |
| 76 | | | | | | | |
| 77 | | | | | | | |
| 78 | | | | | | | |
| 79 | | | | | | | |
| 80 | | | | | | | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte 440
HOLE NO. 8
Sheet No. 1 of 4

Started: Date 6/11/65 Time 0830
Finished: Date 6/15/65 Time 1400

Client N. J. S. H. D. Location Route 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | M.L.W. WATER 5'0" | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | -5.0 | | | | | | |
| 6 | | | | P P | | Gr OS Gray Organic SILT. | Rec 24" |
| 7 | | | | P P | | | |
| 8 | | | $S_2$ | P P | | Gr OS | Rec 24" |
| 9 | | Push | | P P | | | |
| 10 | -10.0 | | $S_{3A}$ | P P | | Gr OS 10'0" | |
| 11 | | | $S_{3B}$ | P P | | Br f S, l. + g Brown fine SAND, | Rec 24" |
| 12 | | 10 | $S_4$ | 8 7 | | | |
| 13 | | 15 | | 7 6 | | Br f S, l. + g little(+) Silt. | Rec 24" |
| 14 | | 15 | $S_5$ | 7 8 | | | |
| 15 | | 14 | | 8 7 | | Br f S, l. + g | Rec 24" |
| 16 | -16.0 | 19 | $S_{6A}$ | 6 3 | | Br f S, l. + g 16'0" | Rec 24" |
| 17 | | 16 | $S_{6B}$ | 7 9 | | Rd Sy C, t. f G, lenses f S | |
| 18 | | 19 | $S_7$ | 8 14 | | | |
| 19 | | 24 | | 11 16 | | Rd Sy C, t. f G. | Rec 24" |
| 20 | | 25 | | | | (See Pg 2 for stratum description) | |

Boring Contractor WARREN GEORGE INC. Driller P. Hopkins Helper J. Hammond
Casing: I.D. 2-1/2" Hammer Weight 300 lb. Hammer Drop 24" G. Kennedy
Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 2"
Supervisor A. Mendolla

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 8
Sheet No. 2 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 22 | | | | | |
| 22 | | 32 | U11 | 6 12 | | | Press = 24" Lost tube, drove spoon. Rec 24" |
| 23 | | 40 | S8 | 11 12 | | Rd Sy C, s. m f G | |
| 24 | | 49 | | | | | |
| 25 | | 46 | | | | | |
| 26 | | 77 | | | | | |
| 27 | | 80 | U21 | P P | | | Press = 24" No. Rec. |
| 28 | | 63 | | P | | | |
| 29 | | 54 | U3 | P P | | | |
| 30 | | 78 | | P P | | Rd Sy C, s. cm G | |
| 31 | | 85 | | | | | Press = 24" Rec 13" Tube bent taken only for ATT. |
| 32 | | 74 | | | | | |
| 33 | | 112 | | | | Red Silty CLAY, little (+) medium to fine Gravel. | |
| 34 | | 130 | | | | | |
| 35 | | 170 | S9 | 7 10 | | | |
| 36 | | 163 | | 13 14 | | | |
| 37 | | 210 | S10 | 11 12 11 | | Rd Sy C, s. f G | Rec 24" |
| 38 | | 174 | | 13 | | | |
| 39 | | 186 | | | | | |
| 40 | | 216 | | | | | |
| 41 | | 231 | U4 | P P | | | |
| 42 | | 191 | | P P | | Rd Sy C, t. f G | Rec 18" |
| 43 | | 207 | | | | | |
| 44 | | 188 | | | | | |
| 45 | | 174 | | | | | |
| 46 | | 165 | S11 | 10 17 | | | |
| 47 | | 194 | | 21 23 | | | |
| 48 | | 210 | S12 | 13 14 | | Rd Sy C, s.c m G | |
| 49 | | 221 | | 13 14 | | | Rec 24" |
| 50 | | 186 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 8
Sheet No. 3 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 219 | | | | | |
| 52 | | 215 | | | | to | |
| 53 | | 198 | S13 | 13 14 | | Rd C, t. m f G | Rec 24" |
| 54 | | 207 | | 16 17 | | | |
| 55 | | 231 | | | | | |
| 56 | | 240 | | | | | |
| 57 | | 237 | | | | | |
| 58 | | 215 | S14 | 12 35 132 | | Rd C, a. m f G w. rk fgmts | Rec 12" |
| 59 | | 241 | | 22 | | | |
| 60 | | 257 | | | | red CLAY, little (+) medium | |
| 61 | | 218 | | | | to fine Gravel. | |
| 62 | | 184 | | | | | |
| 63 | | 217 | S15 | 10 9 | | Rd C w. ptgs S | Rec 24" |
| 64 | | 214 | | 6 8 | | | |
| 65 | | 241 | | | | | |
| 66 | | 254 | | | | | |
| 67 | | 237 | | | | | |
| 68 | | 218 | S16 | 8 7 | | Rd C, s. m f G | Rec 24" |
| 69 | | 225 | | 8 14 | | | |
| 70 | | 236 | | | | | |
| 71 | -71.0 | 240 | | | | 71'0" | Stratum change from washing out |
| 72 | | 225 | | | | Red fine SAND, trace Silt, some | |
| 73 | | 211 | | | | medium to fine Gravel. | |
| 74 | | 230 | S17 | 11 19 | | Rd fS, t. S, s. m f G | |
| 75 | -75.0 | 196 | | 21 24 | | 75'0" | Rec 24" |
| 76 | | 251 | S18 | 51 35 | | Rd cfG s. +, fS, t. S | |
| 77 | | 274 | | 73 53 | | Red coarse to fine GRAVEL some (+) | Rec 24" |
| 78 | | 312 | | | | fine Sand, trace Silt. | |
| 79 | | 416 | | | | | |
| 80 | | 500 | | | | | |

# BORING LOG

JOB NO. Pte. 440
HOLE NO. 8
Sheet No. 4 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 81 | | | | 68 65 | | Rd c f G s. ~~+~~, f S, t. ~~S~~ | |
| 82 | -82.0 | | S19 | 74 118 | | w. rk fgmts (See Pg 3 for description) 82'0" | Rec 24" |
| 83 | | | | | | End of boring at 82'0" | |
| 84 | | | | | | | |
| 85 | | | | | | | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440

HOLE NO. 9

Sheet No. 1 of 3

Started: Date 6/28/65 Time 10:00

Finished: Date 6/28/65 Time 4:00

Client N. J. S. H. D.

Location Route 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"

Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| | | Ground Surface | | | | | |
| 0 | | | | | | | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | M. L. W. | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | -5.0 | | | | | WATER | |
| | | P | | P | | 5'0" | |
| 6 | | P | $S_1$ | P | P | | |
| 7 | | P | | P | P | Bk O g | Rec 24" |
| 8 | | P | | P | P | | Rec 24" |
| | | P | $S_2$ | P | P | Bk O g | |
| 9 | | P | | P | P | Black Organic SILT. | Rec 24" |
| 10 | | P | $S_3$ | P | P | | |
| 11 | | P | | P | P | Bk O g | |
| 12 | | P | $S_4$ | P | P | | |
| 13 | -13.0 | P | | P | P | Gr O g, t. f S, w. occ. Veg. Shls. | |
| | | | | | | 13'0" | Rec 24" |
| 14 | | 15 | $S_5$ | 6 | 6 | Grav fine SAND, trace (+) Silt. | |
| 15 | | 8 | | 7 | 5 | | SAND in NOSE of spoon Picked up blow here also. |
| 16 | | 13 | | | | Gr f S, t. - g. | Rec 24" |
| 17 | -17.5 | 25 | | | | | |
| | | 29 | | | | 17'6" | |
| 18 | | 30 | | | | (See Pg 2 for stratum description. | Wash tunned to red. |
| 19 | | | | | | | |
| 20 | | 20 | $S_6$ | 10 | | Rd g s -, f S, t. f G. | |

Boring Contractor WARREN GEORGE INC. Driller P. Hopkins Helper J. Hammond & G. Kennedy

Casing: I.D. 2-1/2" Hammer Weight 300 lb. Hammer Drop 24"

Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 2"

Supervisor A. Mendolla

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 9
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 25 | S6 | 17 20 | | Red SILT some (-), fine Sand, trace fine Gravel. | Rec 24" |
| 22 | | 37 | | | | | |
| 23 | | 46 | | | | | |
| | | | | | | 23' | Clay began to wash up. Rec 24" |
| 24 | | 42 | | | | | |
| 25 | | 36 | S7 | 9 11 | | Rd Sy C, t+ c f G. | |
| 26 | | 35 | | 14 17 | | | |
| 27 | | 41 | | | | | |
| 28 | | 38 | | | | | |
| 29 | | 38 | U1 | P P | | | |
| 30 | | 47 | S8 | 10 11 | | Rd Sy C, t+ c f G. | Rec 12" |
| 31 | | 51 | | 15 16 | | | Rec 24" |
| 32 | | 62 | | | | | |
| 33 | | 85 | | | | Red Silty CLAY, trace (+) | |
| 34 | | 92 | | | | | |
| 35 | | 87 | | | | | |
| 36 | | 110 | S9 | 8 13 | | Rd Sy C, t+ c m G. | Rec 24" |
| 37 | | 106 | | 12 13 | | | |
| 38 | | 124 | | | | | |
| 39 | | 119 | | | | medium to fine Gravel. | |
| 40 | | 157 | | | | | |
| 41 | | 180 | S10 | 9 10 | | Rd Sy C, t+ c m G, lens f S. | Rec 24" |
| 42 | | 161 | | 12 16 | | | |
| 43 | | 148 | | | | | |
| 44 | | 173 | | | | | |
| 45 | | 196 | | | | | |
| 46 | | 177 | S11 | 10 14 | | Rd Sy C, t+ cm G, lens f S. | Rec 24" |
| 47 | -23.0 | 210 | | 12 17 | | | |
| 48 | | 224 | | | | | |
| 49 | | 250 | | | | | |
| 50 | | 284 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 9
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 206 | S12 | 8 8 10 | | Rd S y C, t. + c m G. | Rec 24" |
| 52 | | 184 | | 14 | | | |
| 53 | | 192 | | | | Red Silty CLAY, trace (+) | |
| 54 | | 211 | | | | | |
| 55 | | 215 | | | | | |
| 56 | | 186 | S13 | 7 9 10 | | Rd S y C, t. + c m G. | Rec 24" |
| 57 | | 194 | | 15 | | | |
| 58 | | 259 | | | | coarse to fine Gravel. | |
| 59 | | 229 | | | | | |
| 60 | | 262 | | | | | |
| 61 | | | S14 | 7 9 14 | | Rd S y C, t. c m G. | Rec 24" |
| 62 | -62.0 | | | 16 | | 62' | |
| 63 | | | | | | Boring ended at 62' | |
| 64 | | | | | | | |
| 65 | | | | | | | |
| 66 | | | | | | | |
| 67 | | | | | | | |
| 68 | | | | | | | |
| 69 | | | | | | | |
| 70 | | | | | | | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 22
Sheet No. 1 of 2

Started: Date 6/26/65 Time 8:20
Finished: Date 6/26/65 Time 3:35

Client N. J. S. H. D.

Location Route 440 Freeway
Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | M. L. W. WATER. | |
| 3 | | | | | | | |
| 4 | -4.0 | | | | | 4'0" | |
| 5 | | P | S 1 | P P | | B K O S. | Rec 10" |
| 6 | | P | | P P | | | |
| 7 | | P | S 2 | P P | | Black Organic SILT | |
| 8 | | P | | P P | | B K O S. | Rec 12" Driller washed 9' instead of 8' |
| 9 | -9.0 | P | | | | 9'0" | |
| 10 | | 20 | S 3 | 10 11 | | Gr f S, l. br S. | Rec 14" |
| 11 | | 19 | | 8 9 | | | |
| 12 | | 20 | | | | | |
| 13 | | 21 | | | | Gray fine SAND, little Silt. | |
| 14 | | 21 | | | | | |
| 15 | | 18 | S 4 | 8 7 | | Br f S, l. br S. | Rec 16" |
| 16 | | 21 | | 6 8 | | | |
| 17 | | 26 | | | | | |
| 18 | | 27 | | | | | |
| 19 | | 30 | | | | | |
| 20 | | 33 | S 5 | 7 10 | | Gr br mf + S, t. S, t.f G. | Rec 24" |

Boring Contractor WARREN GEORGE INC. Driller P. Hopkins Helper C. Kennedy
Casing: I.D. 2-1/2" Hammer Weight 300 lb. Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 3
Supervisor Thomas Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 22
Sheet No. 2 of 2

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 35 | S 5 | 12 9 | | | |
| 22 | | 46 | | | | | |
| 23 | 23.0 | 54 | | | | (See Pg 1 for description 23'0" | Break from Wash water |
| 24 | | 60 | | | | | |
| 25 | | 62 | S 6 | 6 16 | 11 17 | Br S y C, t. f G. | Rec 24" |
| 26 | | 86 | | | | | |
| 27 | | 111 | | | | | |
| 28 | | 93 | | | | | |
| 29 | | 77 | | | | | |
| 30 | | 101 | U 1 | P P | P P | Brown Silty CLAY, trace medium to fine Gravel. | Press 24" Rec 15" |
| 31 | | 92 | | | | | |
| 32 | | 104 | S 7 | 7 10 | 10 12 | Br S y C, t. mf + G. | Rec 24" |
| 33 | | 91 | | | | | |
| 34 | | 108 | | | | | |
| 35 | | 118 | S 8 | 8 10 | 11 13 | Br S y C, t. m f G. | Rec 18" |
| 36 | | 121 | | | | | |
| 37 | | 132 | | | | | |
| 38 | | 157 | | | | | |
| 39 | | 170 | | | | | |
| 40 | | 178 | U 2 | P P | P P | | Press 18" Rec 14" |
| 41 | | 168 | | | | | |
| 42 | | | S 9 | 11 18 | 13 15 | | |
| 43 | 43.0 | | | | | Br S y C, t. m - f G. 43'0" | Rec 18" |
| | | | | | | End of boring at 43'0" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 27
Sheet No. 1 of 1

Started: Date 7/1/65 Time 9:30
Finished: Date 7/1/65 Time 11:45

Route 440 Freeway
Client N. J. S. H. D. Location Newark Bay, Contract B

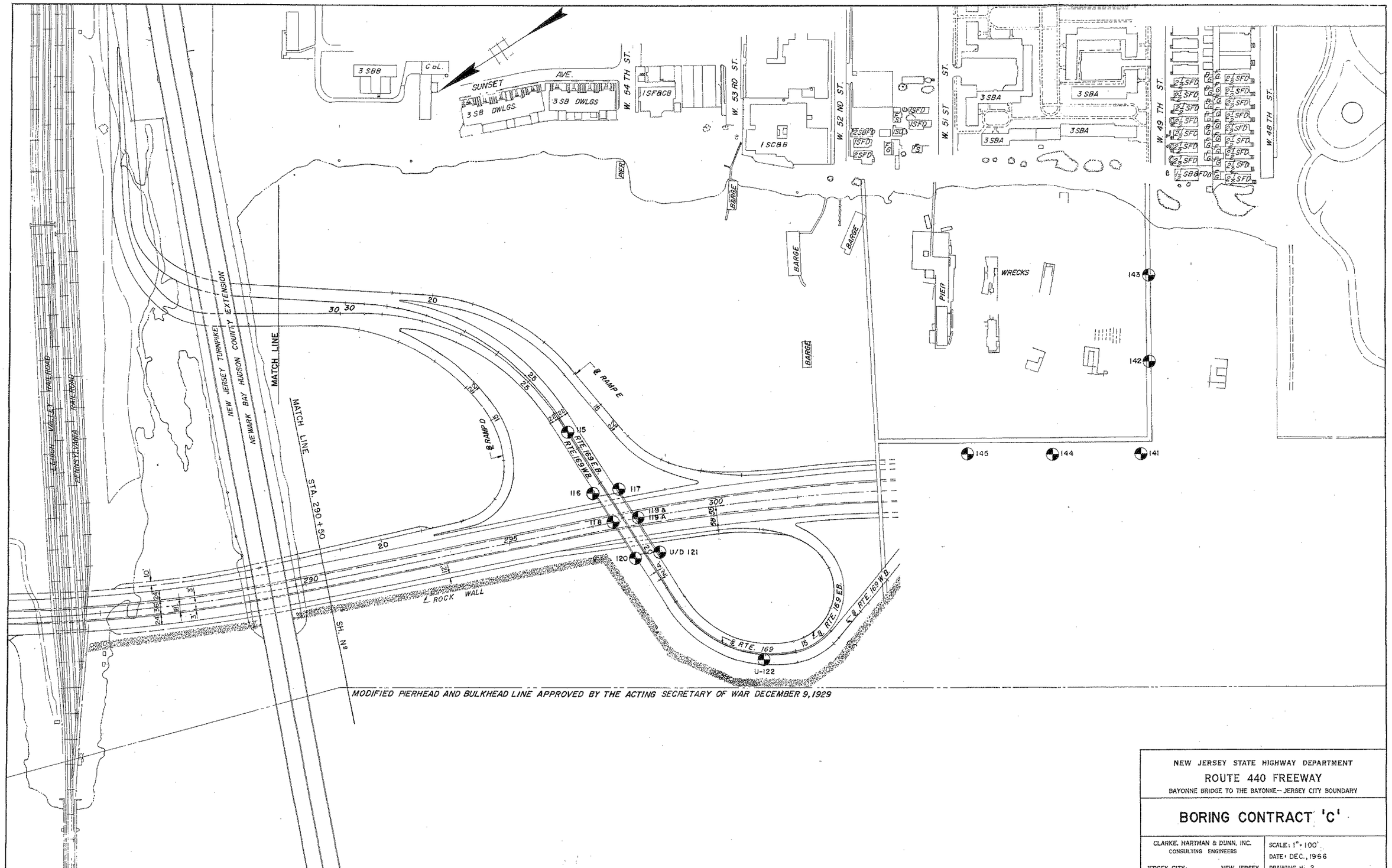
Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | | | | | | | |
| 2 | -2.3 | | | | | WATER | |
| 3 | -3.0 | | | | | M. L. W. 3'0" | |
| 4 | | P | S1 | P | P | BK O S, Black Organic SILT | Rec 12" |
| 5 | | P | | P | P | | Rec 24" |
| 6 | | P | S2 | P | P | BK O S. | |
| 7 | | P | | P | P | | |
| 8 | | P | S3 | P | P | BK O S & dec Veg. | Rec 18" |
| 9 | | P | | P | P | | |
| 10 | -10.0 | P | S4A | P | P | BK O S & dec Veg. 10'0" | |
| 11 | | P | S4B | 2 | 4 | Gr bk S, a. - f S. | Rec 15" |
| 12 | | 14 | | | | Gray black SILT, and fine SAND. | |
| 13 | | 11 | | | | | |
| 14 | -14.0 | | S5A | 4 | 8 | Gr bk S, a. f S. 14'0" | Rec 20" |
| 15 | -15.0 | | S5B | 8 | 14 | Brown medium to fine SAND, some Br mf S, s. S. Silt. | |
| | | | | | | Broing ends 15'0" | |

Boring Contractor WARREN GEORGE INC. Driller P. Spicirich Helper H. Fredickson
Casing: I.D. 2-1/2" Hammer Weight 300 lb. Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 3"
Supervisor T. Banta




NEW JERSEY STATE HIGHWAY DEPARTMENT

ROUTE 440 FREEWAY

BAYONNE BRIDGE TO THE BAYONNE—JERSEY CITY BOUNDARY

# BORING CONTRACT 'C'

CLARKE, HARTMAN & DUNN, INC.
CONSULTING ENGINEERS
JERSEY CITY NEW JERSEY

SCALE: 1" = 100'
DATE: DEC., 1956
DRAWING No. 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 115
Sheet No. 1 of 3

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 296+90 @ 440, 235' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Skid Rig *Driller & Helper(s)* Ed Frich, Dick Kerr

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Date* | 10-10-66 | 10-11-66 | | | | | | |
| *Time Started* | 1:00 PM | 8:00 AM | | | | | | |
| *Time Finished* | 4:30 PM | 12:00PM | | | | | | |
| *Weather* | Cldy-Wndy | Sny-Cl | | | | | | |
| *Depth Reached* | 40' | 70' | | | | | | |

*Ground Elevation* +2.6 *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 57' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 360 lb. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Water Level Casing out (3'2")

*INSPECTOR* S. Gimas *ENGINEER* _____

Boring No. 115
Sheet No. 1 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 115
*Sheet No.* 2 *of* 3

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Ramp I69 Interchange Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 296+90 ℄ 440, 235' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. = +2.6' |
| | 5 | 1 | 2 | 1 | 0'-2' | | Gray Brown fine (+) to med. Sand trace (-) |
| | 9 | 3 | 5 | | | | fine Gravel |
| | 12 | | | | | | |
| | 8 | | | | | | |
| | 6 | | | | | | |
| | 7 | 2 | 1 | 2 | 5'-7' | | SAME AS ABOVE |
| | 5 | 2 | 1 | | | | |
| | 5 | | | | | | |
| | 6 | | | | | | |
| | 6 | | | | | | |
| | 7 | 1 | 1 | 3 | 10'-12' | | SAME AS ABOVE |
| | 8 | 0 | 1 | | | | |
| | 8 | | | | | | |
| -11.4 | 9 | | | | | | |
| | 15 | | | | | * | |
| | 23 | 7 | 9 | 4 | 15'-17' | | Brown fine (+) to med. Sand little Silt |
| | 30 | 11 | 15 | | | | |
| | 34 | | | | | | |
| | 32 | | | | | | |
| | 24 | | | | | | |
| -18.4 | 28 | 5 | 8 | 5A | 20'-22' | | Red Brown fine (-) to med. Sand little Silt |
| | 26 | 12 | 15 | 5B | | * | Reddish Brown stiff Clayey SILT |
| | 32 | | | | | | trace (+) fine Gravel trace (-) fine Sand |
| | 35 | | | | | | |
| | 35 | | | | | | |
| | 33 | 4 | 5 | 6 | 25'-27' | | Red Brown stiff silty CLAY trace fine (+) to |
| | 36 | 8 | 8 | | | | med. Gravel |
| | 41 | | | | | | |
| | 41 | | | | | | |
| | 41 | | | | | | |
| | 42 | 2 | 3 | 7 | 30'-32' | | Red Brown silty CLAY trace fine (+) Gravel |
| | 43 | 5 | 7 | | | | trace (-) fine Sand |
| | 47 | | | | | | |
| | 38 | | | | | | |
| | 38 | | | | | | |
| | 65 | 6 | 6 | 8 | 35'-37' | | Red Brown silty CLAY trace (+) fine to med. |
| | 59 | 8 | 8 | | | | Gravel trace (+) fine Sand |
| | 56 | | | | | | |
| | 59 | | | | | | |
| | 109 | | | | | | |

*Boring No.* 115
*Sheet No.* 2 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 115
*Sheet No.* 3 *of* 3

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Ramp Intersection Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 296+90 ℄ 440, 235' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 122 | 5 | 7 | 9 | 40'-42' | | Red Brown very stiff Silty CLAY trace (-) |
| | 105 | 9 | 10 | | | | med. Gravel trace (-) fine Sand |
| | 105 | | | | | | |
| | 97 | | | | | | |
| | 112 | | | | | | |
| | 113 | 4 | 8 | 10 | 45'-47' | | Red Brown very stiff Silty CLAY trace fine |
| | 128 | 9 | 9 | | | | Gravel trace (-) fine Sand |
| -45.0 | 187 | | | | | | |
| | 170 | | | | | | |
| | 234 | | | | | | |
| | 188 | 13 | 14 | 11 | 50'-52' | | Red Brown hard SILT & CLAY some fine to Coarse |
| | 187 | 27 | 26 | | | | Gravel some Sand |
| | 214 | | | | | | |
| | 216 | | | | | | |
| | 240 | | | | | | |
| | | 8 | 9 | 12 | 55'-57' | | Red Brown hard SILT & CLAY some fine (+) to |
| -54.4 | | 16 | 21 | | | | med. Gravel some Sand |

*Boring No.* 115
*Sheet No.* 3 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 116
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection on Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+21, 75' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Skid Rig *Driller & Helper(s)* Ed Fritch
Dave Nelson

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10/24/66 | 10/25/66 | 10/26/66 | 10/27/66 | | |
| *Time Started* | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | | |
| *Time Finished* | 4:15 PM | 4:00 PM | 4:00 PM | 4:00 PM | | |
| *Weather* | Cl-Snv | Snv-Wrm | Snv-Wrm | Snv-Wrm | | |
| *Depth Reached* | 40' | 70' | 85' | 106' | | |

*Ground Elevation* +8'7m *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # 7 | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 101 | | | | | | | | 5 | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Washing ahead approved by N.J. State Highway Department Engineer Dean Kerr. Washing ahead started at 40'

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 116
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 116
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn,
*Project Location* Rte. 169 Interchange, Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+21, 75' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV.= +8.7 |
| | 6 | 1 | 2 | 1 | 0'-2' | | Gray Brown fine to med. SAND, trace of fine |
| | 20 | 4 | 8 | | | | Gravel; loose |
| | 35 | | | | | | |
| | 68 | | | | | | |
| | 72 | | | | | | |
| | 52 | 4 | 5 | 2 | 5'-7' | | SAME as ABOVE |
| | 61 | 5 | 7 | | | | |
| | 43 | | | | | | |
| | 13 | 6 | 3 | 3 | | | SAME as #1, trace of Silt |
| -1.3 | 17 | 2 | 2 | | | | |
| | 24 | Wt. of | | 4 | 10'-12' | * | Dark Brown marine SILT, trace (+) fine Sand |
| -3.0 | 26 | Hammer | | | | * | (spprox. 18") |
| | 28 | 2 | 1 | 5 | 12'-14' | | Some Dark Brown marine SILT, some (+) fine to |
| | 24 | 2 | 2 | | | | med. Sand |
| | 22 | 2 | 2 | 6 | 14'-16' | | |
| | 24 | 1 | 1 | | | | Gray Brown fine to med. SAND, trace of Silt. |
| -8.3 | 27 | 2 | 2 | 7A | 16'-18' | * | Same as above |
| | 28 | 2 | 1 | 7B | | * | Dark Brown marine SILT, trace (-) fine Sand |
| -10.3 | 24 | 1 | 2 | 8A | 18'-20' | | Same as (7B) |
| | 45 | 3 | 7 | 8B | | * | Gray Brown fine (+) to med. SAND, trace Silt |
| -12.3 | 38 | 13 | 12 | 9A | 20'-22' | | Gray fine (+) to med. SAND, trace Silt trace - |
| | 41 | 12 | 12 | 9B | | * | fine Gravel |
| | 44 | | | | | | Red Brown fine (+) to med. SAND, trace Silt |
| | 42 | | | | | | trace (-) fine Gravel |
| | 45 | | | | | | |
| | 27 | 10 | 11 | 10 | 25'-27' | | Same as (9B) with trace of shells |
| | 30 | 9 | 10 | | | | |
| | 32 | | | | | | |
| -19.8 | 39 | | | | | * | |
| | 40 | | | | | | |
| | 43 | 4 | 8 | 11 | 30'-32' | | Red Brown stiff Silty CLAY, trace (-) Sand |
| | 49 | 12 | 17 | | | | trace (-) fine Gravel |
| | 59 | | | | | | |
| | 64 | | | | | | |
| | 71 | | | | | | |
| | 79 | 6 | 9 | 12 | 35'-37' | | SAME as ABOVE |
| | 74 | 13 | 19 | | | | |
| | 83 | | | | | | |
| | 97 | | | | | | |
| | 101 | | | | | | |

*Boring No.* 116
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 116
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. I69 Interchange on Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+21, 75' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 42 | 6 | 7 | 13 | 40'-42' | | Reddish Brown stiff SILT & Clay trace (-) |
| | 38 | 9 | 11 | | | | fine Sand trace (-) fine Gravel |
| | 38 | | | | | | |
| | 38 | | | | | | |
| | 35 | | | | | | |
| | 37 | 9 | 9 | 14 | 45'-47' | | Reddish Brown stiff SILT & Clay, some fine |
| | 25 | 11 | 11 | | | | Sand in alternate layers with above |
| | 20 | | | | | | (about 1" Average thickness) |
| | 21 | | | | | | |
| | 22 | | | | | | |
| | 26 | 4 | 6 | 15 | 50'-52' | | Reddish Brown stiff SILT & Clay, trace (-) fine |
| | 21 | 7 | 9 | | | | Sand trace (-) fine Gravel |
| | 21 | | | | | | |
| | 23 | | | | | | |
| | 22 | | | | | | |
| WASHED + Drive Pipe | 20 | 6 | 6 | 16 | 55'-57' | | SAME as ABOVE |
| | 22 | 8 | 10 | | | | |
| | 19 | | | | | | |
| | 20 | | | | | | |
| | 22 | | | | | | |
| | 21 | 7 | 9 | 17 | 60'-62' | | SAME as ABOVE |
| | 34 | 8 | 11 | | | | |
| | 29 | | | | | | |
| -54.8 | 27 | | | | | * | |
| | 30 | | | | | | |
| | 33 | 8 | 8 | 18 | 65'-67' | | Red-Brown stiff silty CLAY, some fine (-) to |
| | 36 | 9 | 10 | | | | med. (+) Sand trace (-) fine to med. Gravel |
| | 30 | | | | | | |
| | 34 | | | | | | |
| | 41 | | | | | | |
| | 42 | 6 | 7 | 19 | 70'-72' | | Red Brown stiff silty CLAY trace (-) fine |
| | 37 | 9 | 7 | | | | Sand trace (-) med. Gravel |
| | 46 | | | | | | |
| | 45 | | | | | | |
| -65.8 | 45 | | | | | * | |
| | 70 | 17 | 12 | 20 | 75'-77' | | Red Brown very hard fine SAND, some Red Shale |
| | 93 | 22 | 22 | | | | fragments, trace clayey Silt |
| | 17 | | | | | | |
| | 31 | | | | | | |
| | 63 | | | | | | |

*Boring No.* 116
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 116
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange on Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+21, 75' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 70 | 12 | 12 | 21 | 80'-82' | | Red Brown very hard Sand some Clayey Silt |
| | 39 | 22 | 20 | | | | |
| | 37 | | | | | | |
| | 65 | | | | | | |
| | 102 | | | | | | Drilled through boulder Recovery = 7" |
| | 162 | 20 | 27 | 22 | 85'6"-87'6" | | Red Brown Coarse (+) to fine Sand, Some fine |
| | 204 | 27 | 33 | | | | Gravel trace Silt |
| | 243 | | | | | | |
| | 261 | | | | | | |
| | 248 | | | | | | |
| | 297 | 142* | 197 | 23 | 90'-92' | | Tried Spoon Sample no Recovery Replaced spoon |
| | 301 | 240 | 283 | | | | with open end. Material = Red Brown Coarse to |
| | 284 | | | | | | fine Sand some fine Gravel trace Silt trace Shal |
| | 372 | | | | | | |
| | 401 | | | | | | |
| | 291 | | | | | DRILLED | |
| | 340 | | | | | | |
| | 421 | | | | | | |
| | 502 | | | | | | |
| | 496 | | | | | | Open end washing ahead |
| -92'3" | 697 | | | 24R | 101'-106' | | Started Drilling |
| | | | | | | DRILLED | Gray Diabase bedrock hard but very seamy + |
| | | | | | | | fractured recovery 22" NOTE! Steady drilling |
| | | | | | | | definitely indicated bedrock poor recovery due |
| -97.3 | | | | | | | to vertical fracture. |

WASHED AHEAD + DROVE Casing

*Boring No.* 116
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 117
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange, 440 Bayonne, N.J.
*Boring Location* Sta. 297+80 ℄ 440, 80' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Barge (Skid Rig) *Driller & Helper(s)* Ed Fritsch
Dick Kerr

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-30-66 | 10-1-66 | 10-4-66 | | | |
| *Time Started* | 8:00 AM | 8:00 AM | 8:00 AM | | | |
| *Time Finished* | 4:30 PM | 4:30 PM | 4:30 PM | | | |
| *Weather* | Cl-Mld | Sny-Cld | Sny-Cld | | | |
| *Depth Reached* | 35' | 60' | 80' | | | |

*Ground Elevation* -4.7' (Bt.) *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* -4.7' *Elevation of Ground Water* _____

| *PAY QUANTITIES* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
| 2½" *Item #* 3 | 3" *Item #* | 4" *Item #* | *Item #* | *Item #* | *Spoon Item #* | *Undist Item #* | *Item #* | 1 3/8" *Item #* | 1 5/8" *Item #* | *Item #* |
| | | | | | | | | | | |
| 82' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx2"OD *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 117
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 117
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. I69 Interchange, 440 Bayonne, N.J.
*Boring Location* Sta. 297+80 ℄ 440, 80' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV.= + 4.7 |
| | 0 | | | 1 | 0'-2' | | Dark Gray SILT with fine to med. Sand |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | Push | | 2 | 5'-7' | | Dark Gray SILT with fine (+) to med. Sand |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -13.7 | 0 | | | | | | |
| | 9 | | | | | * | |
| | 12 | 12 | 13 | 3 | 10'-12 | | Red Brown & Gray fine to med. Sand trace (-) |
| | 14 | 11 | 11 | | | | fine Gravel trace (-) Silt |
| | 16 | | | | | | |
| | 19 | | | | | | |
| | 22 | | | | | | |
| | 14 | 7 | 7 | 4 | 15'-17 | | Gray Brown fine to med. Sand trace (-) fine |
| | 16 | 7 | 13 | | | | Gravel trace (-) Silt |
| | 15 | | | | | | |
| | 17 | | | | | | |
| -24.7 | 18 | | | | | | |
| -26.0 | 39 | 5 | 10 | 5 | 20'-22 | * | Red Brown very stiff SILT & CLAY trace (-) fine |
| | 57 | 11 | 12 | | | * | sand trace (-) fine Gravel |
| | 67 | | | | | | |
| | 82 | | | | | | |
| -29.7 | 87 | | | | | | |
| | 52 | 3 | 6 | 6 | 25'-27 | * | Red Brown varved, stiff silty CLAY trace (-) |
| | 47 | 7 | 9 | | | | fine sand trace (-) fine Gravel occasional |
| | 45 | | | | | | Silt partings |
| | 40 | | | | | | |
| | 37 | | | | | | |
| | 46 | 5 | 5 | 7 | 30'-32 | | Red Brown stiff silty CLAY, trace (-) fine |
| | 42 | 6 | 7 | | | | Gravel trace (-) fine Sand |
| | 39 | | | | | | |
| | 42 | | | | | | |
| -39.7 | 44 | | | | | | |
| | 33 | 6 | 6 | 8 | 35'-37 | * | SAME |
| | 33 | 9 | 11 | | | | |
| | 34 | | | | | | |
| | 39 | | | | | | |
| | 37 | | | | | | |

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 117
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange, 440 Bayonne, N.J.
*Boring Location* Sta. 297+80 ℄ 440, 80' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 42 | 6 | 7 | 9 | 40'-42' | | SAME |
| | 43 | 12 | 15 | | | | |
| | 38 | | | | | | |
| | 41 | | | | | | |
| -49'.7 | 54 | | | | | | |
| | 83 | 7 | 8 | 10 | 45'-47' | | Red Brown irregularly varved very stiff SILT |
| | 114 | 12 | 13 | | | | & CLAY trace (-) fine Sand trace fine Gravel |
| | 132 | | | | | | |
| | 151 | | | | | | |
| -54.7 | 162 | | | | | | |
| -55.7 | 80 | 7 | 9 | 11 | 50'-52' | | Red Brown very stiff SILT & CLAY trace (-) |
| | 125 | 13 | 14 | | | | fine Sand some Gravel |
| | 127 | | | | | | |
| | 131 | | | | | | |
| | 146 | | | | | | |
| | 95 | 6 | 10 | 12 | 55'-57' | | SAME as above with a layer of red shell at bottc |
| -61.2 | 147 | 11 | 47 | | | | of spoon |
| | 157 | | | | | | |
| | 191 | | | | | | |
| | 222 | | | | | | |
| | 119 | 4 | 5 | 13 | 60'-62' | | Red Brown stiff, varved CLAY trace (-) fine |
| -66.2 | 157 | 6 | 6 | | | | Gravel, trace silt occasional fine sand partings |
| | 160 | | | | | | |
| -68.7 | 165 | | | | | | |
| | 207 | | | | | | |
| | 170 | 4 | 4 | 14 | 65'-67' | | Reddish Brown & Gray stiff, varved Clayey |
| -75.2 | 204 | 6 | 11 | | | | SILT trace (-) fine Gravel trace (-) fine sand |
| | 190 | | | | | | |
| | 169 | | | | | | |
| | 145 | | | | | | |
| | 185 | 8 | 6 | 15 | 70'-72' | | SAME as above |
| | 190 | 8 | 11 | | | | |
| | 220 | | | | | | |
| -78.7 | 225 | | | | | | |
| | 410 | | | | | | |
| | 240 | 101 | 62 | 16 | 75'-77' | | Reddish Brown very hard CLAY trace - fine |
| | 380 | 74 | 74 | | | | Gravel trace Silt |
| | 320 | | | | | | |
| | 480 | | | | | | |
| | 408 | | | | | | |

*Boring No.* 117
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 117
Sheet No. 4 of 4

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Rte. 169 Interchange, 440 Bayonne, N.J.
Boring Location Sta. 297+80 ℄ 440, 80' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | 110 | 72* | 17 | 80'-82' | | Red Brown very hard fine to med. Sand med. |
| 86.7 | | 89* | 103* | | | | Gravel |
| | | | | | | | * Blows with 300 lb. Hammer |

Boring No. 117
Sheet No. 4 of 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 118
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection in Rte. 440, Bayonne, N.J
*Boring Location* Sta. 297+52 B 440

*Drilling Contractor* Warren George
*Rig No.* 2 *Type* Skid Rig *Driller & Helper(s)* Ed Frich
Dave Osen

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Date* | 10-17-66 | 10-19-66 | | | | | |
| *Time Started* | 8:15 AM | 8:10 AM | | | | | |
| *Time Finished* | 4:20 PM | 3:00 PM | | | | | |
| *Weather* | Snv-Cl | Wdy-Cld | | | | | |
| *Depth Reached* | 40' | 82' | | | | | |

*Ground Elevation* +5.4' *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* +5.4' *Elevation of Ground Water* _____

| *PAY QUANTITIES* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 82' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Washing below casing approved by Dean Kerr. Casing down to 65' then proceeded on by washing ahead, hole remained open

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 118
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 118
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection in Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+52 ℄ 440

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +5.4 |
| | 5 | | | 0 | 0'-2' | | No Sample |
| | 6 | | | | | | |
| | 5 | | | | | | |
| | 14 | | | | | | |
| | 32 | | | | | | |
| | 35 | 8 | 10 | 1 | 5'-7' | | Reddish-Brown fine (+) to coarse Sand FILL |
| | 35 | 13 | 13 | | | | |
| | 30 | | | | | | |
| | 20 | | | | | | |
| | 19 | | | | | | |
| | 16 | 3 | 3 | 2 | 10'-12' | | Reddish Brown fine to med. (+) SAND trace (+) |
| | 18 | 3 | 3 | | | | of coarse Sand (FILL) |
| | 19 | | | | | | |
| | 17 | | | | | | |
| | 16 | | | | | | |
| -10.6 | 13 | 1 | 0 | 3A | 15'-17' | | Reddish Brown fine to med. SAND (FILL) |
| -11.1 | 17 | 1 | 0 | 3B | | | Mud trap aprox. 1-1/2 (Bottom of FILL) |
| | 16 | | | | | | Dark Brown marine Silt trace (+) fine Sand |
| | 14 | | | | | | |
| | 26 | | | | | | |
| | 19 | 9 | 8 | 4 | 20'-22' | | Red fine SAND traee (+) Silt |
| | 25 | 9 | 8 | | | | |
| | 28 | | | | | | |
| | 33 | | | | | | |
| | 41 | | | | | | |
| | 24 | 6 | 7 | 5 | 25'-27' | | Reddish Brown fine (+) to med. SAND trace Silt |
| | 29 | 8 | 9 | | | | |
| | 37 | | | | | | |
| | 39 | | | | | | |
| -24.6 | 40 | | | | | | |
| | 29 | 9 | 9 | 6 | 30'-37' | | Red Brown stiff CLAY & SILT trace (+) med. |
| | 37 | 7 | 9 | | | | Sand trace (-) fine Gravel trace (-) Shale |
| | 42 | | | | | | fragments |
| | 39 | | | | | | |
| | 40 | | | | | | |
| | 45 | 6 | 8 | 7 | 35'-37' | | Red Brown stiff CLAY & SILT trace (+) fine to |
| | 52 | 12 | 18 | | | | med. Gravel trace (+) Sand |
| | 57 | | | | | | |
| | 69 | | | | | | |
| | 80 | | | | | | |

*Boring No.* 118
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 118
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection in Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+52 ℄ 440

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 64 | 4 | 7 | 8 | 40'-42' | | Reddish Brown stiff SILT & CLAY trace + fine |
| | 72 | 9 | 12 | | | | to med. Sand trace (-) fine Gravel |
| | 79 | | | | | | |
| | 81 | | | | | | |
| | 83 | | | | | | |
| | 172 | 6 | 10 | 9 | 45'-47' | | SAME as ABOVE trace (-) of med. Gravel included |
| | 160 | 14 | 16 | | | | |
| | 141 | | | | | | |
| | 184 | | | | | | |
| | 208 | | | | | | |
| | 260 | 4 | 7 | 10 | 50'-52' | | SAME as Sample #(8) |
| | 242 | 9 | 15 | | | | |
| | 269 | | | | | | |
| | 278 | | | | | | |
| | 301 | | | | | | |
| | 287 | 8 | 9 | 11 | 55'-57' | | SAME as Sample #(9) |
| | 262 | 13 | 19 | | | | |
| | 278 | | | | | | |
| | 290 | | | | | | |
| -54.6 | 297 | | | | | | |
| | | 8 | 12 | 12 | 60'-62' | | Red Brown hard Silty CLAY trace (+) fine to med. |
| | | 14 | 20 | | | | Sand trace (-) fine Gravel |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Casing | 5 | 7 | 13 | 65'-67' | | Red Brown Stiff silty CLAY trace (+) fine to |
| | | 9 | 10 | | | | med. Gravel, trace (-) Sand |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Below | 6 | 6 | 14 | 70'-72' | | SAME as ABOVE |
| | | 8 | 9 | | | | |
| | | | | | | | |
| | | | | | | | |
| | Wash | 5 | 16 | 15A | 75'-77' | | Red Brown Gray hard CLAY & SILT trace fine |
| | | 23 | 26 | 15B | | | Sand |
| | | | | | | | Red Brown fine SAND, some Silt |
| | | | | | | | |
| -74.1 | | | | | | | |

*Boring No.* 118
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 118
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection in Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 297+52 ℄ 440

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | 13 | 18 | 16 | 80'-82 | // | Medium to fine GRAVEL and, coarse (+) to |
| | | 24 | 43 | | | // | fine Sand little (+) clayey SILT |
| -77.8 | | | | | | | Refusal @ 83'2" |
| | | | | | | * | |

*Boring No.* 118
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 119
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 44042 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection in Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 298+10 ℄ 440

*Drilling Contractor* Warren George
*Rig No.* 2 *Type* Skid Rig *Driller & Helper(s)* Ed Frisch, Dave Nilson

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Date* | 10-21-66 | | | | | | |
| *Time Started* | 8:00 AM | | | | | | |
| *Time Finished* | 3:00 PM | | | | | | |
| *Weather* | Cl-Sny | | | | | | |
| *Depth Reached* | 27' | | | | | | |

*Ground Elevation* +5.0' *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* +5.0' *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 27' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"ID x 2" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Encountered trapped Silt below fill. After consultation with State Hwy. Dept. Resident Engineer, Mr. Dunn of Clarke, Hartman & Dunn, & American Dredging Co., Approved moving rig off hole with full payment for footage done in order to enable removal of unsuitable material. Boring will be re-done at a later date.

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 119
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 119
*Sheet No.* 2 *of* 2

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection on Rte. 440, Bayonne, N.J.
*Boring Location* Sta. 298+10 ℄ 440

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +5.0 |
| | 4 | 1 | 2 | 1 | 0'-2' | | Gray Brown SAND trace (-) fine Gravel FILL |
| | 7 | 4 | 5 | | | | |
| | 19 | | | | | | |
| | 22 | | | | | | |
| | 22 | | | | | | |
| | 17 | 3 | 5 | 2 | 5'-7' | | SAME as ABOVE |
| | 19 | 5 | 6 | | | | |
| | 17 | | | | | | |
| | 13 | | | | | | |
| -5.0 | 10 | | | | | | |
| = | 8 | 1 | 0 | 3 | 10'-12' | | Dark Brown marine SILT trace (+) fine Sand |
| | 11 | 0 | 0 | | | | |
| | 14 | | | | | | Attempted Sample but no Recovery |
| | 13 | | | | | | |
| | 12 | | | | | | |
| | 13 | Push | | 4 | 16'-18' | | SAME as ABOVE |
| -12.0 | 11 | | | | | | |
| | 14 | | | | | | |
| | 23 | | | | | | |
| | 28 | | | | | | |
| | 19 | 9 | 10 | 5 | 20'-22' | | Gray Brown fine to med. SAND some Silt trace |
| | 31 | 9 | 11 | | | | of Brown Shale |
| | 36 | | | | | | |
| | 30 | | | | | | |
| | 34 | | | | | | |
| | | 10 | 9 | 6 | 25'-27' | | Red Brown Gray fine to med. SAND some Silt |
| -22.0 | | 8 | 8 | | | | |

*Boring No.* 119
*Sheet No.* 2 *of* 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 119A
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
*Boring Location* ℄ 440 - Sta. 298+10

*Drilling Contractor* Warren George
*Rig No.* _____ *Type* Acker Portable *Driller & Helper(s)* W. Catalatto

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-26-66 | 10-27-66 | 10-28-66 | 10-31-66 | | |
| *Time Started* | 2:00 PM | 8:00 AM | 8:00 AM | 8:15 AM | | |
| *Time Finished* | 4:15 PM | 4:00 PM | 4:00 PM | 11:30 PM | | |
| *Weather* | Sny-Cl | Sny-Mld | Sny-Wrm | Sny-Cl | | |
| *Depth Reached* | 22' | 47' | 67' | 89' | | |

*Ground Elevation* +9.8' *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* +9.8' *Elevation of Ground Water* _____

| *PAY QUANTITIES* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 89 | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* This boring on same location as #119, which was discontinued to allow removal of unsuitable soil. Permitted driller to wash ahead of casing to ease driving from 35' down

*INSPECTOR* T.R. Milo *ENGINEER* _____

Boring No. 119A
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 119A
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
*Boring Location* B 440, 298+10

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. = +9.8' |
| | 1 | 1 | 1 | 1 | 0'-2' | | Gray, loose, coarse (-) to fine SAND, trace |
| | 4 | 1 | 1 | | | | fine Gravel (Hydr. FILL) |
| | 8 | | | | | | |
| | 16 | | | | | | |
| | 15 | | | | | | |
| | 26 | 4 | 4 | 2 | 5'-7' | | SAME as Sample #1 |
| | 43 | 4 | 6 | | | | |
| | 22 | 6 | 11 | 3 | 7'-9' | | Gray compact SAND, trace Gravel |
| | 34 | 10 | 16 | | | | |
| | 16 | 10 | 8 | 4 | 9'-11' | | Gray loose (+) coarse (-) to fine SAND |
| | 19 | 6 | 7 | | | | |
| | 17 | 4 | 3 | 5 | 11'-13' | | SAME as Sample #4 |
| | 22 | 4 | 5 | | | | |
| | 22 | 4 | 5 | 6 | 13'-15' | | SAME as Sample #4 & #5 |
| | 24 | 5 | 5 | | | | |
| | 20 | 3 | 2 | 7 | 15'-17' | | SAME as Sample #4 to #6 |
| -7.2' | 22 | 3 | 2 | | | | |
| | 30 | 3 | 2 | 8 | 17'-19' | * | Brown-gray loose saturated med. (-) to fine (+) |
| | 45 | 2 | 2 | | | | SAME, trace (-) Silt (Hydr. FILL) |
| | 49 | 2 | 3 | 9 | 19'-21' | | Dark gray loose saturated fine SAND, little or- |
| -11.2' | 48 | 7 | 11 | | | * | ganic Silt |
| -11.7' | 56 | 3 | 3 | 10A | 21'-21'6" | | Dark gray organic SILT, some (-) fine Sand, trac |
| | 75 | 4 | 3 | 10B | 21'6"-23' | | Shells |
| -13.7' | 82 | 4 | 7 | 11 | 23'-25' | * | Dark gray loose SAND, little organic Silt |
| | 90 | 9 | 13 | | | | Red-brown compact (-) med. to fine (+) SAND, |
| | 81 | 7 | 9 | 12 | 25'-27' | | little Silt |
| | 79 | 11 | 12 | | | | Red-brown compact fine SAND, trace (+) Silt |
| | 93 | | | | | | |
| -18.7' | 98 | | | | | * | |
| | 101 | | | | | | |
| | 106 | 6 | 8 | 13 | 30'-32' | | Red-brown very stiff SILT & Clay, little fine |
| | 104 | 10 | 20 | | | | Gravel, trace Sand |
| | 112 | | | | | | |
| | 114 | | | | | | |
| | 116 | | | | | | |
| | 167 | 7 | 9 | 14 | 35'-37' | | Red-brown, very stiff SILT & Clay, some med. to |
| | 209 | 11 | 13 | | | | fine (+) Gravel, little coarse (+) to fine Sand |
| | 183 | | | | | | |
| | 216 | | | | | | |
| | 247 | | | | | | |

*Boring No.* 119A
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 119A
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 298+10

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|
| | 189 | 8 11 | 15 | 40'-42' | | Red-brown hard CLAY & Silt, little med. to |
| | 216 | 13 19 | | | | fine (+) Gravel, trace coarse (-) fine (+) |
| | 307 | | | | | Sand |
| | 341 | | | | | |
| | 495 | | | | | |
| | 221 | 11 13 | 16 | 45'-47' | | Red-brown hard CLAY & Silt, trace fine Gravel, |
| | 273 | 18 22 | | | | trace (-) fine Sand |
| | 317 | | | | | |
| | 383 | | | | | |
| | 462 | | | | | |
| | 191 | 10 13 | 17 | 50'-52 | | SAME as Sample #16 |
| | 193 | 16 21 | | | | |
| | 221 | | | | | |
| | 334 | | | | | |
| | 441 | | | | | |
| | 178 | 18 18 | 18 | 55'-57 | | Red-brown hard CLAY & Silt, trace (+) fine |
| | 161 | 16 21 | | | | Gravel, trace fine (+) to coarse (-) Sand |
| | 123 | | | | | |
| | 147 | | | | | |
| | 154 | | | | | |
| | 172 | 12 15 | 19 | 60'-62 | | Red-brown hard CLAY & Silt, little fine to med. |
| | 181 | 22 23 | | | | Gravel, trace Sand |
| | 181 | | | | | |
| | 206 | | | | | |
| -55.2' | 223 | | | | | |
| | 138 | 6 8 | 20 | 65'-67 | | Red-brown SILT |
| | 184 | 34 75 | | | | |
| | 188 | | | | | |
| -58.7' | 214 | | | | | |
| | 248 | | | | | |
| | 141 | 19 28 | 21 | 70'-72 | | Red-brown hard SILT & Clay, trace fine Gravel, |
| | 153 | 31 57 | | | | trace Sand (both dispersed throughout soil, and |
| | 182 | | | | | in occasional thin lenses) |
| | 184 | | | | | |
| | 206 | | | | | |
| | 171 | 12 30 | 22 | 75'-77 | | Red-brown hard SILT & Clay, little (-) fine to |
| | 180 | 38 56 | | | | med. (-) Gravel, trace Sand |
| | 215 | | | | | |
| | 242 | | | | | |
| | 274 | | | | | |

Washing ahead of casing

*Boring No.* 119A
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 119A
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 298+10

See Previous Page

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 187 | 15 | 24 | 23 | 80'-82' | | Red-brown hard CLAY & Silt, little fine to med. |
| | 196 | 33 | 57 | | | | Gravel, trace (+) fine Sand |
| | 254 | | | | | | |
| -73.7' | 274 | | | | | * | |
| | 307 | | | | | | |
| | 216 | 54 | 17 | 24 | 85'-87' | | Red-brown compact fine (+) to coarse (-) SAND, |
| | 340 | 18 | 32 | | | | some (-) med. to fine Gravel, trace Silt |
| | | 142 | 39 | | | | (GLACIAL TILL) |
| -79.2' | | 32 | 194 | OE | 87'-89' | * | * Refusal driving open end from 87'-89' with |
| | | 300 | for | 0 | | | 140 lb. hammer. |
| | | | | | | | Red-brown med. to fine (+) very compact SAND, |
| | | | | | | | some (-) Gravel, little Silt |

*Boring No.* 119A
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

CONSULTING ENGINEERS

Boring No. 120
Sheet No. 1 of 4

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection on Rte. 440, Bayonne, N.J.
*Boring Location* @ Rte. 440, 297+85, 90' Rt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Skid Rig *Driller & Helper(s)* Ed Frieh, Dave Nelson

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-27-66 | 10-28-66 | 10-31-66 | | | |
| *Time Started* | 8:30 AM | 8:30 AM | 8:30 AM | | | |
| *Time Finished* | 4:15 PM | 4:15 PM | 4:15 PM | | | |
| *Weather* | Sny-Wrm | Sny-Wrm | Sny-Wrm | | | |
| *Depth Reached* | 30' | 70' | 91' | | | |

*Ground Elevation* +13.3' *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* +13.3' *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 91' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"x24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Washing ahead permitted with approval of Dean Kerr, New Jersey State Highway Department Engineer

W.L. -13' casing in

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 120
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 120
Sheet No. 2 of 4

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Rte. 169 Intersection on Rte. 440, Bayonne, N.J.
Boring Location Rte. 440 - Sta. 97+85, 90' Rt.

| Elevation | Blows on Casing | Blows on Sampler For 6" Pene'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +13.3 |
| | 4 | 2 | 1 | 1 | 0'-2' | | Gray loose Coarse (-) to med. (+) fine (-) |
| | 4 | 2 | 1 | | | | SAND (Hydr. FILL) |
| | 4 | | | | | | |
| | 3 | | | | | | |
| | 5 | | | | | | |
| | 6 | 3 | 2 | 2 | 5'-7' | | SAME as #1 |
| | 9 | 2 | 4 | | | | |
| | 12 | | | | | | |
| | 17 | | | | | | |
| | 17 | | | | | | |
| | 11 | 3 | 8 | 3 | 10'-12' | | SAME as #1 & #2 with occasional Clay balls |
| | 26 | 11 | 14 | | | | |
| | 31 | 13 | 17 | 4 | 12'-14' | | Gray Compact (-) SAND (Hydr. FILL) |
| | 30 | 16 | 15 | | | | |
| | 5 | 7 | 8 | 5 | 14'-16' | | Gray Compact (-) Coarse (+) to fine (-) SAND |
| | 11 | 5 | 5 | | | | trace (-) fine (-) Gravel (Hydr. FILL) |
| | 16 | 5 | 3 | 6 | 16'-18' | | Gray Brown Moist fine (+) to med. SAND (Hydr.FI |
| | 18 | 3 | 3 | | | | |
| | 4 | 1 | 0 | | 18'-20' | | No Recovery - wash indicates loose, saturated |
| | 10 | 1 | 0 | | | | SAND, no Silt (Hydr. FILL) |
| -7.2 | 15 | 1 | 0 | 7 | 20'-22' | | Gray-black organic SILT at 20'6" |
| | 13 | 0 | 0 | | | | |
| | 13 | | 0 | 8A | 22'6"- | | Gray-black organic SILT - change at 24' to -- |
| -10.7 | 16 | 0 | 1 | | 24'6" | | Brownish-gray med. to fine loose SAND, trace (-) |
| | 16 | 2 | 10 | 8B | | | Silt (Hydr. FILL) |
| | 30 | 17 | 17 | 9 | 24'6"- | | Gray med. to fine compact SAND, trace (-) Silt |
| | 29 | 15 | 8 | | 26'6" | | (Hydr. FILL) |
| | 31 | 9 | 9 | 10 | 26'6"- | | Gray-brown med. to fine compact (-) SAND |
| | 27 | 10 | 4 | | 28'6" | | (Hydr. FILL) |
| -16.2 | 27 | 4 | 6 | 11A | 28'6"- | | |
| | 25 | 7 | | 11B | 30'6" | | Gray-brown loose coarse (-) to med. (+) to fine |
| | 27 | | | | | | SAND (Hydr. FILL) |
| | 34 | | | | | | Greenish-gray loose fine (+) to med. SAND, trace |
| | 44 | | | | | | Silt |
| | 51 | | | | | | |
| | 41 | 7 | 7 | 12 | 35'-37' | | Red Brown SILT & Clay Some (+) fine to med. |
| | 43 | 11 | 12 | | | | Sand trace (+) med. to fine Gravel |
| | 39 | | | | | | |
| | 42 | | | | | | |
| | 40 | | | | | | |

Boring No. 120
Sheet No. 2 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 120
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Intersection on Rte. 440, Bayonne, N.J.
*Boring Location* ℄ 440 - Sta. 297+85, 90' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | 4 | 4 | 21 | 80'-82' | | SAME as ABOVE #20 |
| | | 5 | 6 | | | | |
| | | 8 | 13 | 22 | 85'-87' | | Red Brown Silty SAND |
| | | 13 | 10 | | | | |
| | | 22 | 16 | 23 | 87'-89' | | SAME as #22 with some fine to Coarse Gravel |
| | | 22 | 74 | | | | |
| | | 26 | 30 | 24 | 89'-91' | | Red Brown layered SAND & Gravel, little Silt |
| -77' 7" | | 110 | 138 | | | | very Compact |

WASHING AHEAD

*Boring No.* 120
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. U-121
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
*Boring Location* Rte. 440 ℄ Sta. 298+50, 90' Rt.

*Drilling Contractor* Warren George
*Rig No.* _____ *Type* Tripod Skid Rig Casing Mounted Drill *Driller & Helper(s)* E. Fritsch, D. Nelson

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 11-1-66 | 11-2-66 | 11-3-66 | 11-4-66 | 11-7-66 | 11-8-66 |
| *Time Started* | 9:30 AM | 8:00 AM | 9:30 AM | 8:00 AM | 9:00 AM | 8:00 AM |
| *Time Finished* | 4:15 PM | 4:15 PM | 4:15 PM | 4:00 PM | 4:00 PM | 3:00 PM |
| *Weather* | Sny-Mld | Cldy-Rn | P-Cldy-C | Sny-Cld | P-Cldy-C | P-Cldy-C |
| *Depth Reached* | 30' | 55' | 72' | 91'1" | 100' | 113' |

*Ground Elevation* +10.6' *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* +10.6' *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item #4 | 3" Item # | 4" Item #2 | Item # | Item # | Spoon Item # | Undist Item # 5 | Item # | 1 3/8" Item # 7 | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 27' | | 80' | | | | 5 | | 6' | | |

*CASING: Unit Weight* _____ *Size* 4"I.D. *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* _____ *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* Piston *Dimensions* 3-1/2"x24"
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Note: allowed driller to use 2-1/2" pipe inside 4" to advance from 15' to 22', as he didn't have short 4" pipe lengths - blows on 4" from 15'-22' therefore, are fewer than they would ordinarily have been. Allowed washing below 4" casing from 40' due to high blow count. 2-1/2" will be inserted after boring reached TILL, to seal hole to bedrock for Rock coring. Permitted Simultaneous washing & driving from 90'
W.L. -8'6" (Tidal)

*INSPECTOR* T.R. Milo *ENGINEER* _____

Boring No. U-121
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. U-121
Sheet No. 2 of 4

BORING LOG for Project No. 440-4 for Clarke, Hartman & Dunn, Inc.
Project Location Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
Boring Location Rte. 440 B Sta. 298+50, 90' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev +10.6' |
| | 5 | 1 | 2 | 1 | 0'-2' | | Gray, loose SAND-(Hydr. Fill) |
| | 14 | 2 | 4 | | | | |
| | 40 | | | | | | |
| | 85 | | | | | | |
| | 172 | | | | | | |
| | 65 | 16 | 24 | 2 | 5'-7' | | Gray-compact SAND (Hydr. Fill) |
| | 147 | 30 | 36 | | | | |
| | 113 | | | | | | |
| | 95 | | | | | | |
| | 83 | | | | | | |
| | 68 | 6 | 6 | 3 | 10'- 12' | | Gray-loose-coarse(-)to med(+)to fine(-)SAND(Hydr |
| | 61 | 6 | 6 | | | | FILL) |
| | 70 | | | | | | |
| | 68 | | | | | | |
| | 68 | | | | | | |
| | 71 | 5 | 3 | 4 | 15'- 17' | | Gray-coarse(+)to med SANDloose (Poor recovery, |
| | 62 | 3 | 4 | | | | (overdrove to 17'6", tk wash samp to complete ja |
| | 60 | 6 | | | | | (Hydr. FILL) |
| 9.2' to 9.4' | 70 | 1 | 2 | 5A | 18'-19'9" | | Gray, loose, coarse(-)med(+)fine(-)SAND(Hydr. FILL |
| -9.9' | 76 | 1 | 2 | 5B | 19'9"- 20' | | Gray-black soft organic SILT(Hydr. FILL) |
| -10.2' | 80 | 4 | 2 | 6A | 20'-20'6" | | Darkgray loose-SAND-trace (+)SILT(Hydr. FILL) |
| | 74 | 2 | 5-6 | B-6 | C-20'-8"-20'-9" | | -Gray-black soft organic SILT |
| | 124 | 7 | 12 | | 20'-9"-22' | | Dark-gray-loose med to fine SAND little Org SILT |
| | 102 | 14 | 14 | 7 | 22'-24' | | Gray-brown loose med-fine SAND-trace Org Silt |
| -13.9' | 97 | | | | | | |
| | 140 | 9 | 11 | 8 | 25'-27' | | Greenish gray med-fine SAND, trace(+) Silt |
| | 117 | 11 | 13 | | | | |
| | 134 | | | | | | |
| -18.4' | 148 | | | | | | |
| | 155 | | | | | | |
| | 223 | 10 | 16 | 9 | 30'- 32' | | Reddish-gray-brown-compact-med(-)to fine(+)SAND, |
| | 225 | 54 | 62 | | | | Trace (+) Silt |
| | 212 | | | | | | |
| -23.4' | 192 | | | | | | |
| | 227 | | | | | | |
| | 182 | 7 | 10 | 10 | 35'-37' | | Red-brown, hard CLAY & Silt, trace coarse Sand, |
| | 230 | 13 | 15 | | | | trace (-) fine Gravel |
| | 262 | | | | | | |
| | 370 | | | | | | |
| | 461 | | | | | | |

U-121
Boring No. 2 4
Sheet No. ____ of ____

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. U-121
Sheet No. 3 of 4

BORING LOG for Project No. 440-4 for Clarke, Hartman & Dunn, Inc.
Project Location Rte. 169 Interchange with Rte.440 Bayonne, N.J.
Boring Location Rte. 440 B Sta. 298+50, 90' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|
| | | 2000# press. | 11U | 40'-42' | | Red-brown-hard-silty-CLAY-trace-fine Gravel, Trace (-) Sand Recovery 20" |
| | | 11 8<br>8 11 | 12 | 45'-47' | | Red-brown-very stiff-CLAY&Silt-little fine Gravel trace Sand |
| | | 2000# press | 13U | 50'-52' | | Red-brown-very-stiff-CLAY&Silt, little fine Gravel trace Sand |
| | | 7 7<br>9 11 | 14 | 55'-57' | | Red-brown-irreg. varved-very stiff-CLAY&Silt, Trace fine Gravel, trace fine Sand |
| | | 2000# press. | 15U | 60'-62' | | Red-brown-hard-CLAY&Silt, trace fine Gravel, trace Sand |
| | | 10 17<br>19 19 | 16 | 65'-67' | | SAME |
| -58.4 | | | | | | |
| | | 2000# press | 19U | 70'-72' | | Red-brown, very Stiff-varved CLAY&Silt |
| | | 5 7<br>7 8 | 18 | 75'-77' | | Red-brown-stiff-varved silty CLAY |

washed below casing

Boring No. U-121
Sheet No. 3 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. U-121
Sheet No. 4 of 4

BORING LOG for Project No. 440-4 for Clarke, Hartman & Dunn, Inc.
Project Location Rte. 169 Interchange with Rte. 440, Bayonne, N.J.
Boring Location Rte. 440 ℄ Sta. 298+50, 90 Rt.

2-1/2"casing----------Sumult. wash & drive----------

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|
| -70.4 | 2 | 2000# | 19J | 80'-82' | | Red-brown-stiff-varved-siltyCLAY,trace fine sand |
| | 2 | press. | | | | Red-brown-clayey-SILT |
| | 25 | | | | | |
| | 34 | | | | | |
| | 40 | | | | | |
| -74.9 | 121 | 10 140 | 20 | 85'- 87½" | | Red-brown-SAND, some Silt & Clay, little(+)med fine gravel *300 lb. Hammer |
| | 342 | 100/1"* | | | | |
| | 167 | | | | | |
| | 191 | | | | | |
| | 247 | | | | | |
| | 142 | 49 105 | 21 | 90'- 92" | | Red-brown-very-compact fine SAND, little Silt |
| | 106 | 115/1" | | | | |
| | 62 | | | | | |
| | 41 | | | | | |
| | 191 | | | | | *100 for 4-1/2"W/140lb#; 27 for 1-1/2"w/300lb# |
| 42 | 100/2 | 7-114-22 | 22 | 95-96' | | Red-brown-very compact-med-fine SAND-trace Silt |
| | 40 | 132 100/2"(OE) | | | | trace(+) Gravel & Boulder frags(GLACIAL TILL) |
| | 52 | | | | | |
| | 59 | | | | | |
| | 64 | | | | | |
| | 75 | 74 139 | 23 | 100'-102' | | Red-brown-very compact SAND, trace Silt, litt |
| | 90 | 202/3" | (OE) | | | Gravel & Boulder frags. (GLACIAL TILL) |
| | 100 | | | | | |
| | 101 | | | | | |
| | 103 | | | | | |
| -94.9 | 273 | | | | | Top of Rock-decomposed-DIABASE,chapped& washed |
| | 342 | | | | | to 107' |
| -96.4 | | | 24C | 107'-112' | | Gray,fractured,very weathered-soft DIABASE-Rec 9 |
| | | | | Run 1 | | wash showed heavy gray color most of run. |
| | | | | Run 2 | | Same, with frequent mud seams Rec. 6" |
| -102.4 | | | 25C | 112'-113' | | Same rec. 6" |

U 121
Boring No. 4 of 4
Sheet No.

| BORING NO. | ℄ STATION | OFFSET |
|---|---|---|
| U/D 10 | 290+33 | 20' RT. |
| U/D 11 | 284+97 | 28' LT. |
| 12 | 281+00 | 50' RT. |
| 13 | 277+50 | 55' RT. |
| U/D 14 | 273+25 | 18' LT. |
| 15 | 269+50 | 370' RT. |
| 23 | 272+10 | 285' RT. |
| 24 | 266+33 | 190' RT. |
| 25 | 269+40 | 70' RT. |
| 29 | 287+72 | 65' RT. |
| 30 | 287+55 | 310' LT. |
| 31 | 287+80 | 770' LT. |

EXETER ROAD
DELMAR ROAD
CROSSGATE ROAD
BRIARWOOD ROAD
JERSEY CITY
BOUNDARY LINE
BAYONNE
COUNTRY VILLAGE ROAD
25FD
PC 259+91.61 ℄ ROUTE 440 FREEWAY
POT 260+04.21 ℄ EXISTING ROUTE 440
PT. 266+22.82
ROCK WALL
℄ W. 63RD. STREET E.B.
℄ W. 63RD. STREET W.B.
℄ RAMP 'G'
℄ RAMP 'C'
℄ RAMP 'A'
℄ RAMP 'B'
ISCB
ISBB
SWAMP
PUBLIC SERVICE ELECTRIC & GAS CO.
LEHIGH VALLEY RAILROAD
PENNSYLVANIA RAIL ROAD
NEW JERSEY TURNPIKE
NEWARK BAY HUDSON COUNTY EXTENSION
MATCH LINE
STA. 290+50
PUBLIC SERVICE ELEC. & GAS CO.
SPARE PIPE
138 KV PIPE TYPE CABLE
RC 278+16.63
℄ ROUTE 440
SH. No. 2
U/D 14
U/D 11
U/D 10
15
23
24
25
12
13
29
30
31

MODIFIED PIERHEAD AND BULKHEAD LINE APPROVED BY THE ACTING SECRETARY OF WAR DECEMBER 9, 1929

NEW JERSEY STATE HIGHWAY DEPARTMENT

ROUTE 440 FREEWAY

# BORING CONTRACT – B

CLARKE, HARTMAN & DUNN, INC.
CONSULTING ENGINEERS
JERSEY CITY NEW JERSEY

SCALE: 1" = 100'
DATE
DRAWING No. 2

N. B. KNAPP CO., INC. 47949

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

Started: Date 6/29/65 Time 9:30
Finished Date 7/1/65 Time 12:00AM

JOB NO. Rte 440
HOLE NO. U/D 10
Sheet No. 1 of 4

Client N. J. S. H. D.

Route 440 Freeway
Location Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | | | | | | | |
| 2 | =2.3 | | | | | M.L.W. WATER | |
| 3 | | | | | | | |
| 4 | -4.0 | | | | | 4'0" | |
| 5 | | P | S1 | P P | | Bk O S. | Rec 24" |
| 6 | | P | | P P | | | |
| 7 | | P | S2 | P P | | Black Organic SILT. | Rec 24" |
| 8 | | P | | P P | | Bk O S. | |
| 9 | | P | S3 | P P | | | |
| 10 | | P | | P P | | Bk O S, t. f S. | Rec 24" |
| 11 | | P | S4 | P P | | | |
| 12 | -12.0 | P | | P P | | Bk O S, t. f S. | Rec 24" |
| 13 | | 12 | S5 | 6 7 | | 12'0" | |
| 14 | | 44 | | 9 9 | | Gr f S, s. S, t. Ver. | Rec 24" |
| 15 | | 46 | S6 | 8 | | Gray fine SAND, | |
| 16 | | 44 | | 9 11 | | Gr f S, t. S, | Rec 24" |
| 17 | | 40 | | | | little Silt. | |
| 18 | -18.0 | 43 | | | | 18'0" | Clay began to wash up |
| 19 | | 71 | | | | | |
| 20 | | 61 | S7 | 13 | | Rd S y C, s. c f G. (See Pg 2) | |

Boring Contractor WARREN GEORGE, INC. Driller P.Hopkins Helper J. Hammond & G. Kennedy
Casing: I.D. 4" Hammer Weight 300 lb. Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140 lb. Hammer Drop 30" Shelby O.D. 3"
Supervisor A. Mendolla

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D 10
Sheet No. 2 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 83 | SP | 18 18 | | | Rec 24" |
| 22 | | 120 | | | | | |
| 23 | | 131 | | | | Red Silty CLAY, | |
| 24 | | 153 | | | | | |
| 25 | | 141 | | | | little coarse to fine Gravel. | |
| 26 | | 117 | | P P | | | |
| 27 | | 123 | U1 | P P | | | |
| 28 | | 142 | S8 | 8 13 | | | Rec 19" |
| 29 | | 160 | | 14 19 | | Rd $ y C, l. m f G. | Rec 24" |
| 30 | | 183 | | | | | |
| 31 | | 130 | | P P | | | |
| 32 | | 151 | U2 | P P | | Rd $ y C, l. m f G. | Rec 19" |
| 33 | | 190 | C | 9 11 | | | |
| 34 | | 216 | | 11 15 | | Rd $ y C, l. c f G. | Rec 24" |
| 35 | | 211 | | | | | |
| 36 | | 197 | U3 | P P | | | |
| 37 | | 210 | | P P | | | |
| 38 | | 256 | S10 | 8 14 | | | Rec 17" |
| 39 | | 320 | | 15 12 | | Rd $ y C, l. c f G. | Rec 24" |
| 40 | | 357 | | | | | |
| 41 | | 262 | U4 | P P | | | |
| 42 | | 244 | | P P | | | Rec 24" |
| 43 | | 225 | S11 | 9 10 | | | |
| 44 | -80.0 | 231 | | 13 14 | | Rd $ y C, t. + c f G. | Rec 24" |
| 45 | | 277 | | | | | |
| 46 | | 216 | S12 | 10 12 | | | |
| 47 | -90.0 | 225 | | 13 16 | | Rd $ y C, t. + c f G. | Rec 24" |
| 48 | | 231 | | | | | |
| 49 | | 244 | | | | | |
| 50 | | 275 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U7D 10
Sheet No. 3 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 230 | U5 | P P | | | Rec 24" |
| 52 | | 241 | | P | | | |
| 53 | | 255 | S13 | 9 16 | 11 | Rd & y C, l. cf G. | Rec 24" |
| 54 | | 259 | | | 20 | | |
| 55 | | 310 | | 9 | | | |
| 56 | | 284 | S14 | 13 | 10 | do. | Rec 24" |
| 57 | | 271 | | | 16 | | |
| 58 | | 267 | | | | | |
| 59 | | 244 | | | | Red Silty CLAY, little | |
| 60 | | 304 | | P | | | |
| 61 | | 270 | U6 | | P | | |
| 62 | | 275 | | 19 | 31 | do. | Rec 11" |
| 63 | | 315 | S15 | 21 | 19 | | Rec 24" |
| 64 | | 326 | | | | coarse to fine Gravel. | |
| 65 | | 345 | | | | | |
| 66 | | 313 | S16 | 14 27 | 18 | do. | |
| 67 | | 307 | | | 30 | | Rec 24" |
| 68 | | 294 | | | | | |
| 69 | | 266 | | | | | |
| 70 | | 321 | | | | | |
| 71 | | 267 | S17 | 11 21 | 19 | do. | Rec 24" |
| 72 | | 249 | | | 20 | | |
| 73 | | 291 | | | | | |
| 74 | | 286 | | | | | |
| 75 | | 310 | | | | | |
| 76 | | 297 | S18 | 12 18 | 21 | do. | Rec 24" |
| 77 | | 314 | | | 23 | | |
| 78 | | 360 | | | | | |
| 79 | | 337 | | | | | |
| 80 | | 344 | | | | 80'0" | From wash water. |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D 10
Sheet No. 4 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 81 | | 382 | 6 | 17 27 | | | |
| 82 | | 376 | 19 | 23 19 | | Rd f S, l. ∛, l. cf G. | Rec 24" |
| 83 | | 341 | | | | | |
| 84 | | 359 | | | | Red fine SAND, little Silt, | |
| 85 | | 500+ | | | | | |
| 86 | | 426 | | 38 30 | | | |
| 87 | | 500+ | 20 | 33 63 | | do. little coarse to fine Gravel. | Rec 24" |
| 88 | | 500+ | | | | | |
| 89 | | | | 29 57 | | Rd f S, l. ∛, l. c f G, rk fgmts. | Rec 24" |
| 90 | | | 21 | 66 103 | | | |
| 91 | | | | | | 90'0" | |
| 92 | | | | | | | |
| 93 | | | | | | Boring ended at 90' | |
| 94 | | | | | | | |
| 95 | | | | | | | |
| 96 | | | | | | | |
| 97 | | | | | | | |
| 98 | | | | | | | |
| 99 | | | | | | | |
| 100 | | | | | | | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. O/D-11
Sheet No. 1 of 4

Started: Date 7/14/65 Time 9:00
Finished: Date 7/22/65 Time 9:45

Client N. J. S. H. D. Location Route 440 Freeway Newark Bay Contract B

Surface Elevation +5'0"
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | 3 | S1 | 2 2 | | Br cf S, t. - f G. | Rec 8" |
| 2 | | 12 | | 2 2 | | | |
| 3 | | 11 | | | | | |
| 4 | | 11 | | | | FILL (Brown coarse to | |
| 5 | | 10 | | | | | |
| 6 | | 15 | S2A | 2 1 | | Br cf S. | |
| 7 | | 22 | S2B | 3 2 | | Gr cf S, t. G. | Rec 10" |
| 8 | | 34 | | | | | |
| 9 | | 40 | | | | | |
| 10 | | 35 | | | | fine SAND, trace Silt) | |
| 11 | | 50 | S3 | 2 2 | | | |
| 12 | +7.0 | 42 | | 2 2 | | Br cf S, t.+G, t. f G. 12' | Rec 12" |
| 13 | | 37 | S4 | 3 4 | | Gr G s., mf S, t.- f G, t.- dec wood. | Rec 18" |
| 14 | | 42 | | 4 4 | | Gray SILT, some medium to fine Sand. | |
| 15 | | 77 | S5 | 2 4 | | Gr G s.+, mf S, t.-f G. | Rec 15" |
| 16 | | 64 | | 5 4 | | | |
| 17 | -12.0 | 64 | S6A | 2 6 | | Gr G, t. shells. 17' | Rec 22" |
| 18 | | 95 | S6B | 10 11 | | Gr m f S, s.+ G, t.+ shells | |
| 19 | | 204 | S7A | 12 20 | | Gr mf S, s.+ G. | |
| 20 | | 476 | S7B | 32 30 | | Br mf S, s.+ G. (see Pg 2) | Rec 20" |

Boring Contractor Warren George Inc. Driller P. Spiciarich Helper H. Fredrickson
Casing: I.D. 4" to 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 3" to 2
Supervisor T. Banta

# BORING LOG

JOB NO. Route 440
HOLE NO. U/D - 11
Sheet No. 2 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 325 | | | | | |
| 22 | | 278 | | | | Gray to brown medium to fine | |
| 23 | | 321 | | | | | |
| 24 | | 197 | S8 | 12 22 | | Br efS, s.- S, t.- mfG. | Rec 18" |
| 25 | | 156 | | 22 35 | | | |
| 26 | | 184 | | | | | Wash ahead from 25' |
| 27 | -22.0 | 169 | | | | SAND, some Silt 27' | |
| 28 | | 175 | | | | From Wash | |
| 29 | | 187 | S9 | 15 24 | | Br Cy S, t. f S. | Rec 12" |
| 30 | | 194 | | 25 | | | |
| 31 | | 175 | | | | Brown Clayey SILT to | |
| 32 | | 162 | | | | | |
| 33 | | 182 | | | | | |
| 34 | | 197 | S10 | 8 15 | | Br lyr S, a. lyr C & S, t-.fS. | Rec 24" |
| 35 | | 150 | | 17 23 | | | |
| 36 | | 142 | | | | | |
| 37 | | 100 | | | | | |
| 38 | | 103 | | | | | |
| 39 | | 117 | S11 | 8 12 | | Br Cy S, s. C & S. | Rec 22" |
| 40 | | 122 | | 9 24 | | | |
| 41 | | 136 | | | | CLAY & SILT, little | |
| 42 | | 140 | | | | | |
| 43 | | 147 | | | | | |
| 44 | | 139 | S12 | 8 9 | | | |
| 45 | | 151 | | 16 22 | | Br C & S. | Rec 18" |
| 46 | | 156 | | | | | |
| 47 | | 164 | | | | medium to fine Gravel. | |
| 48 | | 147 | | | | | Press 12" Rec 9" |
| 49 | | 142 | U1 | P P | | | |
| 50 | | 156 | S13 | 11 15 | | Br C & S, t.+ mfG. | Rec 18" |

# BORING LOG

JOB NO. Route 440
HOLE NO. U/D-11
Sheet No. 3 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 157 | S | 19 24 | | | |
| 52 | | 177 | | | | | Tried tube at 53. Could not press. |
| 53 | | 184 | | | | | |
| 54 | | 19 | S14 | 10 14 | | Br C & S, t. + mfG. | Rec 18" |
| 55 | | 27 | | 22 28 | | | |
| 56 | | 24 | | | | | |
| 57 | | 41 | | | | | |
| 58 | | 46 | | | | | |
| 59 | | 39 | S15 | 13 15 | | Br C & S l., fS, t.+mfG. | Rec 18" |
| 60 | | 45 | | 22 27 | | | |
| 61 | | 47 | | | | Brown CLAY & SILT, | |
| 62 | | 69 | | | | | |
| 63 | | 110 | | | | | |
| 64 | | 106 | S16 | 16 15 | | Br C & Ss., mfS, s.-mfG. | Rec 15" |
| 65 | | 127 | | 23 29 | | | |
| 66 | | 160 | | | | | |
| 67 | | 230 | | | | | |
| 68 | | 257 | | | | Little medium to fine Gravel. | |
| 69 | | 196 | S17 | 23 36 | | | |
| 70 | | 187 | | 46 38 | | do. | Rec 22" |
| 71 | | 192 | | | | | |
| 72 | | 207 | | | | | |
| 73 | | 209 | | | | | |
| 74 | | 106 | S18 | 11 15 | | | |
| 75 | | 191 | | 19 19 | | Br C & S, t.+ mfG. | Rec 18" |
| 76 | | 165 | | | | | |
| 77 | | 171 | | | | | |
| 78 | | 187 | | | | | |
| 79 | | 192 | U2 | P P | | | Press 24" |
| 80 | | 184 | | P P | | | Rec 24" |

4" cas.

2-1/2 cas.

# BORING LOG

JOB NO. Route 440
HOLE NO. U/D - 11
Sheet No. 4 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 81 | | 165 | S19 | 7 10 | | Br C & S, t.+ mf G. | Rec 18" |
| | | 169 | | 14 14 | | Brown CLAY & SILT, little medium to fine Gravel. | |
| 82 | | 174 | | | | | |
| 83 | | | | | | | |
| 84 | | 181 | | | | | |
| 85 | | 196 | S20 | 9 11 | | Br lyr C & S, t.-fS. | Rec 20" |
| 86 | | 187 | | 13 17 | | | |
| 87 | -82.0 | 189 | | | | | 87' |
| 88 | | 247 | S21 | 19 16 | | Br mfS, s.+C & S, s. mfG. | Rec 16" |
| 89 | | 264 | | 45 40 | | Brown medium to fine Sand, some (+) Clay & Silt, some (+) medium to fine Gravel. | |
| 90 | | 261 | | | | | |
| 91 | | 288 | | | | | |
| 92 | | 296 | | | | | |
| 93 | | | S22 | 85 48 | | Br mf G a. +, mfS, s. C & S. | Rec 14" |
| 94 | | | | 46 50 | | End of Boring 94' | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 12
Sheet No. 1 of 3

Started: Date 7/2/65 Time 9:00
Finished: Date 7/2/65 Time 3:45

Route 440 Freeway
Client N. J. S. H. D. Location Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | -1.5 | | | P | | WATER 1'6" | |
| 2 | | P | S1 | P P | | BK O S a., f S, t. f G. | Rec 13" |
| 3 | | P | | P P | | Black Organic SILT. | |
| 4 | | P | S2 | P P | | | |
| 5 | | P | | P P | | BK O S, t. f S, t.-f G. | Rec 11" |
| 6 | | P | S3 | P P | | BK O S, t.- f S, t. - f G. | Rec 10" |
| 7 | | P | | P P | | | |
| 8 | | P | S4 | P P | | BK O S, t. - shells. | Rec 8" |
| 9 | | W | | P | | | |
| 10 | | W | S5 | P P | | BK O S, a. decaying veg. 12'6" | W=weight of 300# hammer. |
| 11 | | W | | P P | | | Rec 8" |
| 12 | -12.5 | 4 | S6 | P 4 | | Gr f S, a. S. | Rec 18" |
| 13 | | 6 | | 4 4 | | Gray fine SAND, and Silt. 15'0" | |
| 14 | -15.0 | 12 | | | | | From wash water. |
| 15 | | 8 | | | | | |
| 16 | | 8 | | | | | |
| 17 | | 4 | S7 | 2 2 | | Gr Cy S and f S (vvd.) | Rec 22" |
| 18 | | 5 | | 1 2 | | (See pg 2 for description) | |
| 19 | | 5 | | | | | |
| 20 | | | | | | | |

Boring Contractor Warren George Inc. Driller P. Sibiarich Helper H. Fredricksbr
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 12
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 6 | | | | | |
| 22 | | 4 | | 7 | | | |
| 23 | | 8 | S-8 | 7 12 | | Gr C & G and m f S (vvd). | Rec 24" |
| 24 | | 15 | | 10 | | | |
| 25 | | 15 | | | | | |
| 26 | | 26 | | | | Brown varved SILT and | |
| 27 | | 27 | | | | | |
| 28 | | 15 | S-1 | P | | | |
| 29 | | 17 | | P P | | | Press 24" |
| 30 | | 17 | | P | | | Rec 23" |
| 31 | | 14 | S-9 | 3 4 | | Br C & G, t. f S. | Rec 18" |
| 32 | | 20 | | 8 10 | | | |
| 33 | | 23 | | | | | |
| 34 | | 19 | | | | CLAY & SILT. | |
| 35 | | 31 | | | | | |
| 36 | | 38 | S-10 | 10 10 | | Br vvd S and C & G. | Rec 22" |
| 37 | | 43 | | 13 14 | | | |
| 38 | | 42 | | | | | |
| 39 | | 34 | | | | | |
| 40 | | 39 | | | | | |
| 41 | | 36 | S-11 | 12 7 | | Br C & G. | Rec 19" |
| 42 | | 39 | | 7 9 | | | |
| 43 | | 42 | | | | | |
| 44 | | 47 | | | | | |
| 45 | | 44 | | | | | |
| 46 | | 36 | S-12 | 3 6 | | Br vvd C & G. | Rec 18" |
| 47 | | 51 | | 6 8 | | | |
| 48 | | 54 | | | | | |
| 49 | | 57 | | | | | |
| 50 | | 62 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 12
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | | S | 5 7 | | Br C & S. (See Pg 2 for description) | Rec 18" |
| 52 | 52.0 | | S | 13 8 12 | | 52'0" | |
| | | | | | | End of Boring 52' | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

Started: Date 7/3/65 Time 8:30
Finished: Date 7/3/65 Time 3:45

JOB NO. Rte 440
HOLE NO. 13
Sheet No. 1 of 3
Route 440 Freeway

Client N.J. S.H.D. Location Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | WATER | |
| 3 | -2.5 | | | P | | M.L.W. 2'6" | |
| 4 | | P | S1 | P P | | Gr f S, a. ǧ. | Rec 12" |
| 5 | | P | | P | | Gray fine SAND, | |
| 6 | | P | S2 | P P | | Gr f S, a. ǧ. | Rec 9" |
| 7 | | P | | P P | | | |
| 8 | | P | S3 | P P | | Gr ǧ and lyr dec'd veg. | Rec 13" |
| 9 | | P | | P | | and Silt. | |
| 10 | | P | | | | | |
| 11 | | 4 | S4 | P P | | Gr f S, a. ǧ, t.- f G. 12'0" | Rec 15" |
| 12 | | 8 | | P | | | |
| 13 | | 10 | S5A | 4 5 | | Br ǧ, a. c f S, t.- f G. | Rec 17" |
| 14 | | 14 | S5B | 7 5 | | Br ǧ, a. c f S. Brown SILT, | |
| 15 | -15.5 | 17 | | | | and coarse to fine S. . 15'0" | From wash water. |
| 16 | | 19 | | | | | |
| 17 | | 21 | | | | | |
| 18 | | 9 | S6 | 7 15 | | | |
| 19 | | 19 | | 16 17 | | Br Cy ǧ, s. m f S. | Rec 22" |
| 20 | | 21 | | | | (See Pg 2 for description) | |

Boring Contractor Warren George Inc. Driller P. Spiciarich Helper H. Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300 # Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140 # Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 13
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 28 | | | | | Wash before casing from 22' |
| 22 | | 32 | | | | | |
| 23 | | 11 | | P P | | | Press ;8" |
| 24 | | 18 | U1 | P P | | | Rec 12" |
| 25 | | 19 | | 6 8 | | Br gr vvd C & S. | |
| 26 | | 22 | S7 | 9 9 | | | Rec 22" |
| 27 | | 21 | | | | | |
| 28 | | 27 | | | | | |
| 29 | | 31 | | 10 9 | | | |
| 30 | | 34 | S8 | 9 8 | | Br C & S, w. lyr S, t. Cy S. | Rec 20" |
| 31 | | 30 | | | | | |
| 32 | | 36 | | | | Brown varved CLAY & SILT. | |
| 33 | | 38 | | | | | |
| 34 | | 41 | | | | | |
| 35 | | 36 | | | | | |
| 36 | | 43 | | P P | | | |
| 37 | | 47 | U2 | P P | | | Press 22" |
| 38 | | 51 | | 5 8 | | Br vvd C & S, s. lyr. S, t. f S, | Rec 20" |
| 39 | | 52 | S9 | 9 10 | | | Rec 18" |
| 40 | | 57 | | | | | |
| 41 | | 45 | | | | | |
| 42 | | 48 | | | | | |
| 43 | | 46 | | 4 5 | | Br C & S. | Rec 20" |
| 44 | | 45 | S10 | 4 6 | | | |
| 45 | | 51 | | | | | |
| 46 | | 39 | | | | | |
| 47 | | 56 | | 5 5 | | Br vvd C & S. | |
| 48 | | 62 | S11 | 6 7 | | | |
| 49 | | 64 | | | | | |
| 50 | | 67 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 13
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | | 6 | 4 5 | | (See Pg 2) | |
| 52 | -52.0 | | 12 | 6 7 | | Br C & G, t, f G. | Rec 18" |
| | | | | | | End of Boring 52' | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

### Consulting Engineers

JOB NO. Rte. 440
HOLE NO. U/D-14
Sheet No. 1 of 4

Started: Date 6/21/65 Time 8:30
Finished: Date 6/25/65 Time 11:00

Client N. J. S. H. D. Location Route 440 Freeway Newark Bay Contract B

Surface Elevation +9.0
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | 15 | $S_1$ | 3 4 | | Gr m f S. | Rec 10" |
| 2 | | 31 | | 9 9 | | | |
| 3 | | 40 | | | | | |
| 4 | | 36 | | | | Gray medium to fine SAND, | |
| 5 | | 28 | | | | | |
| 6 | | 8 | $S_2$ | 3 1 | | | |
| 7 | | 36 | | 5 10 | | Gr f S, s. br O %. | Rec 10" |
| 8 | | 46 | | | | | |
| 9 | | 38 | | | | little (+) Silt. | |
| 10 | | 34 | | | | | |
| 11 | | 53 | $S_3$ | 6 | | Gr m f S, l.+ %, t. f G. | Rec 14" |
| 12 | -3.0 | 37 | | 3 | | 12'0" | |
| 13 | | 54 | $S_4$ | 1 | | Gr m f S & gr bk O %. | Rec 12" |
| 14 | | 52 | | 1 | | | |
| 15 | | 33 | $U_1$ | P | | | |
| 16 | | 45 | | P | | Gray Organic SILT. | Press 24" Rec 24" |
| 17 | | 54 | $S_5$ | P | | | |
| 18 | | 40 | | P | | Gr O %, t. m S. | Rec 18" |
| 19 | | 44 | $U_2$ | P | | | Press 22" Rec 22" |
| 20 | | 34 | | P | | 20'0" | |

Boring Contractor WARREN GEORGE INC. Driller P. Spiciarich Helper H. Fredrickson
Casing: I.D. 4" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 3"
Supervisor Thomas Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D-14
Sheet No. 2 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 93 | S | 2 6 | | Gr m f S, s. G, t. sea shells. | Rec 12" |
| 22 | | 122 | D | 8 3 | | | |
| 23 | | 84 | | | | | |
| 24 | | 62 | | | | Gray medium to fine SAND, | |
| 25 | | 54 | | | | | |
| 26 | | 110 | S | 2 3 | | Br G & m S, t. C & G. | Rec 20" |
| 27 | | 90 | 7 | 3 3 | | some (-) Silt with pocket | |
| 28 | | 82 | | | | | |
| 29 | | 95 | | | | of SILT. | |
| 30 | | 135 | | | | | |
| 31 | | 122 | S | 5 5 | | Rd m S, t. G. | Rec 10" |
| 32 | | 136 | 8 | 6 4 | | | |
| 33 | -24.0 | 161 | | | | | 33'0" From wash water |
| 34 | | 182 | | | | | |
| 35 | | 186 | | | | | |
| 36 | | 131 | S | 6 10 | | Br G y C, t. f G. | Rec 24" Wash ahead of casing from 40' |
| 37 | | 162 | 9 | 18 30 | | | |
| 38 | | 271 | | | | | |
| 39 | | 219 | | | | Brown varved SILT and | |
| 40 | | 312 | | P | | | Press 18" Rec 15" |
| 41 | | 183 | U | P | | | |
| 42 | | 153 | 3 | P P | | | |
| 43 | | 136 | | 5 7 | | Br vvd G, t. f S & G y C | Rec 24" |
| 44 | | 123 | S | 10 16 10 | | | |
| 45 | | 175 | | | | | |
| 46 | | 168 | U | P P | | Silty CLAY | Press 18" Rec 15" |
| 47 | | 172 | 4 | P P | | | |
| 48 | | 189 | | 4 5 | | | |
| 49 | | 194 | S | 11 6 9 | | Br vvd C & G, t. m S. | Rec 20" |
| 50 | | 175 | | | | to | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U7D-14
Sheet No. 3 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 164 | | P P | | | Press 18" |
| | | | 5 | P P | | | Rec 17" |
| 52 | | 169 | | | | | |
| | | 177 | | 2 3 | | | |
| 53 | | | 12 | 4 5 | | Br S & C. | |
| 54 | | 184 | | | | | |
| 55 | | 192 | | | | | |
| | | 149 | | P P | | | |
| 56 | | | 6 | P P | | | Press 24" |
| 57 | | 152 | | | | | Rec 22" |
| | | 157 | | 3 4 | | | |
| 58 | | | 13 | 4 7 | | Br S y C, t. f S. | |
| 59 | | 171 | | | | | Rec 24" |
| 60 | | 163 | | | | | |
| | | 139 | | P P | | | |
| 61 | | | 7 | P P | | brown Silty CLAY. | Press 14" |
| 62 | | 146 | | | | | Rec 14" |
| | | 157 | | 5 6 | | | |
| 63 | | | 14 | 6 8 | | Br. S y C, t. f S. | Rec 24" |
| 64 | | 181 | | | | | |
| 65 | | 174 | | | | | |
| 66 | | 171 | | | | | |
| 67 | | 168 | | | | | |
| 68 | | 175 | | | | | |
| 69 | | 184 | | | | | |
| 70 | | 187 | | | | | |
| | | 163 | | P P | | | |
| 71 | | | 8 | P P | | | Press 24" |
| 72 | | 168 | | | | | Rec 22" |
| | | 181 | | 7 9 | | | |
| 73 | | | 15 | 9 14 | | Br. S y C l.+, m f S, t. f G. | Rec 24" |
| 74 | | 173 | | | | | |
| 75 | | 182 | | | | | |
| 76 | | 154 | | | | | |
| 77 | | 169 | | | | | |
| 78 | 69.0 | 187 | | | | 78'0" | From wash water |
| 79 | | 192 | | | | | |
| 80 | | 184 | | | | (See Pg 4 for description) | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. U/D-14
Sheet No. 4 of 4

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 81 | | 180 | 6 | 11 14 | | Br m f S, t. C & $, a.- m f G. Brown medium to fine SAND, trace Clay & Silt, and (-) medium to fine Gravel. | Rec 10" |
| 82 | | 197 | | 18 31 | | | |
| 83 | | | 7 | 10 16 | | | |
| 84 | -75.0 | | | 14 23 | | do. 84'0" | Rec 12" |
| | | | | | | End of boring at 84'0" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte 440
HOLE NO. 15
Sheet No. 1 of 3

Started: Date 7/6/65 Time 9:30
Finished: Date 7/6/65 Time 3:45

Client N. J. S. H. D. Location Rte 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | M.L.W. | |
| 3 | | | | | | WATER | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | -6.0 | | | | | 6'0" | |
| 7 | | P | S1 | P P | | BK O S. | Rec 9" |
| 8 | | P | | P P | | | |
| 9 | | P | | | | | |
| 10 | | P | | | | | |
| 11 | | P | S2 | P P | | Black Organic SILT. | |
| 12 | | P | | P P | | do. | Rec 8" |
| 13 | | P | S3 | P P | | BK O S, t. f S, t.-f G, t.- decaying wood. | Rec 14" |
| 14 | | P | | P P | | | |
| 15 | | P | S4 | P P | | BK O S, t. - f G. | Rec 12" |
| 16 | | P | | P P | | | |
| 17 | | P | S5 | P P | | | |
| 18 | -18.0 | P | | P P | | BK O S. 18'0" | Rec 10" |
| 19 | | 4 | S6 | 2 4 | | Br cf S, a. S, t. f G. (See Pg 2 for description) | Rec 16" |
| 20 | | 7 | | 4 8 | | | |

Boring Contractor Warren George Inc. Driller R. Sprinircih Helper H. Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 15
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 7 | | | | | |
| 22 | | 10 | | | | Brown coarse to fine SAND, and Silt, trace fine Gravel. | |
| 23 | | 14 | | | | | |
| 24 | -24.0 | 23 | S7A | 11 9 | | Br mf S, a. g, t. f G. 24'0" | Rec 18" |
| 25 | | 31 | S7B | 12 16 | | Br Cy g, t. f S. | |
| 26 | | 27 | | | | | |
| 27 | | 42 | | | | | |
| 28 | | 68 | | | | | |
| 29 | | 61 | U1 | P P | | Brown CLAY & SILT. | Press 22" |
| 30 | | 67 | | P | | | Rec 18" |
| 31 | | 45 | S8 | 7 15 | | | |
| 32 | | 51 | | 19 14 | | Br C & g. | Rec 14" |
| 33 | | 56 | | | | | |
| 34 | | 58 | | | | | |
| 35 | | 64 | | | | | |
| 36 | | 71 | S9 | 4 6 | | | |
| 37 | | 73 | | 9 11 | | Br C & g, t.- f S. | Rec 18" |
| 38 | | 78 | | | | | |
| 39 | | 81 | | | | | |
| 40 | | 96 | | | | | |
| 41 | | 75 | U2 | P P | | | Press 24" |
| 42 | | 79 | | P | | | Rec 24" |
| 43 | | 84 | S10 | 6 7 | | | |
| 44 | | 87 | | 8 10 | | Br C & g. | Rec 20" |
| 45 | | 92 | | | | | |
| 46 | | 67 | S11 | 4 4 | | Br C & g. | Rec 20" |
| 47 | | 75 | | 5 7 | | | |
| 48 | | 79 | | | | | |
| 49 | | 86 | | | | | |
| 50 | | 94 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 15
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | | | 5 6 | | (See Pg 2) | |
| | | | S12 | 7 | | Br lyr C & S. | Rec 24" |
| 52 | -52.0 | | | 7 | | | |
| | | | | | | End of Boring 52'0" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 23
Sheet No. 1 of 2

Started: Date 7/9/65 Time 9:30
Finished: Date 7/9/65 Time 3:00

Client N. J. S. H. D. Location Route 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | | | | | | | |
| 2 | -2.34 | | | | | M.L.W. Water | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | -5.0 | | | | | 5'0" | |
| 6 | | P | S1 | P P | | BK gr O S, t. mfS, t.- f G. Gray black | Rec 12" |
| 7 | | P | | P P | | | |
| 8 | | P | S2 | P P | | Gr O S, t. f S. Organic SILT. | Rec 14" |
| 9 | | P | | P P | | | |
| 10 | | P | S3A | P P | | | |
| 11 | -11.0 | 1 | S3B | P P | | BK dec. veg. t. S. 11'0" | Rec 15" |
| 12 | | 1 | S4A | 3 5 | | Gr f S, t. S. Gray brown fine SAND, some Silt. | |
| 13 | | 1 | S4B | 4 6 | | | Rec 18" |
| 14 | | 6 | S5 | 3 3 | | Gr br f S, s. S. | |
| 15 | | 7 | | 4 3 | | Gr br S, t. f S. | Rec 14" |
| 16 | -16.0 | 4 | | | | 16'0" | |
| 17 | | 2 | | | | | |
| 18 | | 2 | | | | Gray CLAY & SILT. | |
| 19 | | 2 | S6 | 1 1 | | Gr C & S. | Rec 20" |
| 20 | | 3 | | 1 1 | | | |

Boring Contractor Warren George Inc. Driller P. Spiciarich Helper H. Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 23
Sheet No.: 2 of 2

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | 4 | | | | | |
| 22 | | 3 | | | | | |
| 23 | -23.0 | 8 | | | | (See Pg 1 for description) 23'0" | From wash water |
| 24 | | 14 | S7 | 10 14 | | Brown coarse Br c f S, s. g. to fine SAND, some Silt. | Rec 18" |
| 25 | | 22 | | 17 17 | | | |
| 26 | -26.0 | 26 | | | | 26'0" | |
| 27 | | 24 | | | | | |
| 28 | | 27 | | | | Brown CLAY & SILT. | Press 20 |
| 29 | | 31 | U1 | P P | | | Rec 18 |
| 30 | | 33 | | 6 10 | | | |
| 31 | | | S8 | 11 8 | | Br C & g, t. f S. 31'8" | Rec 20" |
| 32 | -31.67 | | | | | End of boring at 31'8" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

Started: Date 7/7/65 Time 8:30
Finished: Date 7/8/65 Time 3:00

JOB NO. Rte. 440
HOLE NO. 24
Sheet No. 1 of 3

Client N. J. S. H. D.
Location Route 440 Freeway, Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | | | | | | |
| 2 | 2.3+ | | | | | WATER | |
| 3 | 3.0 | | | | | M. L. W. | |
| | | | | | | 3'0" | |
| 4 | | P | S1 | P | P | BK O g. | Rec 12" |
| 5 | | P | | P | P | | |
| 6 | | P | S2 | P | P | Gr O g. Gray Organic | Rec 8" |
| 7 | | P | | P | P | SILT. | |
| 8 | | P | S3 | P | P | Gr O g, t. - shells. | Rec 7" |
| 9 | | P | | P | P | | |
| 10 | | P | S4 | P | P | do. | Rec 9" |
| 11 | | P | | P | P | | Wash before casing from 13' |
| 12 | | P | S5 | P | P | | |
| 13 | 13.0 | 3 | | 8 | 14 | Gr bk O g, s. deg. veg. | Rec 17" |
| | | | | | | 13'0" | |
| 14 | | 8 | S6A | 14 | 11 | Gr Cy g, s. g. | Rec 14" |
| 15 | | 15 | S6B | | | Gr cf S, s. g. | |
| 16 | | 14 | | | | Gray to brown coarse to fine | |
| 17 | | 9 | | | | SAND. some Silt. | |
| 18 | | 13 | | | | | |
| 19 | | 24 | S7 | 8 | 14 | | |
| 20 | | 27 | | 25 | 14 | Br c f S, s. g, t. + mf G. | Rec 20" |

Boring Contractor Warren George Inc. Driller P. Sprintis Helper L. Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. Hammer Weight 140# Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 24
Sheet No. 2 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | -21.0 | 32 | | | | (See Pg 1 for description) 21'0" | From wash water. |
| 22 | | 11 | | | | | |
| 23 | | 23 | | | | Gray brown layered SILT. | |
| 24 | | 31 | S8 | 4 3 | | Gr br lyrd g, t. + f S. | Rec 18" |
| 25 | | 34 | | 5 7 | | | |
| 26 | -26.0 | 29 | | | | 26'0" | From casing blows |
| 27 | | 18 | | | | | |
| 28 | | 21 | | | | | |
| 29 | | 25 | S9 | 5 6 | | Gr br lyrd g & C, t. f S, t.- g. | Rec 24" |
| 30 | | 40 | | 9 10 | | | |
| 31 | | 33 | | | | | |
| 32 | | 26 | | | | | |
| 33 | | 24 | | | | Brown CLAY & SILT. | |
| 34 | | 24 | U1 | P P | | | Press 18" |
| 35 | | 22 | | P P | | | |
| 36 | | 26 | S10 | 4 4 | | Br C & g. | Rec 18" |
| 37 | | 21 | | 7 9 | | | |
| 38 | | 25 | | | | | |
| 39 | | 27 | | | | | |
| 40 | | 33 | | | | | |
| 41 | | 34 | S11 | 2 3 | | Br C & g. | Rec 24" |
| 42 | | 39 | | 4 4 | | | |
| 43 | | 42 | | | | | |
| 44 | | 47 | | | | | |
| 45 | | 51 | | | | | |
| 46 | | 39 | U2 | P P | | | Press 20" |
| 47 | | 43 | | P P | | | Rec 17" |
| 48 | | 46 | S12 | 2 5 | | Br lyrd C & g. | Rec 20" |
| 49 | | 48 | | 5 6 | | | |
| 50 | | 51 | | | | | |

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 24
Sheet No. 3 of 3

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 51 | | 48 | | | | | |
| 52 | | 62 | | | | | |
| 53 | | 71 | S13 | 8 17 | 18 | Br C & G, t. - f G. | Rec 20" |
| 54 | | 69 | | | 17 | | |
| 55 | | 68 | | | | | |
| 56 | | 56 | | | | | |
| 56 | | | | | | | |
| 57 | | 72 | | | | | |
| 58 | | 77 | S14A | 11 | 8 | Br. C & G a., c f S, s. m f G. | |
| 59 | | 79 | S14B | 9 | 10 | Br C & G t.+, f S, t. f G. | Rec 20" |
| 60 | | 81 | | | | | |
| 61 | | 62 | | | | | |
| 62 | | 69 | | | | | |
| 63 | | 67 | S15A | 6 | 6 | Br C & G a., c m S, s.- f G. | |
| 64 | | 64 | S15B | 11 | 17 | Br C & G, t. - f G. | Rec 20" |
| 65 | | 72 | | | | | |
| 66 | | 61 | | | | | |
| 67 | | 79 | | | | Brown CLAY & SILT. | |
| 68 | | 82 | U3 | P P | P | | Press 24" Rec 24" |
| 69 | | 88 | | P | P | | |
| 70 | | 94 | S16 | 7 9 | 9 | Br C & G, t. + f G. | Rec 18" |
| 71 | | 79 | | | 11 | | |
| 72 | | 87 | | | | | |
| 73 | | 96 | | | | | |
| 74 | | 102 | | | | | |
| 75 | | 112 | S17 | 5 10 | 10 | Br C & G, t. mf G. | Rec 20" |
| 76 | | 98 | | | 11 | | |
| 77 | -77.0 | 107 | | | | 77'0" | |
| 78 | | 114 | | | | Brown coarse to fine GRAVEL and, medium to fine | |
| 79 | | | S18 | 21 19 | 21 30 | Br cf G a., mf S, s.- C & G. Sand, some (-) Clay & Silt 80'0" | Rec 18" |
| 80 | | | | | | | |

End of boring at 80'0"

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 26
Sheet No. 1 of 2

Started: Date 7/10/65 Time 9:00AM
Finished: Date 7/10/65 Time 12:30PM

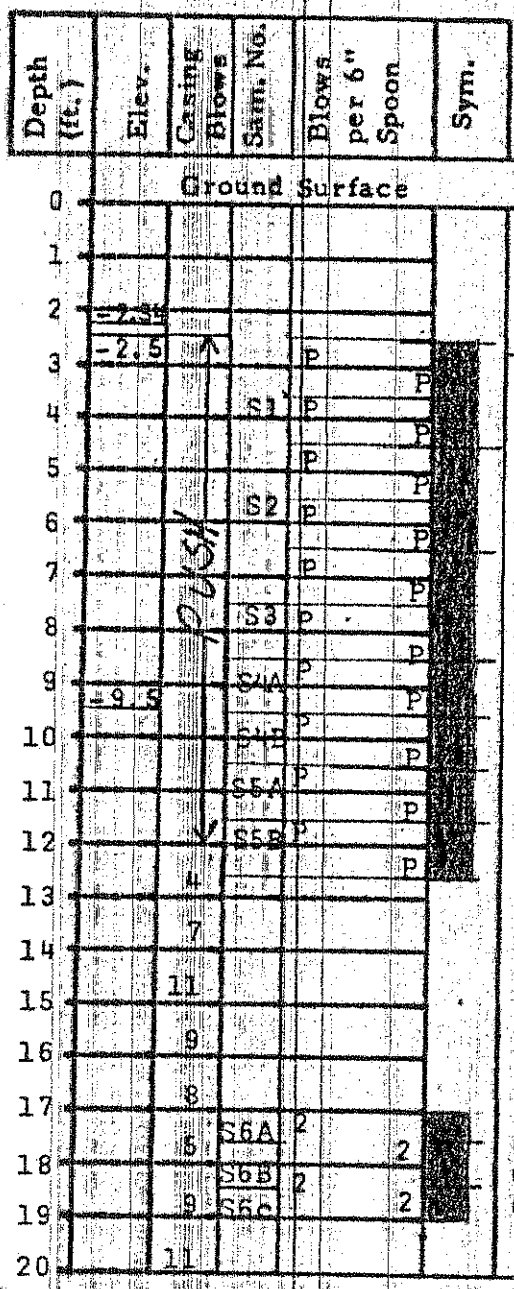
Client N. J. S. H. D.

Location Route 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |




| Remarks | |
|---|---|
| | WATER. |
| | M. L. W. |
| | 2'6" |
| Rec 8" | Bk gr O g, t. f S. |
| Rec 8" | Gr O g, t. f S. |
| | Gray Organic SILT, trace fine |
| Rec 15" | Gr O g, t. f S, Sand. |
| Rec 18" | Bk dec Veg, S. m f S. 9'6" |
| Rec 24" | Gr f S, t. O g, t. f G. |
| | Gr br f S, s. O g. |
| | Gray brown fine SAND, some (-) Organic Silt with layers of gray Organic SILT, and fine Sand. |
| Rec 22" | Gr br Gy C, t. f S. Gr O g, a. f S Gr m f S, t. f G. |

Boring Contractor Warren George Inc. Driller P. Spiciarich Helper H. Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D.
Supervisor T. O'Connell

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 25
Sheet No. 2 of 2

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 21 | | | S7A | 8 10 | | Br mf S, t. f G. | Rec 22" |
| 22 | -220 | | S7B | 11 14 | | Gr Og, a. f S, t. SyC. 22'0" | |
| | | | | | | End of boring at 22'0" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

Started: Date 7/12/65 Time 9:00
Finished: Date 7/12/65 Time 3:45

JOB NO. Rte. 440
HOLE NO. 29
Sheet No. 1 of 2

Client N. J. S. H. D.

Location Route 440 Freeway Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | | | | | Ground Surface | |
| 1 | -1.5 | | | | | WATER 1'6" | |
| 2 | | P | | P | | | |
| 3 | | P | S1 | P P | | B K O g, s. c f S, t. m f G. | Rec 12" |
| 4 | | P | | P P | | | |
| 5 | | P | S2 | P P | | Bk O g, a. f S. | Rec 10" |
| 6 | | P | | P P | | Gray black Organic SILT. | |
| 7 | | W | S3 | P P | | Gr O g, a. f S. | Rec 12" |
| 8 | | P | | P P | | | |
| 9 | | W | S4 | P P | | Gr bk O g. | Rec 10" |
| 10 | | 1 | | P P | | | |
| 11 | | 3 | S5 | P P | | Gr bk O g, t.+lyr ashes, to cinders. | Rec 10" |
| 12 | -11.5 | 2 | | 3 P | | 11'6" | |
| 13 | | 4 | S6 | 3 1 | | Gr bk g, a. ashes, s.+cinders, s. mf G. | Rec 8" |
| 14 | | 3 | | 2 3 | | | |
| 15 | | 2 | S7 | 2 2 | | Gray black SILT, ASHES, CINDERS Gr bk g, a. ashes s.+ cinders | Rec 4" |
| 16 | | 3 | S8A | 1 6 | | | |
| 17 | | 8 | S8B | 1 1 | | Gr bk g, a.-cinders, s. mf S. | |
| 18 | | 5 | S9A | P 1 | | Gr bk g, a.+ m f S. | Rec 16" |
| 19 | -18.5 | 4 | S9B | 12 P | | Gr bk g, a. ashes, s.+ cinders, s.-mf S. 18'6" | Rec 20" |
| 20 | -20.0 | 8 | | 15 | | Br mf S s.- g. 20'0" | |

Boring Contractor Warren George Inc. Driller P.Spiciarich Helper H.Fredrickson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. 2"
Supervisor T. Banta

# BORING LOG

JOB NO. Rte. 440
HOLE NO. 29
Sheet No. 2 of 2

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | 16 | | | |
| 21 | | 20 | S10 | 11 | 9 | Br S & C, t.- f G. | Rec 16" |
| 22 | | 6 | | | 15 | | |
| 23 | | 9 | | | | | |
| 24 | | 13 | | | | Brown CLAY & SILT, | |
| 25 | | 13 | | | | | |
| 26 | | 15 | U1 | P | P | trace fine Gravel. | Press 22" |
| 27 | | 19 | | P | P | | Rec 20" |
| 28 | | 21 | S11 | 4 | 7 | Br C & S. | Rec 22" |
| 29 | | 26 | | 7 | 9 | | |
| 30 | | 28 | | | | | |
| 31 | | | S12 | 6 | 8 | | |
| 32 | 32.0 | | | 10 | 13 | Br C & S, t. f G, t.- f S. 32'0" | Rec 18" |
| | | | | | | End of boring at 32'0" | |

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Rte. 440
HOLE NO. 30
Sheet No. 1 of 1

Started: Date 7/13/65 Time 8:00
Finished Date 7/13/65 Time 9:00

Client N. J. S. H. D.

Location Route 440 Freeway
Newark Bay, Contract B

Surface Elevation 0'0"
Datum MEAN LOW WATER

WATER LEVELS

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | 0.0 | Ground Surface | | | | | |
| 1 | | P | S1 | P P | | BK O &, t.+ cf G. | Rec 10" |
| 2 | | P | | P P | | | |
| 3 | | P | | | | | |
| 4 | | P | | | | Gray brown Organic SILT. | |
| 5 | | P | S2 | P P | | Gr O &, t. shells, t- mf G. | Rec 12" |
| 6 | | P | | P P | | | |
| 7 | | P | | P P | | | |
| 8 | | P | S3 | P P | | Gr br O &, t.- cinders. | Rec 8" |
| 9 | | P | S4A | P P | | Gr br &, t.- shells, t.- cinders | Rec 16" |
| 10 | 10.0 | P | S4B | P 2 | | Gr br &, s. mf S, t.+ dec. veg. | |
| 11 | | 4 | S5 | 12 14 | | Gr cf S, s. &. | Rec 14" |
| 12 | | 7 | | 9 10 | | | |
| 13 | | 10 | | | | Gray coarse to fine SAND, some Silt. | |
| 14 | | 14 | | | | | |
| 15 | | 17 | | | | | |
| 16 | | | S6A | 14 10 | | Gr cf S, s. &. | |
| 17 | -17.0 | | S6B | 10 17 | | Br cfS, s. &, t.-f G. | Rec 12" |
| 18 | | | | | | End of Boring 17'0" | |
| 19 | | | | | | | |
| 20 | | | | | | | |

Boring Contractor Warren George Inc. Driller P. Spiciarich Helper H. Fredricksen
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. --
Supervisor T. Santa

# BORING LOG

## CLARKE, HARTMAN & DUNN, INC.

Consulting Engineers

JOB NO. Route 440
HOLE NO. 31
Sheet No. 1 of 1

Started: Date 7/23/65 Time 10:00
Finished: Date 7/23/65 Time 12:30

Client N.J.S.H.D. Location Route 440 Freeway Newark Bay, Contract B

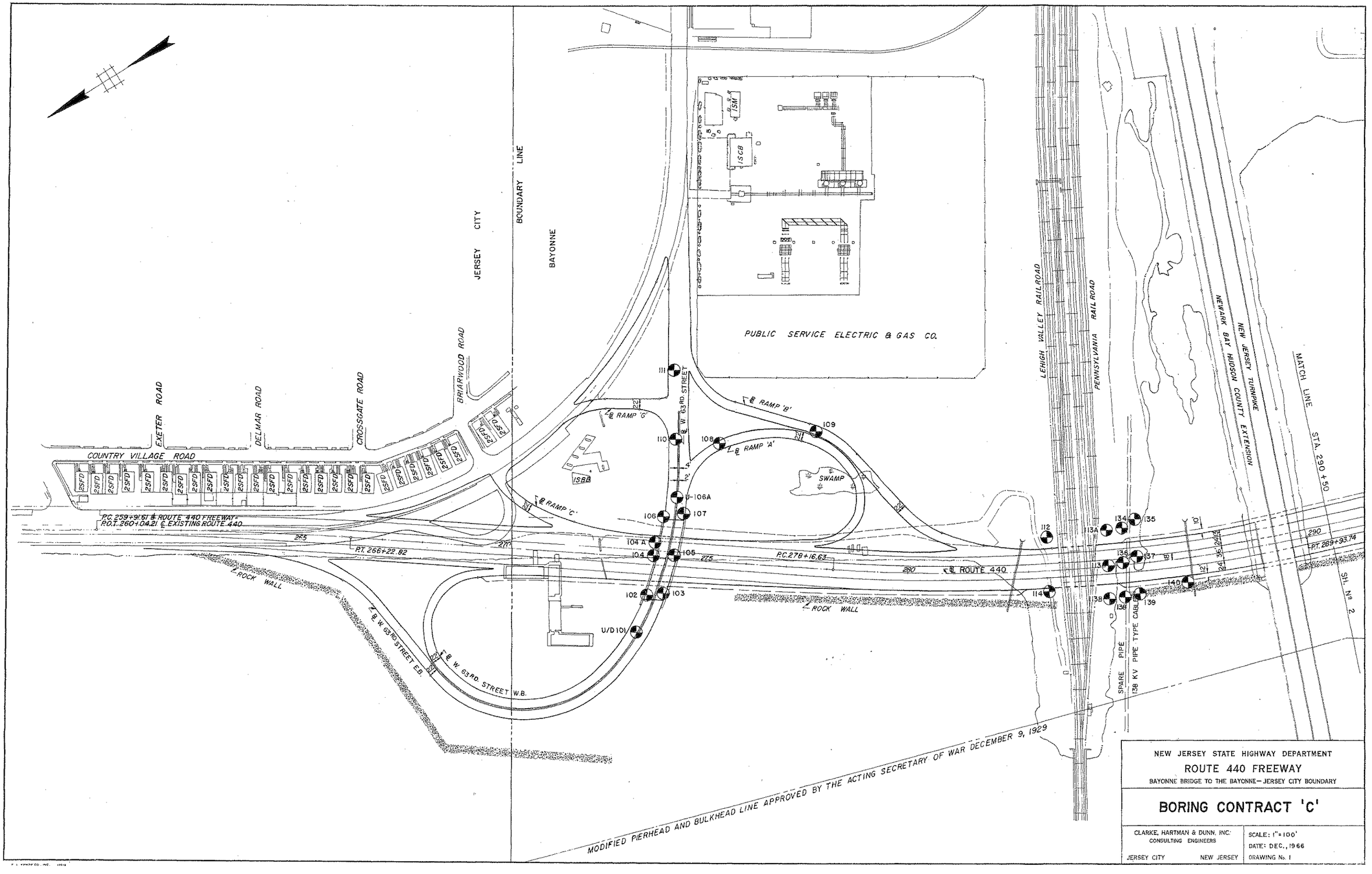
Surface Elevation +4.20
Datum MEAN LOW WATER

**WATER LEVELS**

| Date | Time | Depth | Casing |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Depth (ft.) | Elev. | Casing Blows | Sam. No. | Blows per 6" Spoon | Sym. | | Remarks |
|---|---|---|---|---|---|---|---|
| 0 | | Ground Surface | | | | | |
| 1 | | P | S1A | P P | | BK O S, s. mfS, t.+ dec. veg. | Rec 19" |
| 2 | | P | S1B | P P | | Gr bk mfS, s.+OS, to dec. veg. | |
| 3 | | 1 | S2 | 2 3 | | do. Black Organic SILT and | Rec 8" |
| 4 | | 3 | | 2 2 | | | |
| 5 | | 4 | S3A | 3 1 | | do. gray medium to fine SAND | |
| 6 | | 4 | S3B | 1 1 | | BkOS, s. mfS. lavers. | Rec 14" |
| 7 | | 7 | S4 | 3 5 | | Gr bk mfS, s.+ OS, t. dec. veg, t.- shells. | Rec 18" |
| 8 | | 10 | | 7 5 | | | |
| 9 | | 11 | S5A | 1 1 | | BK O S, s.+ mfS, t.-dec. veg. 9' 6" | Rec 20" |
| 10 | | 9 | S5B | 1 3 | | Gr bK mfS, s.- O S, t.- dec.veg | |
| 11 | | 12 | S6 | 12 10 | | Gr mfS, t.- O S. | Rec 18" |
| 12 | | 15 | | 10 11 | | | |
| 13 | | 11 | | | | Gray medium to fine | |
| 14 | | 16 | | | | SAND, trace Silt. | |
| 15 | | 18 | | | | | |
| 16 | | | S7 | 25 21 | | Br mfS, t. S. | Rec 7" |
| 17 | -12.8 | | | 15 13 | | | |
| 18 | | | | | | End of Boring 17' 0" | |
| 19 | | | | | | | |
| 20 | | | | | | | |

Boring Contractor Warren George Inc. Driller P.Spiciarich Helper H.Fredrivkson
Casing: I.D. 2-1/2" Hammer Weight 300# Hammer Drop 24"
Sample Spoon O.D. 2" Hammer Weight 140# Hammer Drop 30" Shelby O.D. --
Supervisor T. Banta




NEW JERSEY STATE HIGHWAY DEPARTMENT

ROUTE 440 FREEWAY

BAYONNE BRIDGE TO THE BAYONNE—JERSEY CITY BOUNDARY

# BORING CONTRACT 'C'

CLARKE, HARTMAN & DUNN, INC.
CONSULTING ENGINEERS
JERSEY CITY NEW JERSEY

SCALE: 1"=100'
DATE: DEC., 1966
DRAWING No. 1

# CLARKE, HARTMAN & DUNN, INC.

Boring No. U-101
Sheet No. 1 of 3

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

Boring Cont.C

## BORING LOG

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Ramp - W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 273+45, 186' Rt.

*Drilling Contractor* Warren George
*Rig No.* 3 *Type* Gas opp.Chain Dr. mounted on barge *Driller & Helper(s)* E. Fritsch / R. Kerr / W. Spellman

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-15-66 | 9-16-66 | 9-19-66 | | | |
| *Time Started* | 10:00 AM | 8:00 AM | 8:00 AM | | | |
| *Time Finished* | 4:30 PM | 4:15 PM | 1:00 PM | | | |
| *Weather* | Pty.Cldy.Cl | Sny-Mld | Sny-Mld | | | |
| *Depth Reached* | | | | | | |

*Ground Elevation* -3.7' (Bay BT) *Datum* U.S.C&G *M. L. W. Elevation*
*Zero of Boring Log is Elev.* -3.7' *Elevation of Ground Water*

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # | 3" Item # | 4"W Item #1 | Item # | Item # | Spoon Item # | Undist Item #5 | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| | | 75.0 | | | | 6 | | | | |

*CASING: Unit Weight* *Size* 4" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" I.D.x24" *Wt. of Hammer* 140 lbs. *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* Hydr.oper.piston *Dimensions* 3½" O.D.x 24"
*Type* tube *Dimensions*

*GENERAL REMARKS:* No payment on sample 5 for either tube or spoon soil to hard for undisturbed past approx. 60' depth

Average Low tide = -3', Full tide +5' (abnormal tide due to storm on 14th) All strata changes are shown by Elevations in left hand column - Pay Item from Bay bottom

NOTE: Sample descriptions on undisturbed samples are from tip of tube only & may vary inside.

*INSPECTOR* Y.T. Milo *ENGINEER*

Boring No. U-101
Sheet No. 1 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. U-101
Sheet No. 2 of 3

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Ramp - W. 63 St. over Route 440, Bayonne, N.J.
Boring Location ℄ 440 Sta. 273+45, 186' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Bay Bottom Elev. -3.7' |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | Push | | 1U | 3'-5' | | Greenish-gray very soft organic marine SILT |
| | 0 | | | | | | 24" Recovery |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -12.7' | 16 | 10 | 0 | 2A | 8'-9' | | SAME as above |
| -13.2' | 30 | 6 | 6 | 2B | 9'-9'6" | | Brown-black soft PEAT, little (+) organic Silt |
| | 21 | | | 2C | 9'6"-10' | | Greenish-gray loose SAND, trace Silt |
| -15.2' | 19 | | | | | | |
| | 17 | | | | | | |
| | 12 | Push | | 3U | 13'-15' | | Reddish-brown loose SAND, some Clay & Silt |
| | 12 | | | | | | 24" Recovery |
| | 38 | | | | | | |
| | 48 | | | | | | |
| | 56 | | | | | | |
| -22.7' | 53 | 12 | 10 | 4A | 18'-19' | | Red-brown&gray compact coarse (+) to med. SAND, |
| | 55 | 16 | 23 | 4B | 19'-20' | | trace Clay & Silt |
| | 57 | | | | | | Reddish-brown to gray-brown clayey very stiff |
| | 77 | | | | | | SILT, trace fine Sand in occasional thin layers |
| | 114 | | | | | | |
| | 164 | | | | | | |
| | 154 | | | | | | |
| | 208 | Push | | 5 | 25'-25'6" | | Attempted tube, refused at 25'6" depth-took jar |
| | 163 | | | | | | sample from tube - Red brown & gray brown SILT & |
| | 100 | | | | | | Clay, trace fine Sand & Silt in lenses (stiff(+)) |
| | 153 | | 17 | 6U | 28'-28'8" | | Shelby refused again - Accepted 8" Recovery |
| | 185 | 11 | 14 | 7 | 28'8"-30'8" | | Red-brown Gray brown stiff clayey SILT, little |
| | 171 | 14 | | | | | fine Sand |
| | 174 | | | | | | |
| | 160 | | | | | | |
| | 130 | Push | | 8U | 33'-35' | | Red-brown varved stiff SILT to clayey SILT, trace |
| | 126 | | | | | | fine Sand, Recovery 21" |
| -39.7' | 109 | | | | | | |
| | 103 | | | | | | |
| | 120 | | | | | | |
| | 110 | 6 | 6 | 9 | 38'-40' | | Red-brown & brown stiff varved SILT & Clay |
| | 96 | 9 | 7 | | | | |

Boring No. U-101
Sheet No. 2 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* U-101
*Sheet No.* 3 *of* 3

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Ramp - W. 63 Street over Route 440, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 273+45, 186' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 92 | | | | | | |
| | 98 | | | | | | |
| | 98 | | | | | | |
| | 108 | Push | | 10U | 43'-44'7" | | Red-brown stiff varved SILT & Clay, Recovery 13' |
| | 104 | | | | | | |
| | 97 | | | | | | |
| | 96 | | | | | | |
| | 92 | | | | | | |
| | 90 | 3 | 4 | 11 | 48'-50' | | Reddish-brown stiff varved CLAY & Silt, trace (- |
| | 103 | 5 | 6 | | | | fine Sand |
| | 104 | | | | | | |
| | 126 | | | | | | |
| | 131 | | | | | | |
| | 77 | Push | | 12U | 53'-55' | | Red-brown stiff varved CLAY & Silt, Recovery 24" |
| | 102 | | | | | | |
| | 125 | | | | | | |
| -60.7' | 133 | | | | | | |
| | 154 | | | | | * | |
| -62.7' | 133 | 11 | 11 | 13A | 58'6"-60'6" | | Red-brown stiff CLAY & Silt, trace Gravel, |
| | 129 | 10 | 11 | 13B | | * | trace Sand. Red-brown & brown stiff varved Clay |
| | 124 | | | | | | and Silt, trace (-) fine Sand |
| | 123 | | | | | | |
| -66.7' | 65 | 8 | | | | | |
| | 117 | 8 | 7 | 14 | 63'6"-65'6" | * | Red-brown stiff Clay & Silt, some Gravel, trac |
| | 150 | 8 | 14 | | | | (-) Sand, Recovery 12" |
| | 208 | | | | | | |
| | 222 | | | | | | |
| | 279 | | | | | | * 300 lb. hammer |
| | 294 | 203* | 77 | 15A | 68'-69'6" | | Red,brown & gray compact Gravel & coarse Sand, |
| -73.2' | 354 | 23* | 9 | 15B | 69'6"-70' | | trace (+) Clay & Silt |
| | 346 | | | | | | Red-brown hard varved CLAY & Silt with fine Sand |
| | 253 | | | | | | or Silt partings |
| -76.2' | 385 | | | | | * | |
| -77.2' | | 9 | 16 | 16 | 73'-75' | * | Red-brown & gray very compact SAND & Gravel, |
| -78.7' | | 32 | 44 | | | | little clayey Silt |

*Boring No.* U-101
*Sheet No.* 3 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 102
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Rte. 440 Freeway

*Project No.* Cont.C. *for* Clarke, Hartman & Dunn, Inc.
*Project Location* W. 63 Street Over Rte. 440, Bayonne, N.J.
*Boring Location* E. 400 Sta. 273 +54, 92' Rt.

*Drilling Contractor* Warren George
*Rig No.* 3 *Type* Gas-Opp. Chain Dr. Barge Mount *Driller & Helper(s)* E. Fritsch, R. Kerr, W. Spellman

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-9-66 | 9-10-66 | 9-12-66 | 9-13-66 | | |
| *Time Started* | 8:30-AM | 8:00-AM | 8:00-AM | 8:00-AM | | |
| *Time Finished* | 4:30-PM | 4:30-PM | 4:30PM | 4:30-PM | | |
| *Weather* | Cldy-Mild | Clr-Mld | Clr-warm | P. Cldy-Warm | | |
| *Depth Reached* | 75'0" | 105'10" | 116'6" | 121'6" | | |

*Ground Elevation* -3.0 Bot. *Datum* U.S.C. & G *M. L. W. Elevation* -0.8
*Zero of Boring Log is Elev.* -0.5 *Elevation of Ground Water* ----

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 3 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item #7 | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 114.0 | | | | | | | | 5.0' | | |

*CASING: Unit Weight* _____ *Size* 3-1/2"I.D *Wt. of Hammer* 300 lbs *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"I.D. *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* Ax Core Barr. *Dimensions* 1-1/8" I.D. x 5'0" (Double tube)
*Type* W/ Diamond Bit *Dimensions* _____

*GENERAL REMARKS:* Boring started at low tide -Elev-0.5'

Average low tide = -2', Full tide = 4' ( abnormal tides)
All strata changes are shown by Elevations in left hand column

Pay Item from bay bottom.

*INSPECTOR* T. R. Milo *ENGINEER* _____

Boring No. 102
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 102
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* Rte. 440 Sta. 273+54, 92' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Water Surface Elev. = -0.5' (at start of Boring) |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -3.0' | 0 | | | | | | Bay Bottom Elev. = -3.0' |
| | 0 | | | | | | |
| | 0 | 0 | 0 | 1 | 5'-7' | | Gray soft saturated organic marine SILT |
| | 0 | 0 | 0 | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -11.0' | 0 | 5 | 7 | 2A | 10'-12' | | SAME, change at Elev. -11.0' to - |
| -12.2' | 0 | 7 | 3 | 2B 2C | | | Gray-green loose, saturated SAND, trace Silt, |
| | 0 | | | | | | change at Elev. -12.2' to - |
| | 2 | | | | | | Gray&green gray mottled, moist SILT & Clay, |
| | 4 | | | | | | trace (+) fine micaceous Sand - firm |
| -16.0' | 2 | 2 | 1 | 3A | 15'-17' | | Green-gray wet CLAY & Silt, trace (-) fine |
| | 4 | 1 | 1 | 3B | | | micaceous Sand |
| | 3 | | | | | | Reddish gray-brown SILT & clay, little med. to |
| | 8 | | | | | | fine Sand wet, soft |
| | 17 | | | | | | |
| | 12 | 10 | 9 | 4 | 20'-22' | | Reddish gray-brown irregularly varved clayey |
| | 13 | 9 | 10 | | | | SILT, some (-) med. to fine Sand-wet, firm |
| | 19 | | | | | | |
| | 24 | | | | | | |
| | 19 | | | | | | |
| | 24 | 5 | 7 | 5 | 25'-27' | | Red-brown & gray brown wet, firm varved clayey |
| | 26 | 8 | 10 | | | | SILT, trace fine Sand (occasional thin CLAY |
| | 24 | | | | | | varves) |
| | 27 | | | | | | |
| | 26 | | | | | | |
| | 23 | 7 | 5 | 6 | 30'-32' | | SAME, with occasional thick (2"-4") SILT layers) |
| | 25 | 9 | 9 | | | | |
| | 24 | | | | | | |
| | 31 | | | | | | |
| | 34 | | | | | | |
| | 41 | 15 | 10 | 7 | 35'-37' | | SAME, with frequent Sand partings. |
| | 33 | 9 | 10 | | | | |
| | 40 | | | | | | |
| | 49 | | | | | | |
| | 48 | | | | | | |

*Boring No.* 102
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 102
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* [illegible] 92' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 38 | 6 | 8 | 8 | 40'-42' | | Red-brown & Gray stiff varved clayey SILT, trace |
| | 38 | 10 | 11 | | | | fine Sand in occasional partings; occasional |
| | 40 | | | | | | thin lay varves |
| -44.0' | 36 | | | | | -*- | |
| | 38 | | | | | | |
| | 40 | 3 | 2 | 9 | 45'-47' | | Red-brown & Gray stiff varved CLAY & Silt, with |
| | 39 | 6 | 7 | | | | frequent Sand or Silt partings |
| -48.5' | 38 | | | | | | |
| | 37 | | | | | -*- | |
| | 40 | | | | | | |
| -51.5' | 43 | 11 | 11 | 10A | 50'-52' | | Red-brown stiff SILT top & bottom of spoon, with |
| -52.0' | 37 | 8 | 8 | 10B | | | 6" layer of firm CLAY |
| | 38 | | | | | | |
| -54.0' | 43 | | | | | -*- | |
| | 38 | | | | | | |
| | 48 | 4 | 5 | 11 | 55'-57' | | Red-brown stiff silty CLAY, trace Sand, trace |
| | 49 | 6 | 8 | | | | fine Gravel |
| | 47 | | | | | | |
| | 52 | | | | | | |
| | 57 | | | | | | |
| | 47 | 5 | 6 | 12 | 60'-62' | | SAME |
| | 56 | 8 | 10 | | | | |
| -63.0' | 66 | | | | | -*- | |
| | 68 | | | | | | |
| | 73 | | | | | | |
| | 51 | 4 | 4 | 13 | 65'-67' | | Red-brown & brown varved stiff CLAY & Silt with |
| | 51 | 4 | 6 | | | | occasional Silt partings |
| | 60 | | | | | | |
| -69.5' | 60 | | | | | -*- | |
| | 68 | | | | | | |
| | 98 | 7 | 7 | 14 | 70'-72' | | Red-brown & gray coarse SAND & fine Gravel, loos |
| | 125 | 12 | 14 | | | | & wet, trace Clay & Silt |
| | 131 | | | | | | |
| | 120 | | | | | | |
| -75.0' | 120 | | | | | -*- | |
| | 115 | 4 | 10 | 15 | 75'-77' | | Red-brown silty CLAY, trace Sand, trace (+) |
| | 161 | 20 | 22 | | | | Gravel |
| | 209 | | | | | | |
| -79.0' | 223 | | | | | -*- | |
| | 245 | 8 | 8 | 16 | 79'-81' | | Red-brown stiff varved CLAY & Silt, trace fine |
| | | 12 | 15 | | | | Sand in partings |

*Boring No.* 102
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 102
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* E 440 Sta. 273 +54, 92' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 128 | 12 | 15 | 16 | 79'-81' | | See Description on previous page |
| | 130 | | | | | | |
| | 151 | | | | | | |
| | 142 | | | | | | |
| | 148 | | | | | | |
| | 152 | 5 | 6 | 17 | 85'-87' | | Red-brown stiff (-) varved CLAY & Silt |
| | 149 | 7 | 9 | | | | |
| | 150 | | | | | | |
| | 148 | | | | | | |
| | 146 | | | | | | |
| | 140 | 4 | 5 | 18 | 90'-92' | | Red-brown stiff (-) varved silty CLAY |
| | 153 | 7 | 6 | | | | |
| | 166 | | | | | | |
| | 150 | | | | | | |
| -95.0' | 135 | | | | | | |
| | 189 | 33 | 20 | 19 | 95'-97' | | Red-brown hard clayey SILT, little Sand, trace |
| | 237 | 20 | 39 | | | | (+) fine Gravel |
| | 266 | | | | | | |
| | 396 | | | | | | |
| -100.2 | 265 | | | | | | |
| | 200 | 29 | 78 | 20 | 100'-102' | | Red-brown very compact SAND and Gravel & Shale |
| | 284 | 64 | 112 | | | | fragments, trace (+) Silt |
| | 355 | | | | | | |
| | 397 | | | | | | |
| | 342 | | | | | | |
| -106.4 | 310 | | | | | | |
| | 202 | | | | 106-111' | | No Recovery-Drilled fairly steady, Very compact |
| | 310 | | | | | | SAND & Gravel, little Silt, little Boulders |
| | 194 | | | | | | |
| | 164 | | | | | | + From 100' to 116'6" wash & drove casing |
| | 229 | | | | | | |
| | 407 | 64 | 125 | 21 | 111'-113' | | Red-brown & gray GRAVEL & Sand, little Silt very |
| | 422 | 82* | 104* | | | | compact |
| | 419 | | | | | | * with 300 lb. hammer |
| | 437 | | | | | | |
| | 502 | 126 | 174* | 22 | 115'-116'6" | | |
| -117.0 | 297/6" | | | 23R | 116'-6" to 121'-6" | | Grey, seamy fractured DIABASE, 31" Recovery |
| | | | | | | | Bottom of Boring Elev. -122'.0 |

*Boring No.* 102
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 103
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Route 440 Freeway

*Project No.* Cont. C *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440 Structure, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 274+00, 90' Rt.

*Drilling Contractor* Warren George
*Rig No.* 3 *Type* Gas oper. Chain Dr. on Barge *Driller & Helper(s)* E. Fritsch, R. Kerr, W. Spellman

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Date* | 9-7-66 | 9-8-66 | | | | | | |
| *Time Started* | 8:00 AM | 8:15 AM | | | | | | |
| *Time Finished* | 4:00 PM | 2:00 PM | | | | | | |
| *Weather* | Sny-Mld | P-Cldy-Mld | | | | | | |
| *Depth Reached* | 73'6" | 102'0" | | | | | | |

*Ground Elevation* -2.8 Bot. *Datum* U.S.C.& G. *M. L. W. Elevation* -0.8'
*Zero of Boring Log is Elev.* -0.8' *Elevation of Ground Water*

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #3 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 100 | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Boring started at low tide Elev. = 0.8'. water surface. Average low tide = -0.8' Full tide = 3.1'. All strata changes are shown by elevations in left hand column. Pay Item from Bay Bottom

*INSPECTOR* T.R. Milo *ENGINEER* _____

Boring No. 103
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 103
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440 Structure, Bayonne, N.J.
*Boring Location* ~~Rt. 440 Sta. 274+00, 90' Rt.~~

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Water Surface Elev. -0.8 (At start of Boring) |
| | 0 | | | | | | |
| | 0 | | | | | * | River Bottom Elev. -2.8' |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -8.8' | 0 | 0 | 0 | 1A | 7'-8' | | Green-gray soft marine river SILT, trace Shells |
| | 0 | 0 | 0 | 1B | 8'-8'6" | * | Brown-black soft & saturated PEAT, little (+) |
| | 0 | | | | | | organic Silt |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 2 | 4 | 4 | 2A | 12'-13' | | Green-gray & brown-black soft PEAT&organic Silt |
| -13.8' | 10 | 9 | | 2B | 13'-13'6" | | Green-gray med to fine loose SAND, trace Silt |
| | 7 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | | | |
| -18.3' | 2 | 1 | 1 | 3A | 17'-17'6" | | Green-gray med to fine loose SAND, some (-) |
| | 7 | | | | | | clayey Silt |
| | 10 | | | 3B | 17'6"-18'6" | | Red-brown compact SILT |
| | 18 | | | | | | |
| | 16 | | | | | | |
| | 7 | 5 | 6 | 4 | 22'-23'6" | | Red-brown compact SILT, trace Sand |
| | 9 | 9 | | | | | |
| | 14 | | | | | | |
| | 24 | | | | | | |
| | 26 | | | | | | |
| | 18 | 4 | 6 | 5 | 27'-28'6" | | Red-brown varved stiff clayey SILT, trace fine |
| | 20 | 8 | | | | | Sand |
| | 24 | | | | | | |
| | 29 | | | | | | |
| | 28 | | | | | | |
| -34.1 | 20 | 6 | 6 | 6 | 32'-33'3" | * | Red-brown varved stiff SILT & Clay, little Sand |
| -34.8 | 22 | 7 | | | | | in lenses |
| | 25 | | | | 33'3"-33'6" | | Red-brown SILT |
| | 24 | | | | | | |
| | 35 | | | | | | |
| | 29 | 4 | 3 | 7 | 37'-38'6" | | Red-brown & gray varved firm SILT & Clay, trace |
| | 27 | 5 | | | | | Sand in lenses-occasional thick (2-4") layer of |
| | 30 | | | | | | SILT |

*Boring No.* 103
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 103
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440 Structure, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 274+00, 90' Rt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | 31 | | | | | | |
| | 32 | | | | | | |
| | 27 | 3 | 6 | 8 | 42'6"-44' | | Red-brown varved CLAY & Silt, trace Sand in |
| | 33 | 7 | | | | | lenses |
| | 34 | | | | | | |
| | 34 | | | | | | |
| | 32 | | | | | | |
| | 36 | 3 | 3 | 9 | 47'-48' | 6" | SAME |
| -49.5' | 36 | 4 | | | | | |
| | 38 | | | | | | |
| | 41 | | | | | | |
| | 46 | | | | | | |
| | 41 | 3 | 6 | 10 | 52'-53' | 6" | Red-brown CLAY & Silt, trace (-) Sand |
| | 42 | 8 | | | | | |
| | 40 | | | | | | |
| | 46 | | | | | | |
| | 49 | | | | | | |
| | 48 | 3 | 4 | 11 | 57'-58' | 6" | Red-brown CLAY & Silt, trace Sand, trace fine |
| | 53 | 9 | | | | | Gravel partings |
| | 54 | | | | | | |
| -61.5' | 57 | | | | | | |
| | 65 | | | | | | |
| | 67 | 5 | 11 | 12 | 62'-63' | 8" | Red-brown varved CLAY & Silt, with occasional |
| | 59 | 9 | | | | | fine Sand partings |
| | 50 | | | | | | |
| | 58 | | | | | | |
| | 56 | | | | | | Same as above |
| -68.0' | 70 | 3 | 5 | 13A | 67'-67'6" | 6" | |
| | 72 | 6 | | 13B | 67'6"-68'6" | | Red-brown SILT & Clay, trace Gravel, trace |
| | 72 | | | | | | Sand, firm |
| | 93 | | | | | | |
| | 111 | | | | | | |
| | 147 | 8 | 10 | 14 | 72'-73' | 6" | Same-stiff |
| | 138 | 15 | | | | | |
| | 165 | | | | | | |
| | 190 | | | | | | |
| | 145 | | | | | | |
| | 115 | 9 | 12 | 15 | 77'-78' | 6" | Red-brown very stiff CLAY & Silt, trace fine |
| | 127 | 15 | | | | | Gravel, trace Sand |
| | 131 | | | | | | |

*Boring No.* 103
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 103
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440 Structure, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+00, 90' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| -81.8' | 129 | | | | | * | |
| | 143 | | | | | | |
| | 117 | 3 | 4 | 16 | 82'-83'6" | | Red-brown & gray brown stiff varved CLAY & Silt |
| | 118 | 5 | | | | | |
| | 128 | | | | | | |
| | 128 | | | | | | |
| | 122 | | | | | | |
| | 98 | 4 | 4 | 17 | 87'-88'6" | | SAME |
| | 112 | 7 | | | | | |
| | 121 | | | | | | |
| | 133 | | | | | | |
| | 127 | | | | | | |
| | 135 | 4 | 5 | 18 | 92'-93'6" | | SAME |
| -94.8' | 167 | 6 | | | | * | |
| | 169 | | | | | | |
| | 180 | | | | | | |
| | 184 | | | | | | |
| | 136 | 34 | 24 | 19 | 97'-98'6" | | Red-brown very compact SAND, same (-) Clay & |
| | 216 | 29 | | | | | Silt, little (+) fine Gravel & Shale fragments |
| | 385 | | | | | | |
| | | 25 | 82 | 20 | 100'-102' | | Red-brown very compact SAND, trace (+) clayey |
| -102.8' | | 53 | 67 | | | | Silt, little Shale fragments |

*Boring No.* 103
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 104
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Route 440 Freeway

*Project No.* Cont. C *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Structure, Bayonne, N.J.
*Boring Location* B 440 Sta. 273+72, 5' Lt.

*Drilling Contractor* Warren George
*Rig No.* 2 *Type* Joy Mobile Hydr. *Driller & Helper(s)* Jake Harris, Burt Daubert

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-6-66 | 9-7-66 | 9-8-66 | 9-9-66 | | |
| *Time Started* | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | | |
| *Time Finished* | 4:15 PM | 4:30 PM | 4:15 PM | 4:30 PM | | |
| *Weather* | Sny-Wrm | Sny-Cl | P.Cldy-Mld | Sny-Mld | | |
| *Depth Reached* | 10' | 10' | 10' | 12' | | |

*Ground Elevation* + 9.4 *Datum* U.S.C & G *M. L. W. Elevation* ____
*Zero of Boring Log is Elev.* ____ *Elevation of Ground Water* ____

| *PAY QUANTITIES* | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 10' | | | | | | | | | | |

*CASING: Unit Weight* ____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" ID x 24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* ____ *Dimensions* ____
*Type* ____ *Dimensions* ____

*GENERAL REMARKS:* Made attempts to penetrate sea wall at 4 locations within 5' of staked location of Boring, with no success. Relocated boring 30' East to insure missing same - will start new log designating boring 104-A. This log refers to first attempt, log not kept on other tries, as material was same and samples already taken.

*INSPECTOR* T.R. Milo *ENGINEER* ____

Boring No. ____
Sheet No. ____ of ____

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 104
*Sheet No.* 2 *of* 2

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440 Structure, Bayonne, N.J.
*Boring Location* B 440 Sta. 273+72, 5' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. + 9.4 |
| | 7 | 1 | 2 | 1 | 0'-2' | | Miscellaneous FILL - Silt, Sand, Wood, brick, etc |
| | 8 | 4 | 3 | | | | |
| | 6 | | | | | | |
| | 5 | | | | | | |
| +4.4 | 7 | | | | | | |
| | 40 | 16 | 10 | 2 | 5'-7' | | Fine to Coarse Gravel & Sand Silt FILL |
| | 211 | 83 | 28 | | | | |
| | 35 | | | | | | |
| | 69 | | | | | | |
| | 58 | | | | | | |
| | 100+ | 173 | 111 | 3 | 10'-12' | | Gravel & Concrete FILL |
| WASH ↓ | " | 172 | 192 | | | | (Not full spoon Sample) |
| DRIVE ↓ | " | | | | | | |
| | " | | | | | | |
| | " | | | | | | |
| | | 2 | 7 | | | | No Sample (Spoon Broke on boulder) |
| | | 12 | 8 | | | | |

*Boring No.* 104
*Sheet No.* 2 *of* 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 104-A
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Rte. 440 Freeway

*Project No.* Cont. C. *for* Clarke Hartman & Dunn, Inc.
*Project Location* W. 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 273+72, 35' Lt.

*Drilling Contractor* Warren George
*Rig No.* 2 *Type* Joy, Mobile Hydraulic *Driller & Helper(s)* J. Harris, B. Daubert

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-12-66 | 9-13-66 | 9-14-66 | 9-15-66 | | |
| *Time Started* | 8:30AM | 8:00AM | No Work | 8:00AM | | |
| *Time Finished* | 4:15PM | 4:00PM | " " | 4:00 PM | | |
| *Weather* | P.Cldy-Mld | P.Cly-Mld. | Rn-Cl. | Sny-Mld | | |
| *Depth Reached* | 60'0" | 95'0" | | 106'0" | | |

*Ground Elevation* +9.1' *Datum* U.S.C. & G. *M.L.W. Elevation* ____
*Zero of Boring Log is Elev.* + 9.1' *Elevation of Ground Water* --

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 106 | | | | | | | | | | |

*CASING: Unit Weight* ____ *Size* 2-1/2" ID *Wt. of Hammer* 300# *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2" OD x 24" *Wt. of Hammer* 140 # *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* ____ *Dimensions* ____
*Type* ____ *Dimensions* ____

*GENERAL REMARKS:* Relocated 30' East of 104, as sea wall was virtually impenetrable at that location

Water Level -42.1' casing in

Hole caved upon removal of casing

*INSPECTOR* T. R. Milo *ENGINEER* ____

Boring No. 104-A
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 104-A
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 273+72, 35' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. +9.1 |
| | 7 | | | | | | |
| | 9 | | | | | | |
| | 13 | | | | | | MISC. FILL, Silt, Sand, concrete, brick, etc. |
| | 16 | | | | | | |
| +4.1 | 17 | | | | | * | |
| | 21 | | | | | | |
| | 26 | | | | | | |
| | 29 | | | | | | |
| | 17 | 13 | 16 | 1 | 8'-10' | | Gray med to fine SAND (hydraulic FILL) |
| | 18 | 6 | 5 | | | | |
| | 11 | 5 | 5 | 2A | 10'-12' | | SAME, as above to 11'9" |
| -2.7 | 12 | 4 | 3 | 2B | | | Gray-black oily misc. FILL, Sand, Silt, cinders, |
| | 14 | | | | | | concrete, very loose & wet |
| -4.9 | 16 | | | | | * | |
| | 11 | | | | | | |
| | 7 | 1 | 0 | 3 | 15'-17' | | Green-gray & black marine organic SILT, trace |
| | 6 | 0 | 0 | | | | fine Sand, trace Shells - soft & wet |
| | 11 | | | | | | |
| | 12 | | | | | | |
| -10.4 | 11 | | | | | * | |
| -11.9 | 11 | 1 | 3 | 4A | 20'-22' | | Brown-black soft PEAT, little organic Silt |
| | 17 | 3 | 5 | 4B | | | Green-gray SAND, little - Silt |
| | 21 | | | | | | |
| -19.9 | 23 | | | | | * | |
| | 25 | | | | | | |
| | 18 | 4 | 4 | 5 | 25'-27' | | Gray-brown soft wet CLAY & Silt, trace fine Sand |
| | 21 | 1 | 2 | | | | |
| | 24 | | | | | | |
| | 26 | | | | | | |
| | 28 | | | | | | |
| | 30 | 3 | 4 | 6 | 30'-32' | | SAME |
| | 32 | 4 | 5 | | | | |
| -28.9 | 37 | | | | | * | |
| | 41 | | | | | | |
| | 53 | | | | | | |
| | 50 | 7 | 6 | 7 | 35'-37' | | Reddish Gray-brown stiff varved Silt & Clay, trac |
| | 61 | 8 | 8 | | | | Sand, occasional pieces of Gravel, occasional |
| | 73 | | | | | | pockets of Silt & Sand |
| | 80 | | | | | | |
| | 84 | | | | | | |

*Boring No.* 104-A
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 104-A
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* Rte. 440 Sta. 273+72, 35' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 70 | 8 | 8 | 8A | 40'-42' | | Red-brown & gray varved stiff wet SILT & Clay |
| -32.4 | 74 | 11 | 12 | 8B | | | Red-brown SILT, little fine Sand |
| -33.9 | 78 | | | | | * | |
| | 81 | | | | | | |
| | 84 | | | | | | |
| | 76 | 6 | 5 | 9 | 45'-47' | | Red-brown & gray varved firm CLAY & Silt, trace |
| | 81 | 4 | 4 | | | | (-) fine Sand |
| | 70 | | | | | | |
| | 74 | | | | | | |
| | 79 | | | | | | |
| | 76 | 4 | 4 | 10 | 50'-52' | | Red-brown varved wet, soft SILT & Clay, trace |
| | 81 | 4 | 4 | | | | fine Sand in partings |
| | 84 | | | | | | |
| | 87 | | | | | | |
| | 91 | | | | | | |
| | 63 | 2 | 3 | 11 | 55'-57' | | Red-brown varved soft SILT & Clay, trace Sand |
| | 69 | 3 | 2 | | | | in partings |
| | 71 | | | | | | |
| -49.9 | 74 | | | | | * | |
| | 59 | | | | | | |
| | 102 | 3 | 4 | 12 | 60'-62' | | Red-brown firm silty CLAY, trace Gravel |
| | 104 | 4 | 5 | | | | |
| | 106 | | | | | | |
| | 109 | | | | | | |
| | 107 | | | | | | |
| | 103 | 3 | 4 | 13 | 65'-67' | | Red-brown stiff CLAY & Silt, trace Sand, trace |
| | 109 | 5 | 7 | | | | (-) Gravel |
| | 107 | | | | | | |
| -59.4 | 106 | | | | | * | |
| | 109 | | | | | | |
| | 108 | 3 | 4 | 14 | 70'-72' | | Red-brown varved firm SILT & Clay, with occasion |
| | 109 | 3 | 5 | | | | Silt partings |
| | 110 | | | | | | |
| -64.4 | 116 | | | | | * | |
| | 114 | | | | | | |
| | 109 | 16 | 11 | 15 | 75'-77' | | Red-brown clayey very stiff SILT, little (-) |
| | 117 | 18 | 20 | | | | Sand, trace Gravel |
| | 121 | | | | | | |
| | 136 | | | | | | |
| | 140 | | | | | | |

*Boring No.* 104-A
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 104-A
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Rte. 440, Bayonne, N.J.
*Boring Location* 3B'440 Sta. 273+72, 35' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log 80' | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 137 | 8 | 10 | 16 | 80'-82' | | Red-brown very stiff CLAY & Silt, trace Sand, |
| | 143 | 14 | 16 | | | | trace fine Gravel |
| | 159 | | | | | | |
| | 162 | | | | | | |
| | 163 | | | | | | |
| | 171 | 7 | 8 | 17 | 85'-87' | | SAME |
| | 183 | 10 | 10 | | | | |
| -78.9' | 196 | | | | | * | |
| | 201 | | | | | | |
| | 207 | | | | | | |
| | 221 | 5 | 6 | 18 | 90'-92' | | Red-brown, brown & gray-brown varved stiff SILT |
| | 229 | 5 | 6 | | | | & Clay with Silt partings |
| | 238 | | | | | | |
| | 269 | | | | | | |
| -85.9 | 281 | | | | | * | |
| | 365 | 3 | 3 | 19 | 95'-97' | | Red-brown varved, stiff CLAY & Silt, with |
| | 351 | 5 | 5 | | | | occasional Silt partings |
| | 350 | | | | | | |
| | 362 | | | | | | |
| | 371 | | | | | | |
| -91.9 | 360 | 3 | 7 | 20 | 100'-102' | * | Red-brown varved Gray very stiff CLAY & Silt |
| | 420 | 9 | 10 | | | | Sand Partings occasional Gravel |
| | 321 | * | | | | | Broke small boulder with open end & washed out 1 |
| | * | | | | | | 104 |
| | | 35 | 21 | 21 | 104'-106' | | |
| -96.9 | | 65 | 50 | | | | Red-brown very compact fine Sand, little Silt, |
| | | | | | | | trace (+) Gravel |

*Boring No.* 104-A
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 105
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4453

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Rte. 440 Underpass
*Boring Location* Sta. 274+25 ℄ Rte. 440, 9' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Joy Rig *Driller & Helper(s)* J. Kennedy (Helper), B. Catalafo (Driller)

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-22-66 | 9-23-66 | 9-26-66 | 9-27-66 | | |
| *Time Started* | 8:00 AM | 12:30PM | 8:30 AM | 8:00 AM | | |
| *Time Finished* | 4:15 PM | 4:00 PM | 4:00 PM | 12:00 PM | | |
| *Weather* | Cldy-Cl | Sny-Cl | Sny-Wrm | Cldy-Cl | | |
| *Depth Reached* | 4'0" | 70'3" | 90' | 10'6" | | |

*Ground Elevation* +9.6 *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 108 | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2 1/2"ID *Wt. of Hammer* 300 lb. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1 1/2"ID x 2" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Because of encounter of Rock fill moved hole 20' from original position

Water Levels -5 (caving)

" " Next day -4

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 105
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 105
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Under Rte. 440 Interchange
*Boring Location* Sta. 274+25 ℄ Rte. 440, 9' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEVATION + 9.6 |
| | 13 | 6 | 7 | 1 | 0'-2' | | Miscelaneous FILL sand, brick, concrete, etc. |
| | 20 | 7 | 10 | | | | |
| | 13 | | | | | | |
| | 10 | | | | | | |
| | 5 | | | | | | |
| | 11 | 4 | 4 | 2 | 5'-7' | | Red Brown & Gray Brown, Sand trace (-) Silt |
| +2.6 | 25 | 7 | 13 | | | | |
| | 23 | | | | | | |
| | 21 | | | | | | |
| | 13 | | | | | | |
| | 14 | | | | 10'-17' | | No sample - Driller didn't take, use boring |
| | 19 | | | | | | 104 to correlate (Samp 3) |
| | 17 | | | | | | |
| -4.4 | 15 | | | | | | |
| | 9 | | | | | | |
| | 7 | Push | | 3 | 15'-17' | | Dark Gray wet & very soft organic SILT |
| | 11 | | | | | | |
| | 13 | | | | | | |
| | 12 | | | | | | |
| | 14 | | | | | | |
| | 7 | 4 | 3 | 4 | 20'-22' | | Dark gray soft organic marine SILT |
| | 13 | 2 | 5 | | | | |
| | 15 | | | | | | |
| -13.9 | 9 | | | | | | |
| | 13 | | | | | | |
| | 7 | 1 | 33 | 5 | 25'-27' | | Reddish Gray Brown loose med. to fine Sand |
| | 14 | 3 | 8 | | | | |
| | 15 | | | | | | |
| -19.4 | 17 | | | | | | |
| | 25 | | | | | | |
| | 23 | 9 | 11 | 6 | 30'-32' | | Red Brown & Gray Brown, varved very stiff SILTY |
| | 19 | 9 | 9 | | | | Clay occasional fine Sand partings. |
| -23.4 | 25 | | | | | | |
| | 32 | | | | | | |
| | 41 | | | | | | |
| | 33 | 6 | 10 | 7 | 35'-37' | | Brown very stiff SILT and, trace of Clay. |
| | 52 | 12 | 17 | | | | |
| | 75 | | | | | | |
| | 76 | | | | | | |
| | 65 | | | | | | |

*Boring No.* 105
*Sheet No.* 2 *of* 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 105
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Under Rte. 440 Interchange
*Boring Location* Sta. 274+25 M Rte. 440, 9' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | 59 | 7 | 13 | 8 | 40'-42' | | SAME |
| | 63 | 12 | 16 | | | | |
| | 70 | | | | | | |
| | 62 | | | | | | |
| | 65 | | | | | | |
| | 69 | 9 | 7 | 9 | 45'-47' | | Red Brown & Gray Brown Varved very hard clayey |
| | 65 | 5 | 7 | | | | Silt occasional clay & fine sand partings |
| -30.4 | 50 | | | | | * | |
| | 50 | | | | | | |
| | 44 | | | | | | |
| | 64 | 6 | 4 | 10 | 50'-52' | | Red Brown Varved very hard clayey SILT occasiona |
| | 63 | 4 | 4 | | | | Clay partings |
| | 55 | | | | | | |
| | 44 | | | | | | |
| -45.4 | 41 | | | | | * | |
| | 59 | 5 | 5 | 11 | 55'-57' | | Red Brown Varved very hard Clayey SILT occasiona |
| | 57 | 7 | 7 | | | | thin Clay varves & fine Sand partings |
| | 48 | | | | | | |
| | 52 | | | | | | |
| | 52 | | | | | | |
| | 60 | 2 | 3 | 12 | 60'-62' | | Red Brown Very hard, Silty CLAY trace (-) sand |
| | 58 | 4 | 7 | | | | trace (-) fine Gravel |
| | 61 | | | | | | |
| | 61 | | | | | | |
| | 63 | | | | | | |
| | 55 | 4 | 4 | 13 | 65'-67' | | SAME as above |
| | 67 | 6 | 5 | | | | |
| | 68 | | | | | | |
| | 72 | | | | | | |
| -60.4 | 78 | | | | | | |
| | 121 | 3 | 4 | 14 | 70'-72' | * | Red Brown varved very hard Silty Clay occasional |
| | 133 | 4 | 5 | | | | fine sand partings |
| | 142 | | | | | | |
| | 140 | | | | | | |
| | 141 | | | | | | |
| -66.4 | 101 | 7 | 9 | 15 | 75'-77' | * | Red Brown irregularly varved very hard Silty |
| | 121 | 9 | 12 | | | | Clay, Some fine to med. Sand trace (+) fine |
| | 127 | | | | | | gravel |
| | 130 | | | | | | |
| | 133 | | | | | | |

*Boring No.* 105
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 105
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Underpass Rte. 440, Interchange
*Boring Location* Sta. 274+25 M Rte. 440, 9' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 110 | 9 | 10 | 16 | 80'-82' | | Red Brown irregularly Varved very hard silty |
| -72.4 | 117 | 13 | 14 | | | | CLAY trace (+) fine to med. Sand little fine |
| | 139 | | | | | | Gravel |
| | 146 | | | | | | |
| | 158 | | | | | | |
| | 160 | 40 | 47 | 17 | 85'-87' | | SAME as ABOVE |
| -77.4 | 172 | 38 | 42 | | | | |
| | 200 | | | | | | |
| | 210 | | | | | | |
| | 241 | | | | | | |
| | 200 | 8 | 9 | 18 | 90'-92' | | Red Brown Varved very hard silty CLAY occasional |
| | 201 | 10 | 12 | | | | silt partings. |
| -83.4 | 200 | | | | | | |
| | 210 | | | | | | |
| | 200 | | | | | | |
| | 200 | 4 | 6 | 19 | 95'-97' | | SAME as ABOVE |
| -87.4 | 207 | 6 | 6 | | | | |
| | 230 | | | | | | |
| | 236 | | | | | | |
| - 90.4 | 241 | | | | | | |
| | 269 | 13 | 16 | 20 | 100'-102' | | Red Brown wet compact fine (-) to coarse (+) |
| -92.4 | 278 | 21 | 37 | | | | SAND, some fine (+) to med. Gravel little Silt |
| | 341 | | | | | | |
| | 356 | | | | | | |
| | | 6 | 7 | | | | lost sample |
| | | 13 | 25 | | | | (open end sample) → 300 lb. hammer |
| | | 27 | 38 | 21 | 106'-108' | | Red Brown very hard fine to coarse sand some |
| -98.4 | | 51 | 60 | | | | fine (+) to med. Gravel little SILT |

*Boring No.* 105
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 106
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Boring Cont.C

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 400 Structure, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 273+87, 105' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas opp. Skid Rig *Driller & Helper(s)* H. Finkeltie, G. Vanglahn

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-8-66 | 9-9-66 | 9-12-66 | 9-13-66 | | |
| *Time Started* | 8:30 AM | 8:00 AM | 8:00 AM | 8:00 AM | | |
| *Time Finished* | 4:00 PM | 4:15 PM | 4:15 PM | 2:00 PM | | |
| *Weather* | Sny-Wrm | Sny-Wrm | P.Cld-Mld | P.Cldy-Mld | | |
| *Depth Reached* | 40'0" | 75'0" | 100'0" | 111'0" | | |

*Ground Elevation* +9.4' *Datum* U.S. C & G *M. L. W. Elevation* ____
*Zero of Boring Log is Elev.* +9.4' *Elevation of Ground Water* ____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 111.00 | | | | | | | | | | |

*CASING: Unit Weight* ____ *Size* 2½ I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" IDx24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* ____ *Dimensions* ____
*Type* ____ *Dimensions* ____

*GENERAL REMARKS:* Water Level - (casing in) -11.0'
" " (casing out) -5.0' (caved @ 5')
" " 9-14-66 @ 8:00 AM -4.0'

*INSPECTOR* S. Gikas *ENGINEER* ____

Boring No. 106
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 106
Sheet No. 2 of 4

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location W. 63 St. over Route 440 Structure, Bayonne, N.J.
Boring Location ℄ 440 Sta. 273+87, 105' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. = +9.4' |
| | 5 | 4 | 6 | 1 | 0'-2' | | Misc. FILL Sand, gravel, brick, silt, concrete, |
| | 14 | 6 | 5 | | | | etc. |
| | 21 | | | | | | |
| | 18 | | | | | | |
| | 12 | | | | | | |
| | 10 | 3 | 6 | 2 | 5'-7' | | Misc. FILL - Same as above |
| | 9 | 5 | 3 | | | | |
| | 10 | | | | | | |
| +0.4' | 11 | | | | | * | |
| | 13 | | | | | | |
| | 9 | 6 | 5 | 3 | 10'-12' | | Sand FILL |
| | 16 | 6 | 7 | | | | |
| | 10 | | | | | | |
| -2.6' | 12 | | | | | | |
| | 8 | | | | | | |
| -6.6' | 14 | ham. w | | 4A | 15'-17' | | Gray, soft Organic SILT saturated |
| | 18 | 1 | 2 | 4B | | * | Gray & Gray Black Moteled Organic SILT, trace |
| | 12 | | | | | | fine Sand |
| -9.1' | 10 | | | | | * | |
| | 13 | | | | | | |
| -11.6' | 19 | 1 | 2 | 5A | 20'-22' | | Brown Soft PEAT, trace organic Silt |
| | 22 | 4 | 7 | 5B | | * | Gray fine & med. loose SAND, trace Silt |
| | 24 | | | | | | |
| | 23 | | | | | | |
| | 17 | | | | | | |
| | 22 | 3 | 3 | 6 | 25'-27' | | Gray Moist soft CLAY & SILT |
| | 21 | 3 | 3 | | | | trace fine Sand |
| | 20 | | | | | | |
| | 17 | | | | | | |
| | 14 | | | | | | |
| | 19 | Push | | 7 | 30'-32' | | Gray fine to med. loose SAND, little (+) Silt |
| | 18 | 3 | 6 | | | | |
| | 19 | | | | | | |
| -24.1' | 20 | | | | | * | |
| | 24 | | | | | | |
| | 36 | 7 | 8 | 8 | 35'-37' | | Reddish Brown varved very stiff CLAY & SILT, |
| | 36 | 9 | 11 | | | | trace fine Sand, with occasional Silt partings. |
| | 47 | | | | | | |
| | 48 | | | | | | |
| | 42 | | | | | | |

Boring No. 106
Sheet No. 2 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 106
Sheet No. 3 of 4

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location W. 63 St. over Route 440 Structure, Bayonne, N.J.
Boring Location ℄ 440 Sta. 273+87, 105' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 73 | 5 | 7 | 9 | 40'-42' | | Reddish Brown varved, very stiff CLAY & SILT |
| | 56 | 17 | 10 | | | | with Silt partings, occasional layers of SILT |
| | 52 | | | | | | |
| | 48 | | | | | | |
| | 45 | | | | | | |
| | 59 | 4 | 5 | 10 | 45'-47' | | Reddish Brown & Gray Brown varved, very stiff |
| | 61 | 7 | 10 | | | | SILT & CLAY Sand partings |
| -38.6' | 71 | | | | | * | |
| | 69 | | | | | | |
| | 73 | | | | | | |
| | 52 | 5 | 5 | 11 | 50'-52' | | Reddish Brown firm Clayey SILT, sand partings |
| | 57 | 4 | 4 | | | | |
| | 51 | | | | | | |
| | 51 | | | | | | |
| | 53 | | | | | | |
| | 63 | 5 | 4 | 12 | 55'-57' | | Reddish Brown varved Stiff, Clayey SILT |
| | 60 | 5 | 7 | | | | sand partings |
| | 57 | | | | | | |
| | 54 | | | | | | |
| | 60 | | | | | | |
| | 69 | 7 | 6 | 13 | 60'-62' | | Reddish Brown & Gray Brown stiff CLAY & Silt, |
| | 61 | 5 | 5 | | | | trace fine Gravel |
| | 62 | | | | | | |
| -54.6' | 67 | | | | | * | |
| | 51 | | | | | | |
| | 57 | 6 | 5 | 14 | 65'-67' | | Reddish Brown varved stiff, SILT & Clay with |
| | 55 | 5 | 4 | | | | fine sand partings |
| | 58 | | | | | | |
| | 53 | | | | | | |
| | 45 | | | | | | |
| | 48 | 7 | 9 | 15 | 70'-72' | | Reddish Brown varved, very stiff, SILT & Clay |
| | 53 | 9 | 13 | | | | fine Sand partings, occasional thin layers of |
| -63.6' | 57 | | | | | * | clayey Silt, trace fine Gravel, trace Sand |
| | 59 | | | | | | |
| | 62 | | | | | | |
| -66.6 | 46 | 6 | 8 | 16 | 75'-77' | * | Red-brown very stiff CLAY & Silt, trace (+) |
| | 102 | 9 | 11 | | | | fine Gravel, trace Sand |
| | 60 | | | | | | |
| | 68 | | | | | | |
| | 70 | | | | | | |

Boring No. 106
Sheet No. 3 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 106
Sheet No. 4 of 4

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location W. 63 St. over Route 440 Structure, Bayonne, N.J.
Boring Location B 440 Sta. 273+87, 105' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 54 | | | | | | |
| | 59 | | 8 | 17 | 81'6"-83'6" | | Red-brown very stiff CLAY & Silt, trace fine |
| | 61 | 10 | 14 | | | | Sand |
| | 65 | 13 | | | | | |
| | 68 | | | | | | |
| | 94 | 6 | 7 | 18 | 85'-87' | | Red-brown very stiff CLAY & Silt, little (-) |
| | 108 | 9 | 11 | | | | Gravel, trace Sand |
| -78.6' | 114 | | | | | * | |
| | 139 | | | | | | |
| | 147 | | | | | | |
| | 93 | 7 | 10 | 19 | 90'-92' | | Red-brown stiff varved CLAY & Silt, frequent |
| | 107 | 8 | 8 | | | | hairline Silt & fine Sand partings |
| | 122 | | | | | | |
| | 129 | | | | | | |
| | 136 | | | | | | |
| | 131 | 3 | 5 | 20 | 95'-97' | | Red-brown & brown stiff varved CLAY & Silt, wit |
| | 150 | 5 | 6 | | | | Silt partings |
| | 170 | | | | | | |
| | 169 | | | | | | |
| | 173 | | | | | | |
| | 184 | 8 | 8 | 21 | 100'-102' | | Red-brown varved, very stiff silty CLAY, with |
| | 205 | 8 | 9 | | | | Silt partings |
| -93.1' | 232 | | | | | * | |
| | 240 | | | | | | |
| | 238 | | | | | | |
| | 295 | 11 | 12 | 22 | 105'-107' | | Red-brown very stiff SILT & Clay, little Sand, |
| | 289 | 8 | 10 | | | | trace Gravel |
| -98.6 | 361 | | | | | * | |
| | 368 | | | | | | |
| | | 215* | 77 | 23 | 109'-111' | | Red-brown & Gray very compact SAND, little (+) |
| -101.6' | | *18 | *15 | | | | Gravel, trace Silt |

* 300 lb. hammer - bent bottom rod

Boring No. 106
Sheet No. 4 of 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 107
Sheet No. 1 of 5

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Boring Cont.C

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+32, 110' Lt.

*Drilling Contractor* Warren George
*Rig No.* 2 *Type* Joy Mobile Hydr. *Driller & Helper(s)* J. Harris, B. Daubert
Gardiner Dewer Rotary *(See Remarks) G. Dodson, J. Gorman

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-15-66 | 9-16-66 | 9-19-66 | 9-21-66 | 9-23-66 | 9-26-66 |
| *Time Started* | 9:00 AM | 8:00 AM | 8:30 AM | 8:00 AM | 8:00 AM | 8:00 AM |
| *Time Finished* | 4:15 PM | 4:00 PM | 4:00 PM | 4:00 PM | 4:30 PM | 4:30 PM |
| *Weather* | Sny-Mld | Sny-Cl | Sny-Mld | Cldy-Cl | Sny-Cl | Cldy-Intern.Rain |
| *Depth Reached* | 45'0" | 80'0" | 100'0" | 110'0" | 125'0" | 140'0" |

*Ground Elevation* +9.6 *Datum* U.S. C. & G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* +9.6 *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item #7 | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 134 | | | | | | | | 6' | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" ID x 24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Casing could not be advanced beyond 111'10". Core drilling below to 125' showed dense BOULDER TILL, no proof of bedrock to that depth. Hole below casing not remaining open. Boring Supervisor felt that proof of rock was mandatory, both for information required and to justify payment for footage below casing. To achieve this, the contractor drilled with a Rotary rig and aqua gel along side boring to bedrock, and made 5' run into rock. Core barrel usded was NX, but Contractor agreed to accept AX core price.

*INSPECTOR* S. Gikas, T. Milo *ENGINEER* _____

Boring No. 107
Sheet No. 1 of 5

# CLARKE, HARTMAN & DUNN, INC.

Boring No. U-106A
Sheet No. 1 of 3

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Ramp over Rte 440, Bayonne, N.J.
*Boring Location* Station 35+50 West 63rd St. Interchange

*Drilling Contractor* Warren George
*Rig No.* _____ *Type* Rotary-Cyl. Skid Rig *Driller & Helper(s)* (1) E. Van Glahn-Ed Fritsch- (2) " W. Ontak- Dave Nelson

| | (1)- | | (2) | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-24-66 | 11-9-66 | 11-10-66 | 11-11-66 | -11-14-66 | |
| *Time Started* | 10:00AM | 8:00AM | 8:00AM | 8:00AM | 10:00AM | |
| *Time Finished* | 4:00PM | 4:15PM | 4:15PM | 4:15PM | 3:00PM | |
| *Weather* | sny;mld. | rn.cool | cldy-rn. | pt. cldy. | sny;cool | |
| *Depth Reached* | 26' | 37' | 52' | 64' | 77' | |

*Ground Elevation* +8.8' *Datum* U.S.C.&G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* +8.8' *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # | 3" Item # | 4" Item #2 | Item # | Item # | Spoon Item # | Undist Item #5 | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| | | 75 | | | | 5 | | | | |

*CASING: Unit Weight* _____ *Size* 4" *Wt. of Hammer* 300lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1 1/2" ID x 24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* Hydr. Piston-brass *Dimensions* 3-1/2"x24"
*Type* " " " *Dimensions* 3" x 24"

*GENERAL REMARKS:* This boring started using rig & crew (1) above, rig was wrecked by vandals, and completion of hole was postponed until a less expensive rig (2) could be used. Failure of undisturbed samples 14 & 15 due to warn leather gasket in piston, failure of undisturbed sample 16 due to gravel (no penetration tube shows damage.)

*INSPECTOR* T. R. Milo *ENGINEER* _____

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* U-106A
*Sheet No.* 2 *of* 3

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Ramp W. 63 St. over Rte. 440 Bayonne, N.J.
*Boring Location* Station 108+50 West 63rd St. Interchange

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surf. Elev. +8.8' |
| | 8 | 3 | 8 | 1 | 0'-2' | | Brown compact (-)coarse to fine(+)SAND, some silt |
| | 10 | 10 | 4 | | | | little brick frags, glass, coal, concrete, etc. |
| | 13 | | | | | | (Misc. FILL) |
| +4.. | 11 | | | | | | |
| +4.3 | 19 | | | | | | |
| | 17 | 3 | 7 | 2 | 5'-7' | | Gray coarse to fine(-)loose SAND (Hydr. FILL) |
| | 31 | 9 | 10 | | | | |
| | 22 | | | | | | |
| | 24 | | | | | | |
| | 19 | 7 | 12 | 3 | 9'-11' | | Gray coarse to fine loose SAND, trace med to fin |
| | 26 | 8 | 5 | | | | Gravel, trace Silt |
| | 29 | | | | | | |
| | 28 | | | | | | |
| -5.2' | 44 | Hydr. | | 4U | 13'-15' | | Gray loose, med. to fine SAND |
| | 62 | Push | | | | | Green-gray organic marine SILT, trace fine Sand, |
| | 48 | | | | | | soft, 24" Recovery |
| | 51 | | | | | | |
| | 30 | | | | | | |
| -9.7' | 27 | | | | | | |
| | 25 | 21 | 27 | 5 | 19'-21' | | Reddish-gray-brown compact coarse to fine SAND, |
| | 28 | 33 | 34 | | | | trace Silt, trace Gravel (1 shale frag) |
| | 29 | | | | | | |
| | 66 | | | | | | |
| -14.2 | 103 | | | | | | |
| | 109 | 1 | 0 | 6 | 24'-26' | | Dark gray-brown soft clayey SILT, little fine |
| | 142 | 1 | 0 | | | | micaceous Sand, trace Vegetation |
| | 166 | | | | | | |
| | 170 | 2,000 | lb7U | | 27'-29' | | Dark reddish gray-brown soft CLAY &Silt, little |
| -19.7 | 161 | air press | | | | | at top of tube-Dark reddish gray-brown soft |
| | 155 | | | | | | clayey SILT, some med to fine (+)Sand at tipRec2 |
| | 201 | 6 | 13 | 8 | 30'-32' | | Reddish gray-brown med. fine compact SAND, last i |
| -23.2 | 191 | 17 | 16 | | | | ch in tip of spoon shewedirr. varved, reddish |
| | 177 | | | | | | brown SILT & clay (both in one jar) |
| | 165 | | | | | | |
| | 152 | | | | | | |
| | 341 | 341 | | 9 | 35'-37' | | Poor Recovery rejected tube-Sample in jar |
| | 274 | AirPress | | | | | Reddish gray-brown SILT & Clay, little fine(+) |
| | 262 | | | | | | to med Sand in layers |
| | 243 | | | | | | |
| | 207 | | | | | | |

*Boring No.* U-106A
*Sheet No.* 2 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* U-106A
*Sheet No.* 3 *of* 3

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Ramp W. 63 St over Rte 440, Bayonne, N.J.
*Boring Location* Station 95+50 West 63rd St. Interchange

washing below casing

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|
| | | 2000 # air press. | 10U | 40'-42' | | Reddish brown stiff varved SILT &Clay, trace fir Sand Rec. 24" |
| -34.7 | | | | | | |
| | | 2 4 / 4 8 | 11 | 45'-47' | | Red-brown-gray varved Stiff SILT &Clay, trace(-) fine sand, frequent silt partings |
| | | 2000# air press. | 12U | 50'-52' | | SAME as Sample II Rec 10"malfunction in sampler |
| | | 2 4 / 4 6 | 13 | 55'-57' | | Red-brown-varved-Stiff clayey SILT-frequent thi (1/8-1/4")gray-brown-clay varves. |
| | | 2000# air press | 14 | 60'-62' | | 4"Recovery tube not accptd-took jar samp(Seep-1) Red-brown-varved CLAY &Silt |
| | air | 2000# press. | 15 | 62'-64' | | 5" Recovery tube not accptd-took jar samp. Red- |
| -56.2 | 10-5 | 2000# | 16A | 64'-66' | | brown-stiff-clayey SILT-trace fine Sand, trace(- fine-gravel-Refusl tube on gravel-tk spoon samp. |
| | 5-5 | oxyg press | 16B | | | Red-brown thin-varved-stiff CLAY&Silt, trace Gra |
| | | | 17U | 66'- 68' | | Red-brown-thin=varved=stiff=CLAY & Silt, trace Gravel -Irreg. varved Red-brown-stiff-CLAY&Silt Rec 13" |
| | | 4 5 / 7 5 | 18 | 70'- 72' | | Red-brown-gray-stiff-varved SILT&Clay -with acca Silt partings, trace fine Sand |
| -68.2 | | 2000# oxg. press. | 19 | 75'- 77' | | No rec.-refusd tube-lge pcs. of gravel followin down-can't clean out hole properly.Called borin |

U 106A
*Boring No.* 3 3
*Sheet No.* ____ *of* ____

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 107
*Sheet No.* 2 *of* 5

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+32, 110' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. = +9.6' |
| | 4 | 4 | 5 | 1 | 0'-2' | /// | Misc. FILL - Sand, Silt, gravel, wood, concrete, |
| | 12 | 8 | 7 | | | /// | etc. |
| | 16 | | | | | | |
| | 19 | | | | | | |
| +5.1' | 15 | | | | | —*— | |
| | 10 | 5 | 5 | 2 | 5'-7' | /// | Gray, moist med. to fine loose SAND, trace |
| | 5 | 3 | 2 | | | /// | Silt |
| | 16 | | | | | | |
| | 17 | | | | | | |
| -0.4' | 22 | | | | | * | |
| | 13 | 5 | 2 | 3 | 10'-12' | /// | Dark gray moist loose SAND, trace Silt |
| | 12 | 3 | 2 | | | /// | |
| | 12 | | | | | | |
| | 9 | | | | | | |
| | 10 | | | | | | |
| -6.4' | 13 | Push | | 4A | 15'-17' | /// | Gray-brown & Dark brown very soft organic SILT |
| | 16 | | | 4B | | /// | Greenish gray very soft organic marine SILT |
| | 18 | | | | | | |
| -9.4' | 15 | | | | | | |
| | 11 | | | | | * | |
| | 17 | 1 | 2 | 5 | 20'-22' | /// | Brown-black soft PEAT |
| -11.9' | 19 | 2 | 5 | | | —*— | Gray, fine to med. loose SAND, trace (-) Silt, |
| | 19 | | | | | | trace shells |
| | 15 | | | | | | |
| | 14 | | | | | | |
| | 19 | 3 | 4 | 6 | 25'-27' | /// | Reddish gray-brown soft SILT & Clay, trace (+) |
| | 21 | 3 | 3 | | | /// | fine Micaceous Sand, trace (-) decayed vegetatio |
| | 23 | | | | | | |
| -18.9 | 26 | | | | | —*— | |
| | 29 | | | | | | |
| -21.4 | 24 | 2 | 4 | 7A | 30'-32' | /// | Red-brown loose (+) SAND, trace Silt |
| | 29 | 9 | 10 | 7B | | /// | Red-brown & gray-brown compact (-) fine (+) |
| | 43 | | | | | | to med. SAND, trace Silt |
| | 36 | | | | | | |
| -24.9 | 35 | | | | | —*— | |
| | 51 | 8 | 11 | 8 | 35'-37' | | Red-brown & gray-brown varved hard CLAY & Silt, |
| | 48 | 11 | 12 | | | | occasional Silt & Sand partings. |
| | 75 | | | | | | |
| | 72 | | | | | | |
| | 80 | | | | | | |

*Boring No.* 107
*Sheet No.* 2 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 107
*Sheet No.* 3 *of* 5

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+32, 110' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | 39 | 7 | 10 | 9 | 40'-42' | | Reddish-brown varved very stiff SILT & Clay, |
| | 47 | 11 | 11 | | | | with occasional Silt & Sand partings |
| | 53 | | | | | | |
| | 55 | | | | | | |
| | 61 | | | | | | |
| | 54 | 8 | 9 | 10 | 45'-47' | | Red-brown varved clayey SILT, very stiff, occas- |
| | 56 | 11 | 13 | | | | ional Silt & Sand partings |
| | 59 | | | | | | |
| | 62 | | | | | | |
| | 58 | | | | | | |
| | 52 | 5 | 7 | 11 | 50'-52' | | SAME as above |
| | 60 | 7 | 7 | | | | |
| | 64 | | | | | | |
| -43.9 | 57 | | | | | * | |
| | 53 | | | | | | |
| | 57 | 7 | 6 | 12 | 55'-57' | | Red-brown varved stiff (-) CLAY & Silt, with |
| | 61 | 6 | 9 | | | | occasional Sand partings |
| -48.4 | 58 | | | | | | |
| | 52 | | | | | * | |
| | 55 | | | | | | |
| | 50 | 6 | 8 | 13 | 60'-62' | | Gray-brown & red-brown stiff varved clayey |
| | 54 | 7 | 8 | | | | SILT, with occasional Sand partings |
| | 60 | | | | | | |
| | 65 | | | | | | |
| -54.9 | 59 | | | | | * | |
| | 68 | 5 | 6 | 14 | 65'-67' | | Red-brown stiff clayey SILT, trace (-) fine |
| | 77 | 6 | 9 | | | | Gravel |
| | 68 | | | | | | |
| | 64 | | | | | | |
| -59.9 | 62 | | | | | * | |
| | 74 | 5 | 6 | 15 | 70'-72' | | Red-brown varved stiff (-) CLAY & Silt with |
| | 81 | 6 | 6 | | | | occasional Silt partings |
| | 76 | | | | | | |
| -64.4 | 80 | | | | | | |
| | 74 | | | | | * | |
| | 76 | 7 | 10 | 16 | 75'-77' | | Red-brown SILT & Clay, trace (+) fine Gravel |
| | 84 | 12 | 12 | | | | |
| | 103 | | | | | | |
| | 96 | | | | | | |
| | 107 | | | | | | |

*Boring No.* 107
*Sheet No.* 3 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 107
*Sheet No.* 4 *of* 5

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+32, 110' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 82 | 7 | 8 | 17 | 80'-82' | | Red-brown hard CLAY & Silt, trace (+) fine |
| | 89 | 11 | 15 | | | | Gravel |
| | 129 | | | | | | |
| | 219 | | | | | | |
| | 227 | | | | | | |
| | 162 | 45 | 33 | 18 | 85'-87' | | Red-brown hard CLAY & Silt, trace (+) fine |
| | 179 | 15 | 15 | | | | Gravel, trace (+) Sand |
| | 151 | | | | | | NOTE: high blows on 1st foot of spoon probably |
| | 160 | | | | | | due to piece of Gravel |
| | 177 | | | | | | |
| | 320 | 7 | 13 | 19 | 90'-92' | | SAME |
| | 291 | 10 | 9 | | | | |
| | 293 | | | | | | |
| -83.9 | 300 | | | | | * | |
| | 306 | | | | | | |
| | 290 | 7 | 6 | 20 | 95'-97' | | Red-brown stiff varved CLAY & Silt |
| | 307 | 6 | 8 | | | | |
| | 321 | | | | | | |
| | 320 | | | | | | |
| -90.4 | 306 | | | | | | |
| Washed ahead of casing | 321 | 10 | 21 | 21 | 100'-102' | * | Red-brown & gray hard clayey SILT, trace (+) |
| | 420 | 27 | 30 | | | | fine to med. (-) Gravel, trace Sand |
| | 475 | | | | | | |
| | 400 | | | | | | |
| | 421 | | | | | | |
| | 516 | 30 | 41 | 22 | 105'-107' | | Red-brown hard SILT, little Gravel |
| | 537 | 56 | 67 | | | | |
| | 782 | | | | | | |
| | 860 | | | | | | |
| | 968 | | | | | | |
| | 974 | 18"/4" | | 23 | 110'-110'4" | | No Recovery - 300 lb. hammer on open end "A" ro |
| | 833/10" | | | | | | |
| -102.4 | | | | | 111'10"/ | * | Drilled thru Dense Boulder TILL consisting of |
| | | | | | 116'10" | | of red & gray Sandstone & Red Shale boulders & |
| | | | | | | | Gravel in a natrix of Silt & Sand 15" Recovery |
| | | | | | | | 7 pieces & fragments |
| | | | | | 116'10"/ | | SAME, Recovery 0 |
| | | | | | 121'10" | | |

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 107
*Sheet No.* 5 *of* 5

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. over Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+32, 110' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | 120'10"- 125' | | SAME, 6" Recovery of hard gray Sandstone 3 pieces and fragments |
| | | | | | 125'-130' | | SAME, 15" Recovery 3 pieces and fragments |
| | | | | | 130'-135' | | SAME to 134' - Bedrock @ 134'0" Recovery 30" Boulder core & 4" Gray-black DIABASE 9 pieces and fragments |
| | | | | 24C | 135'-140' | | Gray-black hard DIABASE, sound but with frequent fissunes 5 pieces and 1 fragment 35" Recovery |
| -140.0 | | | | | | | |

*Boring No.* 107
*Sheet No.* 5 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 108
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 275+25 ℄ 440, 295' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas oper. Chain Dr. Skid Mount *Driller & Helper(s)* V. Lawerence, H. Finkeldie

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Date* | 10-3-66 | 10-4-66 | | | | | |
| *Time Started* | 8:00 AM | 8:00 AM | | | | | |
| *Time Finished* | 4:15 PM | 4:15 PM | | | | | |
| *Weather* | Sunny | Sunny | | | | | |
| *Depth Reached* | 50' | 32' | | | | | |

*Ground Elevation* + 8.2 *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 82' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Water level with casing Depth -2.0 ft.

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 108
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 108
*Sheet No.* 1 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 275+25, $\frac{B}{L}$ 440, 295' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +8.2 |
| | 8 | 7 | 14 | 1 | 0'-2' | | Reddish-brown, med. to coarse SAND and Gravel, |
| | 20 | 6 | 7 | | | | little gray Slate, trace (+) red, yellowish |
| | 7 | | | | | | firm Clay. (Miss Fill) |
| | 8 | | | | | | |
| | 7 | | | | | | |
| | 10 | 2 | 4 | 2 | 5'-7' | | Greenish-gray med. to coarse hydr. fill SAND |
| | 14 | 4 | 4 | | | | |
| | 20 | | | | | | |
| | 15 | | | | | | |
| | 16 | | | | | | |
| | 12 | 2 | 4 | 3 | 10'-11' | | Greenish-gray med. to coarse firm hydr. fill |
| | 8 | 1 | 1 | | 11'-12' | | SAND, trace (-) coarse to med. Gravel |
| | 8 | | | | | | Gray-green-black-brown firm organic marine |
| | 8 | | | | | | SILT, trace (-) fine Sand |
| | 9 | | | | | | |
| | 12 | 1 | 1 | 4 | 15'-17' | | Gray-green-black, brown soft organic marine |
| | 17 | 1 | 1 | | | | SILT, trace (-) fine Sand |
| | 12 | | | | | | |
| | 13 | | | | | | |
| | 16 | | | | | | |
| | 23 | 10 | 13 | 5 | 20'-22' | | Gray-brown fine to med. SAND, trace (+) gray- |
| | 29 | 12 | 11 | | | | green organic marine Silt |
| | 30 | | | | | | |
| | 33 | | | | | | |
| | 36 | | | | | | |
| | 29 | 6 | 8 | 6 | 25'-27' | | Brown-gray-green, fine to med. SAND, trace (-) |
| | 30 | 8 | 9 | | | | fine black Gravel |
| | 40 | | | | | | |
| | 49 | | | | | | |
| | 57 | | | | | | |
| | 27 | 8 | 9 | 7 | 30'-32' | | Reddish-brown-gray very stiff SILT & Clay |
| | 36 | 10 | 10 | | | | little reddish-brown med. to fine Sand |
| | 43 | | | | | | |
| | 46 | | | | | | |
| | 50 | | | | | | |
| | 70 | 4 | 10 | 8 | 35'-37' | | Red-brown varved hard SILT & Clay, and layers |
| | 122 | 11 | 22 | | | | of compact med. to fine Sand |
| | 115 | | | | | | |
| | 110 | | | | | | |
| | 114 | | | | | | |

*Boring No.* 108
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 108
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 275+25 ℄ 440, 295' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | 110 | 5 | 7 | 9 | 40'-42' | | Reddish-brown-gray stiff clayey SILT, trace |
| -33.8 | 105 | 10 | 11 | | | | (-) compact fine Sand |
| | 136 | | | | | | |
| | 142 | | | | | | |
| | 150 | | | | | | |
| | 152 | 6 | 7 | 10 | 45'-47' | | Reddish-brown, stiff SILT & Clay, trace (+) |
| | 163 | 7 | 8 | | | | compact fine to med. Sand |
| -39.8 | 171 | | | | | | |
| | 186 | | | | | | |
| | 193 | | | | | | |
| | 200 | 5 | 7 | 11 | 50'-52' | | Reddish-brown, stiff SILT & Clay, trace red- |
| | 184 | 6 | 7 | | | | brown fine Sand |
| | 193 | | | | | | |
| | 194 | | | | | | |
| -46.8 | 205 | | | | | | |
| | 160 | 5 | 4 | 12 | 55'-57' | | Reddish-brown, stiff CLAY & Silt, trace red- |
| | 153 | 6 | 7 | | | | brown fine Sand |
| | 164 | | | | | | |
| | 158 | | | | | | |
| | 167 | | | | | | |
| | 150 | 66 | 7 | 13 | 60'-62' | | Reddish-brown, stiff CLAY & Silt, trace red- |
| | 146 | 6 | 7 | | | | brown fine Sand |
| | 158 | | | | | | |
| | 163 | | | | | | |
| | 155 | | | | | | |
| | 144 | 5 | 7 | 14 | 65'-67' | | Reddish-brown, stiff CLAY & Silt, trace fine to |
| | 159 | 7 | 8 | | | | med. Sand |
| | 167 | | | | | | |
| | 172 | | | | | | |
| -61.8 | 184 | | | | | | |
| | 164 | 5 | 6 | 15 | 70'-72' | | Reddish-brown, stiff CLAY and coarse to med. |
| | 185 | 7 | 8 | | | | Gravel, trace fine to med. Sand |
| | 190 | | | | | | |
| | 211 | | | | | | |
| | 262 | | | | | | |
| | 203 | 6 | 6 | 16 | 75'-77' | | Reddish-brown, stiff CLAY, some coarse to med. |
| | 307 | 7 | 8 | | | | Gravel, trace fine to med. Sand |
| | 331 | | | | | | |
| | 340 | | | | | | |
| | 358 | | | | | | |

*Boring No.* 108
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 108
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 275+25 ℄ 440, 295' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | 7 | 7 | 17 | 80'-82' | | Reddish-brown, stiff CLAY, and coarse to med. |
| -73.8 | | | | | | | Gravel, trace fine to med. Sand |

*Boring No.* 108
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 109
Sheet No. 1 of 3

## CONSULTING ENGINEERS

70 9IP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* W 63 St. Ramp, Borings, Bayonne, N.J.
*Boring Location* Sta. 277+53 ℄ Rte. 440, 332' Lt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* Catalatto, Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-5-66 | | | | | |
| *Time Started* | 9:00 AM | | | | | |
| *Time Finished* | 3:30 PM | | | | | |
| *Weather* | Rn-Cldy | | | | | |
| *Depth Reached* | 42' | | | | | |

*Ground Elevation* +7.5 *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 42' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2" ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2" ID x 2" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Water Level -3" casing out at completion

*(in marshland)

*INSPECTOR* R. Dayton *ENGINEER* _____

Boring No. 109
Sheet No. 1 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 109
*Sheet No.* 2 *of* 3

*BORING LOG for Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Ramp Boring, Bayonne, N.J.
*Boring Location* Sta. 277+53 B Rte. 440, 332' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV.=+ 7.5 |
| | Push | Push | | 1A | 0'-2' | | Green-gray, organic SILT, & Silt |
| +6.0 | Push | 3 | 4 | 1B | | | Gray-brown, med. to fine, loose SAND, trace |
| | 5 | | | | | | Vegetation, little Gravel |
| | 3 | | | | | | |
| | 2 | | | | | | |
| | 4 | 1 | 1 | 2 | 5'-7' | | Blackish-brown, med. to fine, loose SAND, trace |
| | 4 | 2 | 2 | | | | (-) Silt, trace Vegetation |
| | 4 | | | | | | |
| | 6 | | | | | | |
| -2.5 | 5 | | | | | | |
| | 7 | Push | | 3 | 10'-12' | | Greenish-gray, very soft, organic SILT, trace |
| | 6 | Push | | | | | Sand, trace (-) Vegetation |
| | 4 | | | | | | |
| | 4 | | | | | | |
| | 5 | | | | | | |
| -8.5 | 11 | Push | | 4A | 15'-17' | | Greenish-gray, organic SILT |
| | 14 | Push | | 4B | | | Reddish-brown, very soft, SILTY CLAY, trace |
| | 22 | | | | | | fine Sand |
| | 12 | | | | | | |
| -12.5 | 12 | | | | | | |
| | 9 | 6 | 6 | 5 | 20'-22' | | Red-gray-brown, med. to fine, compact (+) SAND, |
| | 16 | 4 | 6 | | | | trace Shells, trace fine Gravel |
| | 21 | | | | | | |
| -16.5 | 22 | | | | | | |
| | 34 | | | | | | |
| | 17 | 3 | 5 | 6 | 26'-27' | | Brown-gray, stiff SILTY CLAY, trace fine Sand |
| | 26 | 6 | 13 | | | | |
| | 39 | | | | | | |
| -21.5 | 41 | | | | | | |
| | 48 | | | | | | |
| | 42 | 10 | 15 | 7 | 30'-32' | | Red-brown, varved hard Clayey SILT and med. to |
| | 57 | 16 | 16 | | | | fine Sand in layers |
| | 61 | | | | | | |
| | 63 | | | | | | |
| | 63 | | | | | | |
| | 31 | 14 | 15 | 8 | 35'-37' | | Reddish-brown, varved hard Silty CLAY, with |
| | 38 | 20 | 19 | | | | occasional Sand partings. |
| | 48 | | | | | | |
| | 58 | | | | | | |
| | 73 | | | | | | |

*Boring No.* 109
*Sheet No.* 2 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 109
*Sheet No.* 3 *of* 3

*BORING LOG for Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* W. 63 St. Ramp, Borings, Bayonne, N.J.
*Boring Location* Sta. 277+53 B Rte. 440, 332' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE* No. | *SAMPLE* Depth | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | 10 | 9 | 9 | 40'-42' | | SAME |
| -34.5 | | 11 | 12 | | | | |

*Boring No.* 109
*Sheet No.* 3 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 110
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Boring Cont.C

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440, W. 63 St., Interchange, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+05, 295' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas oper. Chain Dr Skid Mount *Driller & Helper(s)* V. Lawerence, H. Finkeldie

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-30-66 | | | | | |
| *Time Started* | 11:30 AM | | | | | |
| *Time Finished* | 4:30 PM | | | | | |
| *Weather* | Sunny | | | | | |
| *Depth Reached* | 22' | | | | | |

*Ground Elevation* +10.0 *Datum* U.S. C. & G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 22 | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" ID x 24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Water level after casing was removed -3.4

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 110
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 110
Sheet No. 2 of 2+

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Rte. 440, W. 63 St., Interchange, Bayonne, N.J.
Boring Location ℄ 440 Sta. 274+05, 295' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. =+ 10.0 |
| | 6 | 1 | 13 | 1 | 0'-2' | | Red-brown gray, med. to coarse GRAVEL, little |
| | 29 | 16 | 13 | | | | gray brown med. to coarse Sand, trace white |
| | 33 | | | | | | concrete, trace boulder fragments |
| | 15 | | | | | | |
| | 26 | | | | | | |
| +4.0 | 7 | 1 | 2 | 2A | 5'-6' | | Gray, green soft organic marine SILT, little |
| | 7 | 4 | 4 | 2B | 6'-7' | | hydr. fill Sand |
| | 19 | | | | | | Greenish-gray, med. to coarse hydr. fill SAND |
| | 21 | | | | | | |
| | 16 | | | | | | |
| | 10 | 2 | 4 | 3 | 10'-12' | | Greenish-gray-brown, med. to fine hydr. Fill |
| -2.0 | 12 | 4 | 3 | | | | SAND, little gray organic marine Silt |
| | 8 | | | | | | |
| | 13 | | | | | | |
| | 13 | | | | | | |
| | 11 | Push | | 4 | 15'-17' | | Greenish-gray, firm organic marine SILT, trace |
| | 13 | | | | | | reddish, brown fine to med. Sand |
| | 13 | | | | | | |
| | 16 | | | | | | |
| | 15 | | | | | | |
| -11.0 | 17 | 1 | 1 | 5A | 20'-21' | | Greenish-gray firm organic marine SILT, trace (+ |
| -12.0 | | 6 | 3 | 5B | 21'-22' | | gray hydr. fill Sand |
| | | | | | | | Gray-green, med. to fine SAND |

Boring No. 110
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 111
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* Rte. 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440, W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* B 440 Sta. 274+00, 460' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas oper. Chain Dr Skid Mount *Driller & Helper(s)* W. Lawerence, J. Richard, H. Finkeldie

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Date* | 9-29-66 | 9-30-66 | | | | | | |
| *Time Started* | 11:15AM | 8:00 AM | | | | | | |
| *Time Finished* | 2:00PM | 10:00AM | | | | | | |
| *Weather* | Cldy-Rn | Sunny | | | | | | |
| *Depth Reached* | 5'0" | 18'0" | | | | | | |

*Ground Elevation* + 12.0 *Datum* U.S.C. & G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 18 | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" I.D. x 24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 111
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 111
Sheet No. 2 of 2

BORING LOG for Project No. Route440-2 for Clarke, Hartman & Dunn
Project Location Route 440, W. 63 Street, Interchange, Bayonne, N.J.
Boring Location B 440 Sta. 274+00, 460' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. + +12.0 |
| | 39 | 4 | 11 | 1 | 0'-2' | | Brown-Red, coarse GRAVEL, some coarse to med. |
| | 40 | 6 | 10 | | | | Sand, trace white concrete, trace (-) Clay, |
| | 34 | | | | | | trace boulder fragments (Misc. FILL) |
| | 46 | | | | | | |
| +7.0 | 35 | | | | | | |
| | 9 | 14 | 7 | 2 | 5'-7' | | Gray, fine to med. hydrulic SAND, fill, some |
| | 20 | 7 | 9 | | | | organic marine firm SILT |
| | 21 | | | | | | |
| +3.0 | 16 | | | | | | |
| | 9 | | | | | | |
| | 8 | 1 | 1 | 3 | 10'-12' | | Greenish-gray organic marine firm SILT, trace |
| | 8 | 1 | 1 | | | | fine to med. Sand |
| | 21 | | | | | | |
| | 20 | | | | | | |
| | 13 | | | | | | |
| | | 1 | 1 | 4 | 15'-17' | | Greenish-gray firm organic marine SILT, trace |
| -5.0 | | 1 | 1 | | | | (+) brown fine to med. Sand, trace shells |
| -6.0 | | 4 | 6 | 5 | 17'-18' | | Gray fine to med. SAND, trace (-) Silt. |

Boring No. 111
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 112
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn Lehigh Valley
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J. R.R. Embankment
*Boring Location* Sta. 283+47 ℄ 440, 78' Lt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas Oper. Chain Dr. Skid Mount *Driller & Helper(s)* V. Lawerence, G. Kennedy

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-18-66 | 10-20-66 | 10-21-66 | | | |
| *Time Started* | 10:00 AM | 8:00 AM | 8:00 AM | | | |
| *Time Finished* | 4:15 PM | 4:15 PM | 2:00 PM | | | |
| *Weather* | Sny-Cl | P/Cldy | Sunny | | | |
| *Depth Reached* | 47' | 92' | 118' | | | |

*Ground Elevation* +22.2 *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 118'6" | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2-1/2"ID *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"ID x 24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Casing refused at 90', approved washing ahead below casing by permission N.J.State Highway Dept. Engineer Dean Kerr. * Spoon refused on gravel & Sand

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 112
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 112
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 283+47 ℄ 440, 78' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +22.2 |
| | 2 | 1 | 1 | 1 | 0'-2' | | Brown-gray, fine to med. fill SAND, little |
| | 3 | 2 | 1 | | | | Gravel, trace (-) wood fragments |
| | 5 | | | | | | |
| | 7 | | | | | | |
| | 9 | | | | | | |
| | 8 | 5 | 8 | 2 | 5'-7' | | Gray-brown-yellowish, fine to med. fill SAND |
| | 15 | 8 | 9 | | | | trace (-) shells |
| | 19 | | | | | | |
| | 25 | | | | | | |
| | 23 | | | | | | |
| | 15 | 10 | 12 | 3 | 10'-12' | | Gray-brown-yellowish, fine to med. fill SAND |
| | 18 | 12 | 10 | | | | trace (+) Gravel |
| | 20 | | | | | | |
| | 17 | | | | | | |
| | 19 | | | | | | |
| | 8 | 6 | 8 | 4 | 15'-17' | | SAME AS ABOVE |
| | 17 | 9 | 8 | | | | |
| | 22 | | | | | | |
| | 25 | | | | | | |
| | 23 | | | | | | |
| | 10 | 6 | 7 | 5 | 20'-22' | | Grayish-brown, fine to med. fill SAND, trace |
| | 16 | 6 | 2 | | | | (-) Gravel |
| | 17 | | | | | | |
| | 19 | | | | | | |
| | 20 | | | | | | |
| | 14 | 2 | 2 | 6A | 25'-26'8" | | Grayish-brown, med. to coarse fill SAND, trace |
| -4.3 | 17 | 2 | 1 | 6B | 26'9"-[illegible] | | Gravel |
| | 15 | | | | | | Gray-black, SILT and Sand, trace Gravel, trace |
| | 16 | | | | | | (-) red Brickstone |
| | 17 | | | | | | |
| | 8 | 1 | 1 | 7 | 30'-32' | | Gray-green, soft organic SILT, trace shells |
| | 17 | 1 | 1 | | | | |
| -10.8 | 26 | | | | | | |
| | 30 | | | | | | |
| | 34 | | | | | | |
| | 20 | 7 | 8 | 8 | 35'-37' | | Gray-green-brown, fine to med. SAND, trace |
| | 29 | 8 | 7 | | | | Silt |
| | 37 | | | | | | |
| | 40 | | | | | | |
| | 43 | | | | | | |

*Boring No.* 112
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 112
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Ree. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 283+47 ℄ 440, 78' Lt

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 26 | 8 | 10 | 9 | 40'-42' | | Gray-green-brown fine to med. SAND, little |
| | 29 | 11 | 10 | | | | Silt |
| | 33 | | | | | | |
| | 36 | | | | | | |
| | 41 | | | | | | |
| | 40 | 13 | 16 | 10 | 45'-47' | | Gray-brown, fine to med. SAND |
| | 57 | 21 | 27 | | | | |
| | 60 | | | | | | |
| -26.8 | 63 | | | | | | |
| | 75 | | | | | | |
| | 80 | 11 | 13 | 11 | 50'-52' | | Gray-brown, hard SILT, and reddish-brown fine |
| | 86 | 17 | 20 | | | | to med. Sand |
| | 90 | | | | | | |
| | 112 | | | | | | |
| | 116 | | | | | | |
| | 83 | 10 | 14 | 12 | 55'-57' | | Gray-brown, very stiff SILT and reddish-brown |
| | 98 | 16 | 10 | | | | fine to med. Sand, trace (-) Gravel |
| | 116 | | | | | | |
| -36.8 | 128 | | | | | | |
| | 137 | | | | | | |
| | 70 | 8 | 9 | 13 | 60'-62' | | Reddish-brown, very stiff clayey SILT, trace |
| | 83 | 11 | 13 | | | | Sand |
| | 91 | | | | | | |
| | 88 | | | | | | |
| | 82 | | | | | | |
| | 63 | 6 | 7 | 14 | 65'-67' | | Reddish-brown, stiff clayey SILT, trace fine |
| | 70 | 8 | 8 | | | | to med. Sand |
| | 66 | | | | | | |
| -46.8 | 70 | | | | | | |
| | 74 | | | | | | |
| | 80 | 7 | 7 | 15 | 70'-72' | | Reddish-brown, hard siltey CLAY, some med. (+) |
| | 87 | 10 | 31 | | | | to fine Gravel |
| | 90 | | | | | | |
| | 112 | | | | | | |
| | 119 | | | | | | |
| | 115 | 12 | 16 | 16 | 75'-77' | | SAME AS ABOVE |
| | 128 | 20 | 22 | | | | |
| | 140 | | | | | | |
| -56.8 | 146 | | | | | | |
| | 136 | | | | | | |

*Boring No.* 112
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 112
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 283+47 ℄ 440, 78' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 153 | 10 | 13 | 17 | 80'-82' | | Reddish-brown, hard siltey-CLAY, trace (+) |
| | 157 | 20 | 22 | | | | fine Gravel |
| | 183 | | | | | | |
| | 175 | | | | | | |
| | 193 | | | | | | |
| | 176 | 16 | 20 | 18 | 85'-87' | | Red (+)-brown, hard siltey-CLAY, little med. |
| | 324 | 31 | 40 | | | | to fine Gravel, trace boulder fragments |
| | 307 | | | | | | |
| | 326 | | | | | | |
| -67.8 | 429 | | | | | | |
| | | 100 | 40 | 19 | 90'-92' | | Red-brown, hard CLAY & Silt, little med. to |
| | | 49 | 53 | | | | fine Gravel, trace boulder fragments |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 7 | 7 | 20A | 95'-96'6" | | Red-brown, stiff CLAY & Silt, little med. to |
| -74.3 | | 7 | 8 | 20B | 96'6"-98' | | fine Gravel |
| | | | | | | | Red-brown, stiff varved CLAY & Silt, trace |
| | | | | | | | Sand |
| | Washed below casing | | | | | | |
| | | 6 | 8 | 21 | 100'-102' | | SAME AS ABOVE |
| | | 8 | 8 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 5 | 3 | 22 | 105'-107' | | SAME AS ABOVE |
| | | 5 | 5 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 10 | 31 | | 109'-6" | | Red-brown, hard CLAY & Silt, trace Sand |
| | | 18 | 9 | 23 | | | |
| | | 13 | | | 111'-6" | | Note: Decomposed Shale fragments in tip of |
| -90.3 | | | | | | | spoon |
| | | 46 | 62 | | 113'-9" | | |
| | | 44 | 29 | 24 | | | Red-brown-gray, med. to coarse SAND and Gravel, |
| | | | | | 115'-9" | | fragments of Sand Stone |
| | | | | | | | |
| -95.8 | | | | | | | Refusal at 118', drove open and from 118' to |
| | | | | | | | 118'6" 29 blows on OE for first 5", 45 blows |
| | | | | | | | and rebounding lost inch |
| | | | | | | | Red-brown SAND, and Gravel and Sandstone frags. |

*Boring No.* 112
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 113
Sheet No. 1 of 3

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Boring Cont. C

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440 under Railroad Structure, Bayonne, N.J.
*Boring Location* B 440 Sta. 285+15

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Gas oper. Chain Dr Skid Mount *Driller & Helper(s)* V. Lawerence, H. Finkeldie

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-20-66 | RAIN | 9-22-66 | 9-23-66 | | |
| *Time Started* | 9:00 AM | " | 8:00 AM | 8:00 AM | | |
| *Time Finished* | 3:30 PM | " | 3:30 PM | 10:00AM | | |
| *Weather* | Cldy-Cl | " | Cldy-Cl-R | | | |
| *Depth Reached* | 35' | No Work | 60' | 65' | | |

*Ground Elevation* +3.4' *Datum* U.S.C.& G. *M. L. W. Elevation*
*Zero of Boring Log is Elev.* +3.4' *Elevation of Ground Water* In water at high tide

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 67' | | | | | | | | | | |

*CASING: Unit Weight* *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" IDx24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* *Dimensions*
*Type* *Dimensions*

*GENERAL REMARKS:*

*INSPECTOR* B.A. Topolowski *ENGINEER*

Boring No. 113
Sheet No. 1 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 113
Sheet No. 2 of 3

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Route 440 under Railroad Structure, Bayonne, N.J.
Boring Location B 440 Sta. 285+15

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. ± +3.4' |
| | 3 | 1 | 2 | 1 | 0'-2' | | Reddish-gray-brown, loose med. to fine SAND |
| | 5 | 2 | 3 | | | | |
| | 7 | | | | | | |
| | 9 | | | | | | |
| | 9 | | | | | | |
| | 9 | 2 | 2 | 2 | 5'-7' | | Reddish-brown & gray, loose med. to fine SAND, |
| | 8 | 3 | 2 | | | | trace of Silt |
| | 10 | | | | | | |
| | 13 | | | | | | |
| | 12 | | | | | | |
| | 16 | 2 | 2 | 3 | 10'-12' | | Reddish-brown & gray loose SAND, trace of Silt |
| | 20 | 3 | 4 | | | | |
| -9.6' | 24 | | | | | | |
| | 28 | | | | | * | |
| | 26 | | | | | | |
| | 25 | 2 | 3 | 4 | 15'-17' | | Green-gray, firm organic marine SILT, trace |
| | 31 | 4 | 6 | | | | fine Sand, trace Shells |
| | 35 | | | | | | |
| -15.6' | 38 | | | | | | |
| | 58 | | | | | * | |
| | 52 | 20 | 26 | 5 | 20'-22' | | Reddish-gray-brown, med. to fine compact SAND, |
| | 62 | 24 | 26 | | | | trace Silt, trace Gravel |
| | 60 | | | | | | |
| | 71 | | | | | | |
| | 64 | | | | | | |
| | 58 | 8 | 11 | 6 | 25'-27' | | Reddish-brown-gray, med. to fine loose SAND, |
| | 69 | 13 | 16 | | | | trace (-) Silt |
| | 76 | | | | | | |
| -24.6' | 94 | | | | | * | |
| | 87 | | | | | | |
| | 58 | 10 | 12 | 7 | 30'-32' | | Reddish-brown stiff SILT & Clay |
| | 77 | 17 | 28 | | | | |
| | 94 | | | | | | |
| | 118 | | | | | | |
| | 126 | | | | | | |
| | 111 | 9 | 7 | 8 | 35'-37' | | Red-brown & gray brown varved very stiff Clay & |
| | 122 | 10 | 11 | | | | SILT |
| | 133 | | | | | | |
| -35.1' | 138 | | | | | * | |
| | 141 | | | | | | |

Boring No. 113
Sheet No. 2 of 3

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113
*Sheet No.* 3 *of* 3

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440 under Railroad Structure, Bayonne, N.J.
*Boring Location* B 440 Sta. 285+15

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | 131 | 4 | 8 | 9 | 40'-42' | | Red-brown, very stiff, SILT, trace (-) fine |
| | 124 | 10 | 13 | | | | Gravel |
| | 152 | | | | | | |
| | 153 | | | | | | |
| | 159 | | | | | | |
| | 129 | 10 | 13 | 10A | 45'-46'3" | | Red-brown, very stiff SILT & Clay, trace (+) |
| -43.1 | 168 | 24 | 25 | 10 | 46.9'-47' | | fine Gravel |
| | 187 | | | | | | Red-brown SAND & Gravel, little clayey-Silt |
| | 194 | | | | | | |
| | 211 | | | | | | |
| | 206 | 11 | 13 | 11 | 50'-52' | | Red-brown, hard SILT & Clay, trace (+) fine |
| | 223 | 19 | 23 | | | | Gravel, trace (-) Sand |
| | 272 | | | | | | |
| | 300 | | | | | | |
| | 287 | | | | | | |
| | 321 | 11 | 17 | 12 | 55'-57' | | Red-brown, hard SILT & Clay, trace (+) med. to |
| | 367 | 28 | 31 | | | | fine Gravel, trace Sand |
| | 436 | | | | | | |
| | 357 | | | | | | |
| | 462 | | | | | | |
| | 481 | 21 | 32 | 13 | 60'-62' | | Red-brown, hard CLAY & Silt, little fine Gravel |
| | 526 | 35 | 51 | | | | |
| | 552 | | | | | | |
| | 586 | | | | | | |
| | 603 | | | | | | |
| | | 16 | 23 | 14 | 65'-67' | | Red-brown, hard CLAY & Silt, some Gravel, little |
| -63.6' | | 29 | 38 | | | | Sand |

*Boring No.* 113
*Sheet No.* 3 *of* 3

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 113A
Sheet No. 1 of 5

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* Rte. 440-4 *for* Clarke, Hartman & Dunn, Inc.
*Project Location* Rte. 440 with R.R. structure, Bayonne, N.J.
*Boring Location* ℄ 440 - Sta. 285+10, 80' Lt.

*Drilling Contractor* Warren George
*Rig No.* _____ *Type* S&H 30C Screw Feed Drill *Driller & Helper(s)* V. Lawerence, E. VanGlahn

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 10-24-66 | 10-25-66 | 10-26-66 | 10-27-66 | 10-28-66 | 10-31-66 |
| *Time Started* | 12:30PM | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM |
| *Time Finished* | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM |
| *Weather* | Sny-Cl | P-Cldy-Cl | Sny-Wrm | Sny-Wrm | Sny-Wrm | Sny-Mld |
| *Depth Reached* | 17' | 57' | 102' | 107' | 118' | 121' |

*Ground Elevation* +10.6' *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* +10.6' *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" *Item #* | 3" *Item #* | 4" *Item #* | NX *Item #* | BX *Item #* | *Spoon Item #* | *Undist Item #* | *Item #* | *1 3/8" Item #* | *1 5/8" Item #* | *Item #* |
| | | 2 | 4 | 4 | | | | 7 | 7 | |
| | | 35' | 72' | 10' | | | | 2.5' | 4.5' | |

*CASING: Unit Weight* _____ *Size* 4"NX BX *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"ID *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* "M" Double tube- *Dimensions* _____
*Type* diamond "AX" " *Dimensions* _____

*GENERAL REMARKS:* Refusal of 4" casing @ 35', allowed driller to insert "NX" Flush joint & wash it down (Perm. of N.J.S.H.D. Eng. Dean Kerr) Refusal of "NX" at 107' in Glacial TILL. Cored ahead to 121', below casing. Bedrock at 117'. Extreme difficulty in removing core barrel caused loss of all but 11" of core. Ordered insertion of "BX" flush joint to seal hole. "BX" put down to 117'. Drilled with "AX" core barrel to 124', retrieving some of lost core. Called hole at 124'/ W.L. -17'

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 113A
Sheet No. 1 of 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113A
*Sheet No.* 2 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn, Inc.
*Project Location* Rte. 440, W. 63 St. Interchange, Bayonne, N.J. ★
*Boring Location* R 440 - Sta. 285+10, 80' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | * Denotes See General Remarks Page #1 ★ See Top of Page #1 *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV= +10.6 |
| | 15 | 1 | 2 | 1 | 0'-2' | | Brownish-gray, fine to med. fill SAND, and |
| | 24 | 3 | 5 | | | | greenish gray med. (+) to coarse Gravel, trace |
| | 30 | | | | | | red brickstone fragments, trace (-) Wood |
| | 28 | | | | | | |
| | 30 | | | | | | |
| | 16 | 3 | 2 | 2 | 5'-7' | | Gray-brown-black, fine to med., fill SAND, trace |
| | 25 | 5 | 7 | | | | (-) fine to med. Gravel. |
| | 33 | | | | | | |
| | 24 | | | | | | |
| | 22 | | | | | | |
| | 19 | 4 | 3 | 3 | 10'-12' | | Gray-brown-green-med. (+) to coarse fill SAND |
| | 22 | 3 | 3 | | | | and Gravel, trace (-) red brickstone fragments |
| | 30 | | | | | | |
| | 27 | | | | | | |
| | 33 | | | | | | |
| | 26 | 6 | 7 | 4 | 15'-17' | | Gray-brown-gray-tan, med. (+) to coarse fill |
| | 35 | 7 | 8 | | | | SAND and Gravel, trace (-) red brickstone |
| | 39 | | | | | | fragments |
| -8.4 | 41 | | | | | * | |
| | 46 | | | | | | |
| -10.4 | 33 | 3 | 3 | 5A | 20'-21' | | Gray-green, fine (+) to med. SAND, trace (+) |
| | 53 | 2 | 2 | 5B | 21'-22' | * | marine organic Silt |
| -12.4 | 55 | | | | | * | Greenish-gray-brown, marine organic SILT, some |
| | 60 | | | | | | black Peat |
| | 66 | | | | | | |
| | 102 | 9 | 11 | 6 | 25'-27' | | Brownish-gray, fine (+) to med. SAND, trace |
| | 97 | 13 | 15 | | | | Silt, trace (-) soft Gravel fragments |
| | 109 | | | | | | |
| -18.4 | 116 | | | | | | |
| | 128 | | | | | * | |
| | 189 | 15 | 17 | 7 | 30'-32' | | Brownish-red, hard clayey - SILT, little fine |
| | 222 | 16 | 17 | | | | to med. Gravel |
| | 257 | | | | | | |
| | 366 | | | | | | |
| | 467 | | | | | | |
| | *1 | 12 | 10 | 8 | 35'-37' | | Brownish-red, hard SILT and fine Sand, trace |
| | | 20 | 17 | | | | fine to med. Gravel |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113A
*Sheet No.* 3 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn, Inc.
*Project Location* Rte. 440 W 63 St. Interchange, Bayonne, N.J. ★
*Boring Location* ℄ 440 - Sta. 285+10, 80' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | ★See Top of Page #1 *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | 8 | 8 | 9 | 40'-42 | | Red-brown, very stiff varved clayey SILT, trace |
| | | 13 | 15 | | | | fine Sand |
| -32.0 | | | | | | | |
| | | 7 | 7 | 10 | 44'-46 | | Red-brown & red, very stiff varved SILT & Clay, |
| | | 9 | 11 | | | | trace med. (+) to fine Sand, with occasional |
| | | | | | | | partings |
| -38.4 | | | | | | | |
| | | 8 | 9 | 11 | 50'-52 | | Red-brown-red, very stiff CLAY & Silt, little |
| | | 13 | 15 | | | | fine to med. Gravel |
| | | 8 | 8 | 12 | 55'-57 | | Red-brown-red, very stiff CLAY & Silt, little |
| | | 12 | 14 | | | | fine to med. Gravel |
| | | 8 | 10 | 13 | 60'-62 | | Red-brown-red, very stiff CLAY & Silt, little |
| | | 13 | 12 | | | | med. (+) to fine Gravel |
| | | 9 | 9 | 14 | 65'-67 | | Red-brown-red, very stiff CLAY & Silt, little |
| | | 11 | 13 | | | | med. to fine Gravel, trace Sand |
| | | 8 | 9 | 15 | 70'-72 | | Red-brown-red, very stiff CLAY & Silt, little |
| | | 10 | 12 | | | | med. to fine Gravel, trace Sand |
| -62.0 | | | | | | | |
| | | 6 | 9 | 16 | 75'-77 | | Red-brown-red, very stiff SILT & Clay, trace |
| | | 11 | 13 | | | | fine Sand |

*Boring No.* 113A
*Sheet No.* 3 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113A
*Sheet No.* 4 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn, Inc.
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J. ★
*Boring Location* B 440 - Sta. 285+10, 80' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | * See General Remarks Page #1 ★See Top of Page #1 *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | 7 | 9 | 17 | 80'-82' | | Red-brown-red, very stiff SILT & Clay, trace |
| | | 12 | 12 | | | | fine Sand |
| -72.0 | | | | | | | |
| | | 5 | 7 | 18 | 85'-87' | | Red-brown-red, stiff varved CLAY & Silt, trace |
| | | 7 | 7 | | | | (-) fine Sand |
| | NX Washed Down | 6 | 7 | 19 | 90'-92' | | Red-brown-red, very stiff varved CLAY & Silt, |
| | | 8 | 7 | | | | trace (-) fine Sand |
| -83.4 | | | | | | | |
| | | 26 | 13 | 20 | 95'-97' | | Reddish-brown, hard SAND, some Silt & Clay, |
| | | 36 | 54 | | | | little Gravel (Glacial TILL) |
| | | 16 | 29 | 21 | 100'- | | Reddish-brown, hard CLAY & SAND, (Glacial TILL) |
| | | 39 | 43 | | 102' | | trace fine to med. Gravel, trace Silt |
| | | 23 | 36 | 22 | 105'- | | Reddish-brown, hard, SAND & Gravel (Glacial TILL |
| | | 31 | 39 | | 107' | | trace Silt |
| | | | | | 107' to | | Cobbles and Boulders in dense Glacial TILL |
| | BX Wash & Drive | | | | 108'6" | | 5" Recovery; (3 pieces) |
| | | | | | 113'-6" | | |
| | | | | | to116'6" | | Boulders in dense Glacial TILL 11" Recovery; |
| | | | | | | | (1 piece) |
| | | | | | | | Boulders, and Quartz fragments in dense Glacial |
| | | | | | | | TILL 11" Recovery; (2 pieces & fragments) |
| | | | | | 116'6" | | |
| | | | | | -121'6" | | |
| -106.4 | | | | | - | | Bedrock at 117' Gray hard SANDSTONE "M" cove |
| | | | | | | | Recovery 11"; (1 piece) |

*Boring No.* 113A
*Sheet No.* 4 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113A
*Sheet No.* 5 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn, Inc.
*Project Location* Rte. 440, W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* ℄ 440 - Sta. 285+10, 80' Lt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|
| | | | 23C | 121'6" to 124 | | Gray hard SANDSTONE, 26" Regovery, (26 pieces, includes some retrieved cove from above run; see page #1 Remarks) |
| -113.4' | | | | | | |

*Boring No.* 113A
*Sheet No.* 5 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 113-B
Sheet No. 1 of 4

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 Under Railroad Structure, Bayonne, N.J.
*Boring Location* Rte. 440 ℄ Sta. 285+10, 80' Rt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* 30C Skid Rig *Driller & Helper(s)* V. Lawerence, E. Van Glahn

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 11-3-66 | 11-4-66 | 11-7-66 | 11-8-66 | | |
| *Time Started* | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | | |
| *Time Finished* | 4:15 PM | 4:15 PM | 4:15 PM | 2:00 PM | | |
| *Weather* | Cl-Snv | Cl-Snv | Cl-Snv | Cl-Mld | | |
| *Depth Reached* | 40' | 70' | 97' | 101' | | |

*Ground Elevation* +5.4' *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* +5.4' *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item #2 | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item #7 | Item # |
| | | | | | | | | | | |
| 52' | | 40' | | | | | | | 9' | |

*CASING: Unit Weight* _____ *Size* 4" I.D. *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2"IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* Diamond Core *Dimensions* "M"
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* W.L. -4' Depth (vary with tide)

*INSPECTOR* S. Gikas *ENGINEER* _____

Boring No. 113-B
Sheet No. 1 of 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113-B
*Sheet No.* 2 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 Under Railroad Structure, Bayonne, N.J.
*Boring Location* Rte. 440 B Sta. 285+10, 80' Rt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +5.4 |
| | 8 | 6 | 3 | 1 | 0'-2' | | Red Brown fine (+) to med. SAND some (-) med. |
| | 10 | 5 | 3 | | | | Gravel |
| | 15 | | | | | | |
| | 13 | | | | | | |
| | 11 | | | | | | |
| | 11 | 3 | 3 | 2 | 5'-7' | | Red Brown fine to coarse Sand |
| | 14 | 5 | 3 | | | | |
| | 16 | | | | | | |
| | 18 | | | | | | |
| | 20 | | | | | | |
| | 26 | 7 | 4 | 3 | 10'-12' | | Red Brown moist fine to coarse Sand |
| | 30 | 4 | 5 | | | | |
| | 35 | | | | | | |
| | 40 | | | | | | |
| -9.6' | 44 | | | | | * | |
| | 38 | 2 | 1 | 4 | 15'-17' | | Dark Gray & Brown Organic SILT trace vegetation |
| | 47 | 1 | 1 | | | | |
| -12.1' | 53 | | | | | * | |
| | 56 | | | | | | |
| | 53 | | | | | | |
| | 83 | 9 | 11 | 5 | 20'-22' | | Gray moist hard fine to med. Sand trace of |
| | 90 | 13 | 15 | | | | Silt |
| | 114 | | | | | | |
| | 117 | | | | | | |
| | 122 | | | | | | |
| | 93 | 8 | 10 | 6 | 25'-27' | | Red Brown moist, compact fine to med. Sand |
| | 114 | 10 | 12 | | | | trace of Silt |
| | 120 | | | | | | |
| | 134 | | | | | | |
| -24.6' | 150 | | | | | * | |
| | 144 | 8 | 11 | 7 | 30'-32' | | Red Brown stiff SILT & CLAY trace (+) fine |
| | 167 | 14 | 17 | | | | Sand |
| | 198 | | | | | | |
| | 223 | | | | | | |
| | 266 | | | | | | |
| | 192 | 9 | 12 | 8 | 35'-37' | | Red Brown stiff SILT & CLAY with lenses of |
| | 229 | 13 | 16 | | | | fine Sand |
| | 382 | | | | | | |
| | 403 | | | | | | |
| | 436 | | | | | | |

*Boring No.* 113-B
*Sheet No.* 2 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113-B
*Sheet No.* 3 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 Under Railroad Structure, Bayonne, N.J.
*Boring Location* Rte. 440 ℄ Sta. 285+10, 80' Rt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | 5 | 6 | 9 | 40'-42' | | Red Brown varved, SILT & CLAY lenses of fine |
| | | 6 | 7 | | | | Sand |
| | | 4 | 6 | 10 | 45'-47' | | Red Brown varved silty CLAY occasional fine |
| | | 6 | 7 | | | | Sand lenses |
| | | 7 | 8 | 11 | 50'-52' | | SAME as ABOVE |
| | | 9 | 9 | | | | |
| | | 7 | 8 | 12 | 55'-57' | | Same as Sample #10 with trace (-) fine to |
| | | 8 | 9 | | | | med. Sand |
| -52.6' | | | | | | * | |
| | | 16 | 19 | 13 | 60'-62' | | Red Brown very hard Clayey SILT some med. |
| | | 23 | 27 | | | | Gravel Some Sand |
| | | 13 | 18 | 14 | 65'-67' | | SAME as ABOVE |
| | | 21 | 24 | | | | |
| | | 10 | 12 | 15 | 70'-72' | | SAME as #13 with fine Gravel only |
| | | 20 | 24 | | | | |
| | | 11 | 14 | 16 | 75'-77' | | Red Brown very stiff SILT & CLAY some fine to |
| | | 27 | 21 | | | | med. Gravel, trace (-) SHELL, trace fine to med. |
| | | | | | | | Sand |
| -73.6' | | | | | | * | |

*Boring No.* 113-B
*Sheet No.* 3 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 113-B
*Sheet No.* 4 *of* 4

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 Under Railroad Structure, Bayonne, N.J.
*Boring Location* Rte. 440 B Sta. 285+10, 80' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | 7 | 6 | 17 | 80'-82' | | Red Brown varved silty CLAY |
| | | 6 | 7 | | | | |
| | | 6 | 7 | 18 | 85'-87' | | SAME as #17 |
| | | 7 | 7 | | | | |
| | | 7 | 8 | 19 | 90'-92' | | SAME as #17 |
| -86.6' | | 8 | 7 | | | | |
| | | | | 20C | 92'-94' | | SANDSTONE & SHALE BOULDERS in Sandy Glacial |
| | | | | | Run 1 | | TILL, Recovery 15" |
| | | | | 21C | Run 2 | | SAME as above to 98'6", change to light green |
| | | | | | 94'-99' | | & gray hard SANDSTONE Bedrock Recovery 8" |
| -93.1' | | | | | | | |
| | | | | 22C | Run 3 | | SAME as above - Bedrock |
| -95.6 | | | | | 99'-101' | | Recovery 18" |

*Boring No.* 113-B
*Sheet No.* 4 *of* 4

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 114
Sheet No. 1 of 5

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4455

*BORING LOG*

*Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 288+50 ℄ 440, 50' Rt.

*Drilling Contractor* Warren George
*Rig No.* 1 *Type* Acker Hydra. on Wheels *Driller & Helper(s)* V. Lawerence, E. Van Glahn (1st. 2 days H. Finkeldie)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Date* | 10-6-66 | 10-7-66 | 10-10-66 | 10-11-66 | 10-12-66 | 10-13-66 | 10-14-66 |
| *Time Started* | 2:15 PM | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM | 8:00 AM |
| *Time Finished* | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM | 4:15 PM |
| *Weather* | Sunny | Sunny | Sunny | Sunny | Cloudy | Sunny | Sunny |
| *Depth Reached* | 7' | 37' | 62' | 82' | 107' | 123' | 130' |

*Ground Elevation* +24.6 *Datum* U.S.C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* _____

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item #2 | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | NX Item # 7 |
| | | | | | | | | | | |
| 52' | | 65' | | | | | | | | 13' |

*CASING: Unit Weight* _____ *Size* 4" I.D. *Wt. of Hammer* 300 lb. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1-1/2" ID x 2" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* Depth 65', allowed Driller to wash ahead with NX Flush Joint; due to extreme high blow count. Depth 117 feet, started to drill using "M" size core barrel. Hit Rock at 121' W.L.-27'-2" Depth, W/4" casing at 65' W.L.-24'-6" Depth, W/4" casing at 30'. Caved at 18' No W.L.

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 114
Sheet No. 1 of 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 114
*Sheet No.* 2 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 283+50 ℄ Rte. 440, 50' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV.=+ 24.6 |
| | 10 | 1 | 3 | 1 | 0'-2' | | Red-brown-gray med. to coarse SAND, and Gravel, |
| | 17 | 5 | 5 | | | | little black Peat, traces of Wood, trace white |
| | 18 | | | | | | concrete |
| | 24 | | | | | | |
| | 33 | | | | | | |
| | 37 | 5 | 6 | 2 | 5'-7' | | Yellowish-brown, med. to coarse fill SAND, |
| | 40 | 7 | 7 | | | | little fine to med. Gravel |
| | 47 | | | | | | |
| | 44 | | | | | | |
| | 53 | | | | | | |
| +13.6 | 51 | 9 | 18 | 3A | 10'-11' | | Red-brown-yellow coarse fill SAND, and Gravel, |
| | 60 | 18 | 21 | 3B | 11'-12' | | little mottled gray hard Clay, trace (+) Silt |
| | 65 | | | | | | Yellowish-brown-gray med. to coarse fill SAND, |
| | 58 | | | | | | and med. to fine Gravel |
| | 63 | | | | | | |
| | 68 | 9 | 11 | 4 | 15'-17' | | Red-brown-yellow coarse to med. fill SAND, |
| | 63 | 16 | 16 | | | | little med. to coarse gray-black Gravel, |
| | 73 | | | | | | trace (-) mottled gray hard Clay, found traces |
| | 79 | | | | | | of rust thru-out sample |
| | 75 | | | | | | |
| | 66 | 9 | 9 | 5 | 20'-22' | | Brown-red-gray-green coarse fill SAND, trace |
| | 70 | 11 | 12 | | | | (-) coarse Gravel |
| | 68 | | | | | | |
| | 73 | | | | | | |
| | 66 | | | | | | |
| | 50 | 6 | 3 | 6 | 25'-27' | | Brownish-gray-red, coarse fill SAND, little |
| | 55 | 3 | 4 | | | | coarse Gravel |
| -3.4 | 53 | | | | | | |
| | 51 | | | | | | |
| | 58 | | | | | | |
| | 54 | 3 | 2 | 7 | 30'-32' | | Greenish-gray-red, fine to med. hydra. fill |
| | 65 | 3 | 4 | | | | SAND |
| | 69 | | | | | | |
| -9.4 | 74 | | | | | | |
| | 66 | | | | | | |
| | 71 | 2 | 2 | 8 | 35'-37' | | Gray-black, SILT and coarse to med. SAND, trace |
| | 83 | 3 | 5 | | | | (+) gray-black, firm Clay, trace fine to med. |
| -13.4 | 91 | | | | | | Gravel |
| | 119 | | | | | | |
| | 121 | | | | | | |

*Boring No.* 114
*Sheet No.* 2 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 114
*Sheet No.* 3 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 Lehigh Valley R.R. Structure, Bayonne, N.J.
*Boring Location* Sta. 288+50 ℄ 440, 50' Rt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | * See General Remarks - Page #1 *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | 118 | 4 | 6 | 9 | 40'-42' | | Greenish-gray, med. to coarse SAND, little med. |
| | 128 | 5 | 7 | | | | Gravel, trace (-) Silt, trace (-) Clay |
| -18.0 | 155 | | | | | * | |
| | 141 | | | | | | |
| | 146 | | | | | | |
| | 129 | 5 | 8 | 10 | 45'-47' | | Gray-brown, very stiff SILT & CLAY with lences |
| | 152 | 10 | 10 | | | | of reddish brown fine Sand, trace of med. |
| | 173 | | | | | | Gravel |
| | 219 | | | | | | |
| | 235 | | | | | | |
| | 186 | 6 | 8 | 11 | 50'-52' | | Reddish-brown, hard SILT & CLAY, with pockets |
| | 301 | 15 | 16 | | | | of fine Sand |
| | 329 | | | | | | |
| | 352 | | | | | | |
| | 363 | | | | | | |
| | 249 | 7 | 8 | 12 | 55'-57' | | Reddish-brown, hard SILT & CLAY, lense fine |
| | 327 | 13 | 15 | | | | brownish-red fine to med. Sand |
| | 352 | | | | | | |
| | 331 | | | | | | |
| | 362 | | | | | | |
| | 248 | 8 | 9 | 13 | 60'-62' | | Reddish-brown, very stiff SILT & CLAY, trace |
| | 320 | 12 | 12 | | | | (-) brownish-red, fine to med. Sand |
| -38.4 | 346 | | | | | * | |
| | 462 | | | | | | |
| | 489 | | | | | | |
| | | 7 | 9 | 14 | 65'-67' | | Reddish-brown, very stiff clayey SILT, trace |
| | | 11 | 11 | | | | (-) fine Gravel |
| | | 9 | 11 | 15 | 70'-72' | | Reddish-brown, very stiff clayey SILT, trace |
| | | 13 | 15 | | | | (-) fine Gravel |
| | | 10 | 13 | 16 | 75'-77' | | Red-brown clayey SILT little med. to fine Gravel, |
| | | 20 | 21 | | | | trace Sand |

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 114
Sheet No. 4 of 5

BORING LOG for Project No. 440-0 for Clarke, Hartman & Dunn
Project Location Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
Boring Location Sta. 283+50 ℄ 440, 50' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | * See General Remarks - Page #1 MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | 10 | 13 | 17 | 80'-82' | | Reddish-brown, hard SILT & CLAY, little med. |
| | | 21 | 24 | | | | to fine Gravel, trace Sand |
| -38.0 | | | | | | | |
| * | | 13 | 19 | 18 | 85'-87' | | Reddish-brown, hard CLAY& SILT, little (+) |
| | | 17 | 17 | | | | med. to fine Gravel, trace Sand |
| | | 7 | 13 | 19 | 90'-92' | | Reddish-brown, very stiff CLAY & SILT, little |
| | | 10 | 9 | | | | med. to fine Gravel, trace Sand |
| | | 8 | 10 | 20 | 95'-97' | | Reddish-brown, very stiff CLAY & SILT, little |
| | | 10 | 12 | | | | med. to fine Gravel, trace Sand |
| | | 7 | 7 | 21 | 100'-102' | | Reddish-brown, varved stiff CLAY & SILT occa- |
| | | 6 | 6 | | | | sional fine Sand & Silt parting be + varved |
| | | 6 | 7 | 22 | 105'-107' | | Reddish-brown, varved stiff CLAY & SILT, occa- |
| | | 7 | 6 | | | | sional fine Gravel, trace Sand |
| | | 7 | 8 | 23 | 110'-112' | | Reddish-brown, hard CLAY & SILT, little med. |
| | | 13 | 16 | | | | to fine Gravel, trace Sand |
| -89.4 | | | | | | | |
| | | 26 | 39 | 24 | 115'-117' | | Reddish-brown, hard SILT, and Sand, some med. |
| -92.4 | | 40 | 36 | | | | (+) to fine Gravel |
| | | | | 25C | 117'-118' | | Boulders in dense till - 6" Recovery |
| | | | | 26C | 118'-123' | | SAME to Bedrock at 121' - 36" Recovery |
| | | | | | | | (See next page) |

NX FLUSH JOINT WASH DOWN

Boring No. 114
Sheet No. 4 of 5

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 114
*Sheet No.* 5 *of* 5

*BORING LOG for Project No.* 440-4 *for* Clarke, Hartman & Dunn
*Project Location* Rte. 440 W. 63 St. Interchange, Bayonne, N.J.
*Boring Location* Sta. 283+50 ℄ 440, 50' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|
| -96.4 | | | | | | Top of Rock; Elev. * |
| | | | | | | Red & Gray & tan SANDSTONE & Sandy SHALE soft & decomposed |
| | | | 27C | 123'-128' | | SAME |
| | | | 28C | 128'-130' | | SAME |
| -105.4 | | | | | | End Hole @ 130'0" |

*Boring No.* 114
*Sheet No.* 5 *of* 5

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 134
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4453

*BORING LOG*

*Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* Public Service Power Cable, Route 440, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 285+45, 90' Lt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* Catalatto & Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-27-66 | | | | | |
| *Time Started* | 10:00 AM | | | | | |
| *Time Finished* | 11:00 AM | | | | | |
| *Weather* | Cldy-Cl | | | | | |
| *Depth Reached* | 22' | | | | | |

*Ground Elevation* +3.4 *Datum* U.S.C.C.&G.S. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* In water at high tide

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 22' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" OD x 24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* R. Dayton *ENGINEER* _____

Boring No. 134
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 134
Sheet No. 2 of 2

BORING LOG for Project No. 440 for Clarke, Hartman & Dunn
Project Location Public Service Power Cable, Route 440, Bayonne, N.J.
Boring Location B 440 Sta. 285+45, 90' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +3.4 |
| | 3 | 2 | 2 | 1 | 0'-2' | | Dark Gray-brown, coarse (-) to loose fine |
| | 3 | 1 | 1 | | | | SAND, trace SILT, trace fine Gravel |
| | 2 | | | | | | |
| | 6 | | | | | | |
| | 6 | | | | | | |
| | 5 | 2 | 4 | 2 | 5'-7' | | SAME, trace of shells |
| | 7 | 2 | 2 | | | | |
| -4.1 | 15 | | | | | | |
| | 18 | | | | | | |
| | 15 | | | | | | |
| | 20 | 1 | 1 | 3 | 10'-12' | | Green-gray, med. to fine loose SAND, some |
| | 21 | 1 | 1 | | | | organic marine SILT, trace vegetation |
| -9.6 | 20 | | | | | | |
| | 18 | | | | | | |
| | 17 | | | | | | |
| -12.6 | 26 | 1 | 2 | 4A | 15'-17' | | Green-gray, very soft organic marine SILT, |
| | 27 | 3 | 6 | 4B | | | trace fine Sand, trace shells, change at 16' to |
| | 73 | | | | | | Greenish-gray, firm silty CLAY, little med. to |
| | 127 | | | | | | fine sand |
| | 142 | | | | | | |
| -17.6 | | 23 | 25 | 5A | 20'-22' | | Greenish-gray, very stiff silty CLAY, trace |
| -18.6 | | 28 | 31 | 5B | | | shells, Reddish-brown, compact SAND, trace SILT |

Boring No. 134
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 135
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Public Service Power Cable, Bayonne, N.J.
*Boring Location* B 440 Sta. 285+80, 105' Lt.

*Drilling Contractor* Warren George
*Rig No.* 3 *Type* Acker Portable *Driller & Helper(s)* Catalatto & Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-26-66 | | | | | |
| *Time Started* | 8:00 AM | | | | | |
| *Time Finished* | 10:15 AM | | | | | |
| *Weather* | Sny-Cl | | | | | |
| *Depth Reached* | 17' | | | | | |

*Ground Elevation* +2.9 *Datum* U.S.C.&G. *M. L. W. Elevation*
*Zero of Boring Log is Elev.* *Elevation of Ground Water* In water at high tide

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 17' | | | | | | | | | | |

*CASING: Unit Weight* *Size* 2½" I.D. *Wt. of Hammer* 300 lb *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* *Dimensions*
*Type* *Dimensions*

*GENERAL REMARKS:*

*INSPECTOR* R. Dayton *ENGINEER*

Boring No. 135
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 135
Sheet No. 2 of 2

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Public Service Power Cable, Bayonne, N.J.
Boring Location @ 440 Sta. 285+80, 105' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +2.9 |
| | 4 | 1 | 1 | 1 | 0'-2' | | Gray-brown, med. to fine loose SAND, trace |
| | 4 | 2 | 2 | | | | (-) SILT |
| | 5 | | | | | | |
| | 6 | | | | | | |
| | 8 | | | | | | |
| | 4 | 1 | 4 | 2 | 5'-7' | | SAME |
| | 12 | 4 | 5 | | | | |
| | 16 | | | | | | |
| | 18 | | | | | | |
| | 14 | | | | | | |
| -8.1 | 8 | 1 | 2 | 3A | 10'-11' | | Gray-brown, loose SAND, trace (-) fine Gravel |
| -8.6 | 14 | 2 | 2 | 3B | 11'-11'6" | | Black, PEAT, little organic SILT |
| | 17 | | | 3C | 11'9"-12' | | Green-gray, organic SILT, trace vegetation, |
| -10.6 | 18 | | | | | | trace fine Sand |
| | 15 | | | | | | |
| -13.1 | | 2 | 4 | 4A | 15'-17' | | Green-gray, loose SAND, little SILT |
| -14.1 | | 11 | 14 | 4B | | | Yellow to red-brown, coarse (-) to fine SAND, |
| | | | | | | | loose SILT |

Boring No. 135
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 136
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

Boring Cont C

## BORING LOG

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440 adjacent to Public Service Line
*Boring Location* B 440 Sta. 285+35, 5' Lt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* W. Catalatto, S. Kennedy, G. Vangin

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Date* | 9-23-66 | | | | | | | | | | |
| *Time Started* | 12:45PM | | | | | | | | | | |
| *Time Finished* | 1:45PM | | | | | | | | | | |
| *Weather* | Sny-Cl | | | | | | | | | | |
| *Depth Reached* | 17' | | | | | | | | | | |

*Ground Elevation* +2.5 *Datum* U.S.C.&G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* In Water

**PAY QUANTITIES**

| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 17' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" ID x 24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* D.A. Topolewski *ENGINEER* _____

Boring No. 136
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 136
*Sheet No.* 2 *of* 2

*BORING LOG for Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440 adjacent to Public Service Line
*Boring Location* ℄ 440 Sta. 285+35, 5' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +2.5 |
| | 4 | 2 | 1 | 1 | 0'-2' | | Black-gray, med. to fine SAND, little med. to |
| | 5 | 1 | 1 | | | | fine Sand |
| | 10 | | | | | | |
| | 17 | | | | | | |
| | 20 | | | | | | |
| | 8 | 4 | 1 | 2A | 5'-6.8' | | Black-gray med. to fine SAND, trace (-) Gravel |
| -4.0' | 16 | 1 | 1 | 2B | 6.8'-7' | | trace (+) Silt |
| | 14 | | | | | | Red-brown-gray, med. to fine SAND, trace (-) |
| | 14 | | | | | | Silt |
| | 13 | | | | | | |
| | 5 | 2 | 3 | | 10'-12' | | Red-brown-gray, fine to med. SAND |
| | 6 | 3 | 5 | | | | |
| | 8 | | | | | | |
| | 12 | | | | | | |
| | 33 | | | | | | |
| -13.5' | | 7 | 8 | 4A | 15'-16' | | Green-gray, compact med. to fine SAND, and claye |
| -14.5 | | 12 | 16 | 4B | 16'-17' | | SILT, trace vegetation |
| | | | | | | | Red-brown, fine SAND, trace Silt |

*Boring No.* 136
*Sheet No.* 2 *of* 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 137
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4455

*BORING LOG*

*Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* Public Service Power Cable, Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 285+70, 15' Lt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* Catalatto & Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-27-66 | | | | | |
| *Time Started* | 11:00AM | | | | | |
| *Time Finished* | 4:30PM | | | | | |
| *Weather* | Cldy-Cl | | | | | |
| *Depth Reached* | 22' | | | | | |

*Ground Elevation* +3.3 *Datum* U.S.C.& G. *M.L.W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* In water at high tide

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item # 4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 22' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" I.D. x 24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* R. Dayton *ENGINEER* _____

Boring No. _____
Sheet No. _____ of _____

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 137
Sheet No. 2 of 2

BORING LOG for Project No. 440 for Clarke, Hartman & Dunn
Project Location Public Service Power Cable, Route 440, Bayonne, N.J.
Boring Location R 440 Sta. 285+70, 15' Lt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +3.3 |
| | 3 | 1 | 1 | 1 | 0'-2' | | Black-gray-brown, med. to fine SAND, trace |
| | 3 | 0 | 0 | | | | Silt |
| | 3 | | | | | | |
| | 4 | | | | | | |
| | 6 | | | | | | |
| | 6 | 2 | 2 | 2 | 5'-7' | | SAME |
| | 3 | 2 | 1 | | | | |
| | 17 | | | | | | |
| | 24 | | | | | | |
| | 21 | | | | | | |
| | 38 | 7 | 8 | 3 | 10'-12' | | Green-gray-brown, med. to fine SAND, trace |
| | 20 | 6 | 14 | | | | Silt, trace boulder fragments |
| | 18 | | | | | | |
| | 41 | | | | | | |
| -11.7 | 34 | | | | | | |
| | 21 | 4 | 6 | 4 | 15'-17' | | Green-gray, stiff Silty CLAY, some (-) med. to |
| | 19 | 6 | 8 | | | | fine Sand |
| | 24 | | | | | | |
| | 27 | | | | | | |
| -16.7 | 84 | | | | | | |
| | 96 | 10 | 14 | 5 | 20'-22' | | Red-brown-compact SAND, trace Silt |
| -18.7 | | 17 | 19 | | | | |

Boring No. 137
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 138
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

Boring Cont.C

*BORING LOG*

*Project No.* 440-2 *for* Clarke, Hartman & Dunn
*Project Location* Route 440 adjacent to Public Service Line
*Boring Location* B 440 Sta. 285+30, 85' Rt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* W. Catalatto, J. Kennedy, G. VanGlahn

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Date* | 9-23-66 | | | | | | | |
| *Time Started* | 11:00AM | | | | | | | |
| *Time Finished* | 12:00PM | | | | | | | |
| *Weather* | Sny-Cl | | | | | | | |
| *Depth Reached* | 17'0" | | | | | | | |

*Ground Elevation* +1.8 *Datum* U.S.C.& G. *M. L. W. Elevation* ____
*Zero of Boring Log is Elev.* +1.8 *Elevation of Ground Water* varying with tide

*PAY QUANTITIES*

| *Lineal Feet of Boring* | | | | | *Samples* | | | *Lin. Ft. of Rock Core* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2½" Item #4 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 17 | | | | | | | | | | |

*CASING: Unit Weight* ____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" IDx24" *Wt. of Hammer* 140 lb *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* ____ *Dimensions* ____
*Type* ____ *Dimensions* ____

*GENERAL REMARKS:* ____

*INSPECTOR* D.A. Topolewski *ENGINEER* ____

Boring No. 138
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 138
Sheet No. 2 of 2

BORING LOG for Project No. 440-2 for Clarke, Hartman & Dunn
Project Location Route 440 adjacent to Public Service Line
Boring Location B 440 Sta. 285+30, 85' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Ground Surface Elev. +1.8' |
| | 1 | 1 | 1 | 1 | 0'-2' | | Gray-brown, med. to fine SAND |
| | 2 | 0 | 1 | | | | |
| | 1 | | | | | | |
| | 5 | | | | | | |
| | 7 | | | | | | |
| | 9 | 6 | 8 | 2 | 5'-7' | | Gray-black-brown micaceous SAND, some soft |
| | 17 | 9 | 19 | | | | decomposed boulder fragments, (Schist), trace |
| | 20 | | | | | | Silt |
| -6.7 | 27 | | | | | | |
| | 31 | | | | | | |
| -9.2 | 18 | 2 | 2 | 3A | 10'-11' | | Green-gray, soft organic marine SILT, trace |
| | 9 | 1 | 2 | 3B | 11'-12' | | decomposed boulder fragments |
| -11.2 | 9 | | | | | | Organic marine PEAT, trace gray-green soft |
| | 37 | | | | | | Silt |
| | 41 | | | | | | |
| -14.2 | | 3 | 2 | 4A | 15'-16' | | Yellow-brown SAND, trace (+) clayey Silt, trace |
| -15.2 | | 13 | 17 | 4B | 16'-17' | | fine Gravel |
| | | | | | | | Reddish-brown SAND, trace fine Gravel, trace |
| | | | | | | | Silt |

Boring No. 138
Sheet No. 2 of 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 139
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4435

*BORING LOG*

*Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* Public Service Power Cable, Route 440, Bayonne, N.J.
*Boring Location* @ 440 Sta. 285+60, 70' Rt.

*Drilling Contractor* Warren George
*Rig No.* 5 *Type* Acker Portable *Driller & Helper(s)* Catalatto & Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-26-66 | | | | | |
| *Time Started* | 10:30AM | | | | | |
| *Time Finished* | 11:45AM | | | | | |
| *Weather* | Sny-Cl | | | | | |
| *Depth Reached* | 17' | | | | | |

*Ground Elevation* +0.8 *Datum* U.S. C.& G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* _____ *Elevation of Ground Water* In water at high tide

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item # | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| 17' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1½" IDx24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* R. Dayton *ENGINEER* _____

Boring No. 139
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

*Boring No.* 139
*Sheet No.* 2 *of* 2

*BORING LOG for Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* Public Service Power Cable, Route 440, Bayonne, N.J.
*Boring Location* B 440 Sta. 285+60, 70' Rt.

| *Elevation* | *Blows on Casing* | *Blows on Spoon For 6" Penet'n* | | *SAMPLE No.* | *SAMPLE Depth* | *Log* | *MATERIAL & REMARKS* |
|---|---|---|---|---|---|---|---|
| | | | | | | | GROUND SURFACE ELEV. = +0.8' |
| | 2 | 1 | 1 | 1 | 0'-2' | | Gray-brown, loose SAND, trace fine GRAVEL, |
| | 2 | 0 | 1 | | | | trace wood |
| | 4 | | | | | | |
| | 3 | | | | | | |
| | 2 | | | | | | |
| | 4 | 1 | 1 | 2 | 5'-7' | | SAME |
| -6.2 | 7 | 0 | 0 | | | | |
| | 6 | PUSH | | 3 | 7'-9' | | Dark Gray-green & black, very soft, organic |
| | 5 | | | | | | marine SILT, trace shells, trace vegetation |
| | 3 | | | | | | |
| | 9 | PUSH | | 4A | 10'-12' | | SAME |
| -10.7 | 9 | PUSH | 3 | 4B | | | Green-gray, loose SAND, some coarse SILT, trace |
| | 9 | | | | | | vegetation |
| -13.2 | 9 | | | | | | |
| | 18 | | | | | | |
| | | 13 | 13 | 5 | 15'-17' | | Reddish-brown, compact SAND, trace SILT |
| -16.2 | | 10 | 7 | | | | |

*Boring No.* 139
*Sheet No.* 2 *of* 2

# CLARKE, HARTMAN & DUNN, INC.

Boring No. 140
Sheet No. 1 of 2

## CONSULTING ENGINEERS

70 SIP AVENUE, JERSEY CITY, NEW JERSEY 07306

653-4433

*BORING LOG*

Boring Cont.C
*Project No.* 440 *for* Clarke, Hartman & Dunn
*Project Location* Route 169 Ramp, Route 440, Bayonne, N.J.
*Boring Location* ℄ 440 Sta. 286+85, 60' Rt.

*Drilling Contractor* Warren George
*Rig No.* 3 *Type* Gas oper.Chain Dr. Barge Mounted *Driller & Helper(s)* Catalatto,& Kenney

| | | | | | | |
|---|---|---|---|---|---|---|
| *Date* | 9-22-66 | | | | | |
| *Time Started* | 1:30 PM | | | | | |
| *Time Finished* | 3:30 PM | | | | | |
| *Weather* | Rn-Cldy | | | | | |
| *Depth Reached* | 22' | | | | | |

*Ground Elevation* -0.5 Bot. *Datum* U.S.C. & G. *M. L. W. Elevation* _____
*Zero of Boring Log is Elev.* -0.5 (Bay Bottom) *Elevation of Ground Water* _____

| PAY QUANTITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lineal Feet of Boring | | | | | Samples | | | Lin. Ft. of Rock Core | | |
| 2½" Item #3 | 3" Item # | 4" Item # | Item # | Item # | Spoon Item # | Undist Item # | Item # | 1 3/8" Item # | 1 5/8" Item # | Item # |
| | | | | | | | | | | |
| ER' | | | | | | | | | | |

*CASING: Unit Weight* _____ *Size* 2½" I.D. *Wt. of Hammer* 300 lbs. *Ave. Fall* 24"
*ORDINARY DRY SAMPLES (Spoon) Size* 1⅜" ID x 24" *Wt. of Hammer* 140 lbs *Ave. Fall* 30"
*UNDISTURBED SAMPLES: Type* _____ *Dimensions* _____
*Type* _____ *Dimensions* _____

*GENERAL REMARKS:* _____

*INSPECTOR* R. Dayton *ENGINEER* _____

Boring No. 140
Sheet No. 1 of 2

# CLARKE, HARTMAN & DUNN, INC.

## CONSULTING ENGINEERS

Boring No. 140
Sheet No. 2 of 2

BORING LOG for Project No. 440 for Clarke, Hartman & Dunn, Inc.
Project Location Rte. 169 Ramp, Rte. 440, Bayonne, N.J.
Boring Location B 440 Sta. 286+85, 60' Rt.

| Elevation | Blows on Casing | Blows on Spoon For 6" Penet'n | | SAMPLE No. | SAMPLE Depth | Log | MATERIAL & REMARKS |
|---|---|---|---|---|---|---|---|
| | | | | | | | Bay Bottom Elev. = -0.5' |
| | 0 | 0 | 0 | 1 | 5'-7' | | Greenish-Gray, very Soft, Organic Marine SILT, |
| | 0 | 0 | 0 | | | | trace of Shells |
| | 0 | | | | | | |
| | 0 | | | | | | |
| | 0 | | | | | | |
| -11.0 | 0 | 1 | 1 | 2A | 10'-12' | | Gray-Brown, very soft organic SILT & vegetation |
| -12.0 | 0 | 1 | 6 | 2B | | | Green-gray, very soft, organic SILT, little fine |
| | 0 | | | 2C | | | SAND |
| | 0 | | | | | | Green-Gray, med. to fine loose SAND, little SILT |
| | 4 | | | | | | |
| | 13 | 3 | 3 | 3A | 15'-17' | | Gray-Brown soft, CLAY & SILT little fine Micaceo |
| -17.0 | 8 | 2 | 5 | 3B | | | sand |
| | 6 | | | | | | Red-Brown & Gray-Brown, irreg. varved SILT & |
| | 5 | | | | | | CLAY little sand |
| | 7 | | | | | | |
| | 14 | 13 | 15 | 4 | 20'-22' | | Red-Brown, very stiff CLAYEY SILT |
| -22.5 | 15 | 17 | 27 | | | | |

Boring No. 140
Sheet No. 2 of 2