Minnesota Department of Transportation
Office of Materials & Road Research
1400 Gervais Avenue, Maplewood, MN 55109

Memo

DATE: March 11th, 2020

TO: Alam Tahsina, Project Manager
Metro Design

FROM: Hossana Teklyes, Assist. Foundation Engineer
Geotechnical Engineering Section HWT

CONCUR: Rich Lamb, Foundations Design Build Engineer
Geotechnical Engineering Section RAL

SUBJECT: S.P. 1982-200 (Metro District)
Located along I-35E EB from TH 77NB to Cliff Rd. in Eagan
Subsurface Investigation & Soils Information Report

1.0 Project Description

This soils information report is for the construction of a new Noise Wall along I-35E EB between TH77 & Cliff road. The soils information contained in this report will be used by the consultant to design this Noise Wall.

2.0 Field Investigation

The MnDOT Foundations Unit performed 34 Cone Penetration Tests (CPT) in February of 2020. Copy of this CPT Sounding are included with this report. We weren't able to access the section of the wall where there are trees. Because of this the CPT numbering jumps from C04 to C08.

The CPT sounding was interpreted for a general soil behavior type and interpreted blow count. No soil samples were taken, so the soil behavior type may not match exactly what soil is present, but should indicate how it behaves if compared to standard soils.

3.0 CPT interpretation & Water Table

Based on CPTs taken at the Noise Wall location, the soils encountered range from firm silty clay to very dense Sand. The interpreted soil types and blow counts (N) are indicated in in the wall profile with the CPT plots (see attachment).

Based on the CPT soundings and nearby wells, water table is believed to be below the depth of CPTs taken.

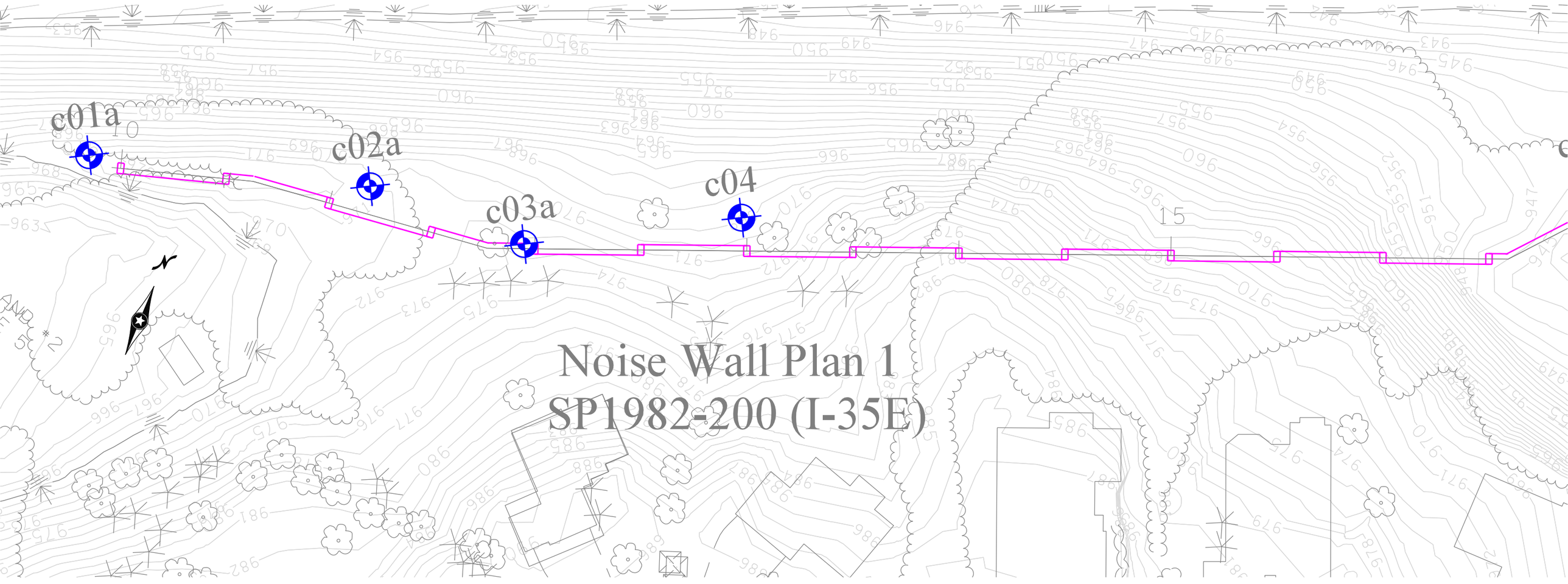
Attachments:

Wall Plan & Profile (CPT plots)
CPT Index Sheet
CPT Sounding Logs (c01a- c37)……Unique Number (84815-84848)

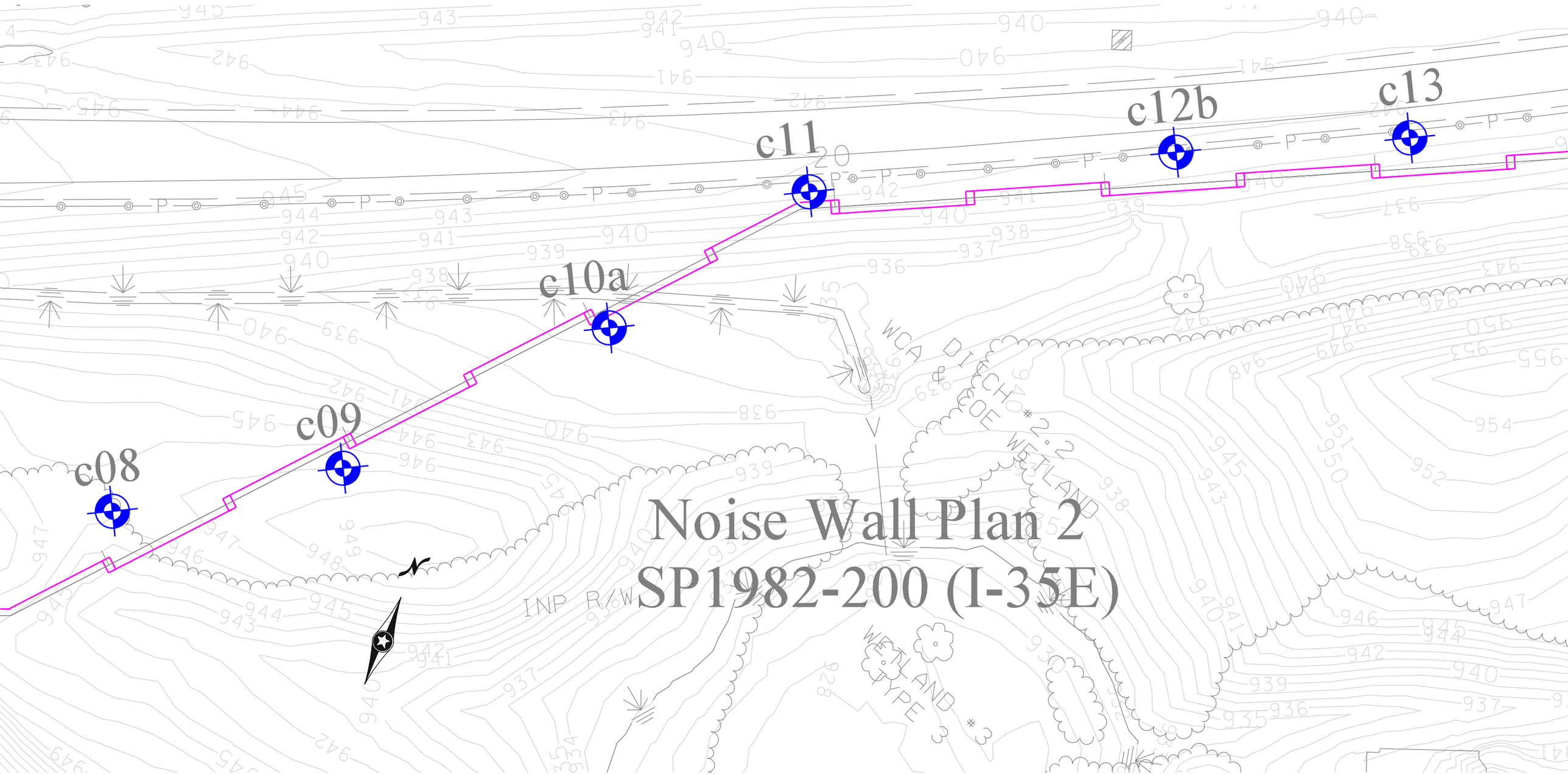
cc:

B. Skow
D. Van Deusen

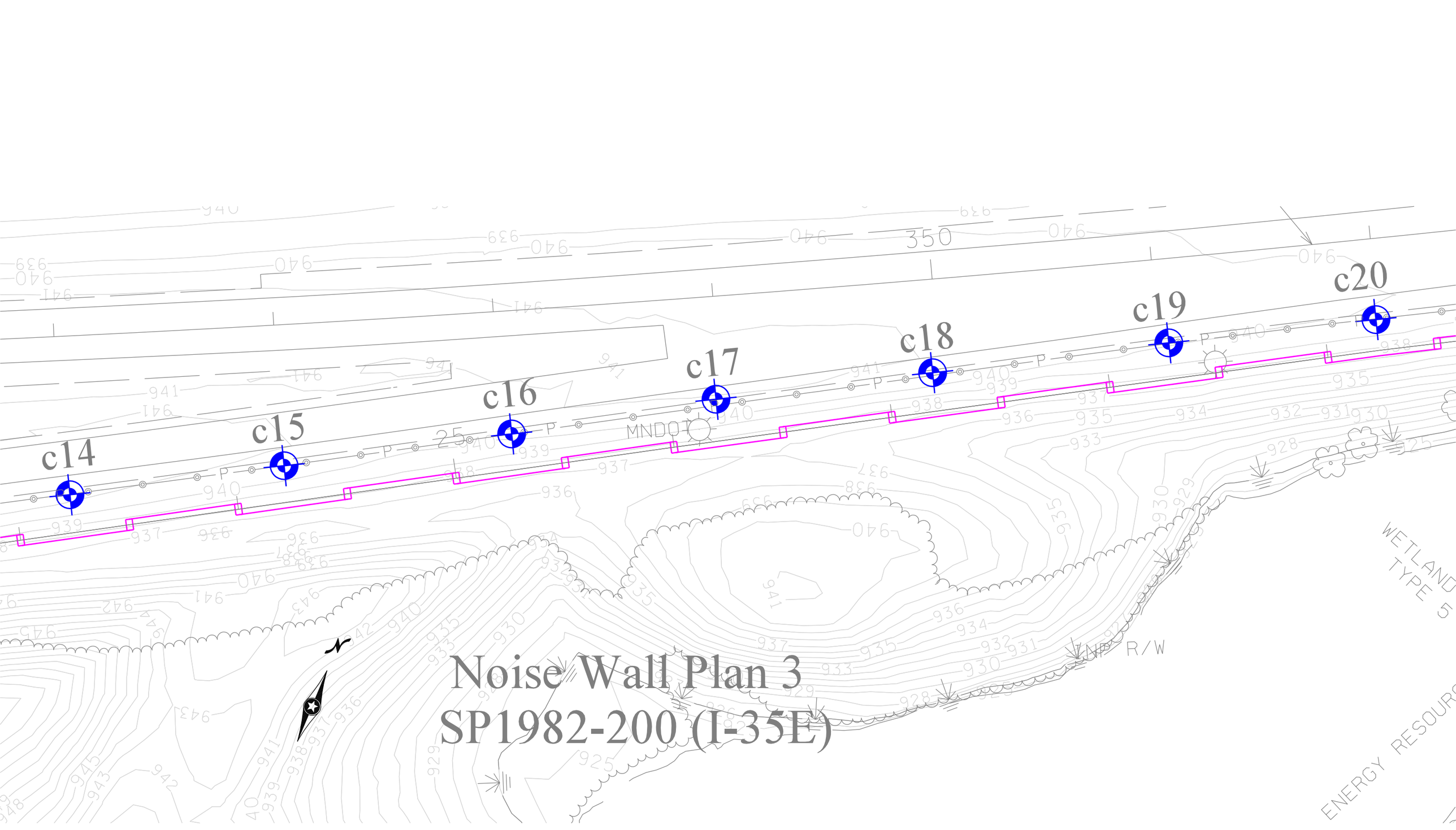
File



Noise Wall Plan 1
SP1982-200 (I-35E)



Noise Wall Plan 2
SP1982-200 (I-35E)



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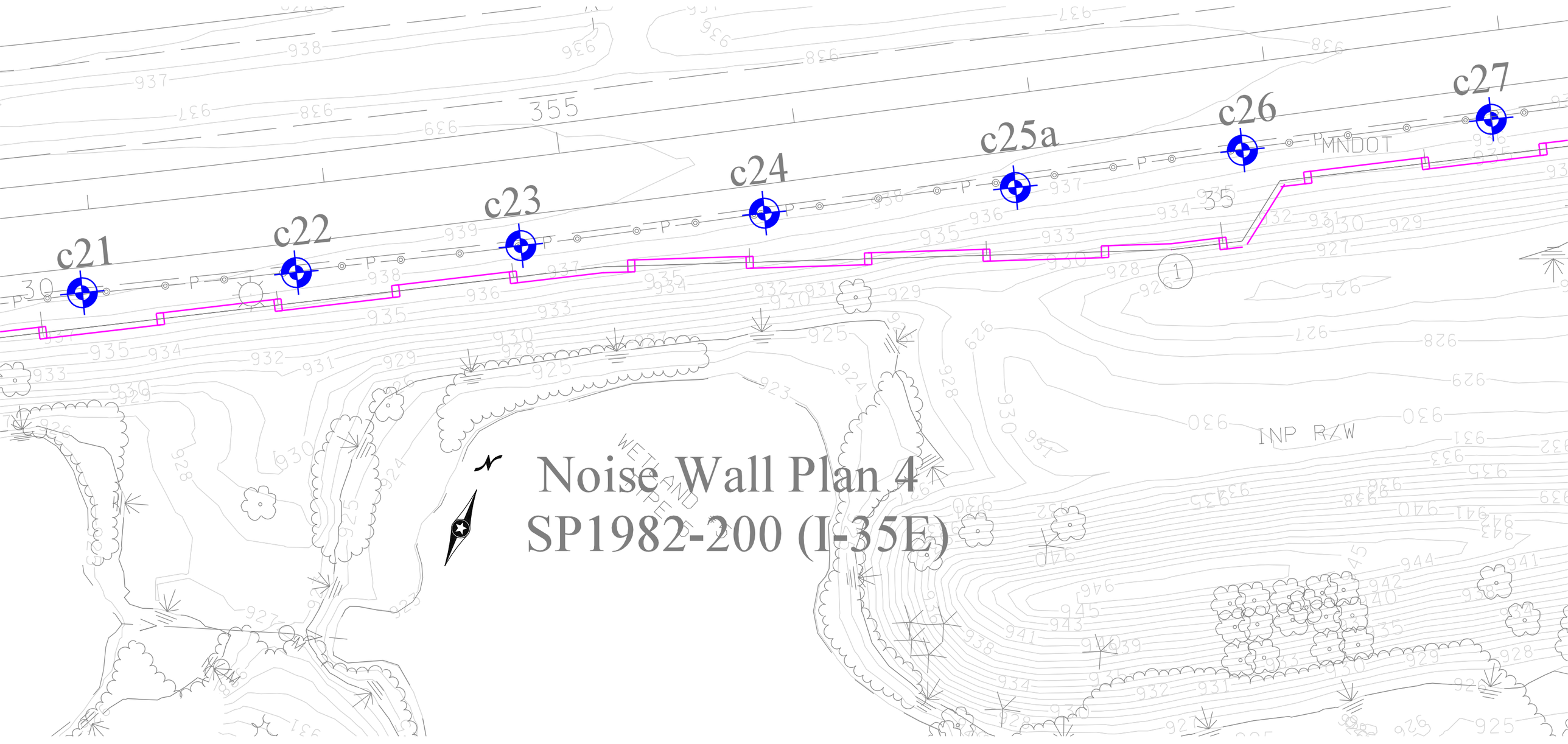
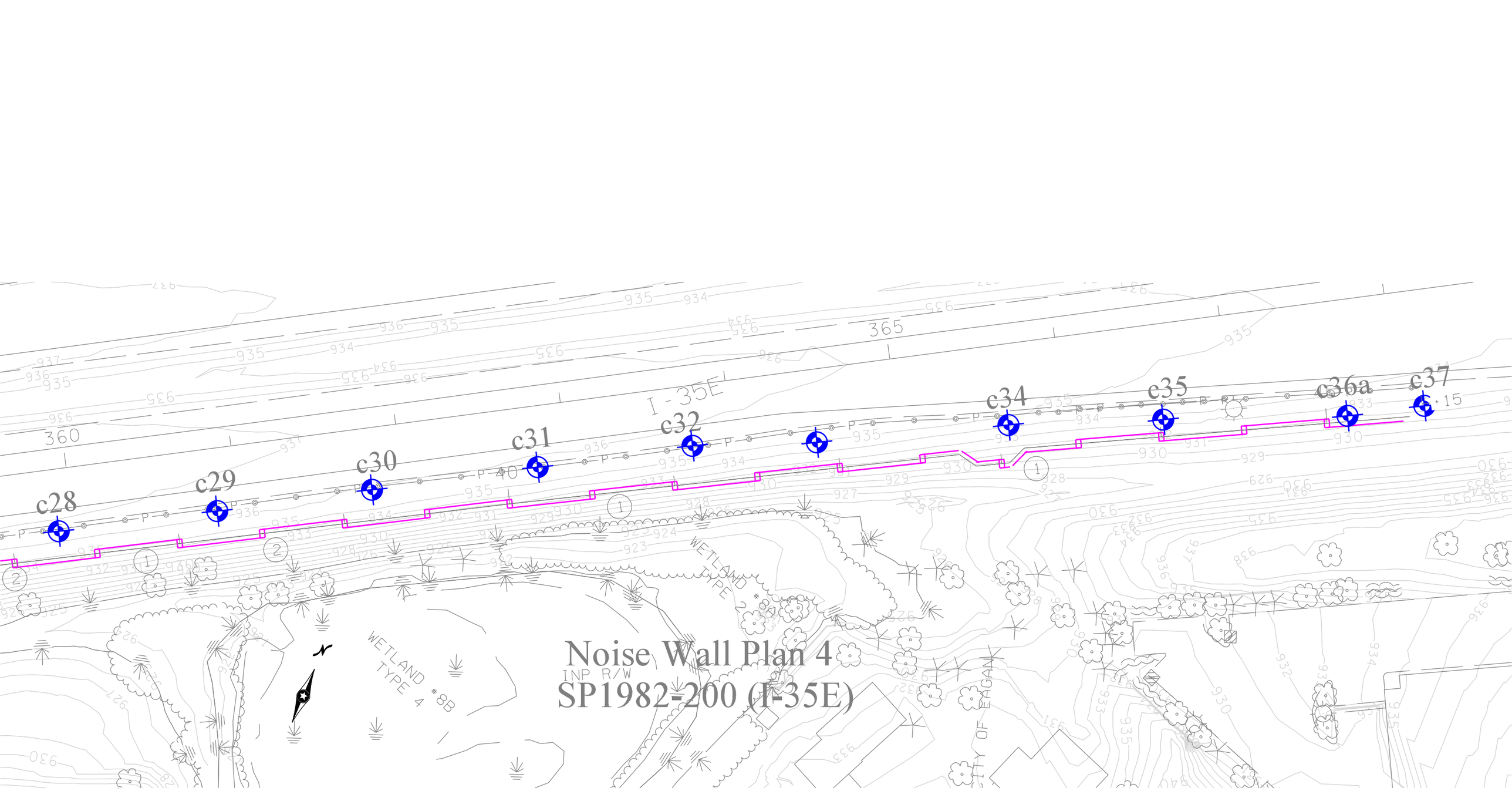
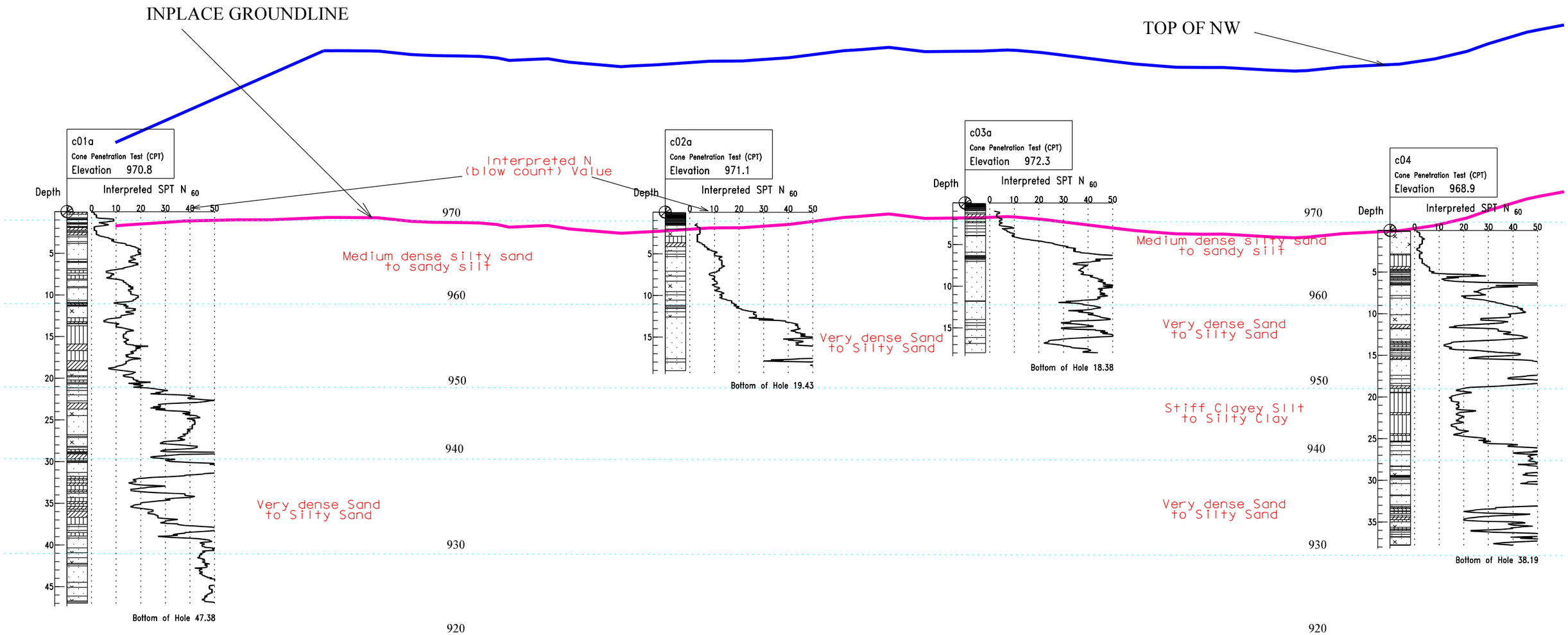
SP1982-200 (I-35E)



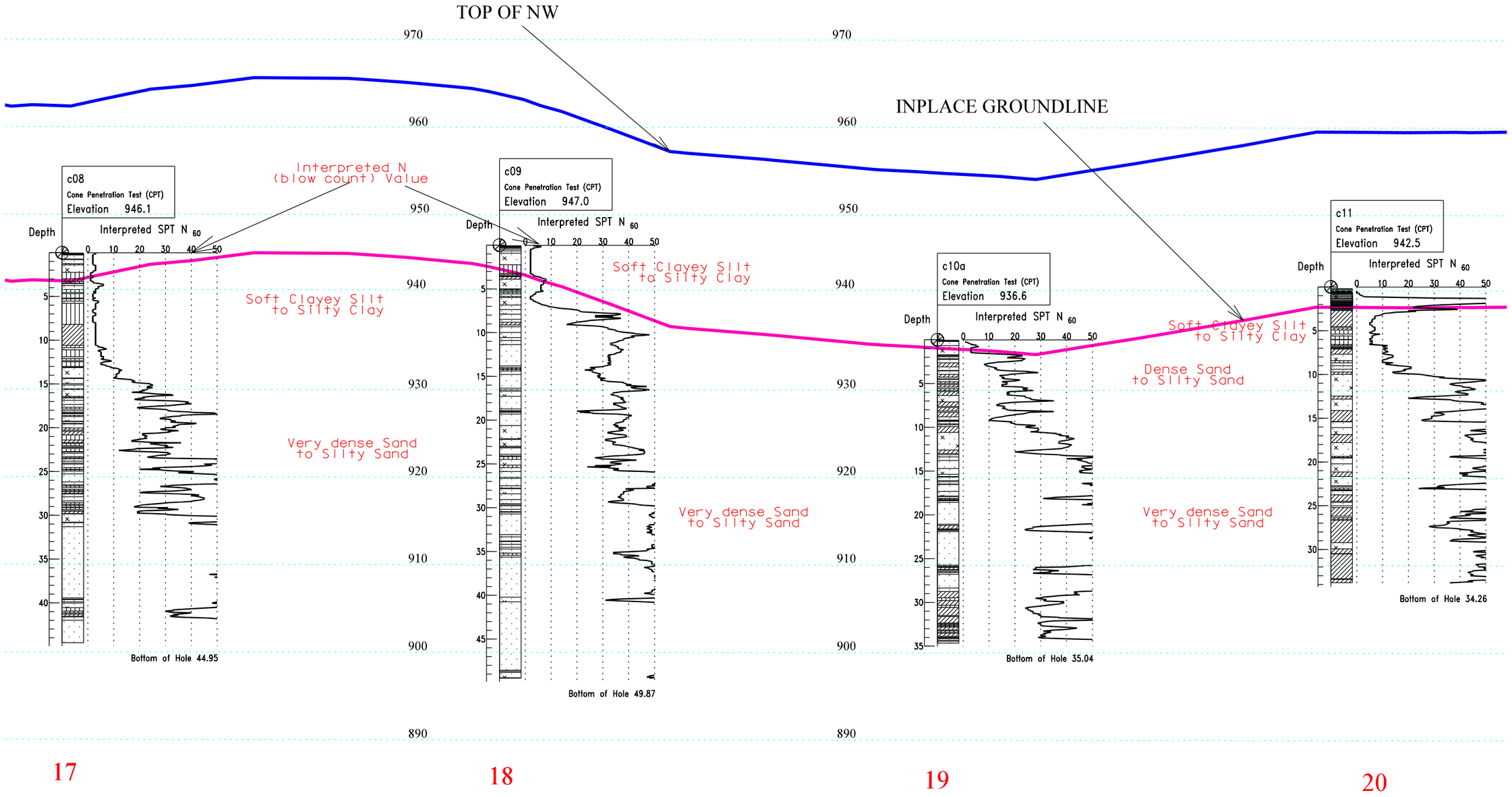
Noise Wall Plan 4
SP1982-200 (I-35E)



Noise Wall Plan 4
SP1982-200 (I-35E)



NOISE WALL PROFLE 1 (TH 35E)



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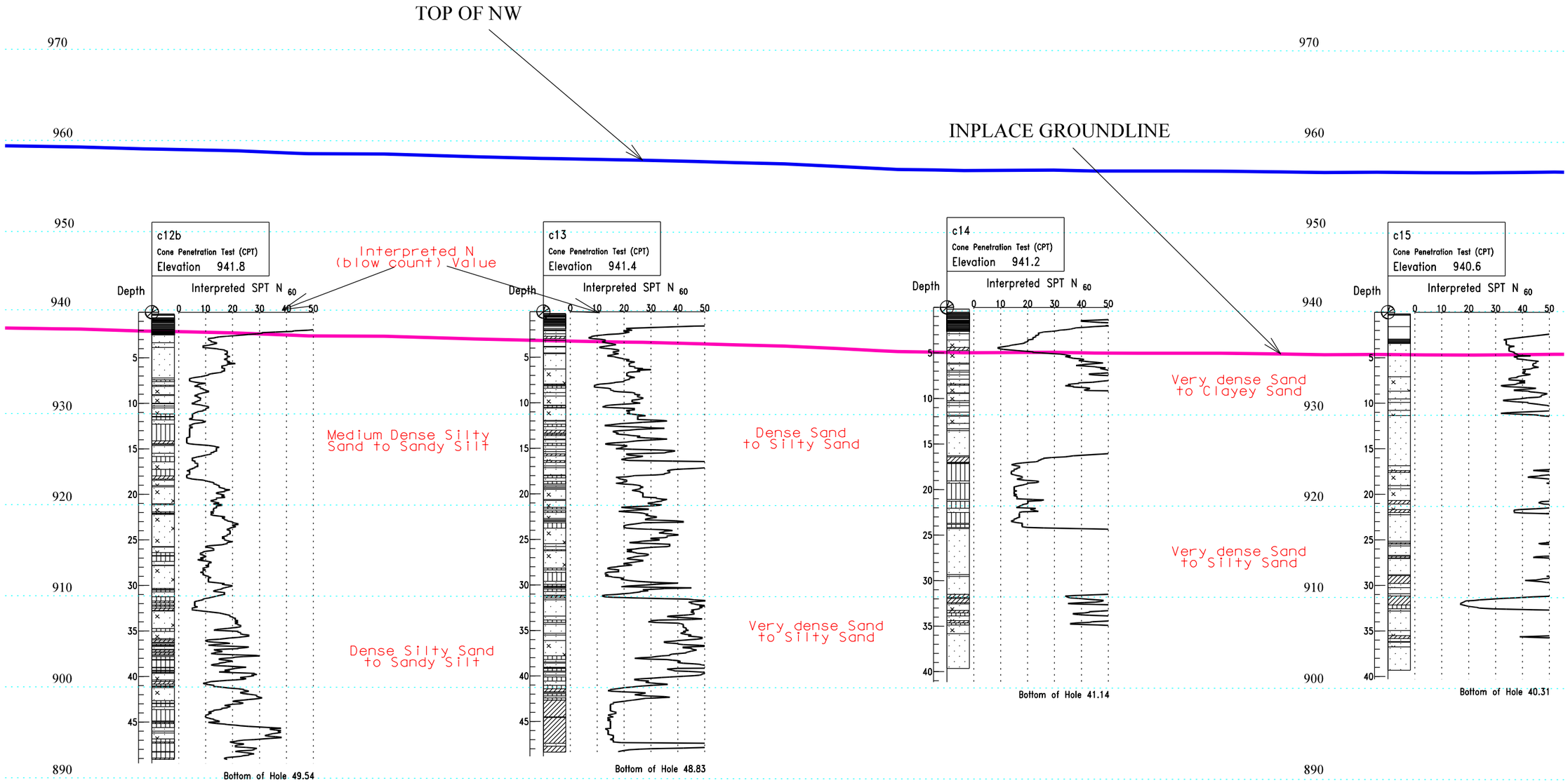

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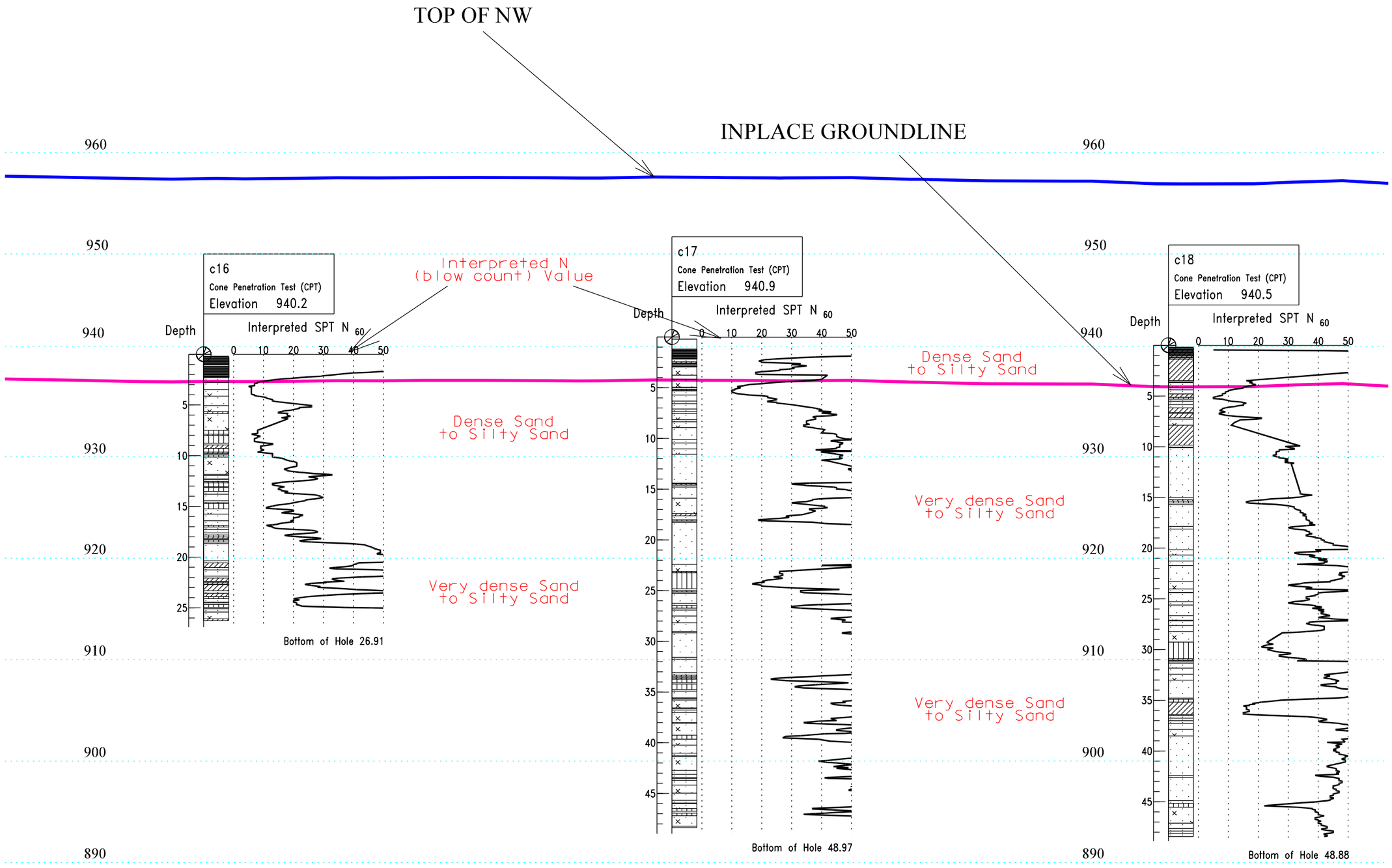

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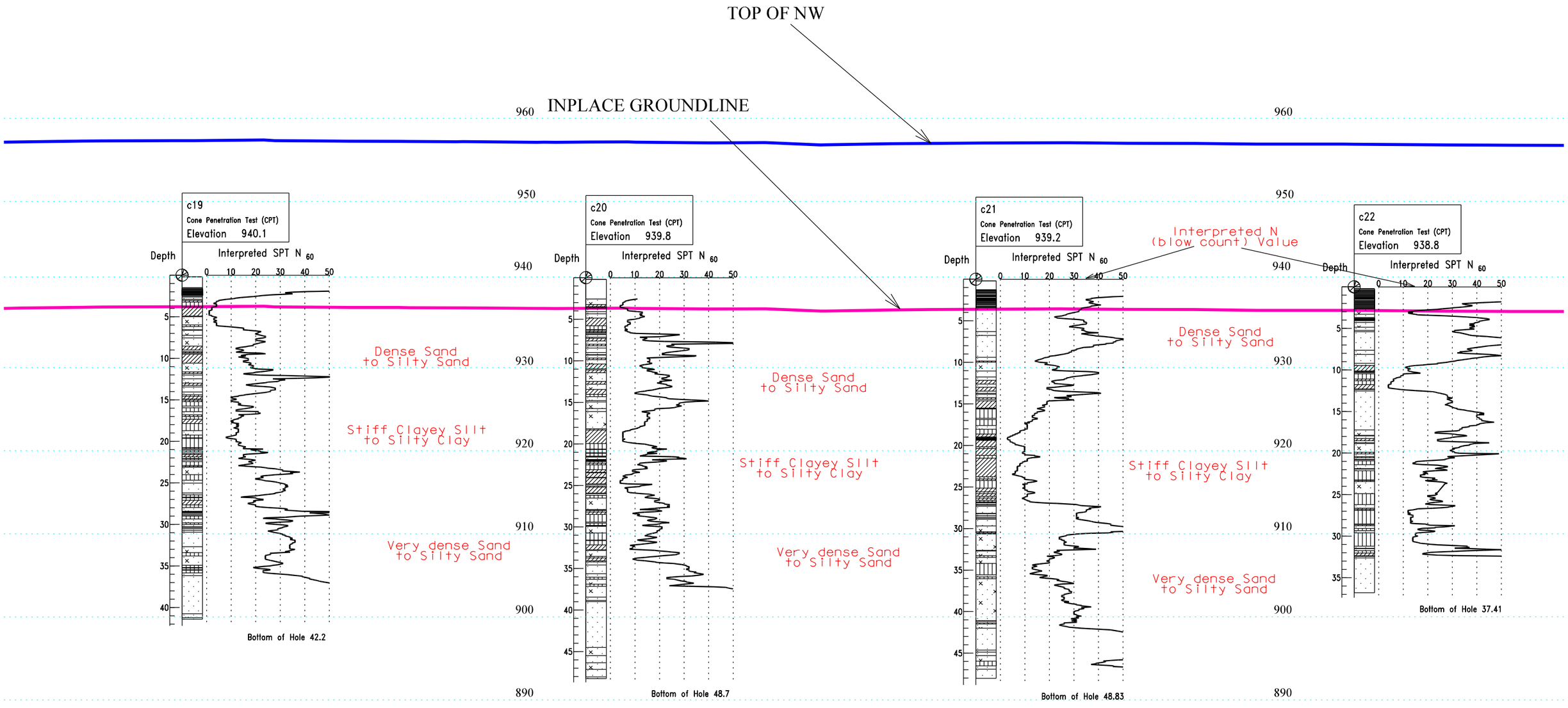

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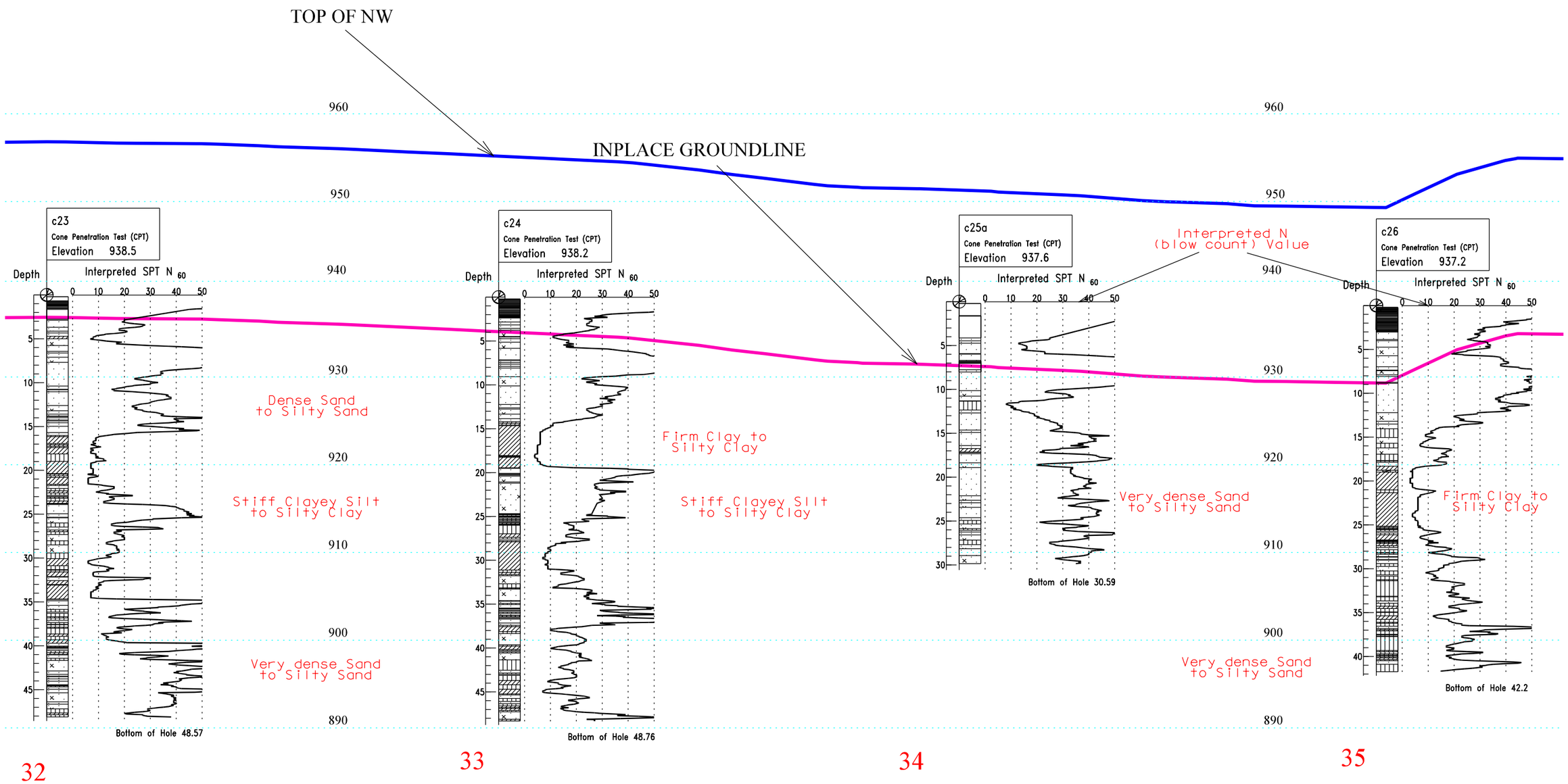

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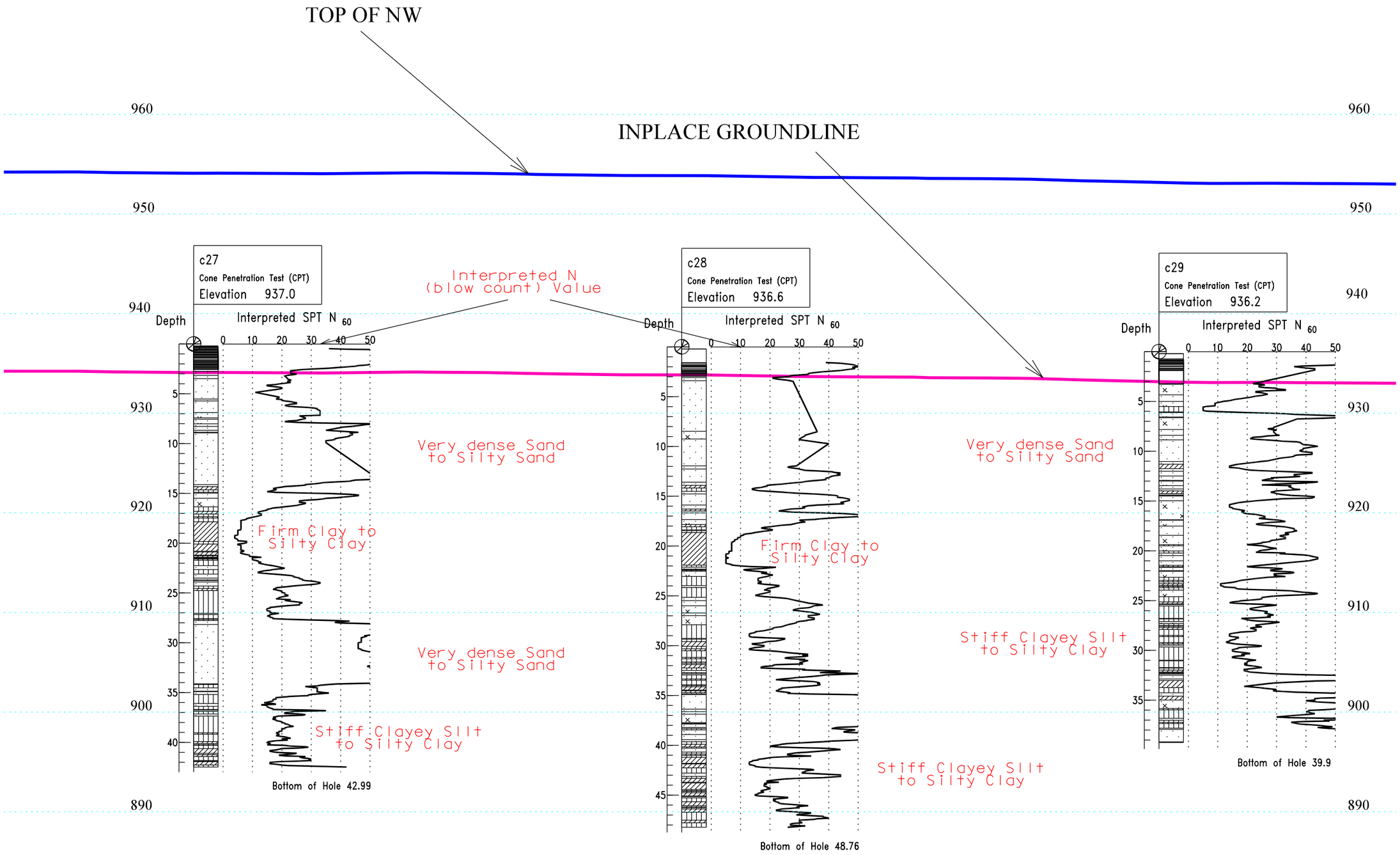

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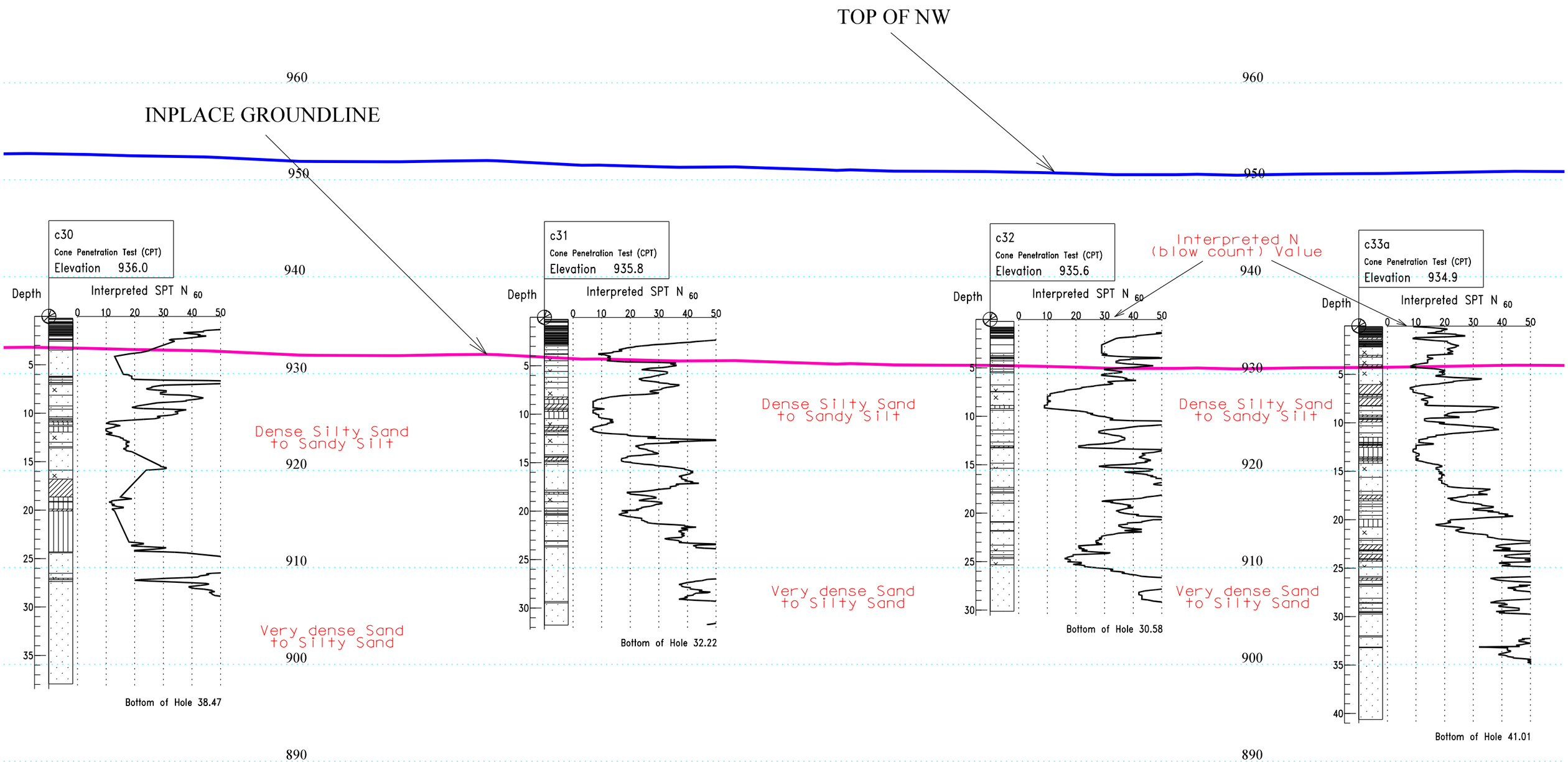

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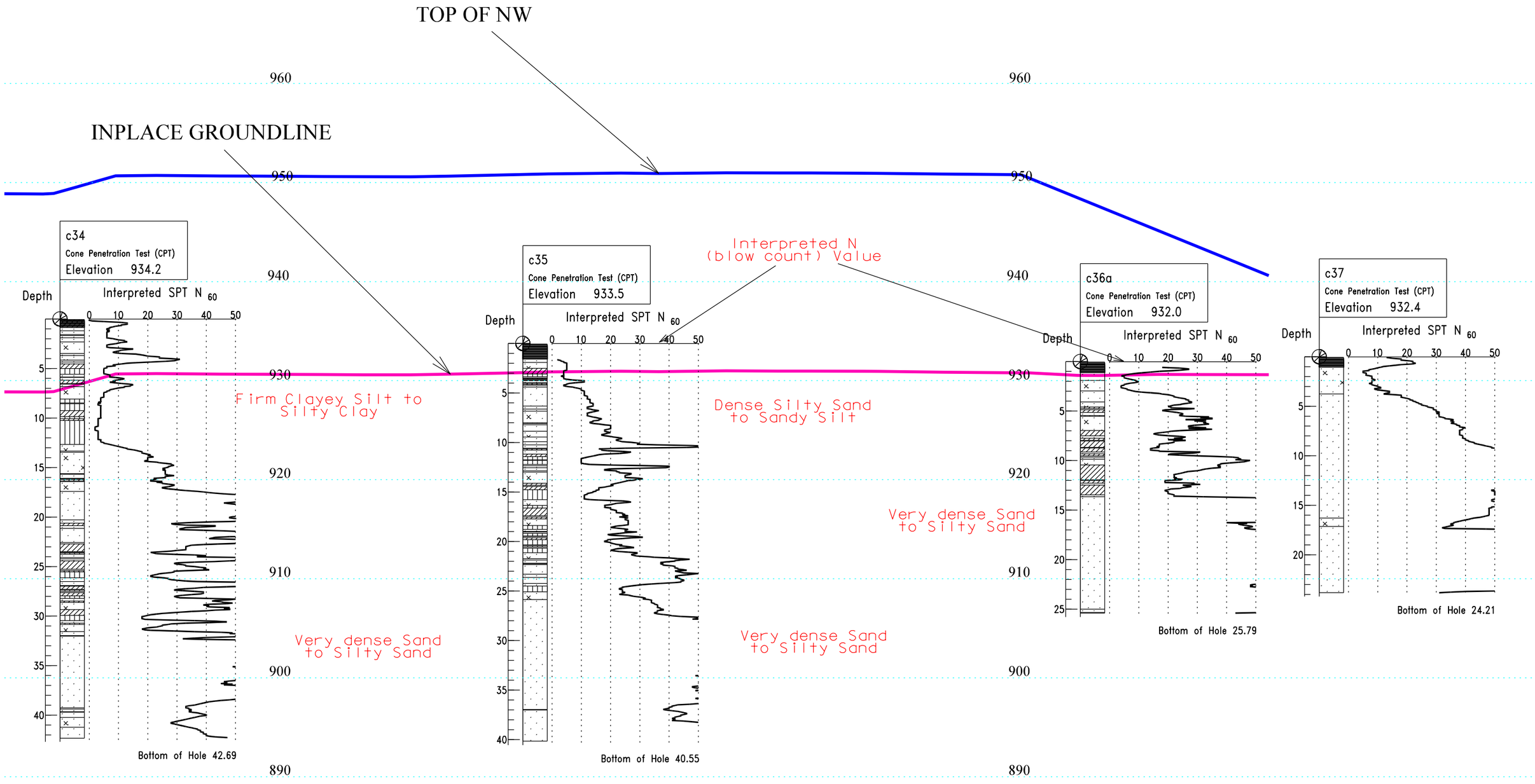
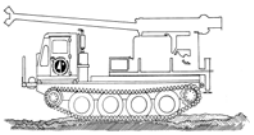


NOISE WALL PROFLE 9 (TH 35E)

Minnesota Department of Transportation
Geotechnical Section
Cone Penetration Test Index Sheet 1.0 (CPT 1.0)



USER NOTES, ABBREVIATIONS AND DEFINITIONS

This Index sheet accompanies Cone Penetration Test Data. Please refer to the Boring Log Descriptive Terminology Sheet for information relevant to conventional boring logs.

This Cone Penetration Test (CPT) Sounding follows ASTM D 5778 and was made by ordinary and conventional methods and with care deemed adequate for the Department's design purposes. Since this sounding was not taken to gather information relating to the construction of the project, the data noted in the field and recorded may not necessarily be the same as that which a contractor would desire. While the Department believes that the information as to the conditions and materials reported is accurate, it does not warrant that the information is necessarily complete. This information has been edited or abridged and may not reveal all the information which might be useful or of interest to the contractor. Consequently, the Department will make available at its offices, the field logs relating to this sounding.

Since subsurface conditions outside each CPT Sounding are unknown, and soil, rock and water conditions cannot be relied upon to be consistent or uniform, no warrant is made that conditions adjacent to this sounding will necessarily be the same as or similar to those shown on this log. Furthermore, the Department will not be responsible for any interpretations, assumptions, projections or interpolations made by contractors, or other users of this log.

Water pressure measurements and subsequent interpreted water levels shown on this log should be used with discretion since they represent dynamic conditions. Dynamic Pore water pressure measurements may deviate substantially from hydrostatic conditions, especially in cohesive soils. In cohesive soils, water pressures often take extended periods of time to reach equilibrium and thus reflect their true field level. Water levels can be expected to vary both seasonally and yearly. The absence of notations on this log regarding water does not necessarily mean that this boring was dry or that the contractor will not encounter subsurface water during the course of construction.

CPT Terminology

CPT ..... Cone Penetration Test
CPTU..... Cone Penetration Test with Pore Pressure measurements
SCPTU..... Cone Penetration Test with Pore Pressure and Seismic measurements
Piezocone...Common name for CPTU test

(Note: This test is not related to the Dynamic Cone Penetrometer DCP)

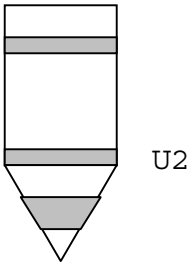
q_T TIP RESISTANCE
The resistance at the cone corrected for water pressure. Data is from cone with 60 degree apex angle and a 10 cm^2 end area.

f_s SLEEVE FRICTION RESISTANCE
The resistance along the sleeve of the penetrometer.

FR Friction Ratio
Ratio of sleeve friction over corrected tip resistance.
FR = fs/qt

V_s Shear Wave Velocity
A measure of the speed at which a siesmic wave travels through soil/rock.

PORE WATER MEASUREMENTS
Pore water measurements reported on CPT Log are representative of water pressures measured at the U2 location, just behind the cone tip, prior to the sleeve, as shown in the figure below. These measurements are considered to be dynamic water pressures due to the local disturbance caused by the cone tip. Dynamic water pressure decay and Static water pressure measurements are reported on a Pore Water Pressure Dissipation Graph.



SBT SOIL BEHAVIOR TYPE
Soil Classification methods for the Cone Penetration Test are based on correlation charts developed from observations of CPT data and conventional borings. Please note that these classification charts are meant to provide a guide to Soil Behavior Type and should not be used to infer a soil classification based on grain size distribution.

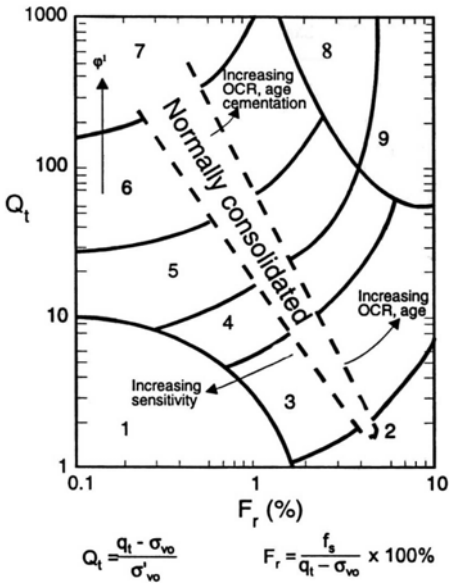
The numbers corresponding to different regions on the charts represent the following soil behavior types:

1. Sensitive, Fine Grained
2. Organic Soils - Peats
3. Clays - Clay to Silty Clay
4. Silt Mixtures - Clayey Silt to Silty Clay
5. Sand Mixtures - Silty Sand to Sandy Silt
6. Sands - Clean Sand to Silty Sand
7. Gravelly Sand to Sand
8. Very Stiff Sand to Clayey Sand
9. Very Stiff, Fine Grained

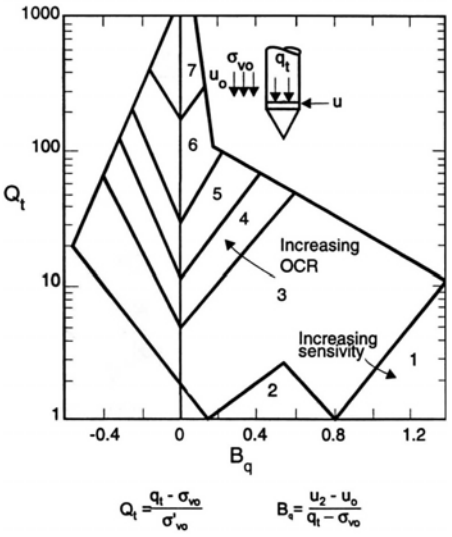
Note that engineering judgment, and comparison with conventional borings is especially important in the proper interpretation of CPT data in certain geo-materials.

The following charts are used to provide a Soil Behavior Type for the CPT Data.

Robertson CPT 1990
Soil Behavior type based on friction ratio



Robertson CPTU 1990
Soil Behavior type based on pore pressure



where ...
Q_T ..... normalized cone resistance
B_q ..... pore pressure ratio
F_r ..... Normalized friction ratio
σ_{vo} ..... overburden pressure
σ'_{vo} ..... effective over burden pressure
u_2 ..... measured pore pressure
u_0 ..... equilibrium pore pressure

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

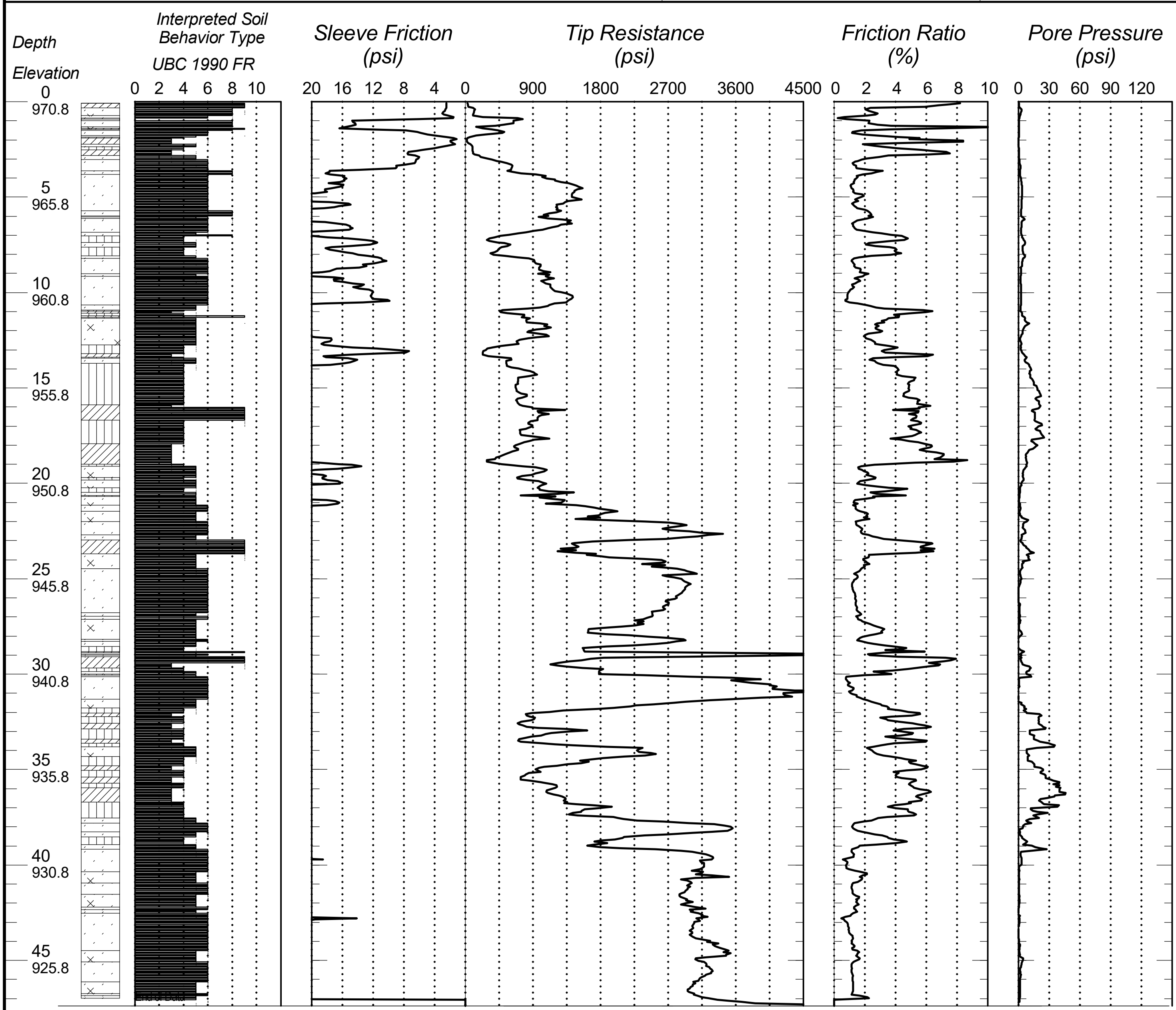
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84815

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c01a**	**970.8** (DTM)

Location **Dakota Co. Coordinate: X=526881 Y=212329** (ft.)	*CPT Machine* **211328 CPT Marooka Track** *SHEET 1 of 1*
Latitude (North)=44°46'47.96" Longitude (West)=93°12'47.35"	*CPT Operator* **ODonnel**
No Station-Offset Information Available	*Hole Type* **CPT-STD**
	Date Completed **2/10/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

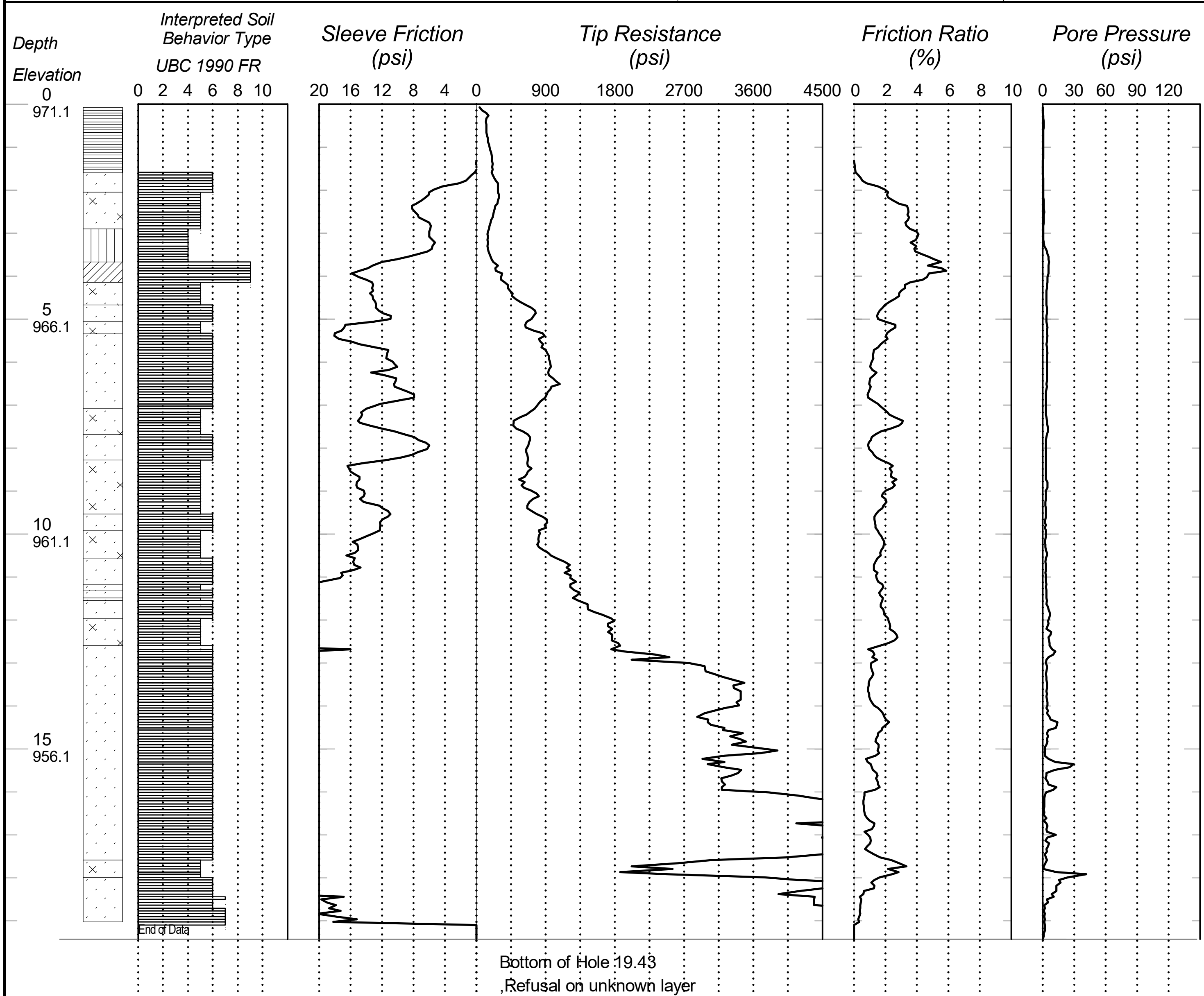
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84816

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c02a**	**971.1** (DTM)

Location **Dakota Co. Coordinate: X=526989 Y=212407** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°46'48.73" Longitude (West)=93°12'45.85"	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/10/20**



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Soil Class: Rock Class: Edit: Date: 3/9/20

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

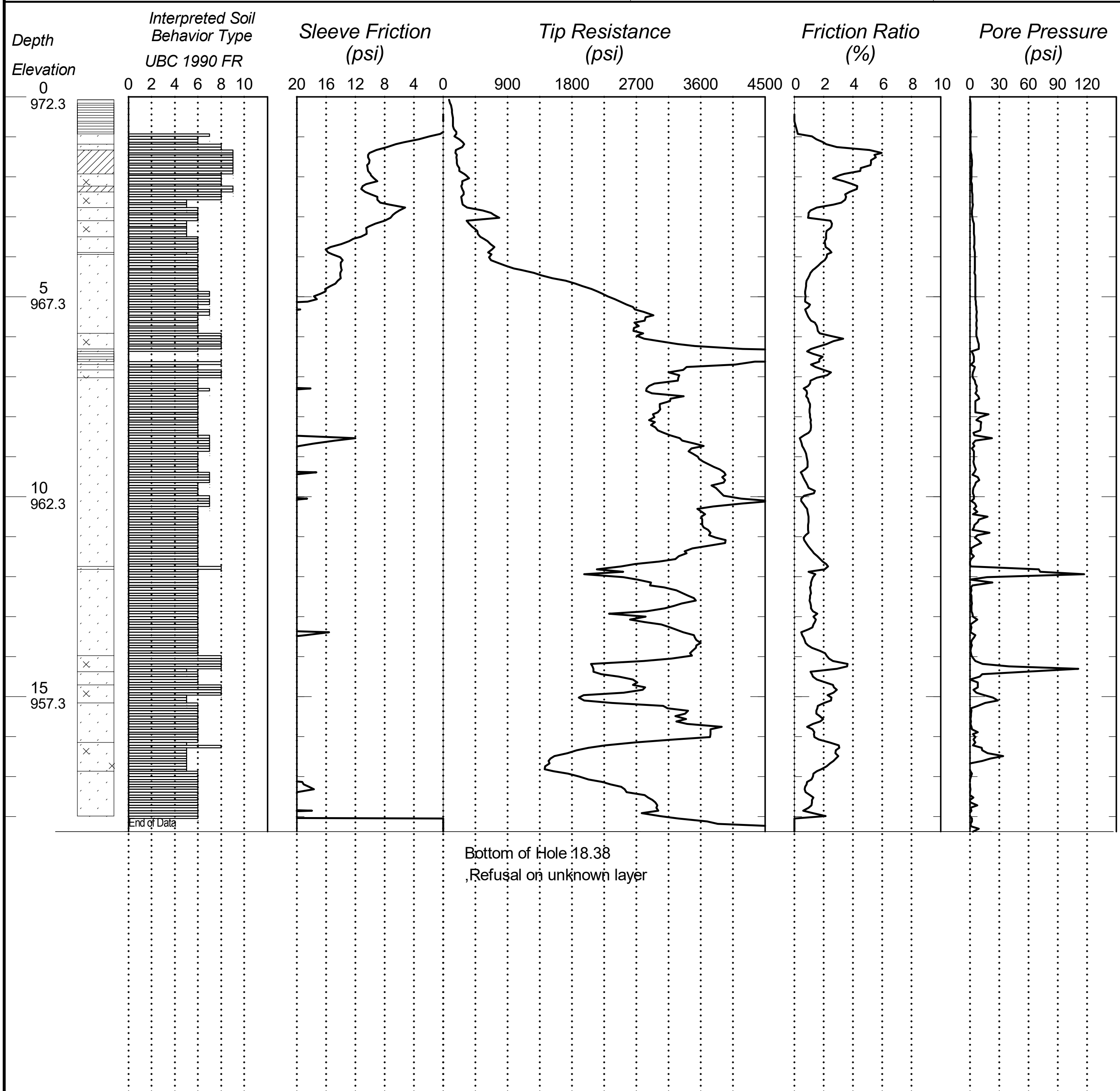
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84817

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c03a**	**972.3** *(DTM)*

Location **Dakota Co. Coordinate: X=527061 Y=212435** (ft.)	*CPT Machine* **211328 CPT Marooka Track** — *SHEET 1 of 1*
Latitude (North)=44°46'49.01" *Longitude (West)=93°12'44.85"*	*CPT Operator* **ODonnel** — *Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD** — **2/10/20**



MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

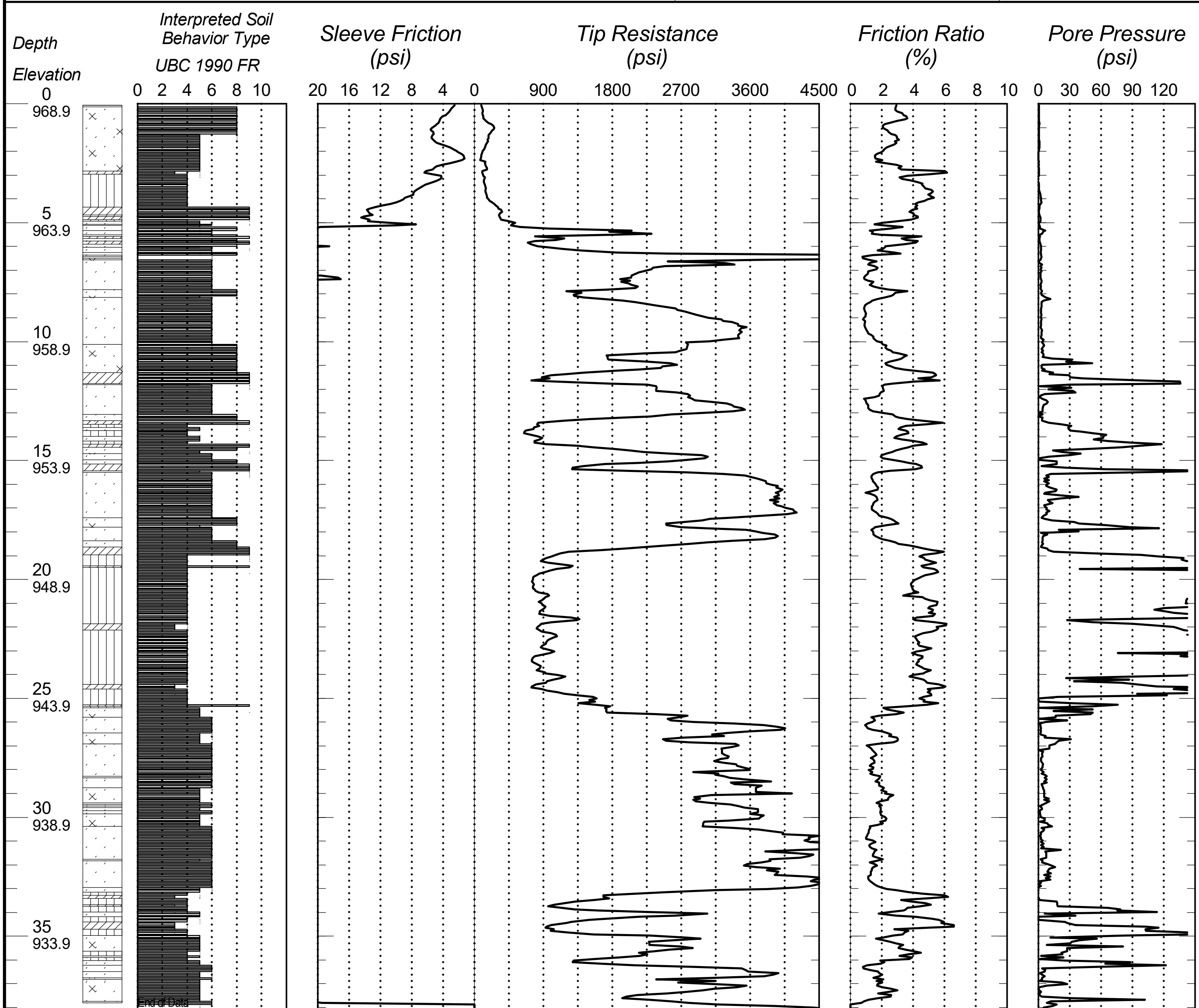
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84818

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c04**	**968.9** *(DTM)*

Location **Dakota Co. Coordinate: X=527129 Y=212513** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°46'49.78" Longitude (West)=93°12'43.91"	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/10/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

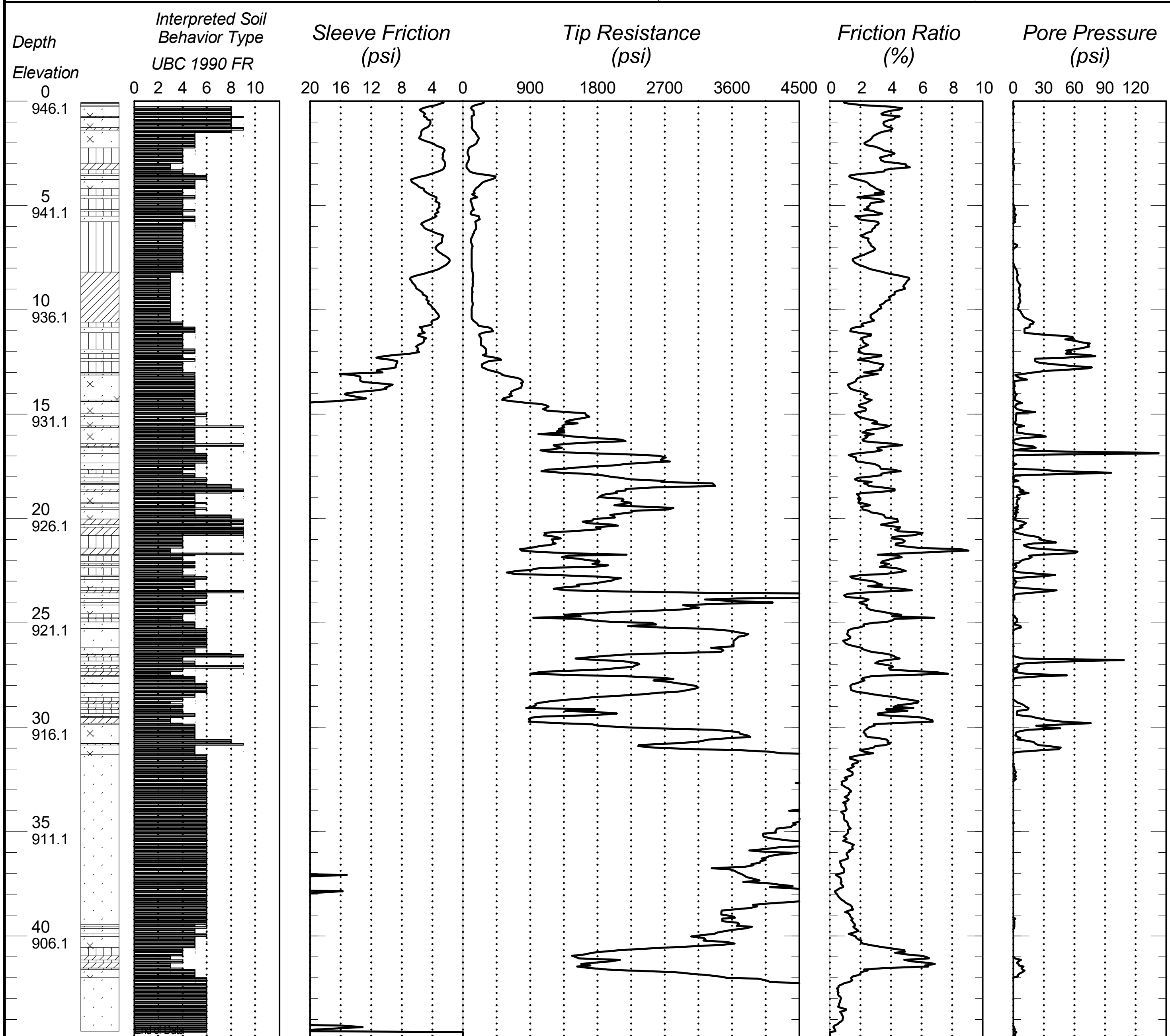
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84819

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c08**	**946.1** *(DTM)*

Location **Dakota Co. Coordinate: X=527412 Y=212795** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°46'52.56" *Longitude (West)=93°12'39.98"*	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

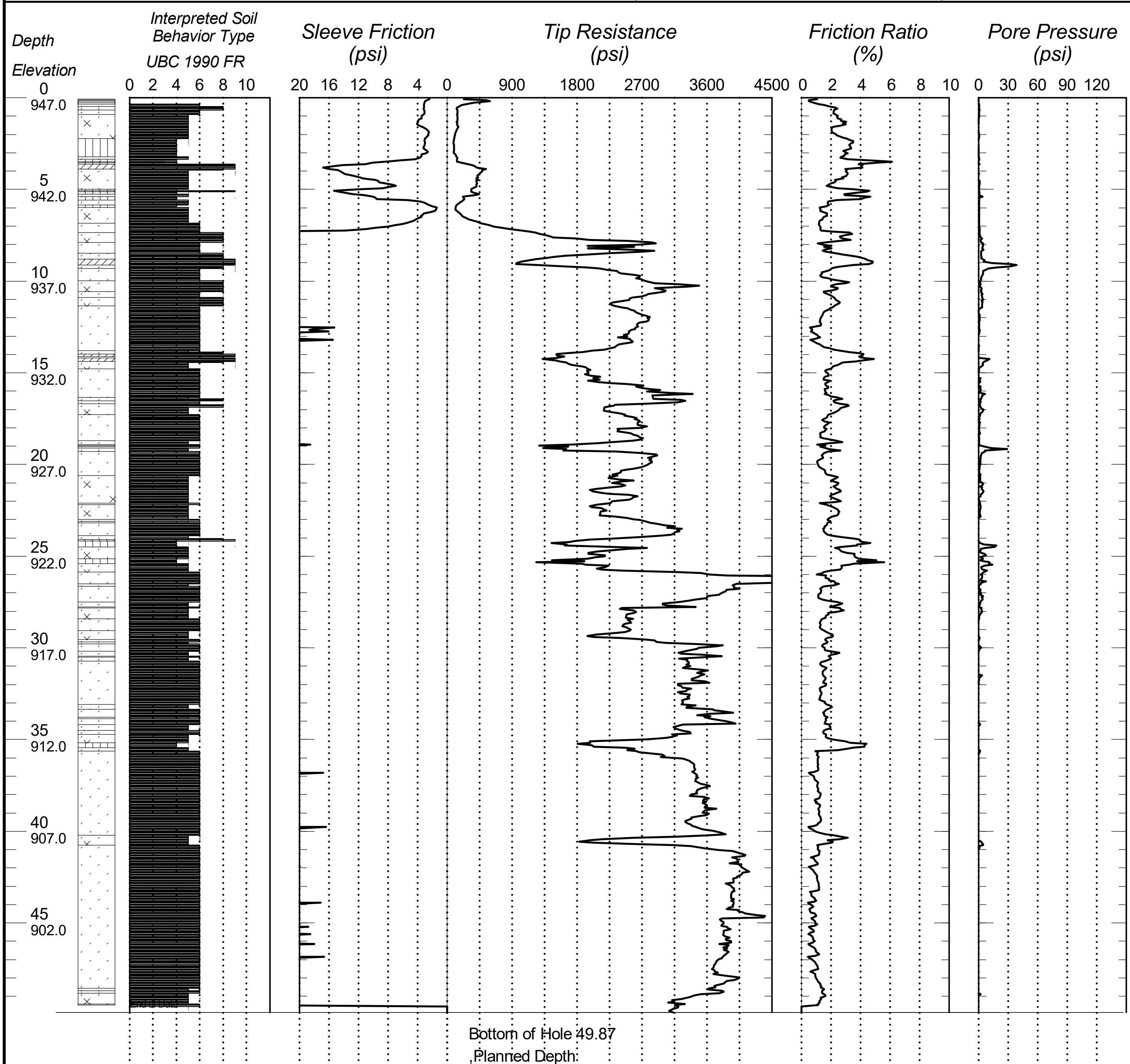
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84820

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c09**	**947.0** (DTM)

Location **Dakota Co. Coordinate: X=527464 Y=212864** (ft.)	*CPT Machine* **211328 CPT Marooka Track** — *SHEET 1 of 1*
Latitude (North)=44°46'53.24" *Longitude (West)=93°12'39.25"*	*CPT Operator* **ODonnel** — *Date Completed* **2/11/20**
No Station-Offset Information Available	*Hole Type* **CPT-STD**



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Soil Class. Rock Class. Edit. Date 3/9/20
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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

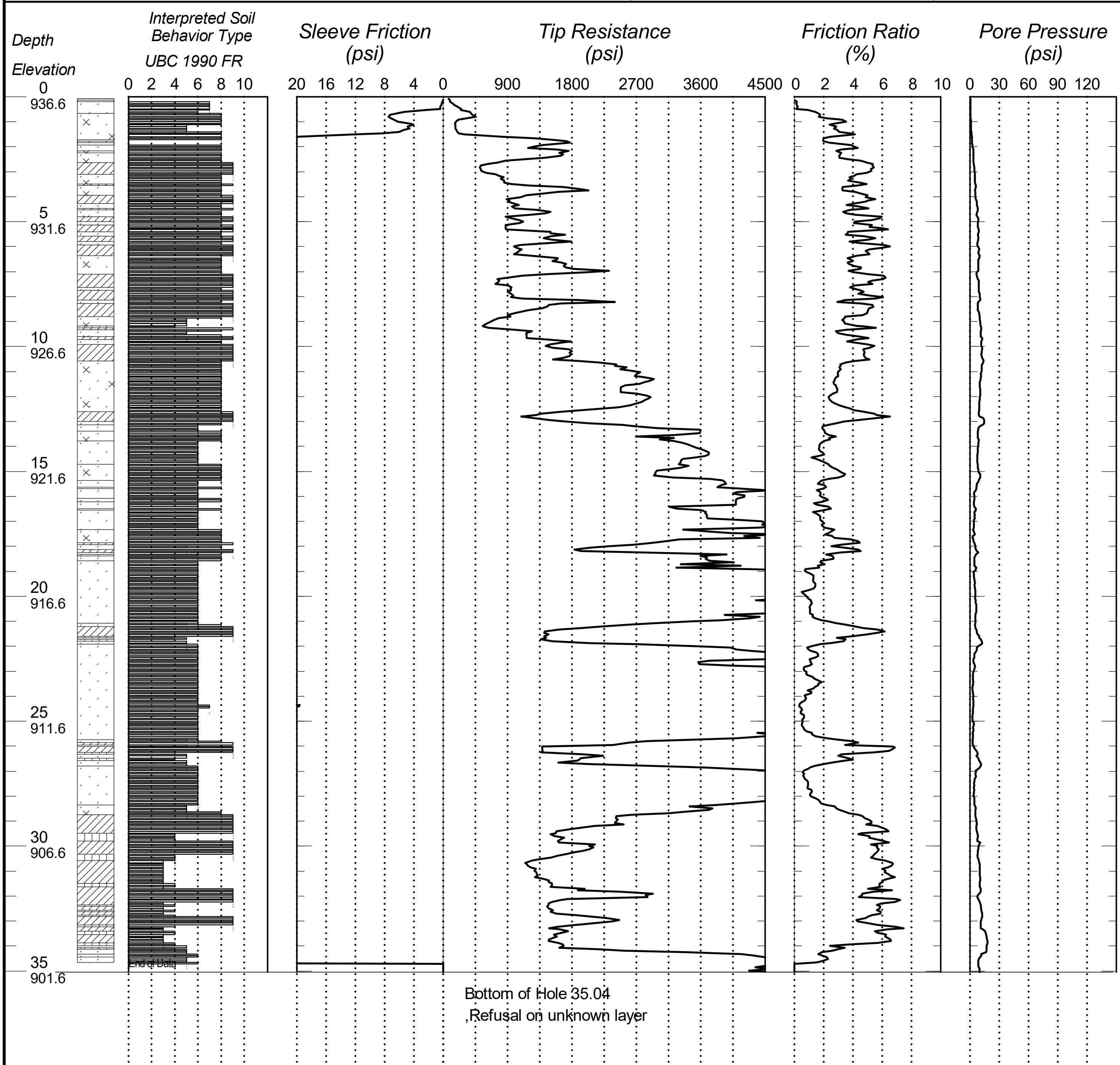
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84821

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c10a**	**936.6** (DTM)

Location **Dakota Co. Coordinate: X=527502 Y=212969** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°46'54.27" *Longitude (West)=93°12'38.72"*	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

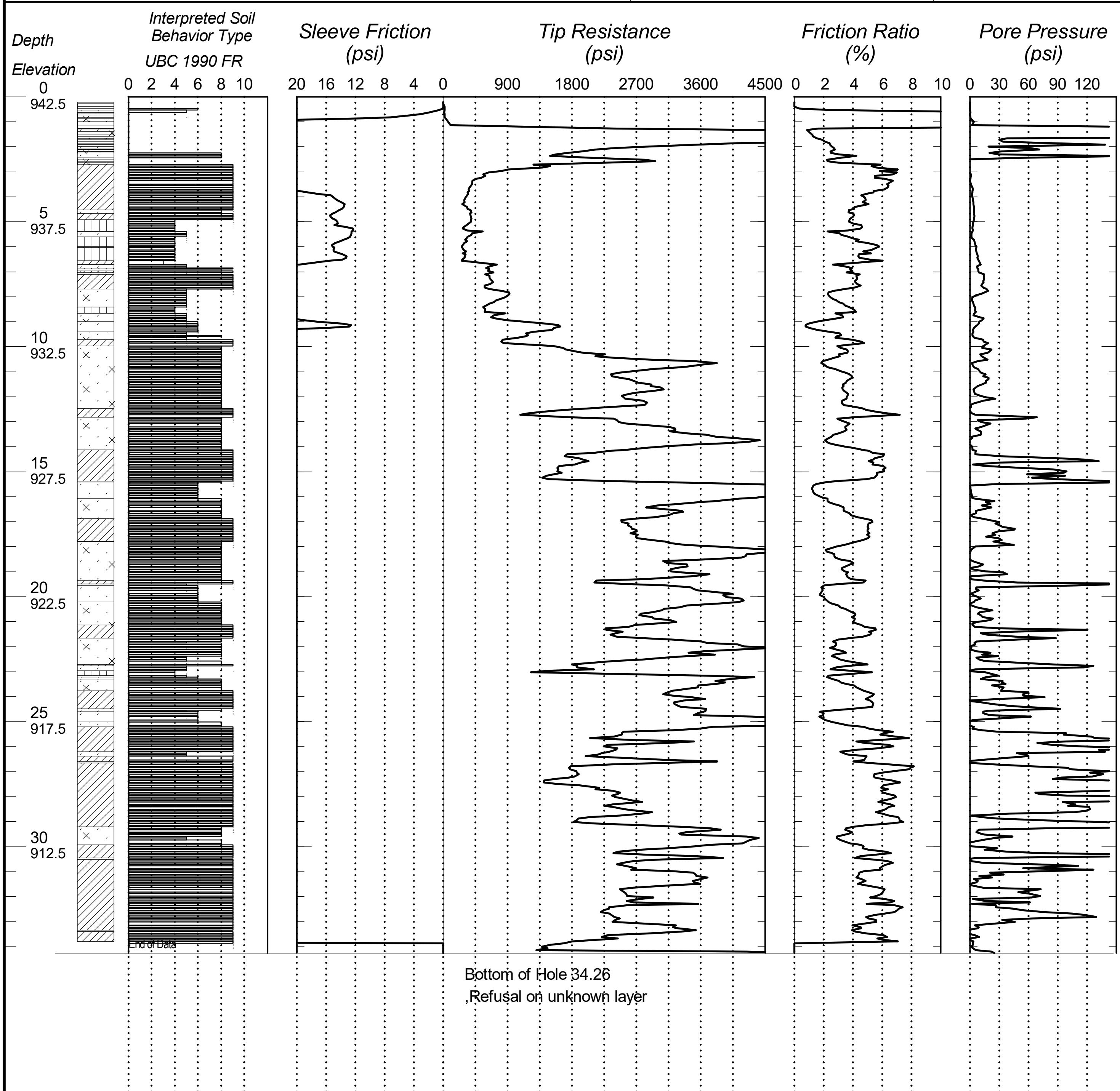
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84823

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c11**	**942.5** *(DTM)*

Location **Dakota Co. Coordinate: X=527523 Y=213056** (ft.)	*CPT Machine* **205146 CPT Truck (H)**
Latitude (North)=44°46'55.13" *Longitude (West)=93°12'38.43"*	*CPT Operator* **Hoisington**
No Station-Offset Information Available	*Hole Type* **CPT-STD**
SHEET 1 of 1	*Date Completed* **2/11/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

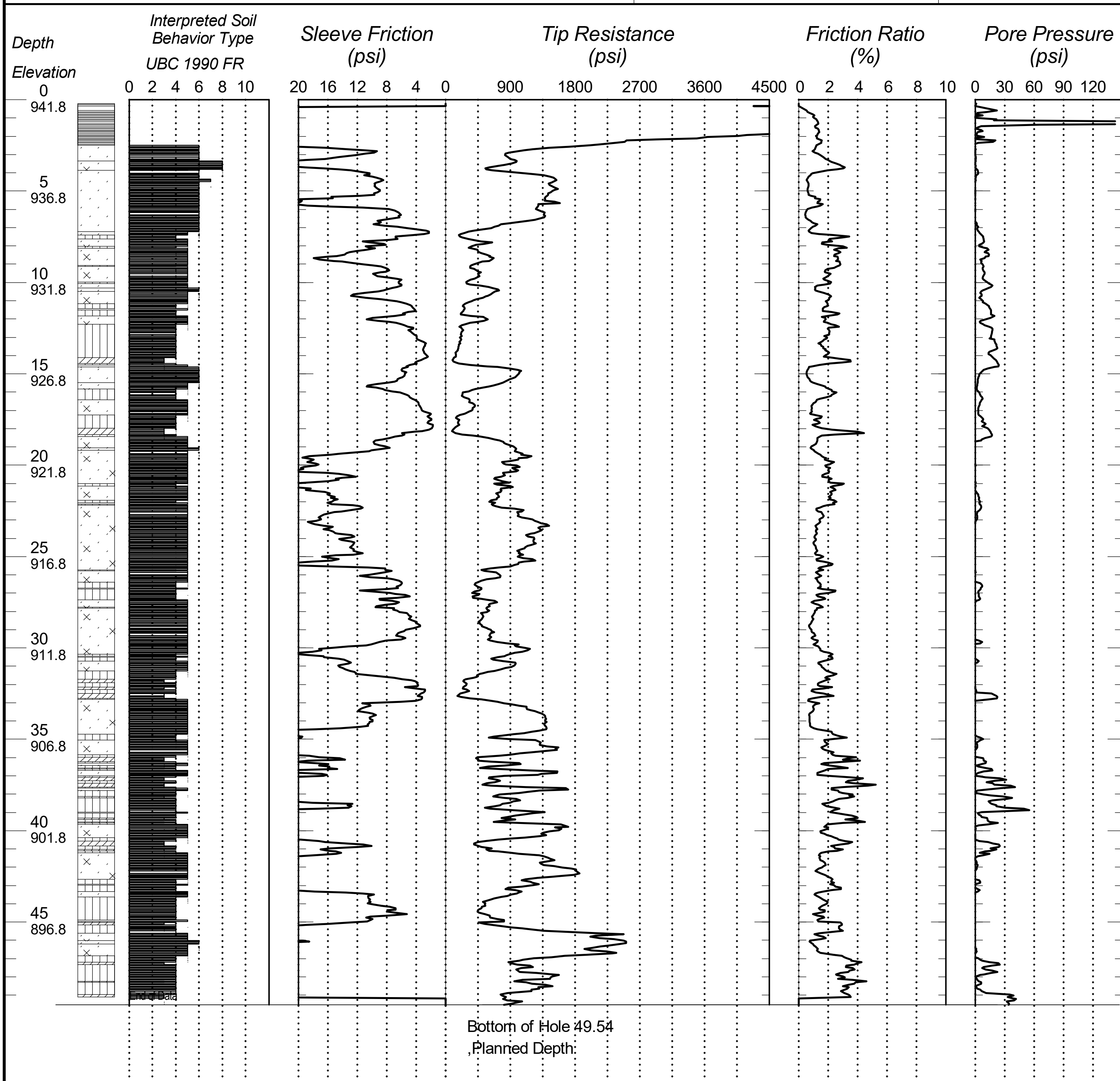
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84824

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c12b**	**941.8** *(DTM)*

Location **Dakota Co. Coordinate: X=527614 Y=213157** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°46'56.13" *Longitude (West)=93°12'37.17"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

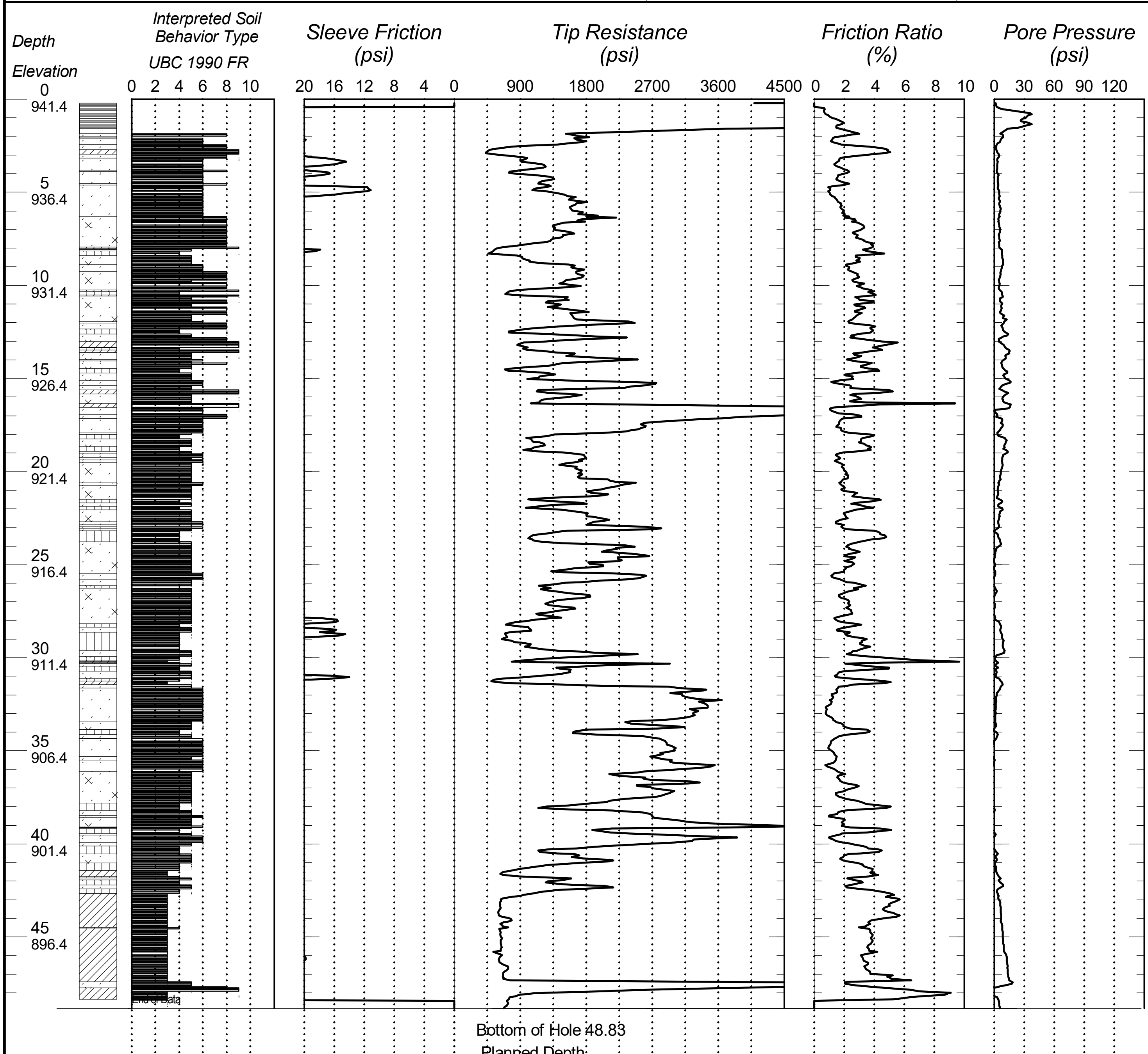
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84825

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c13**	**941.4** *(DTM)*

Location **Dakota Co. Coordinate: X=527674 Y=213219** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°46'56.74" *Longitude (West)=93°12'36.33"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



Index Sheet Code 3.0

G:\geotech\cptdata\th35E\1982-200-Dave Hoisington (2020-02-14) 19823002(241)_ *Soil Class: Rock Class: Edit: Date: 2/3/2020*

G:\GINT\PROJECTS-ACTIVE\1982-200 NOISEWALL.GPJ

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

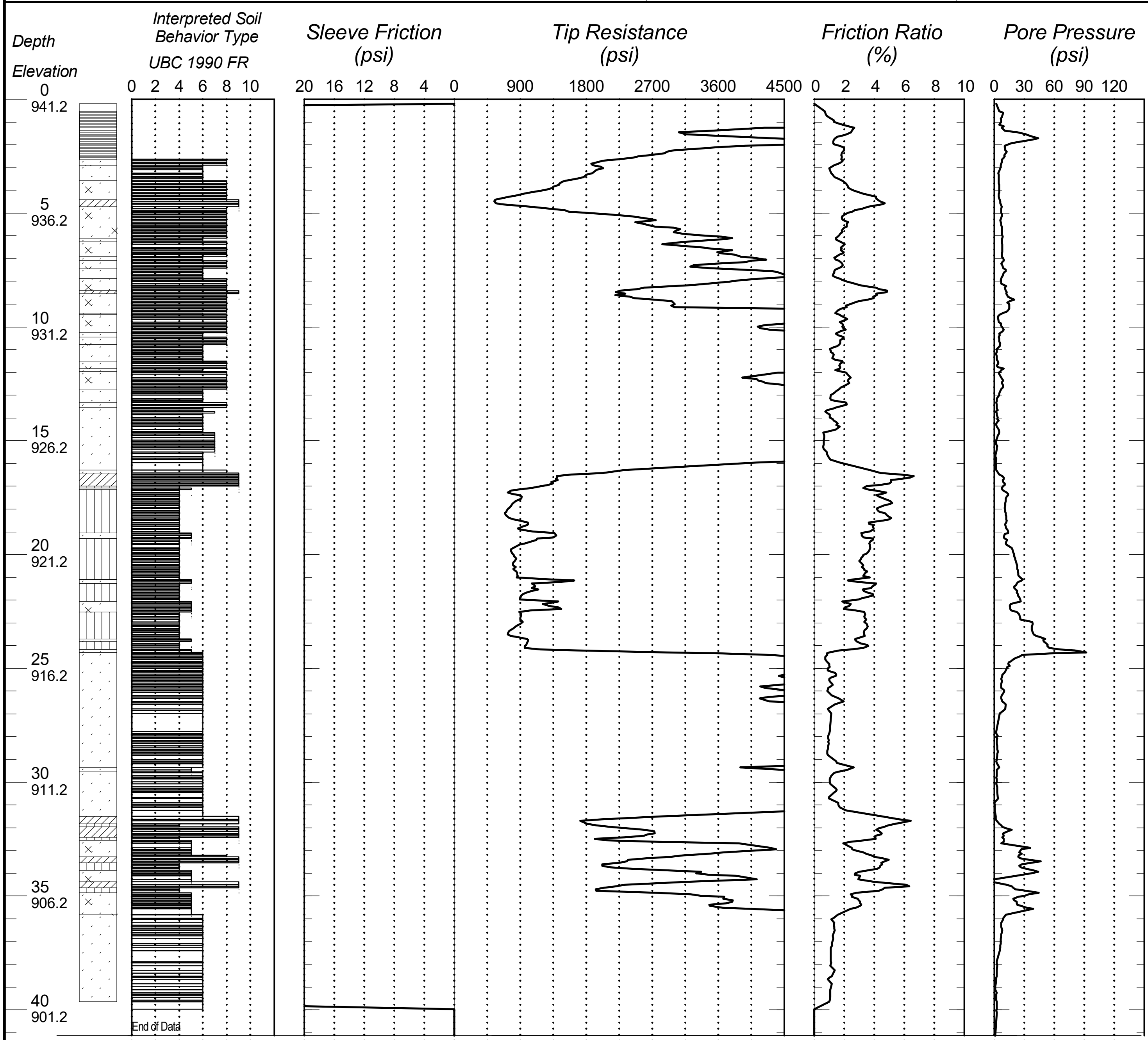
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84826

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c14**	**941.2** (DTM)

Location **Dakota Co. Coordinate: X=527745 Y=213304** (ft.)	*CPT Machine* **205146 CPT Truck (H)** / SHEET 1 of 1
Latitude (North)=44°46'57.58" Longitude (West)=93°12'35.35"	*CPT Operator* **Hoisington** / *Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD** / **2/11/20**



Bottom of Hole 41.14

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

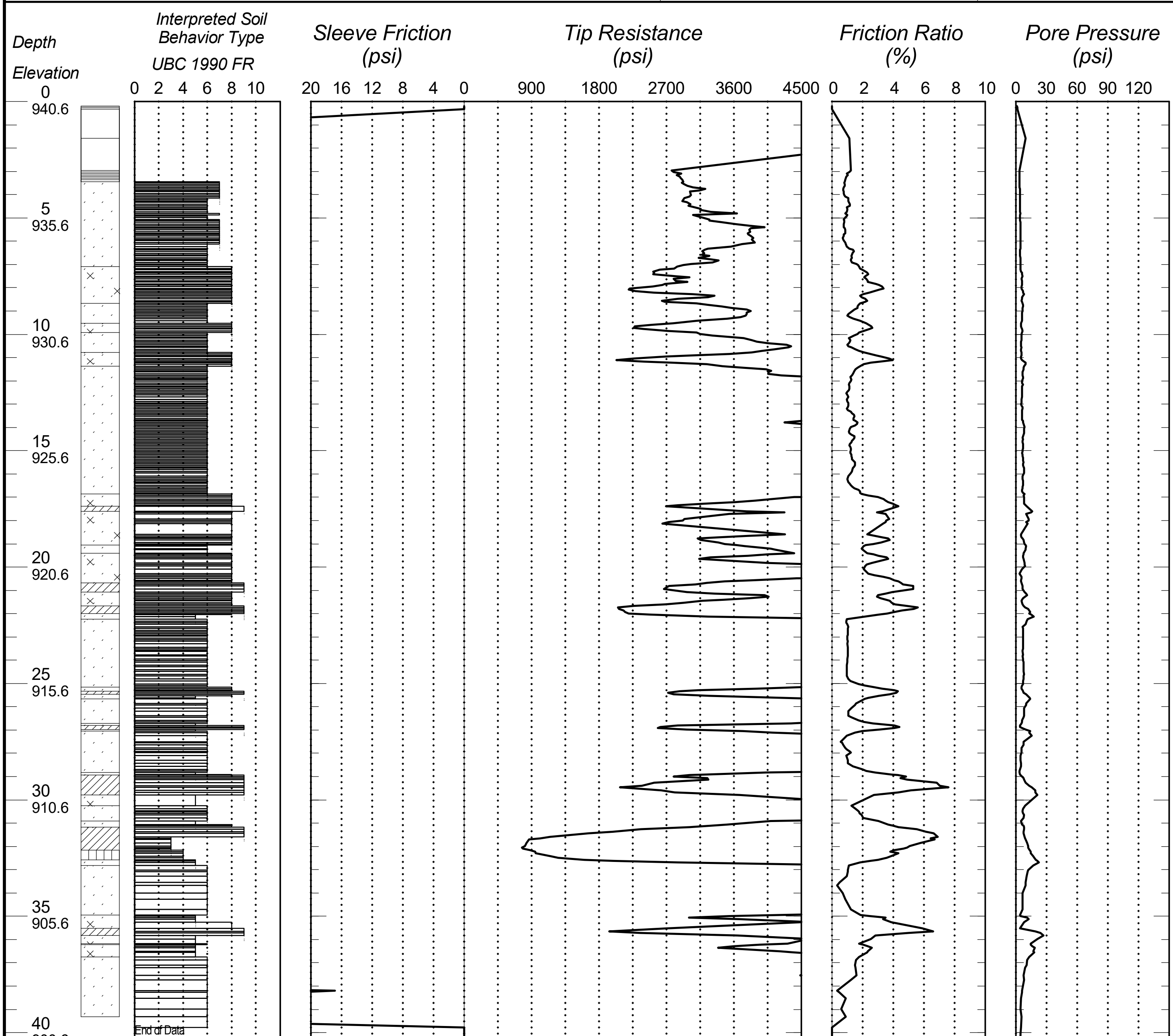
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84827

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c15**	**940.6** *(DTM)*

Location **Dakota Co. Coordinate: X=527808 Y=213379** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°46'58.32" *Longitude (West)=93°12'34.47"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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Index Sheet Code 3.0

G:\geotech\cptdata\th35E\1982-200-Dave Hoisington (2020-02-14) (1982-200...244)_ *Soil Class: Rock Class: Edit Date: 3/3/20*

G:\GINT\PROJECTS-ACTIVE\1982-200 NOISEWALL.GPJ

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

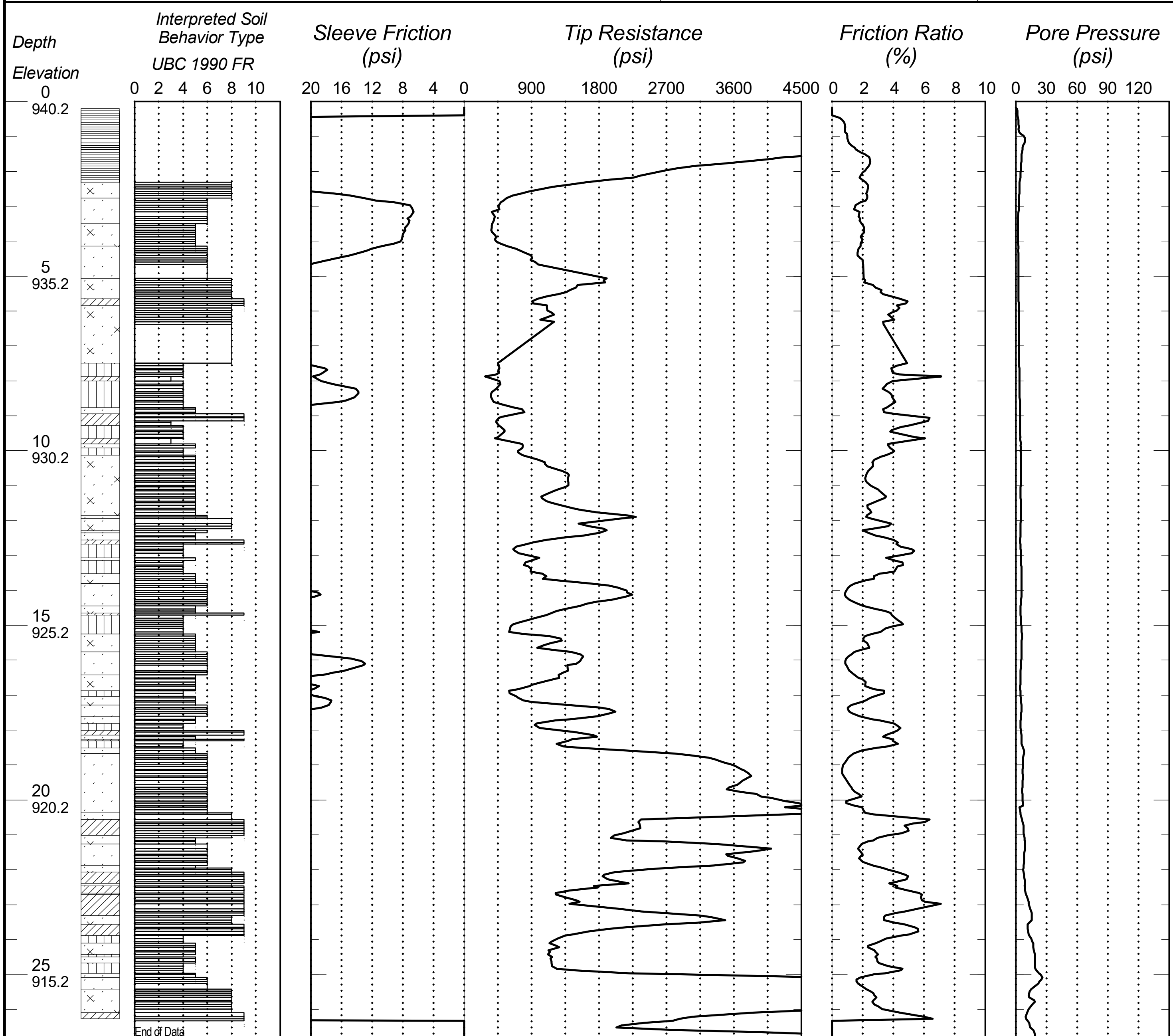
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84828

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c16**	**940.2** (DTM)

Location **Dakota Co. Coordinate: X=527875 Y=213459** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°46'59.11" *Longitude (West)=93°12'33.54"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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Index Sheet Code 3.0

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Soil Class: Rock Class: Edit: Date: 3/3/20
G:\GINT\PROJECTS-ACTIVE\1982-200 NOISEWALL.GPJ

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

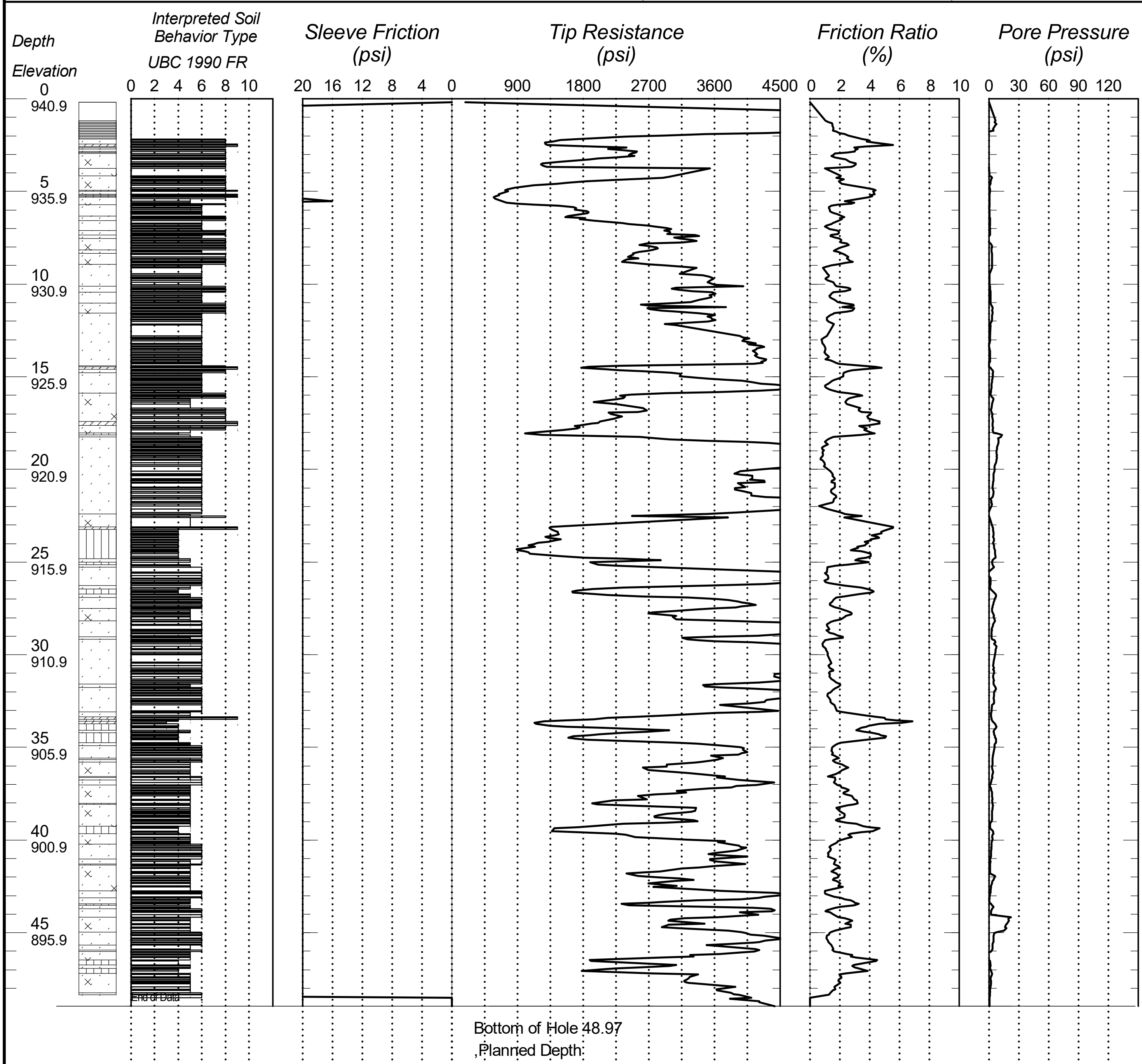
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84829

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c17**	**940.9** *(DTM)*

Location **Dakota Co. Coordinate: X=527934 Y=213533** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°46'59.84" *Longitude (West)=93°12'32.73"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/12/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

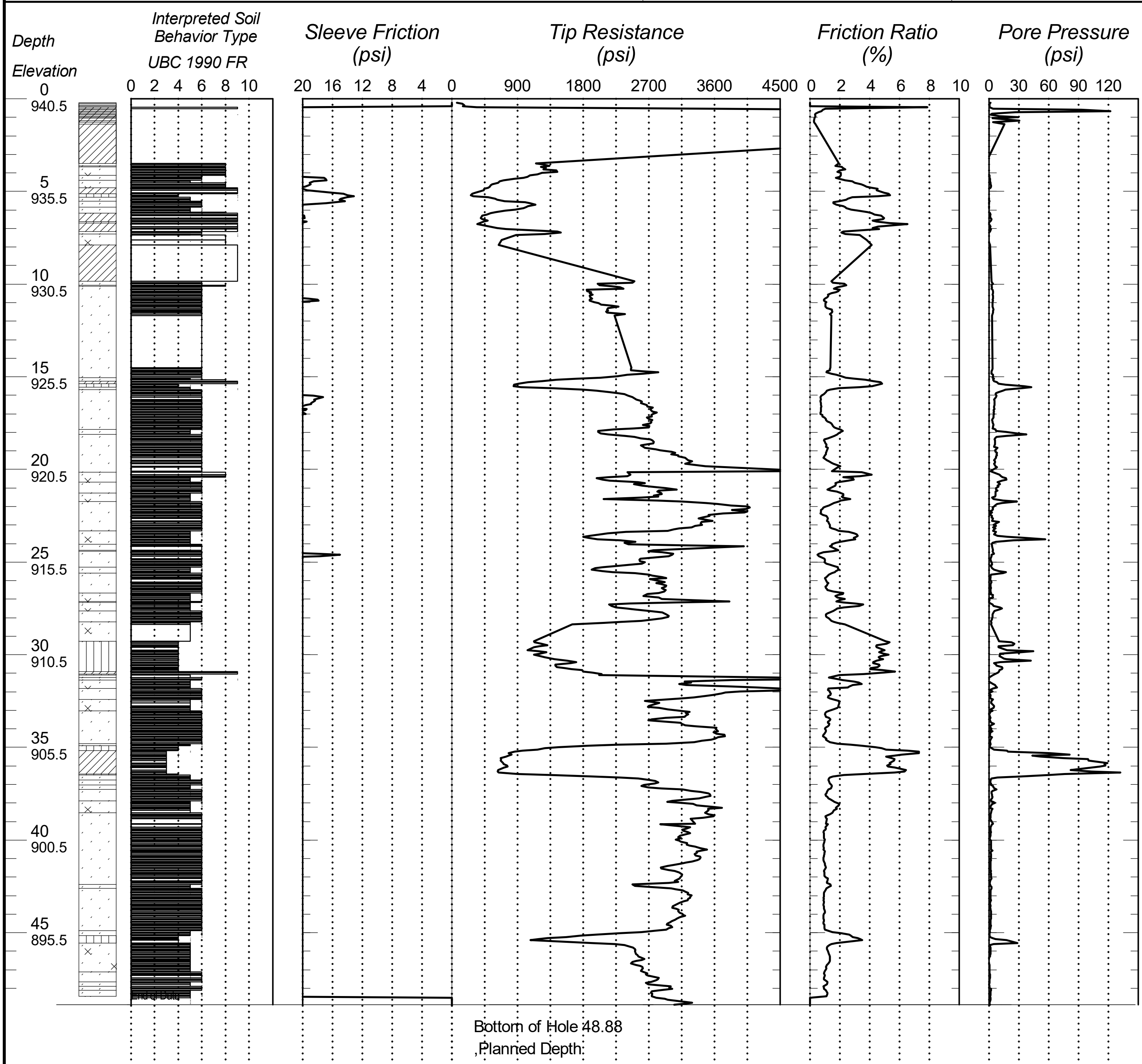
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84830

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c18**	**940.5** *(DTM)*

Location **Dakota Co. Coordinate: X=527999 Y=213608** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'00.58" *Longitude (West)=93°12'31.83"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/12/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84831

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c19**	**940.1** *(DTM)*

Location **Dakota Co. Coordinate: X=528069 Y=213691** (ft.)

Latitude (North)=44°47'01.39" *Longitude (West)=93°12'30.85"*

No Station-Offset Information Available

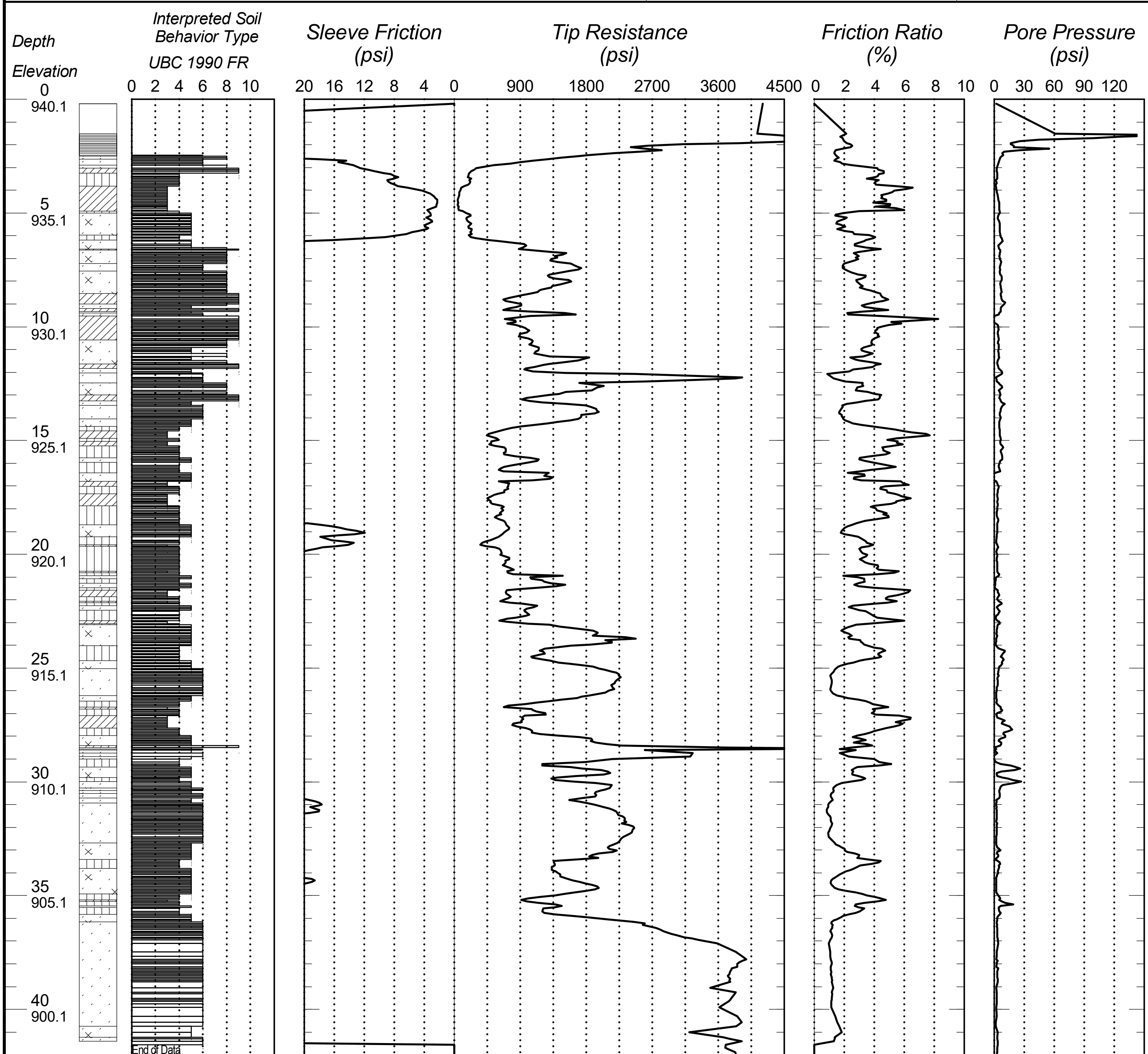
CPT Machine **205146 CPT Truck (H)**

CPT Operator **Hoisington**

Hole Type **CPT-STD**

SHEET 1 of 1

Date Completed **2/12/20**



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Index Sheet Code 3.0

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

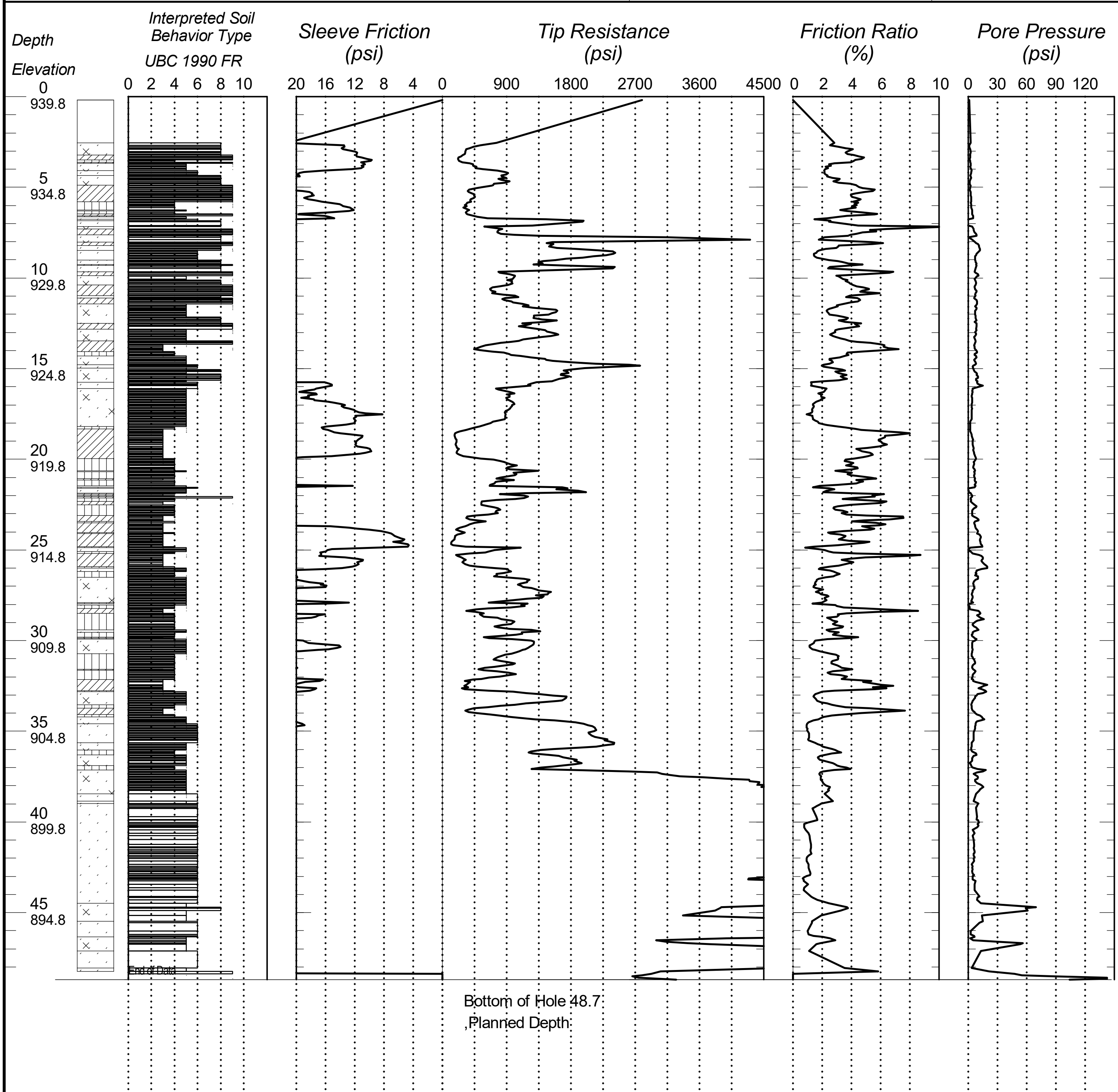
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84832

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c20**	**939.8** *(DTM)*

Location **Dakota Co. Coordinate: X=528132 Y=213762** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'02.09" *Longitude (West)=93°12'29.98"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/12/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

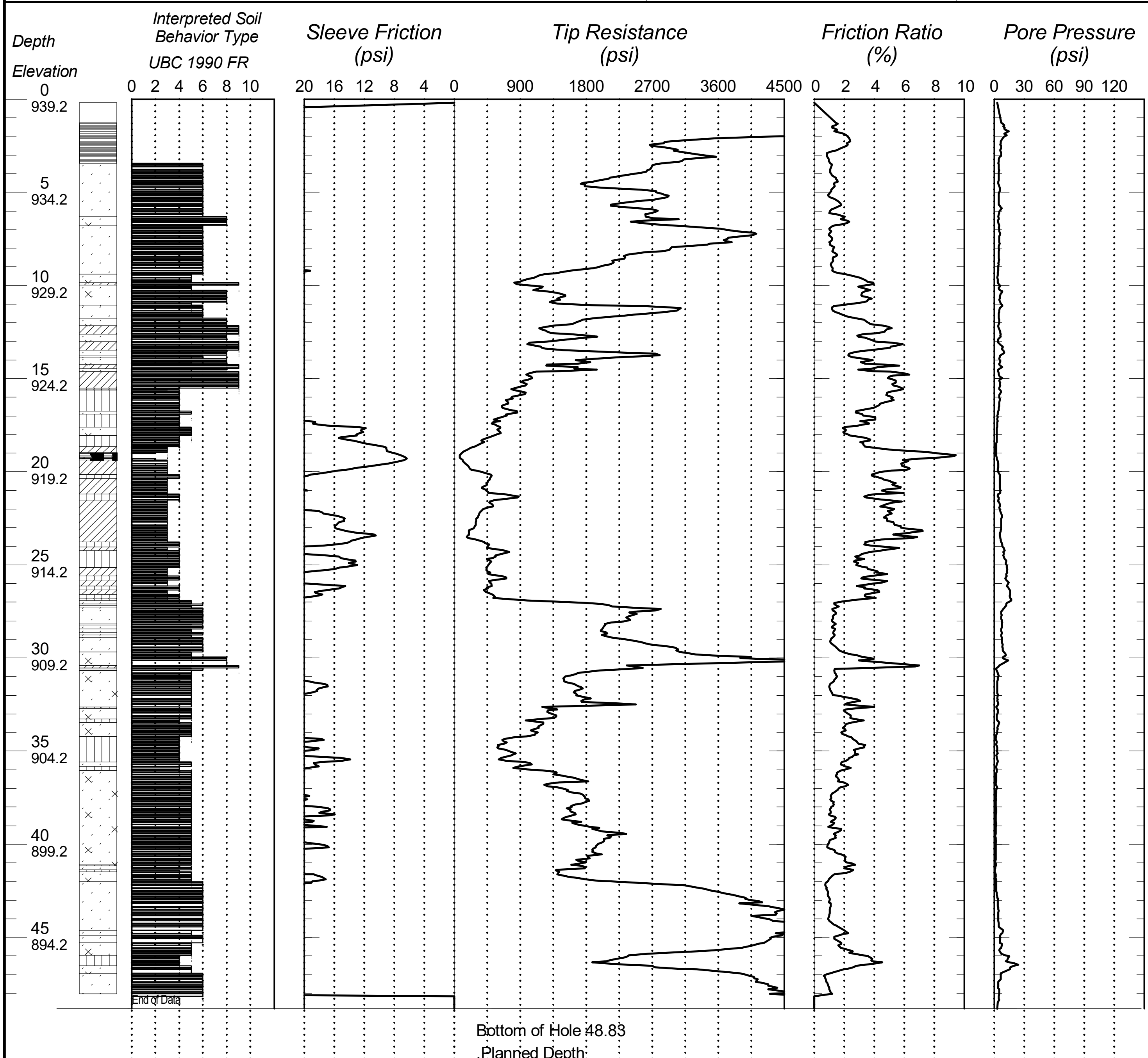
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84833

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c21**	**939.2** (DTM)

Location **Dakota Co. Coordinate: X=528194 Y=213834** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'02.80" *Longitude (West)=93°12'29.12"*	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/12/20**



Index Sheet Code 3.0

G:\geotech\cptdata\th35E\1982-200 Dave Hoisington (2020-02-14)\1982-200 (252)_

Soil Class: Rock Class: Edit: Date: 3/3/20

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84834

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c22**	**938.8** *(DTM)*

Location **Dakota Co. Coordinate: X=528255 Y=213900** (ft.)

Latitude (North)=44°47'03.46" *Longitude (West)=93°12'28.27"*

No Station-Offset Information Available

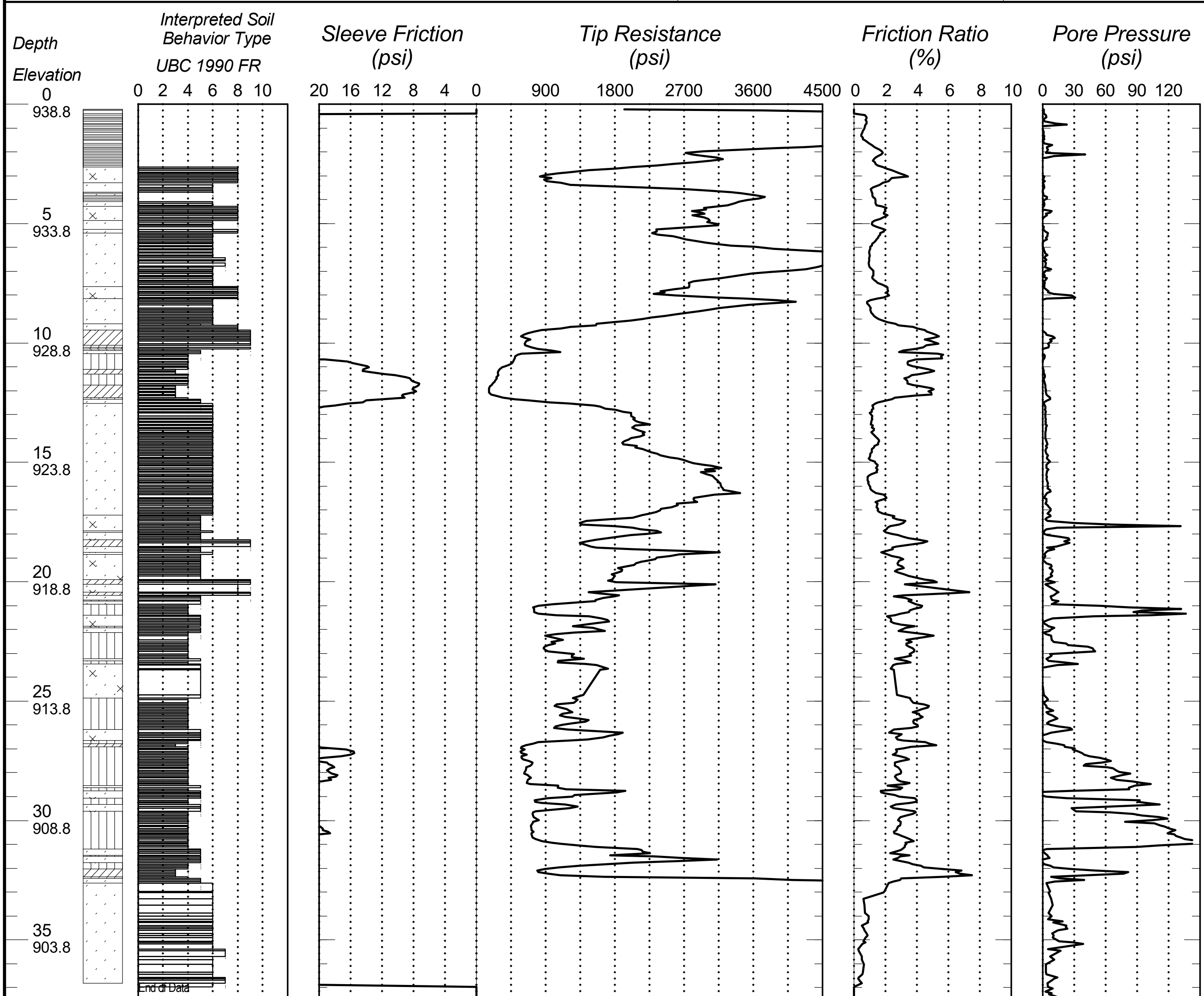
CPT Machine **205146 CPT Truck (H)**

CPT Operator **Hoisington**

Hole Type **CPT-STD**

SHEET 1 of 1

Date Completed **2/13/20**



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Index Sheet Code 3.0

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Soil Class: Rock Class: Edit: Date: 3/3/20
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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

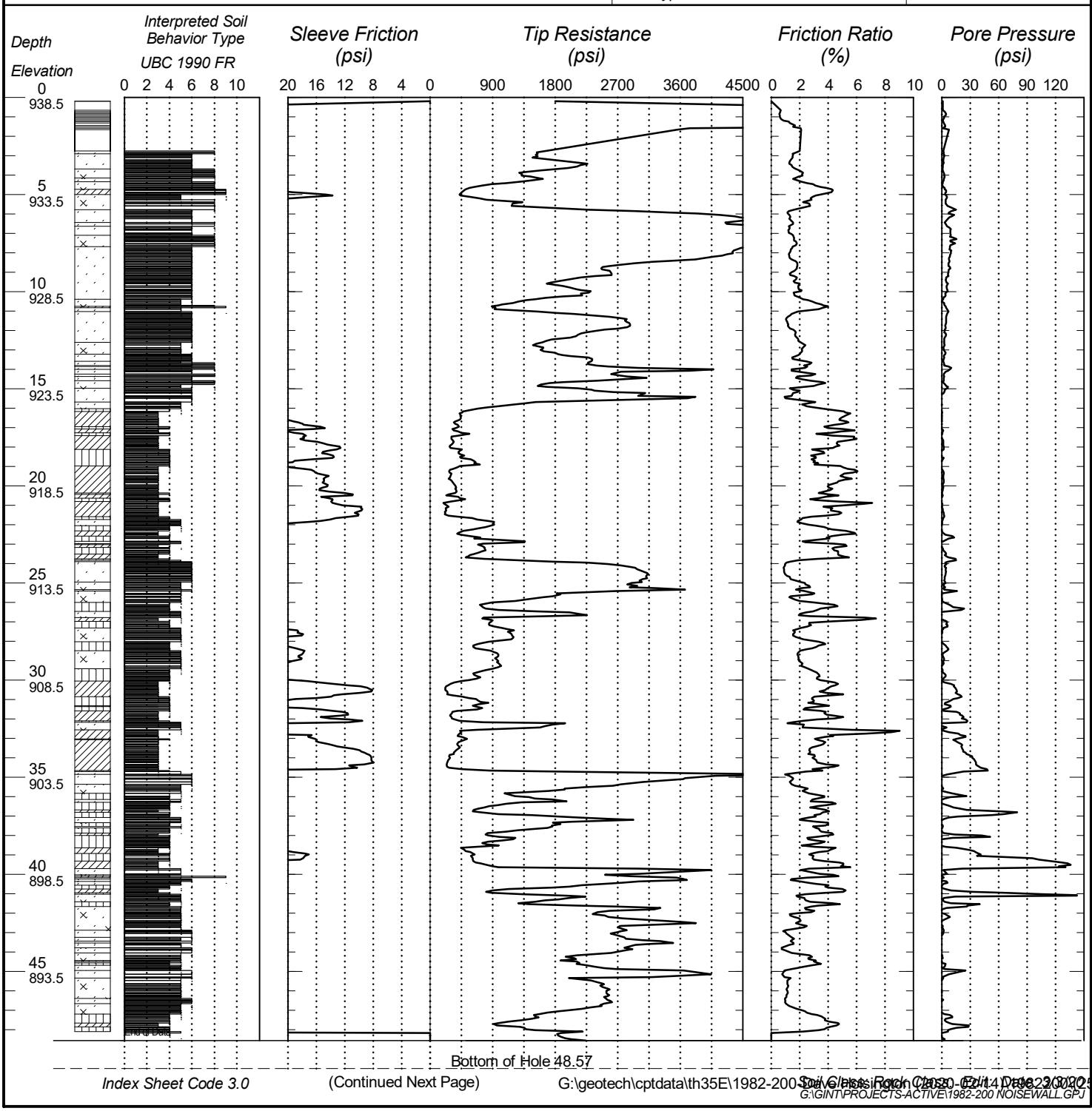
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84835

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c23**	**938.5** *(DTM)*

Location		CPT Machine	SHEET 1 of 2
Dakota Co. Coordinate: X=528318 Y=213972 (ft.)		**205146 CPT Truck (H)**	
Latitude (North)=44°47'04.17" *Longitude (West)=93°12'27.40"*		CPT Operator **Hoisington**	Date Completed
No Station-Offset Information Available		Hole Type **CPT-STD**	**2/13/20**



Index Sheet Code 3.0

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84835

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c23**	**938.5** *(DTM)*

Mn/DOT GEOTECHNICAL SECTION - CONE PENETRATION TEST RESULTS

Depth / *Elevation*	*Interpreted Soil Behavior Type* *UBC 1990 FR*	*Sleeve Friction (psi)*	*Tip Resistance (psi)*	*Friction Ratio (%)*	*Pore Pressure (psi)*
	0 2 4 6 8 10	20 16 12 8 4 0	900 1800 2700 3600 4500	0 2 4 6 8 10	0 30 60 90 120

,Planned Depth

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

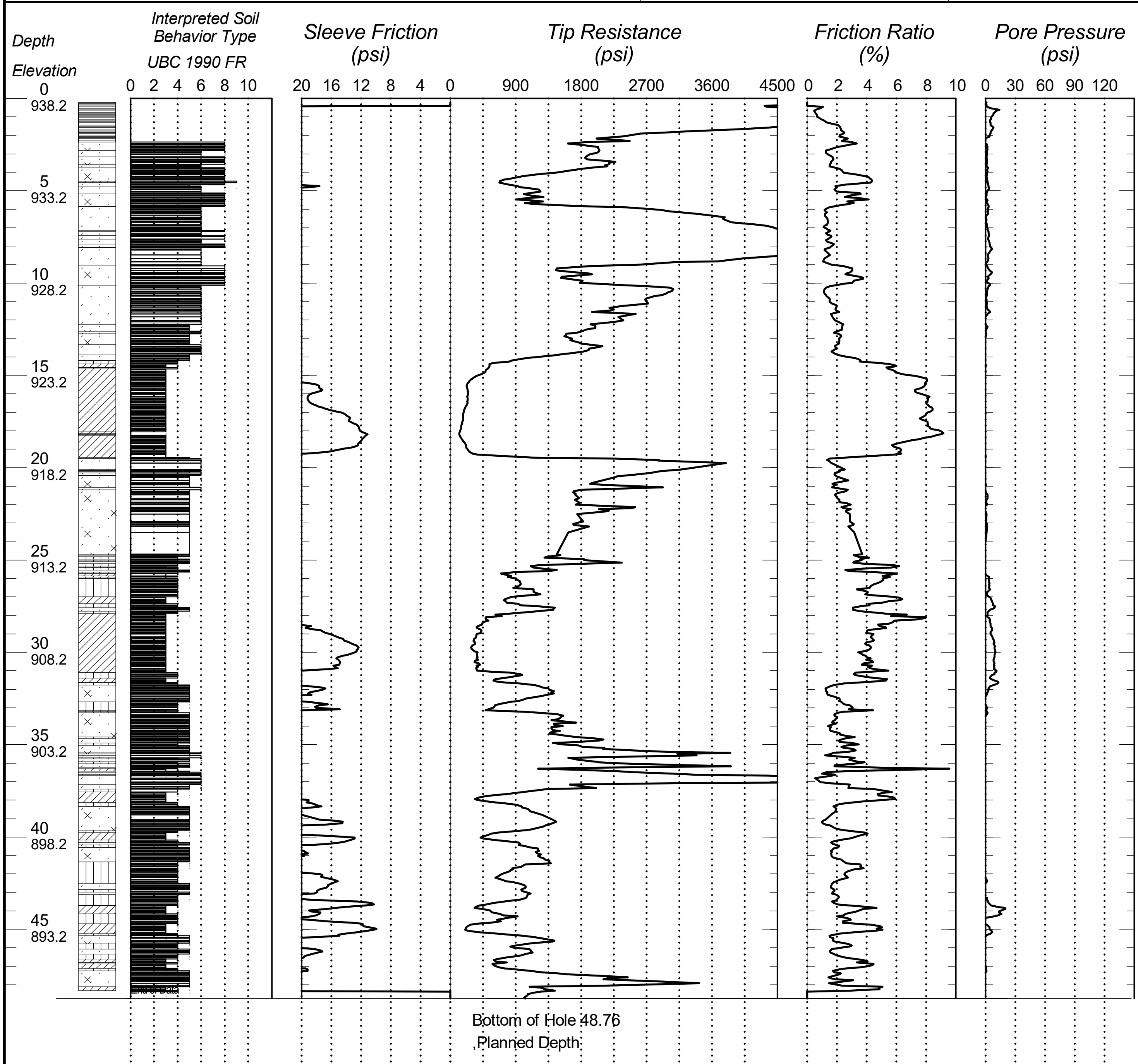
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84836

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c24**	**938.2** (DTM)

Location **Dakota Co. Coordinate: X=528385 Y=214052** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'04.95" Longitude (West)=93°12'26.47"	*CPT Operator* **Hoisington**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/13/20**



Index Sheet Code 3.0

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84837

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c25a**	**937.6** *(DTM)*

Location **Dakota Co. Coordinate: X=528456 Y=214131** (ft.)

Latitude (North)=44°47'05.73" *Longitude (West)=93°12'25.48"*

No Station-Offset Information Available

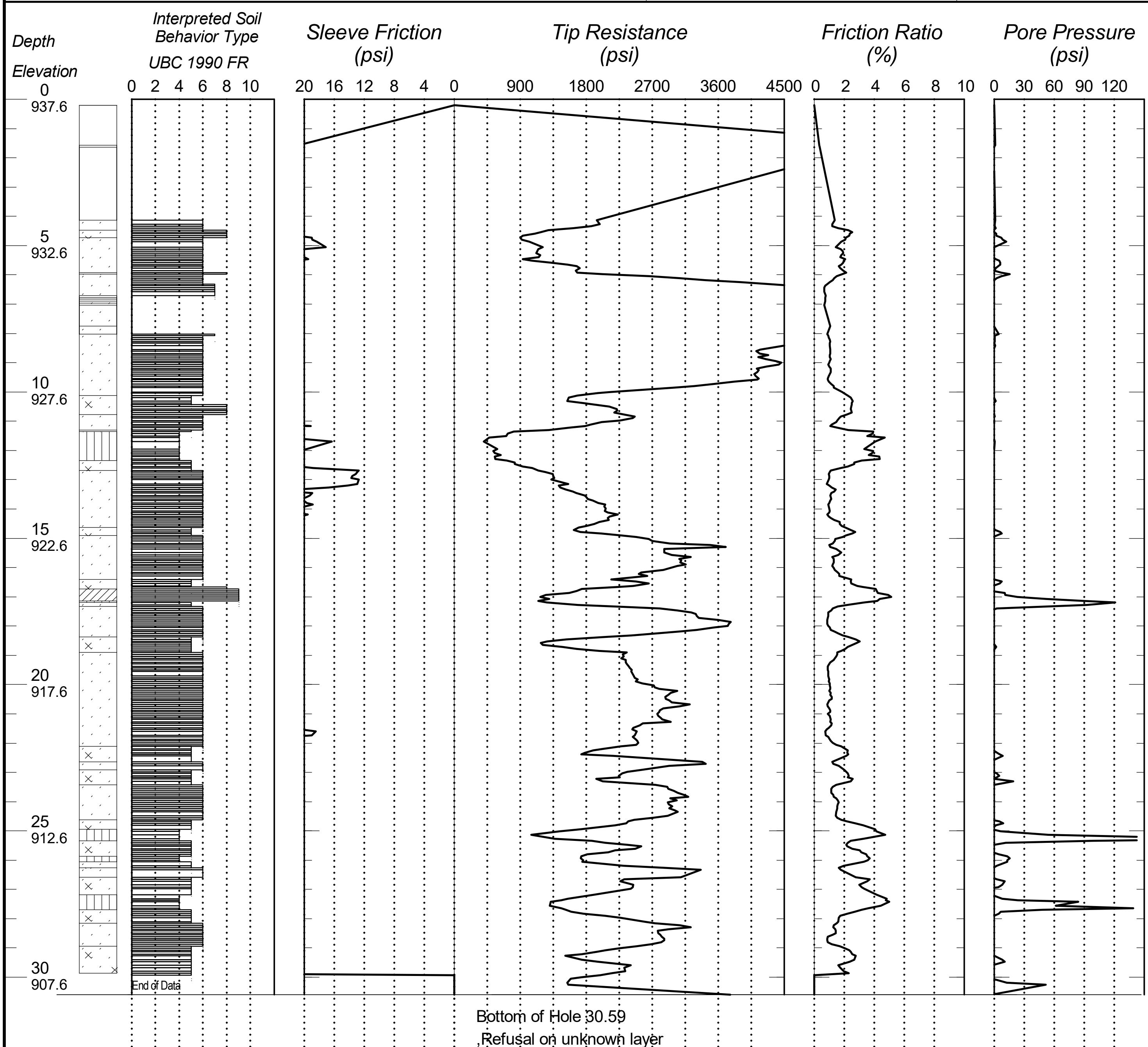
CPT Machine **205146 CPT Truck (H)**

CPT Operator **Walcynski**

Hole Type **CPT-STD**

SHEET 1 of 1

Date Completed **2/18/20**



Index Sheet Code 3.0

G:\geotech\cptdata\th35E\1982-200 Soil Class Rock Class Edit Date: 9/3/20
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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

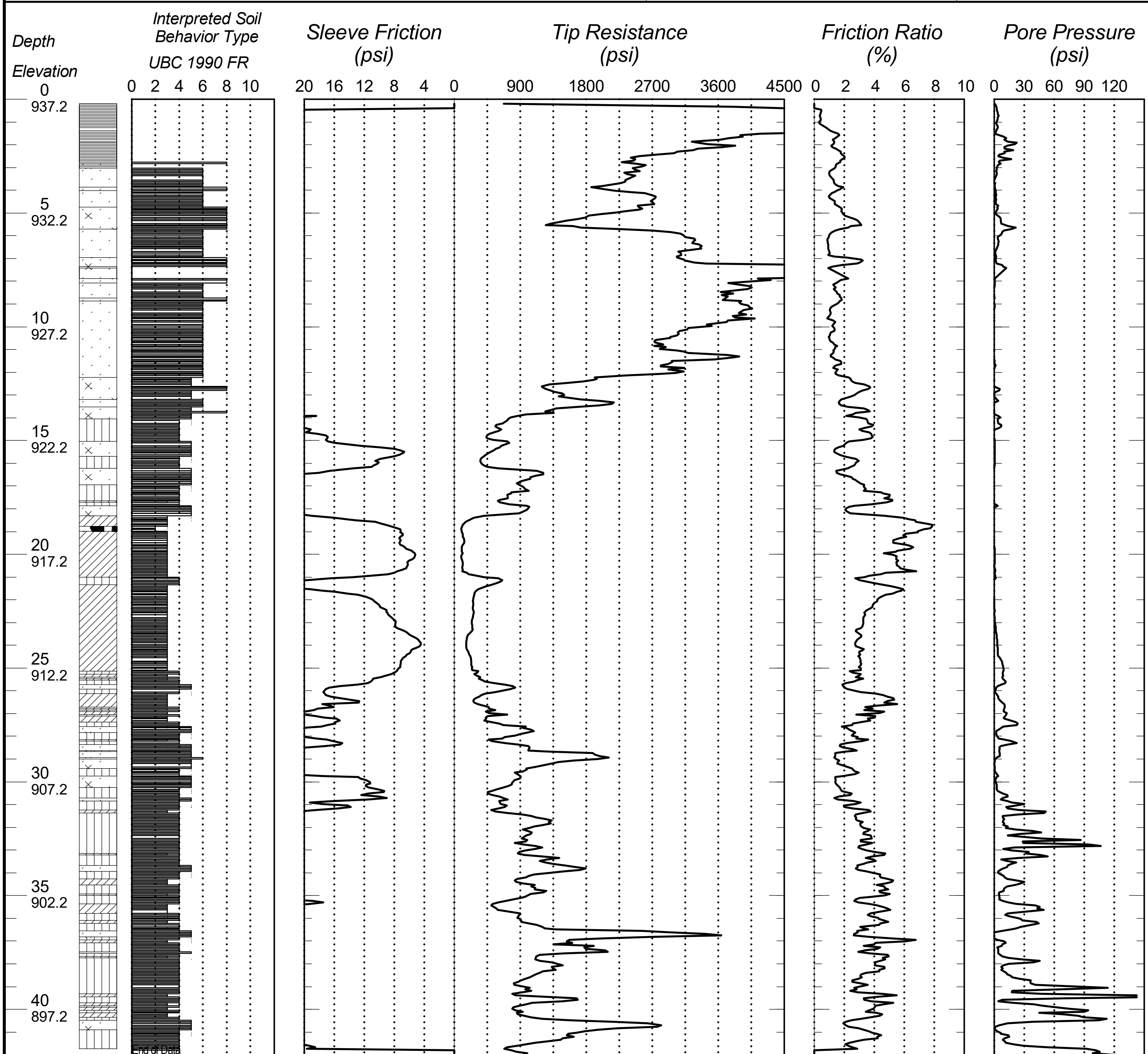
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84838

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c26**	**937.2** *(DTM)*

Location **Dakota Co. Coordinate: X=528516 Y=214207** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'06.48" Longitude (West)=93°12'24.64"	*CPT Operator* **Walcynski**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/18/20**



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Index Sheet Code 3.0

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

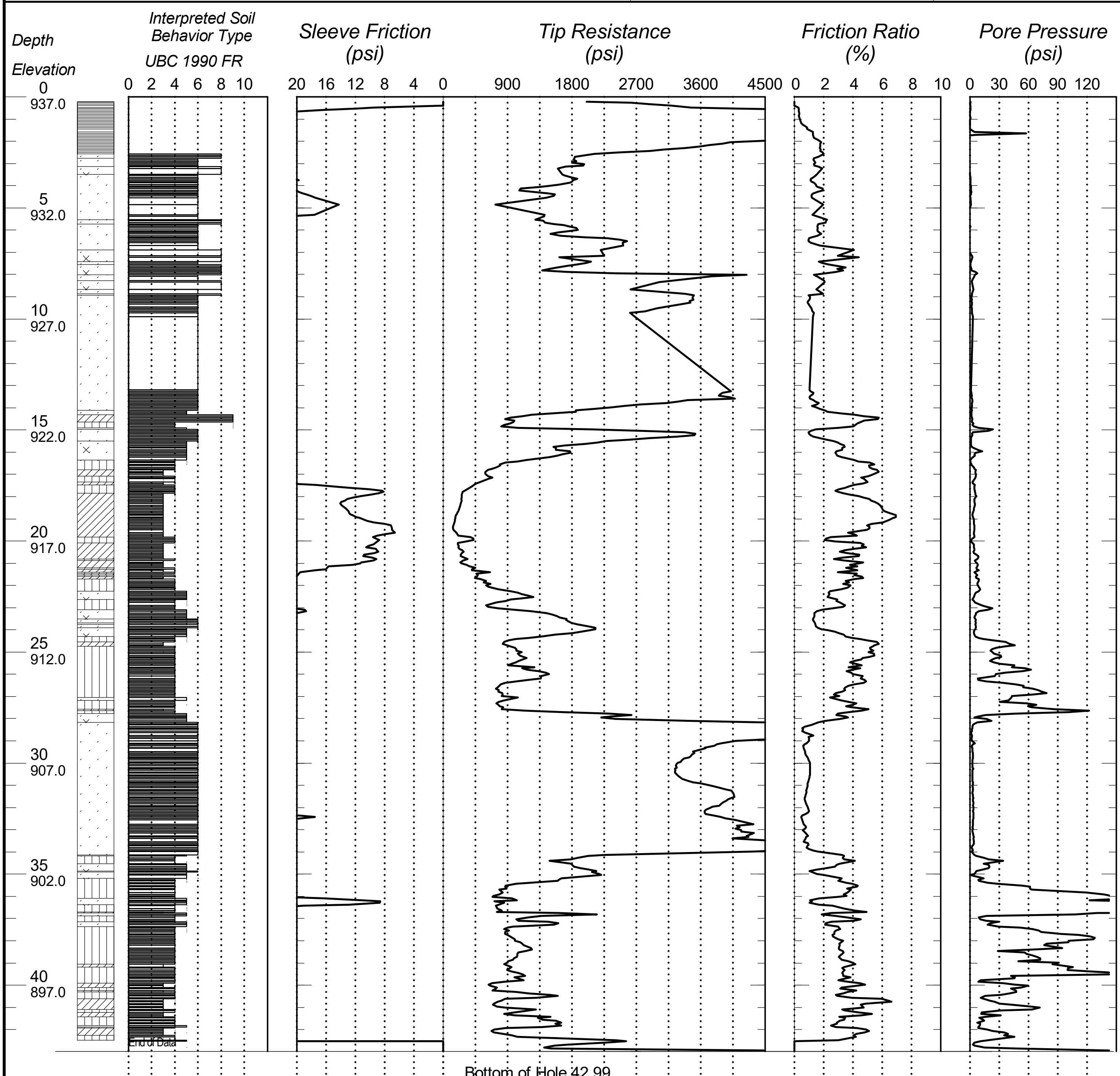
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84839

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c27**	**937.0** *(DTM)*

Location **Dakota Co. Coordinate: X=528585 Y=214287** (ft.) *Latitude (North)=44°47'07.27"* *Longitude (West)=93°12'23.68"* No Station-Offset Information Available	*CPT Machine* **205146 CPT Truck (H)** *CPT Operator* **Walcynski** *Hole Type* **CPT-STD**	*SHEET 1 of 2* *Date Completed* **2/18/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

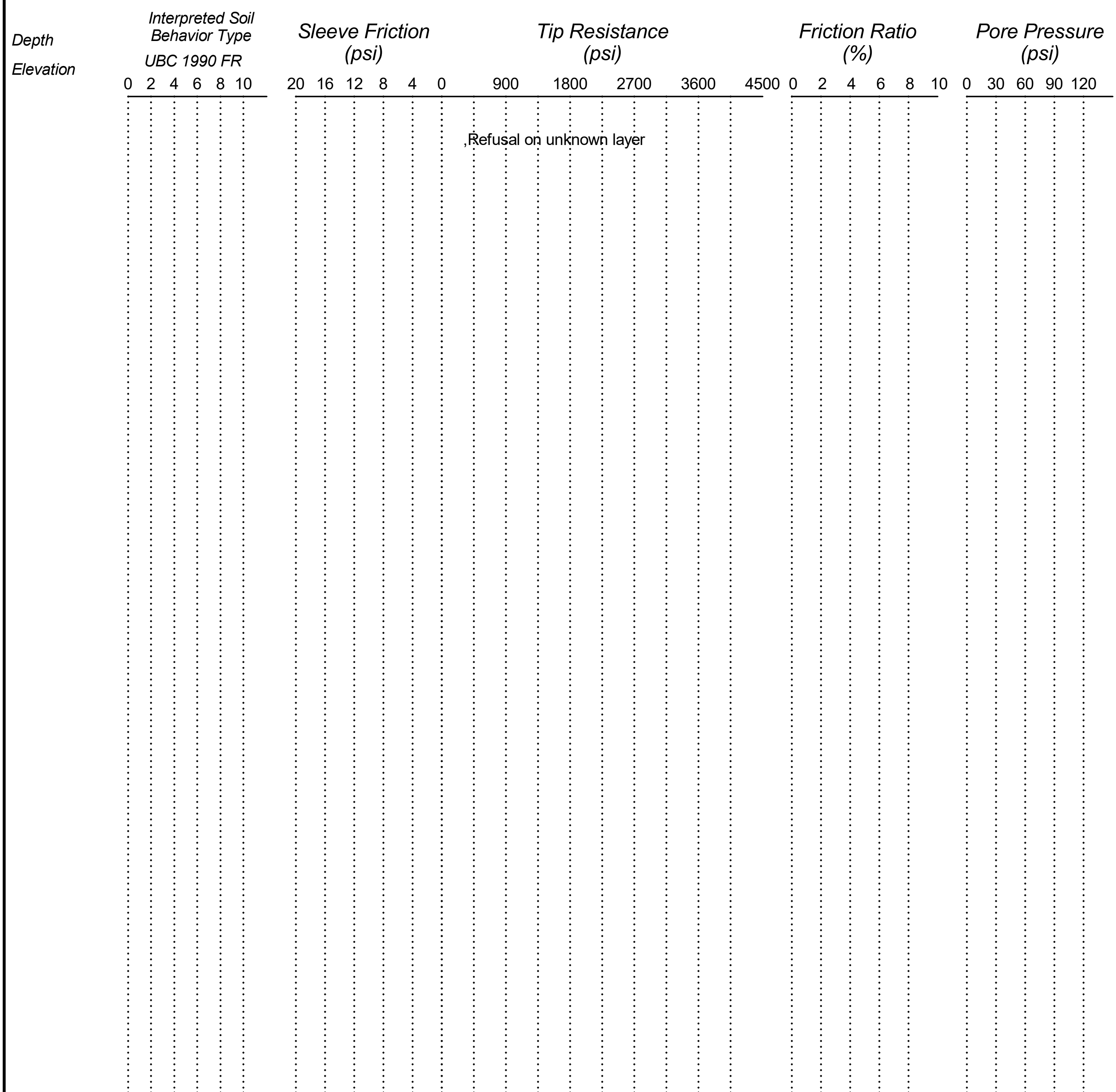
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84839

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c27**	**937.0** *(DTM)*

Mn/DOT GEOTECHNICAL SECTION - CONE PENETRATION TEST RESULTS



MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

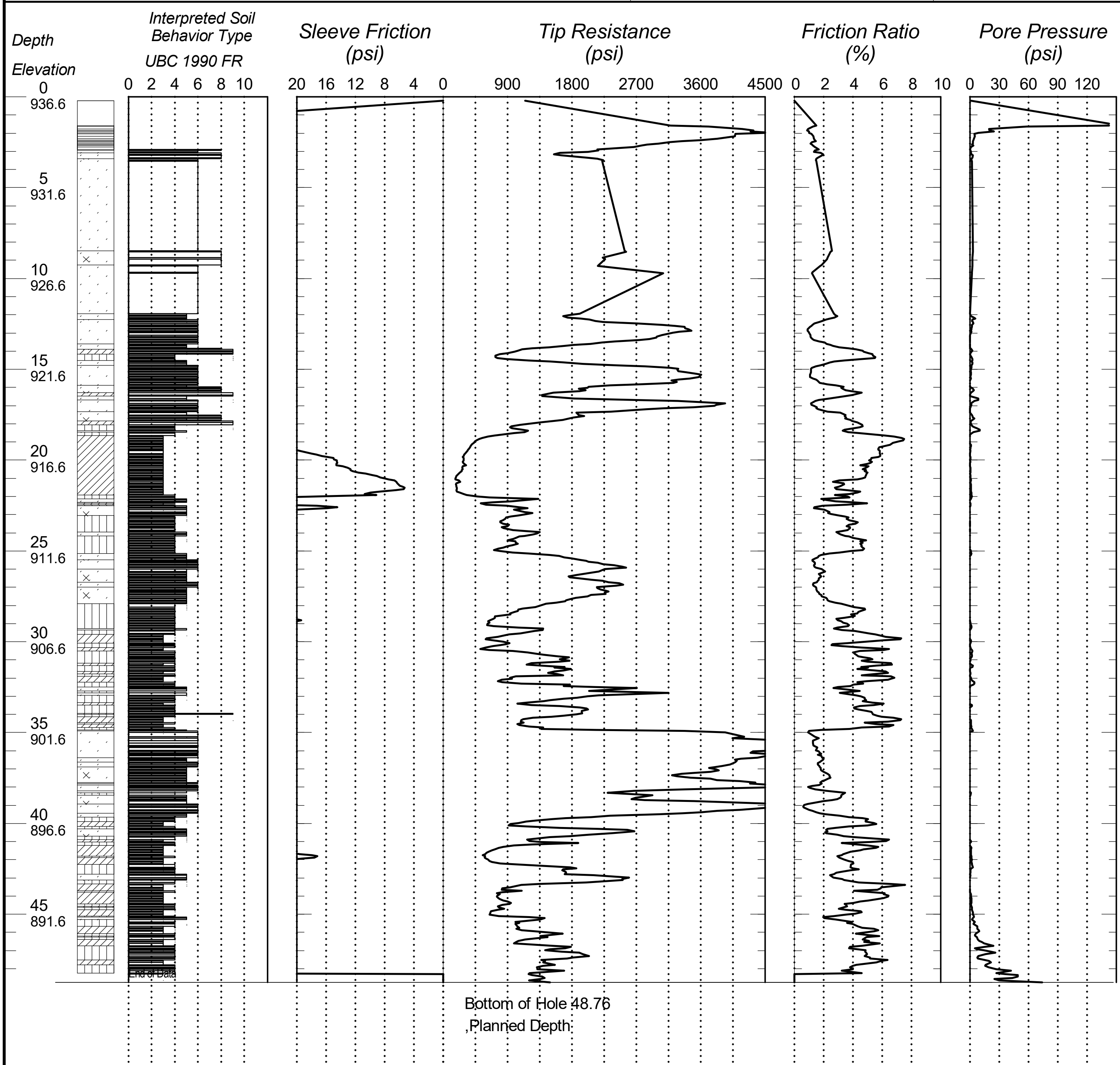
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84840

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c28**	**936.6** (DTM)

Location **Dakota Co. Coordinate: X=528650 Y=214362** (ft.)	CPT Machine **205146 CPT Truck (H)**	SHEET 1 of 1
Latitude (North)=44°47'08.01" Longitude (West)=93°12'22.79"	CPT Operator **Walcynski**	Date Completed
No Station-Offset Information Available	Hole Type **CPT-STD**	**2/18/20**



MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

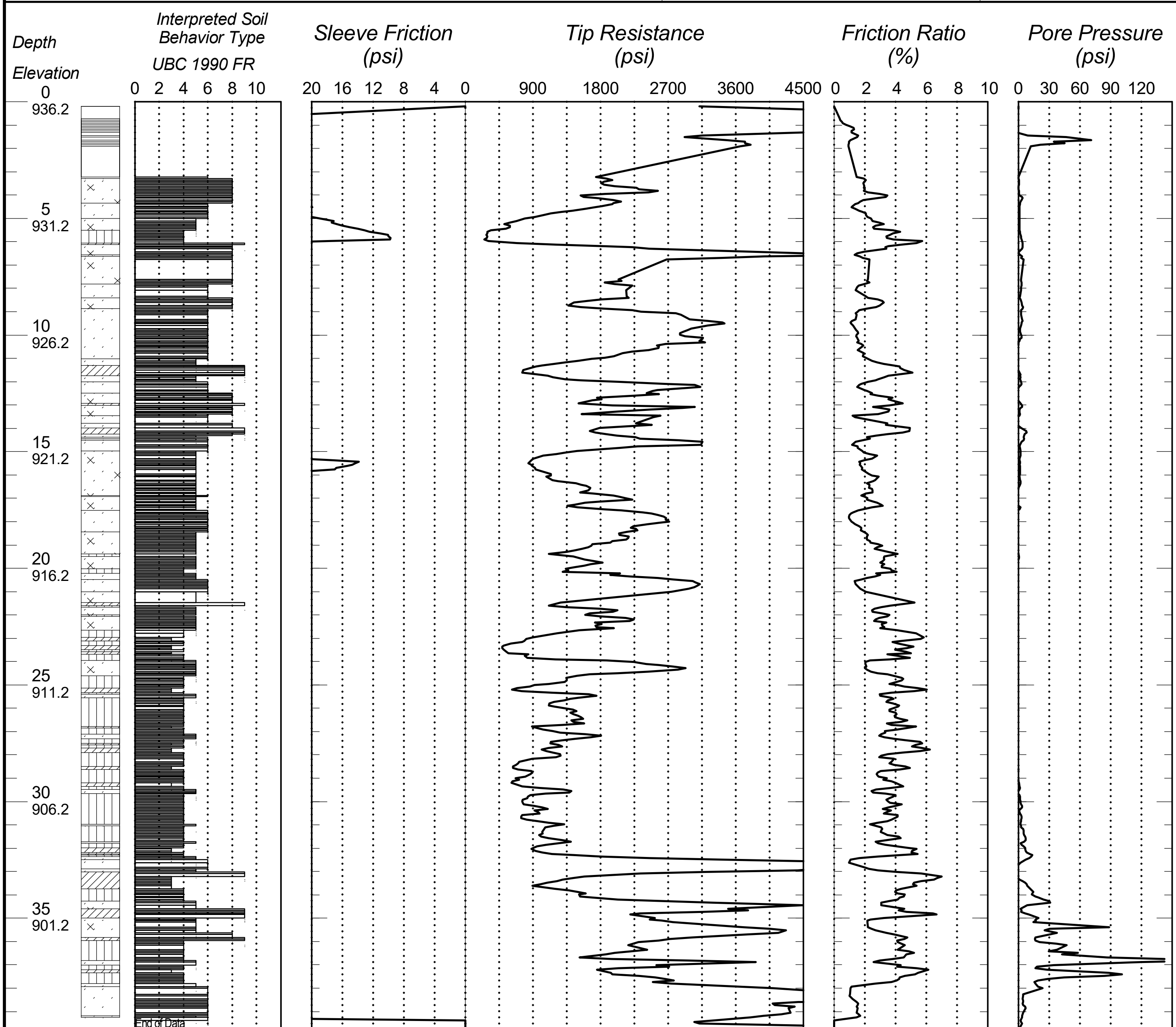
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84841

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c29**	**936.2** *(DTM)*

Location **Dakota Co. Coordinate: X=528712 Y=214435** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'08.73" *Longitude (West)=93°12'21.92"*	*CPT Operator* **Walcynski**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/18/20**



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Index Sheet Code 3.0

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

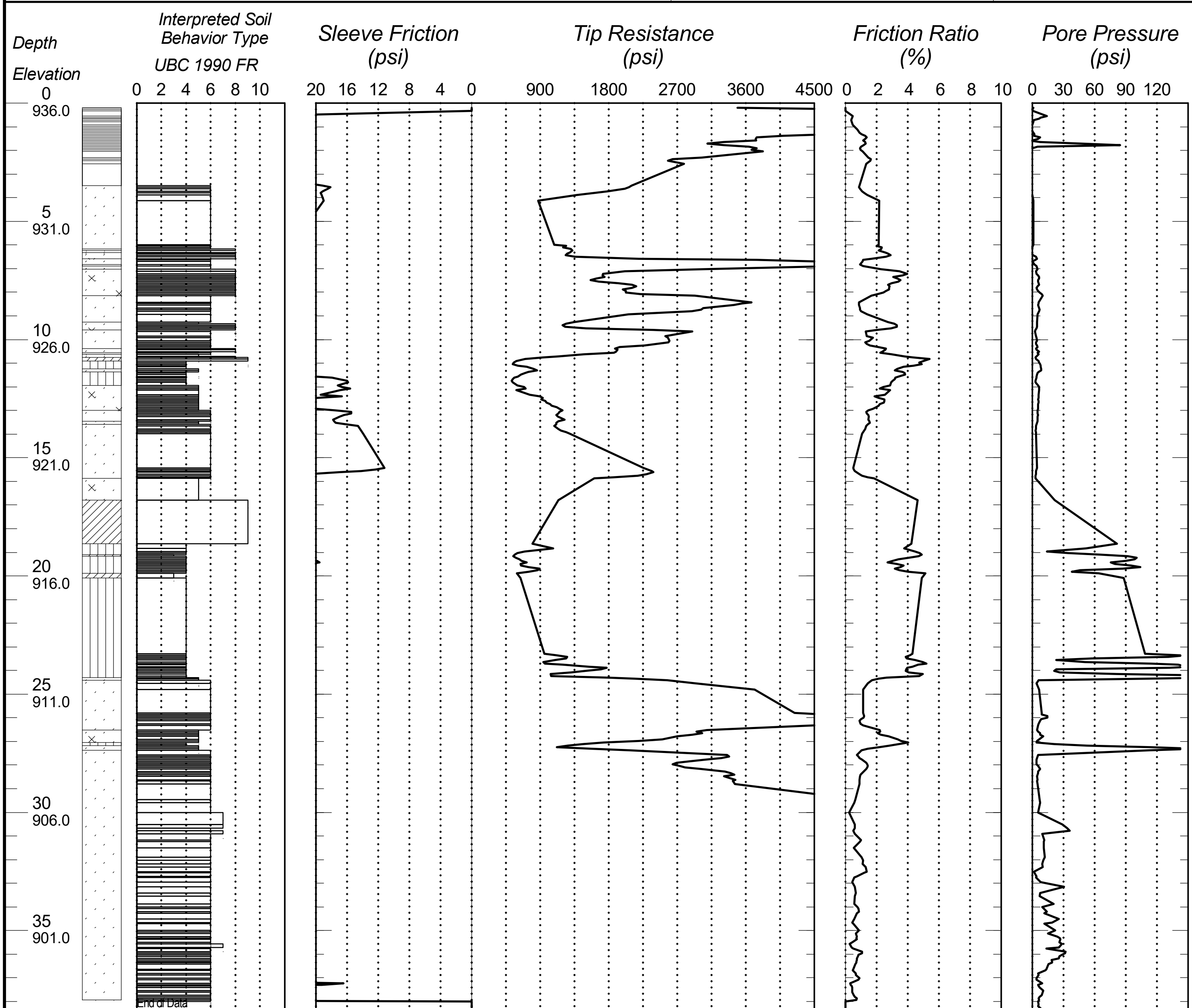
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84842

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	NOISE WALL	35E	c30	936.0 (DTM)

Location	Dakota Co. Coordinate: X=528773 Y=214507 (ft.)	CPT Machine 205146 CPT Truck (H)	SHEET 1 of 1
	Latitude (North)=44°47'09.44" Longitude (West)=93°12'21.08"	CPT Operator Walcynski	Date Completed
	No Station-Offset Information Available	Hole Type CPT-STD	2/19/20



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

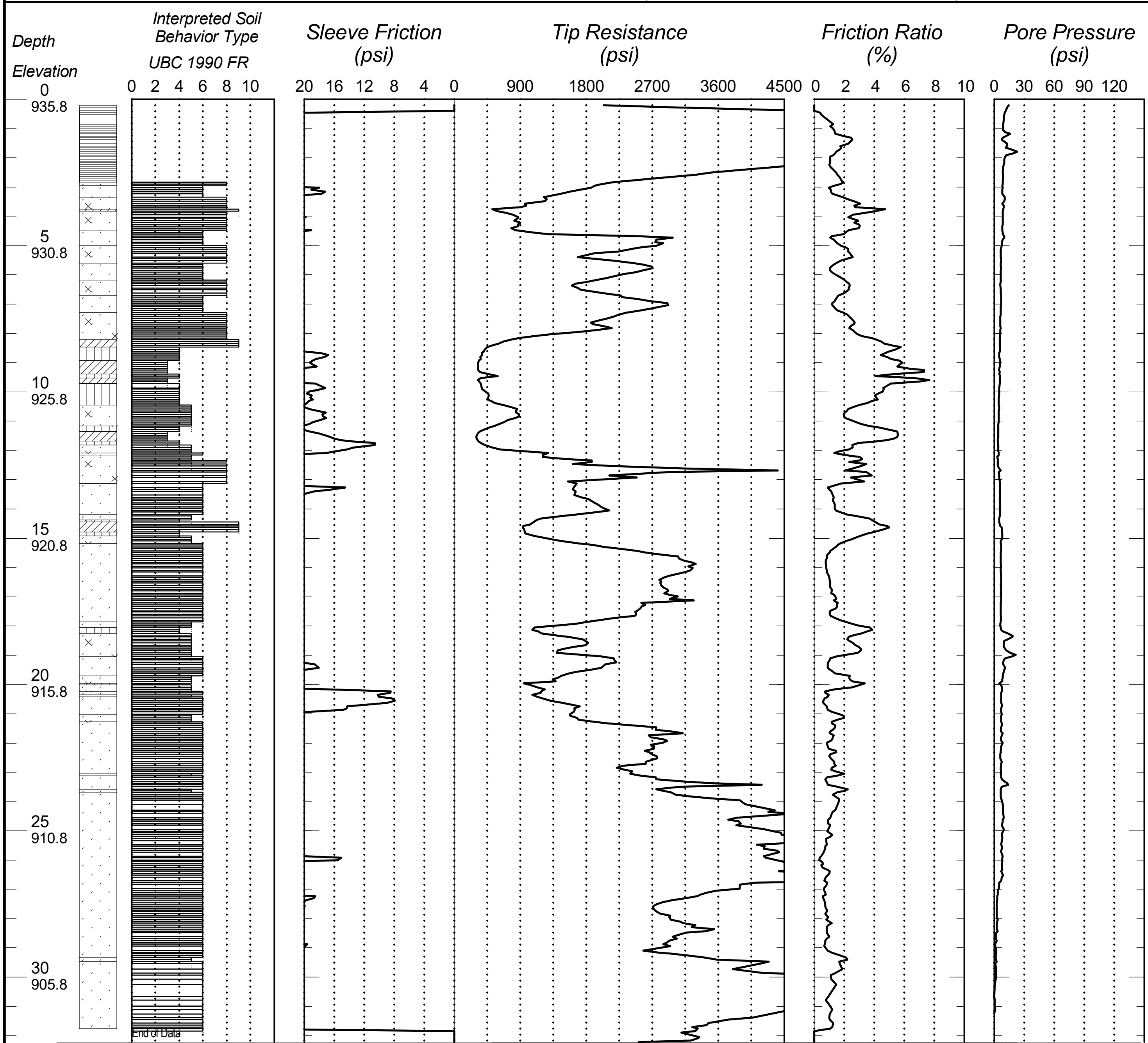
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84843

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c31**	**935.8** *(DTM)*

Location **Dakota Co. Coordinate: X=528837 Y=214584** (ft.)	*CPT Machine* **205146 CPT Truck (H)**	*SHEET 1 of 1*
Latitude (North)=44°47'10.20" *Longitude (West)=93°12'20.18"*	*CPT Operator* **Walcynski**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/19/20**



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Index Sheet Code 3.0

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

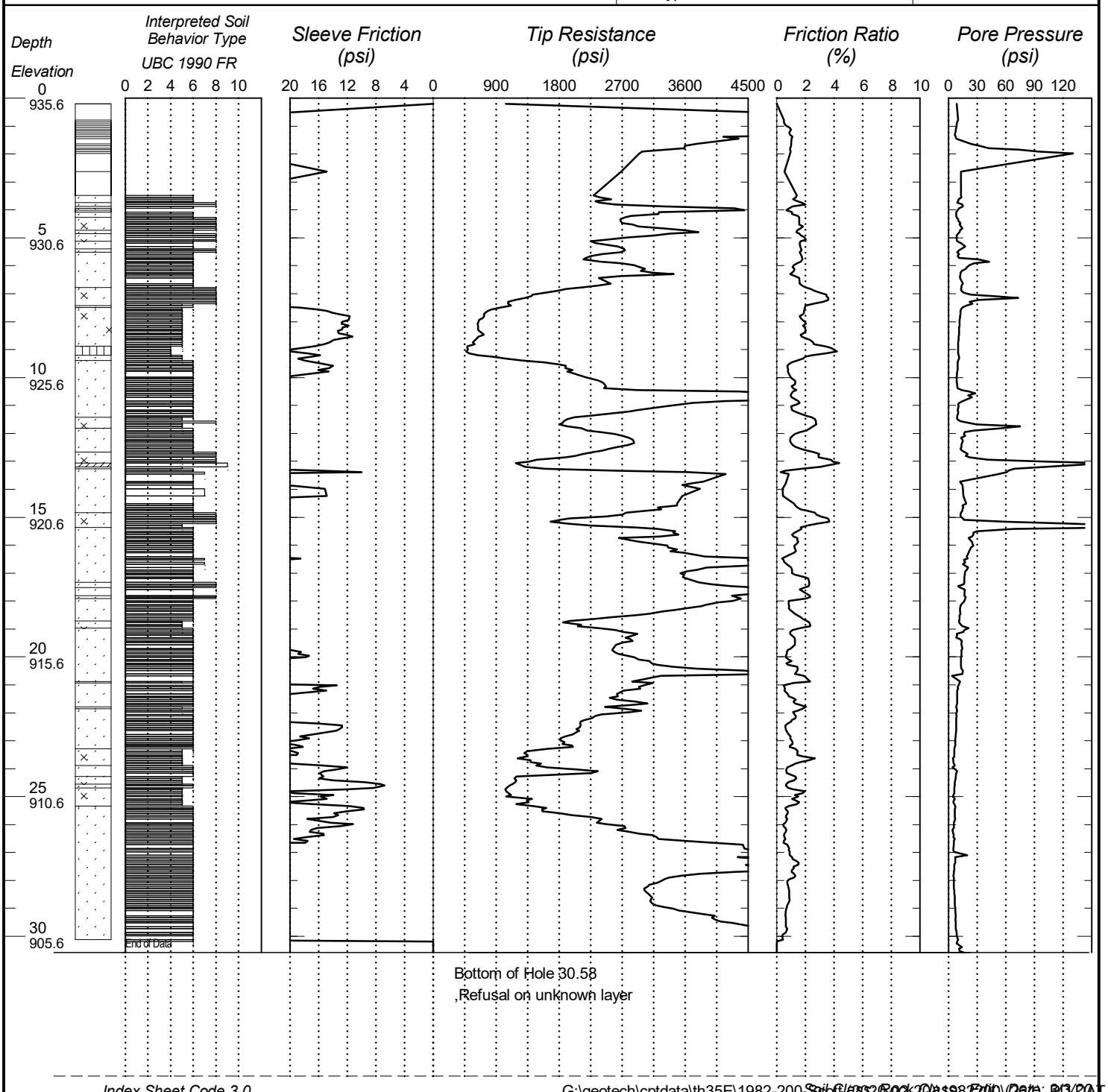
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84844

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c32**	**935.6** *(DTM)*

Location		CPT Machine	SHEET 1 of 1
Dakota Co. Coordinate: X=528898 Y=214656 (ft.)		**205146 CPT Truck (H)**	
Latitude (North)=44°47'10.91" *Longitude (West)=93°12'19.34"*		CPT Operator **Walcynski**	Date Completed
No Station-Offset Information Available		Hole Type **CPT-STD**	**2/19/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

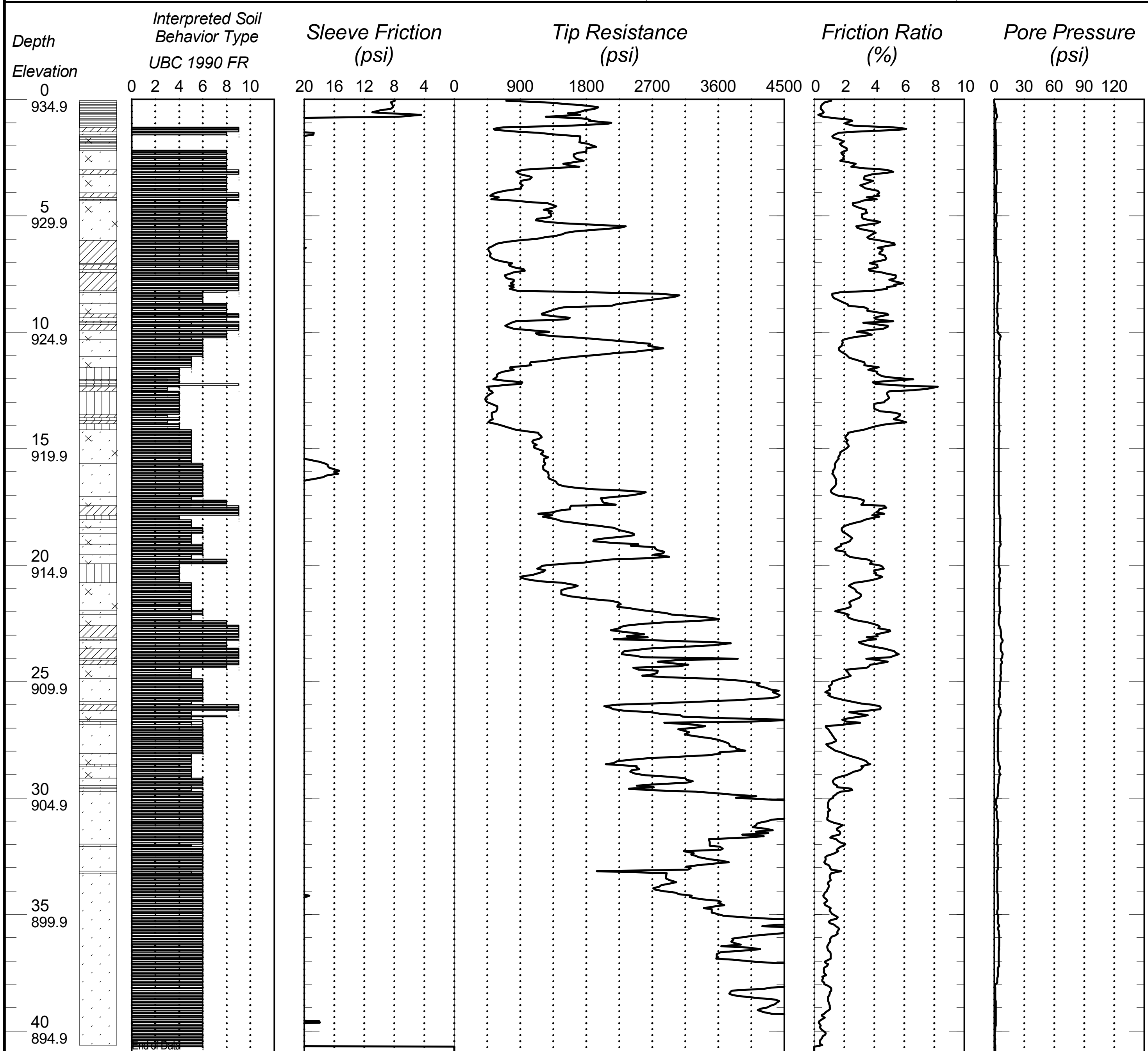
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84822

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c33a**	**934.9** *(DTM)*

Location **Dakota Co. Coordinate: X=528952 Y=214708** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°47'11.42" *Longitude (West)=93°12'18.59"*	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/11/20**



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Soil Class-Rock Class Edit Date 3/9/20

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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

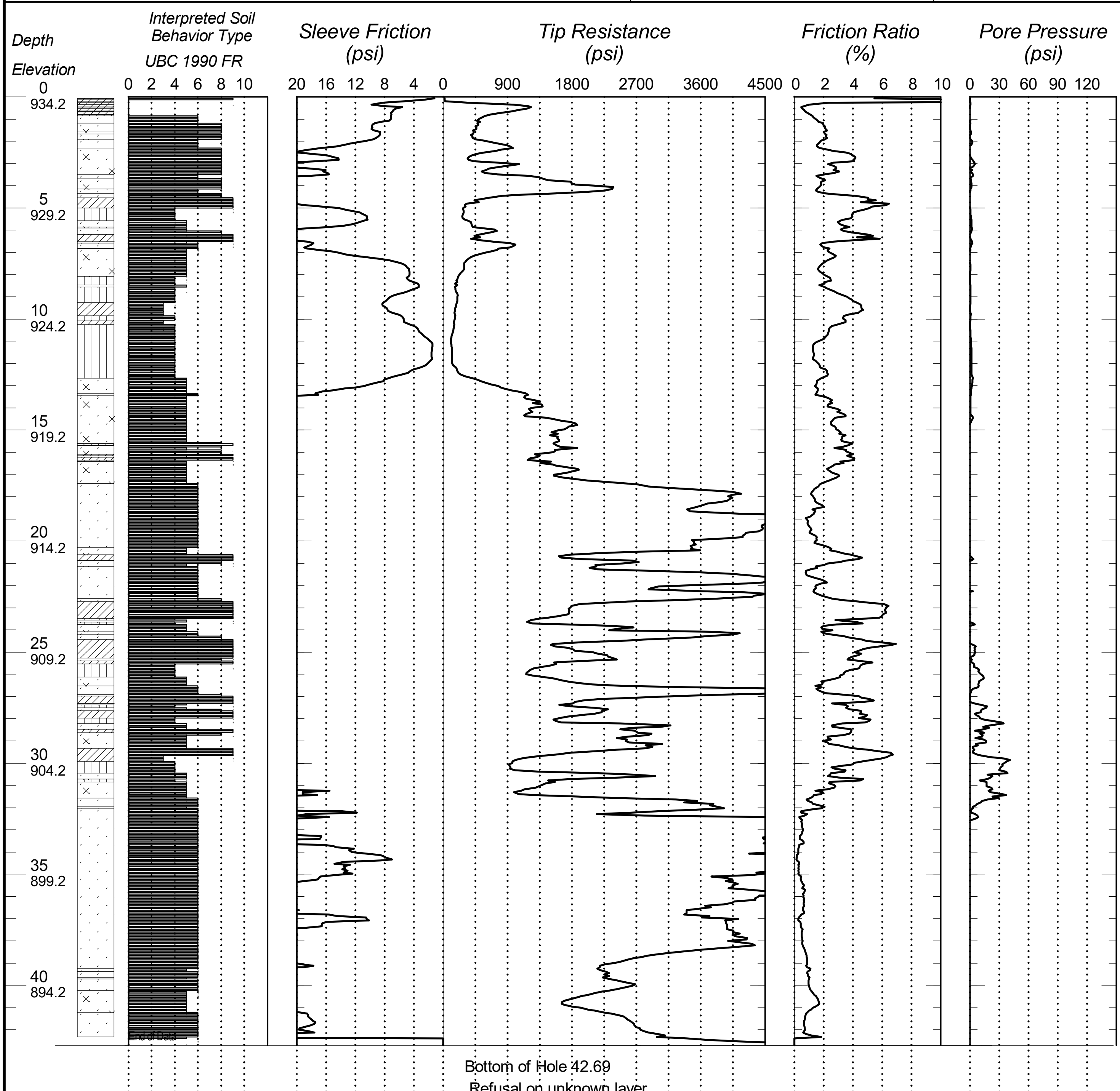
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84845

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c34**	**934.2** (DTM)

Location **Dakota Co. Coordinate: X=529031 Y=214793** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°47'12.26" Longitude (West)=93°12'17.5"	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/19/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

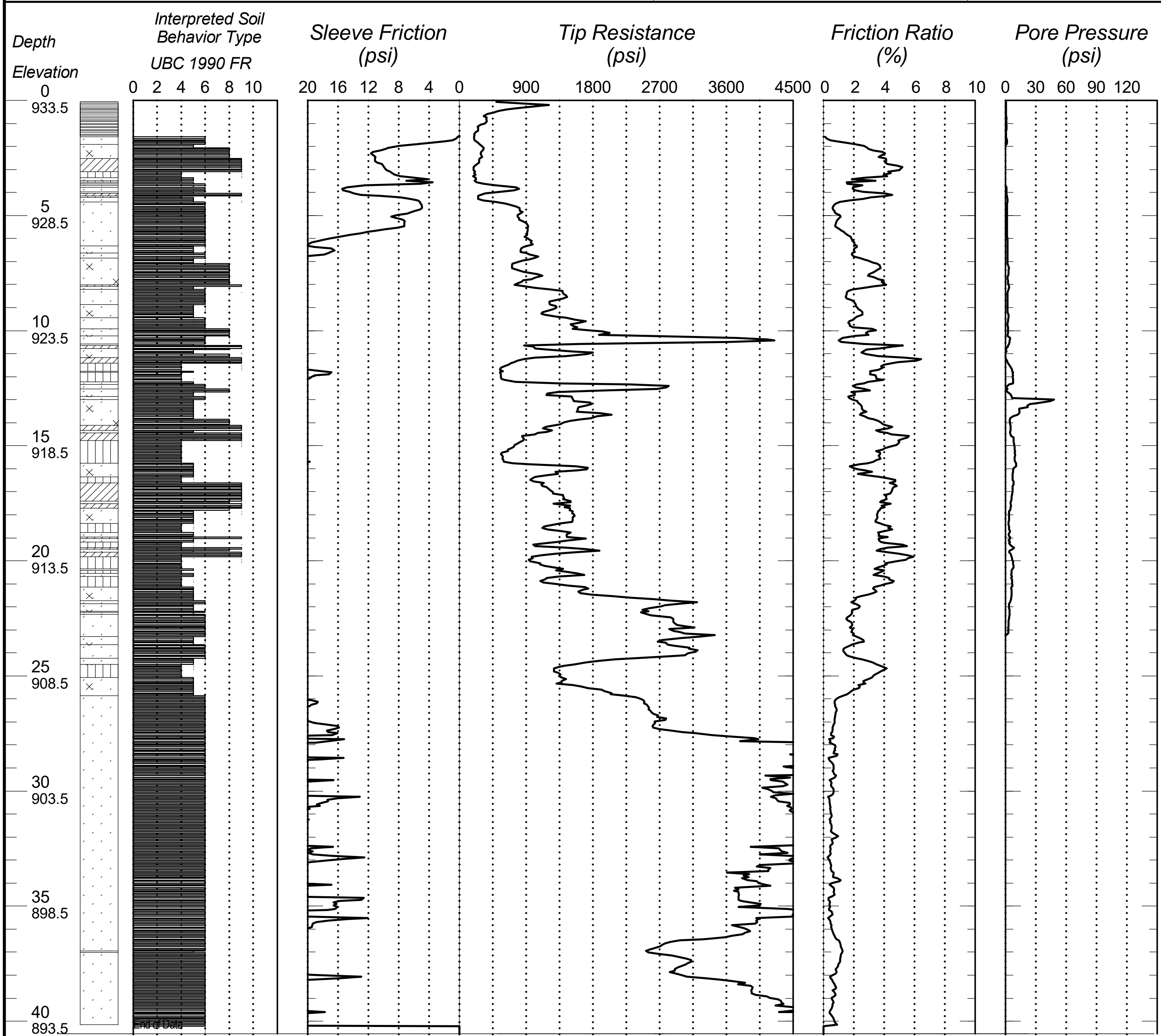
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84846

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c35**	**933.5** (DTM)

Location **Dakota Co. Coordinate: X=529097 Y=214858** (ft.)	*CPT Machine* **211328 CPT Marooka Track**	*SHEET 1 of 1*
Latitude (North)=44°47'12.9" *Longitude (West)=93°12'16.57"*	*CPT Operator* **ODonnel**	*Date Completed*
No Station-Offset Information Available	*Hole Type* **CPT-STD**	**2/19/20**



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Index Sheet Code 3.0

MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84847

U.S. Customary Units

State Project	*Bridge No. or Job Desc.*	*Trunk Highway/Location*	*Sounding No.*	*Ground Elevation*
1982-200	**NOISE WALL**	**35E**	**c36a**	**932.0** *(DTM)*

Location **Dakota Co. Coordinate: X=529178 Y=214934** (ft.)

Latitude (North)=44°47'13.65" *Longitude (West)=93°12'15.45"*

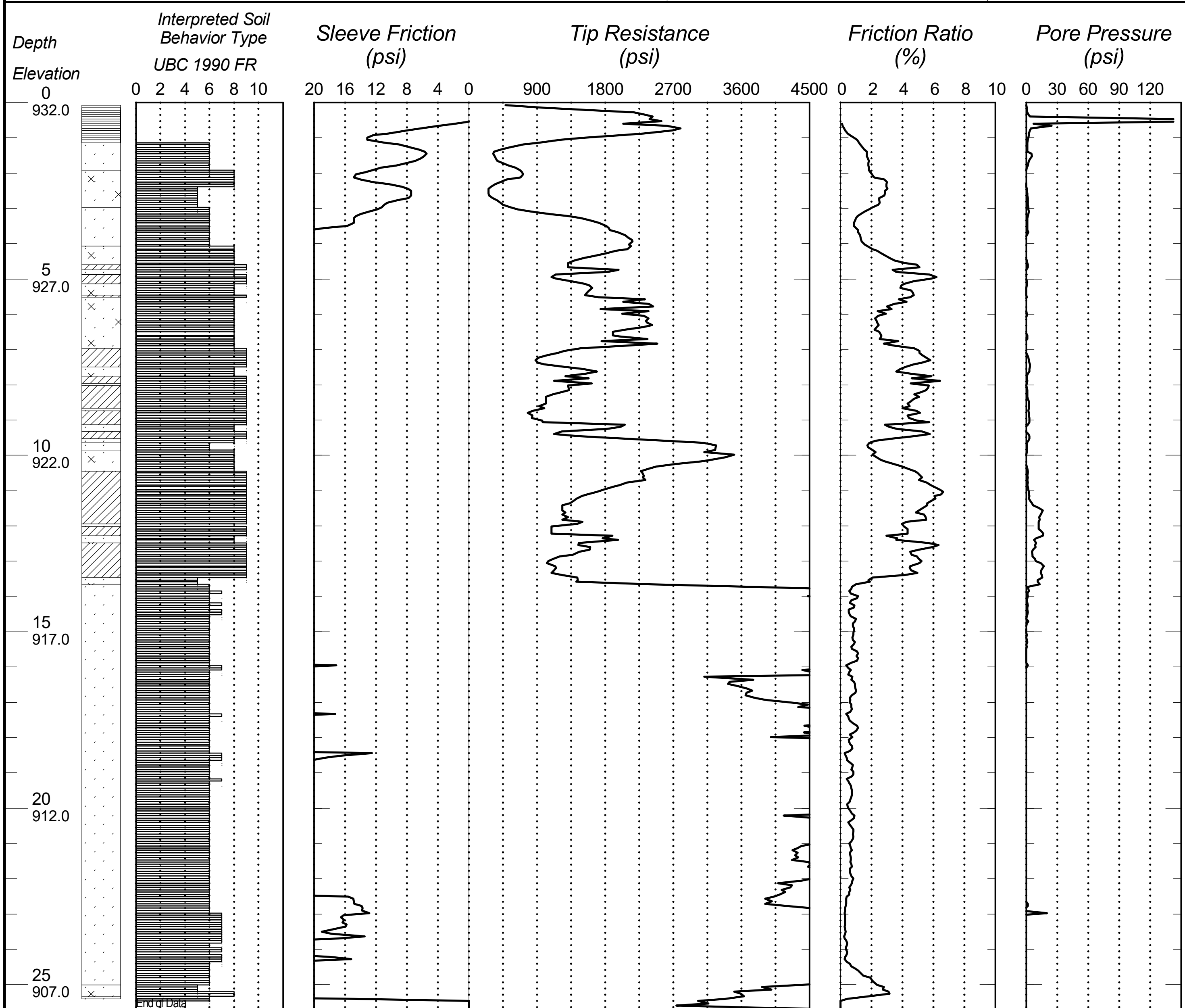
No Station-Offset Information Available

CPT Machine **211328 CPT Marooka Track** *SHEET 1 of 1*

CPT Operator **ODonnel**

Hole Type **CPT-STD**

Date Completed **2/19/20**



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MINNESOTA DEPARTMENT OF TRANSPORTATION - GEOTECHNICAL SECTION

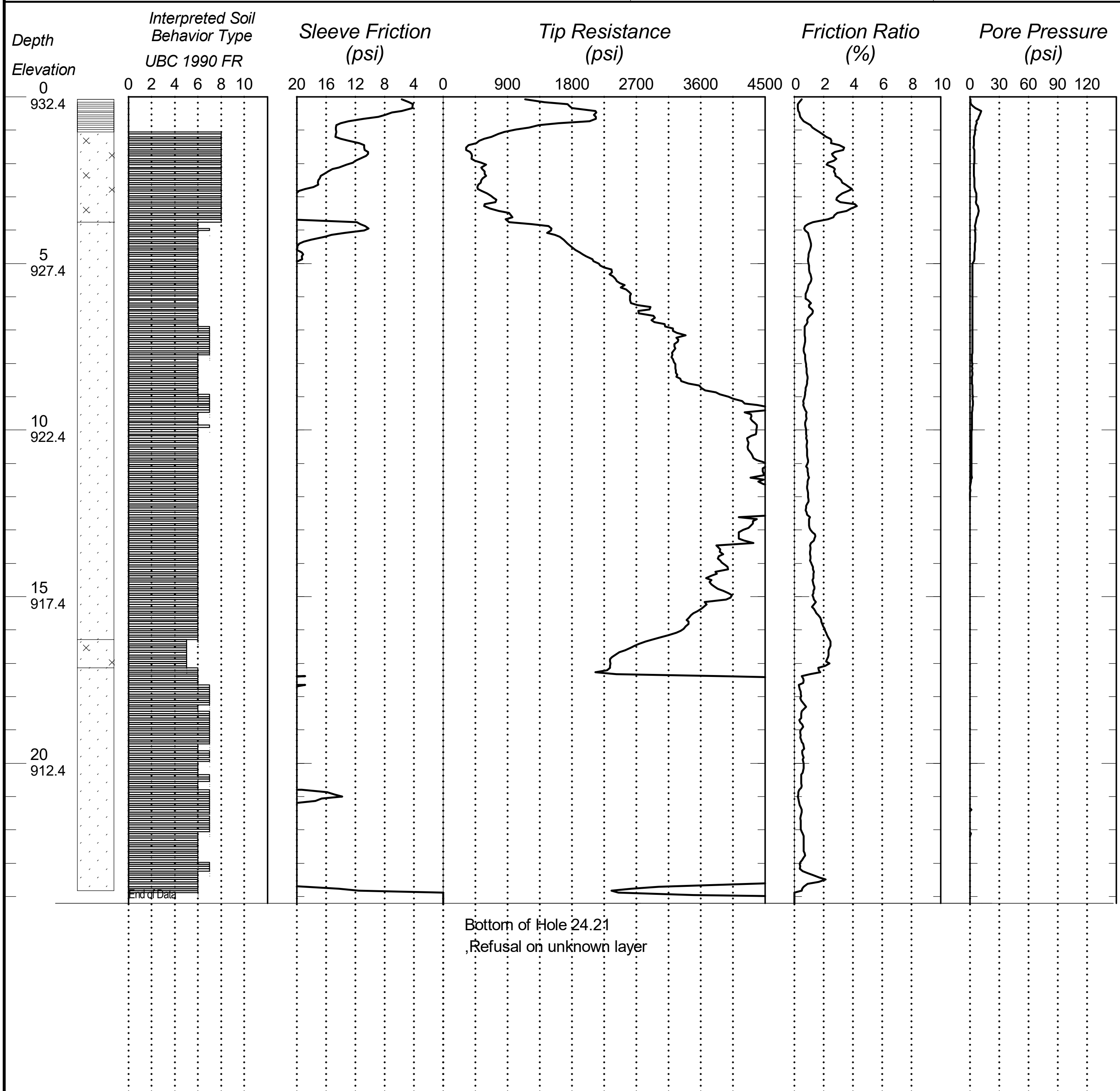
CONE PENETRATION TEST RESULTS

UNIQUE NUMBER 84848

U.S. Customary Units

State Project	Bridge No. or Job Desc.	Trunk Highway/Location	Sounding No.	Ground Elevation
1982-200	**NOISE WALL**	**35E**	**c37**	**932.4** (DTM)

Location **Dakota Co. Coordinate: X=529208 Y=214969** (ft.)	CPT Machine **211328 CPT Marooka Track** SHEET 1 of 1
Latitude (North)=44°47'14" Longitude (West)=93°12'15.03"	CPT Operator **ODonnel**
No Station-Offset Information Available	Hole Type **CPT-STD** Date Completed **2/19/20**



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