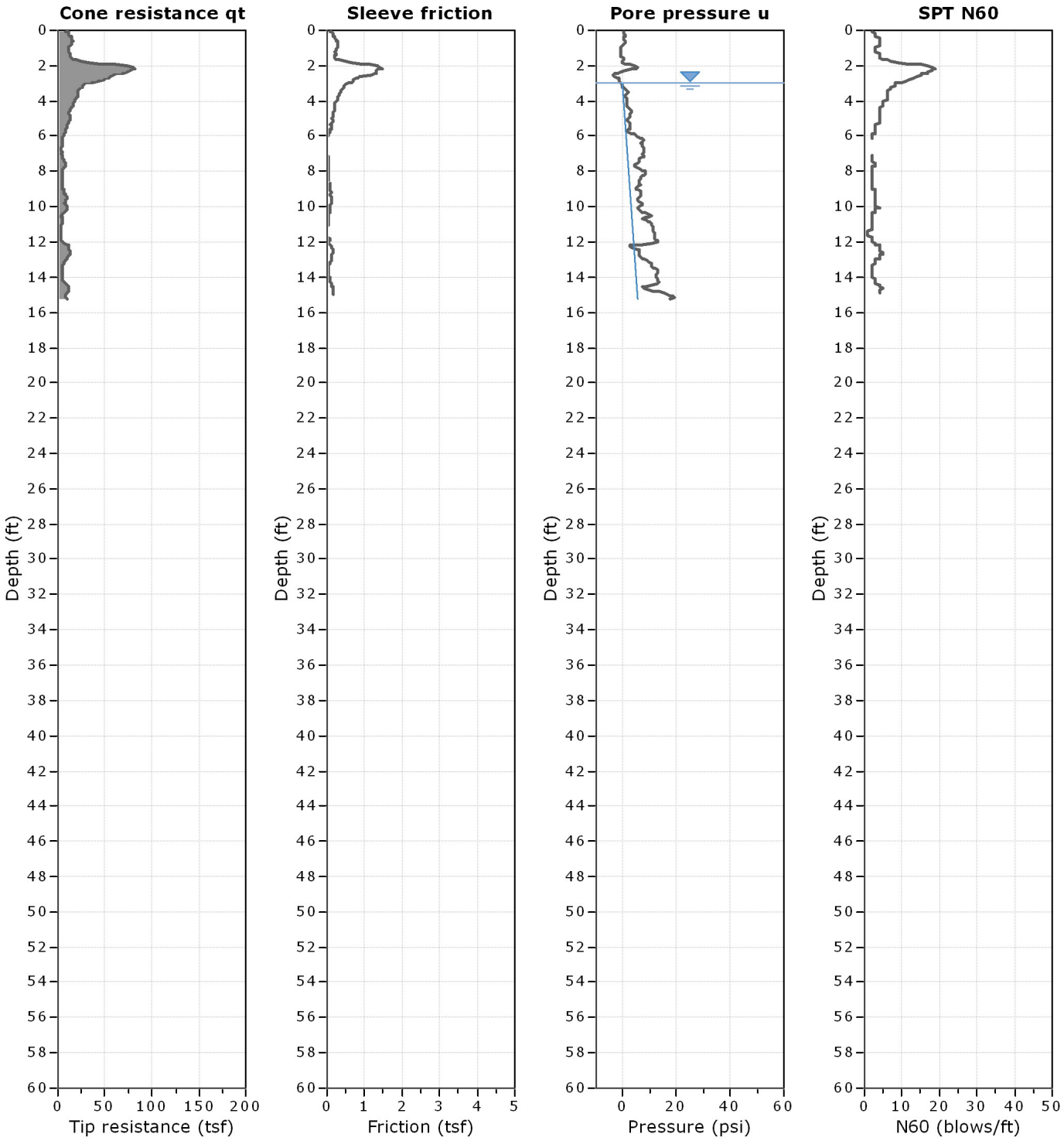
Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-01
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 329.00 ft
Coords: N 37.71106, W 78.27766

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**

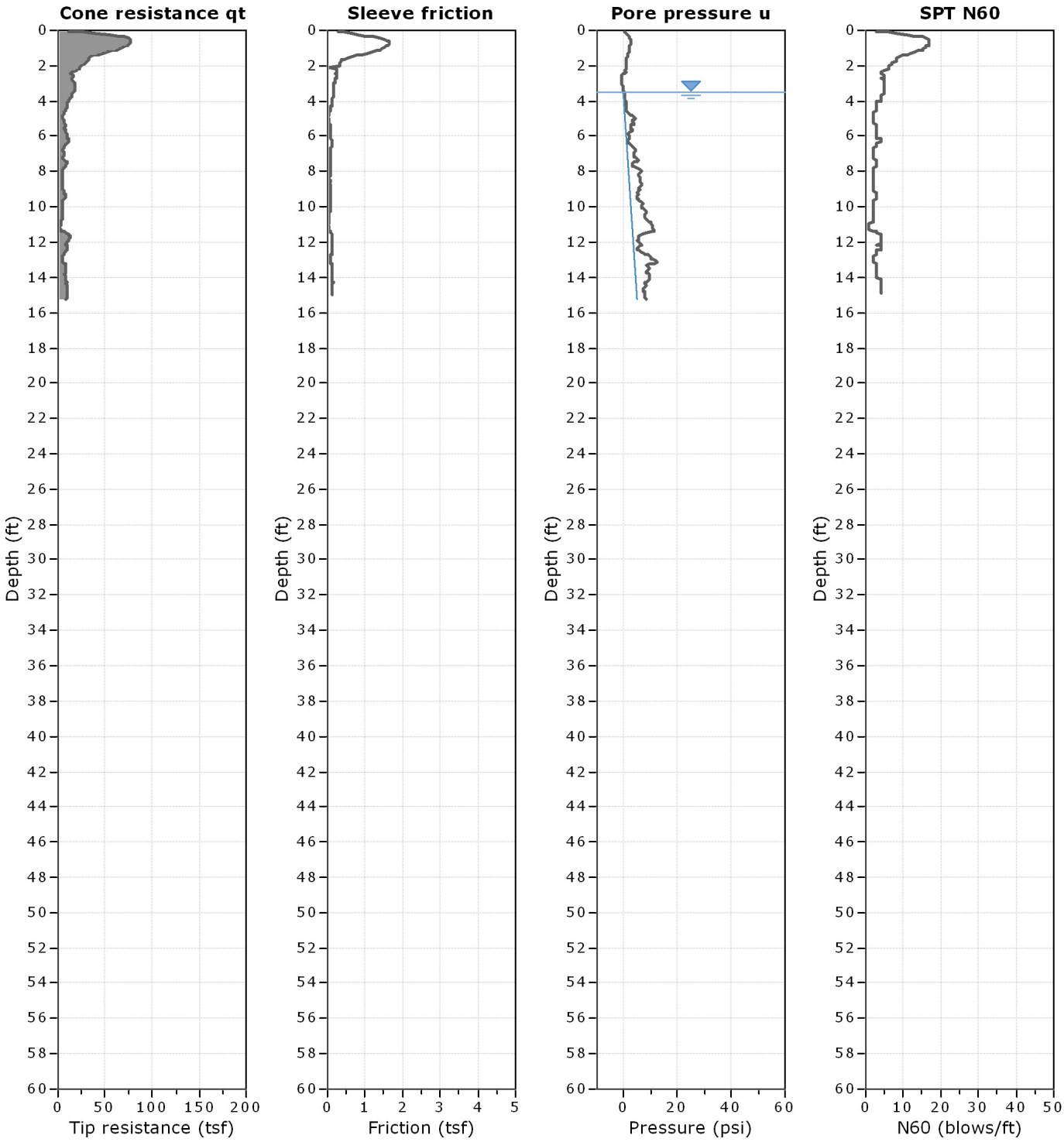


SANDY SILTY CLAY
SANDY SILT / SILTY SAND
SANDY SILT
SILTY SAND
CLAY
CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-02
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.70 ft
Coords: N 37.71085, W 78.27765

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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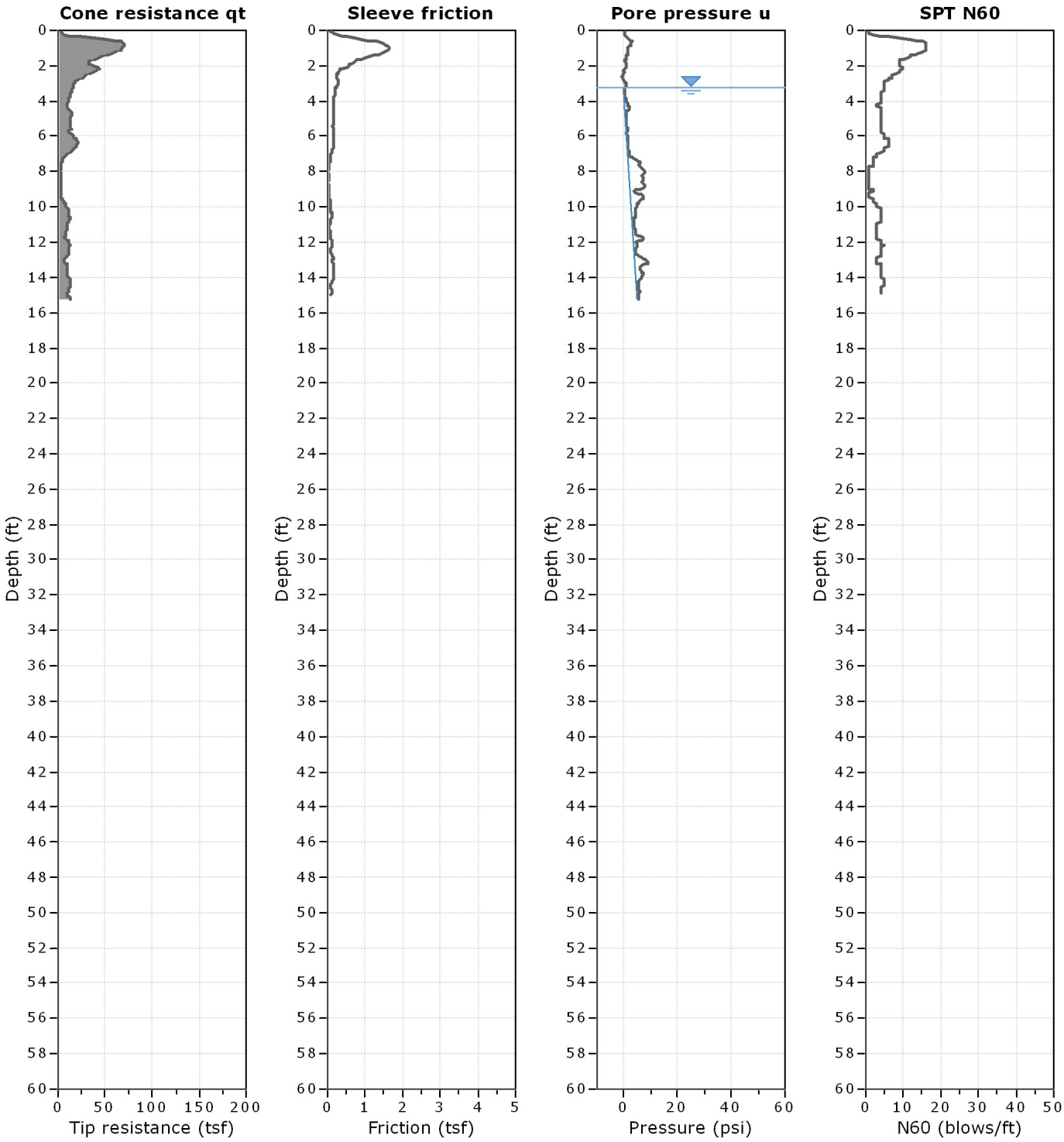
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-03
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.80 ft
Coords: N 37.71060, W 78.27767

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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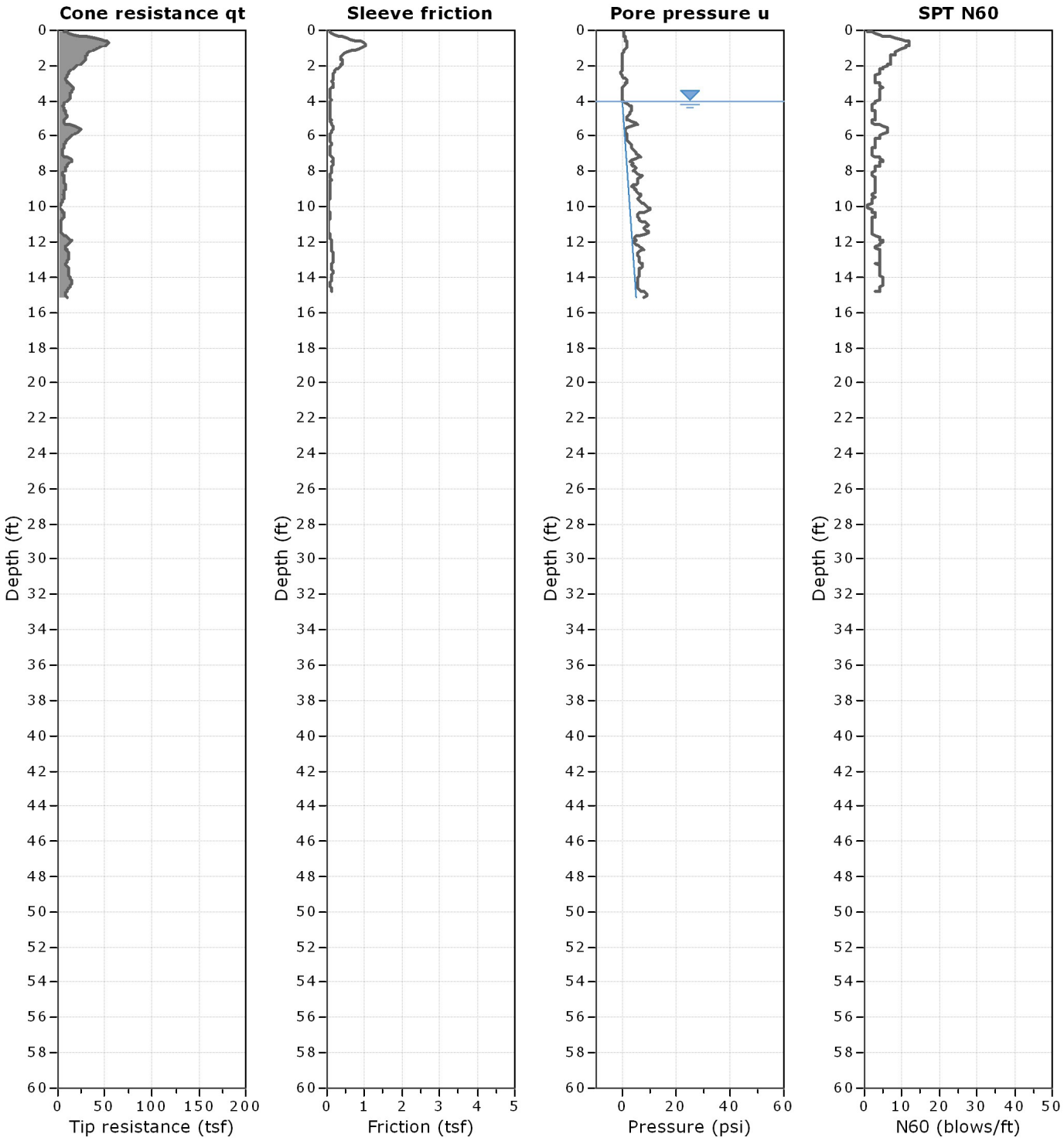
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-04
Total depth: 15.16 ft, Date: 3/21/2015
Surface Elevation: 328.70 ft
Coords: N 37.71037, W 78.27766

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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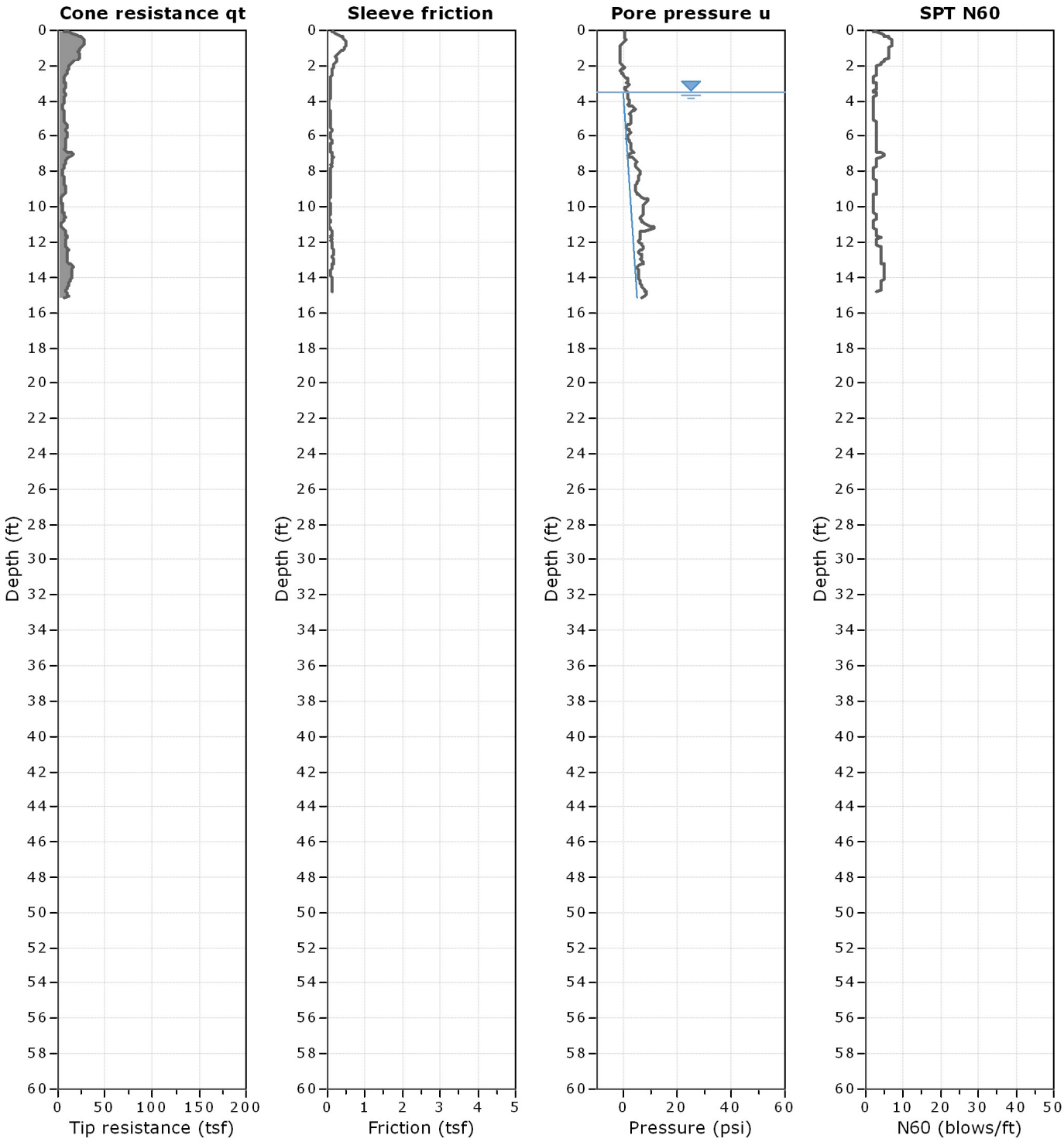
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-05
Total depth: 15.16 ft, Date: 3/21/2015
Surface Elevation: 328.80 ft
Coords: N 37.71042, W 78.27756

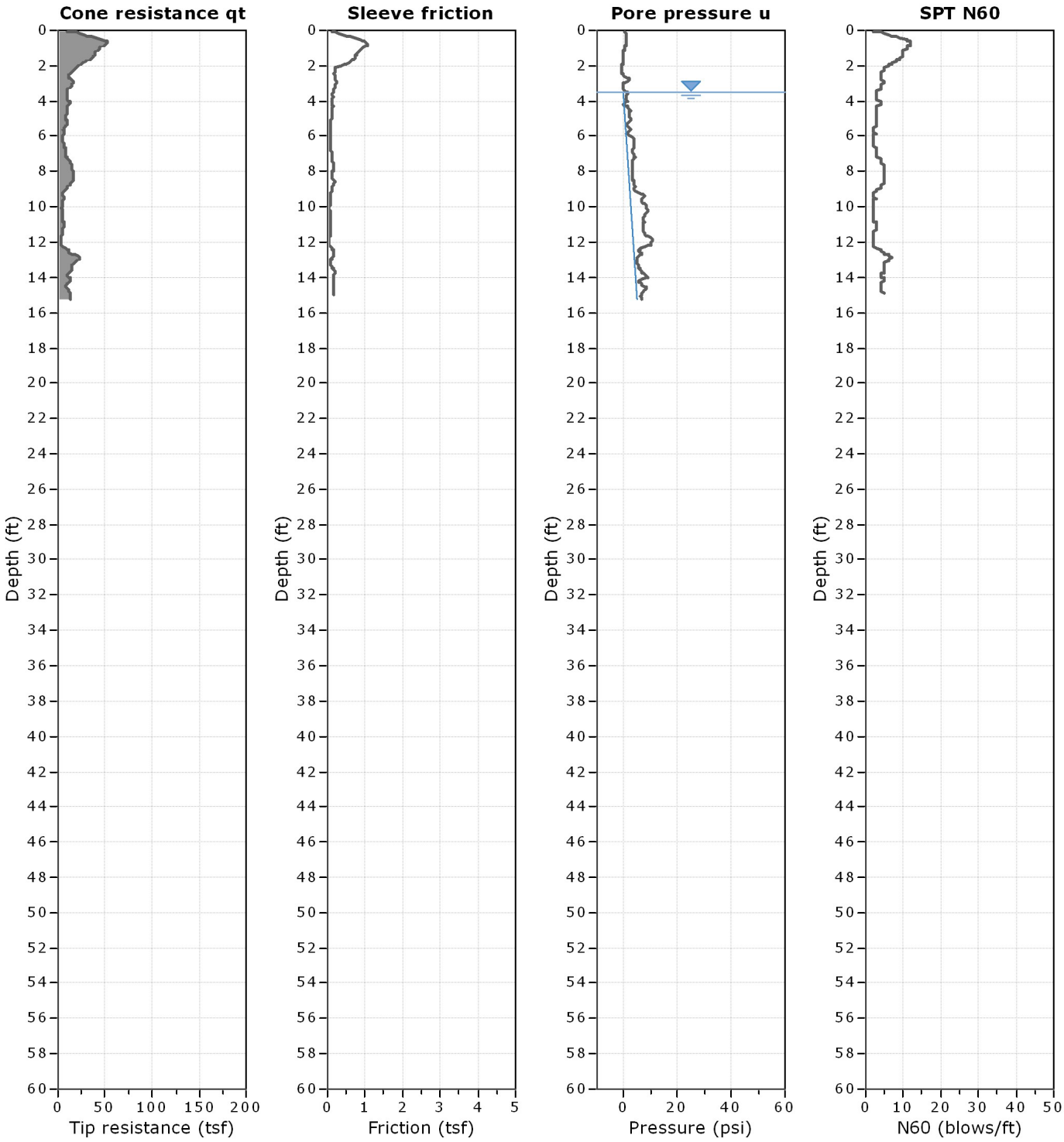
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-06
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 329.20 ft
Coords: N 37.71021, W 78.27748

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
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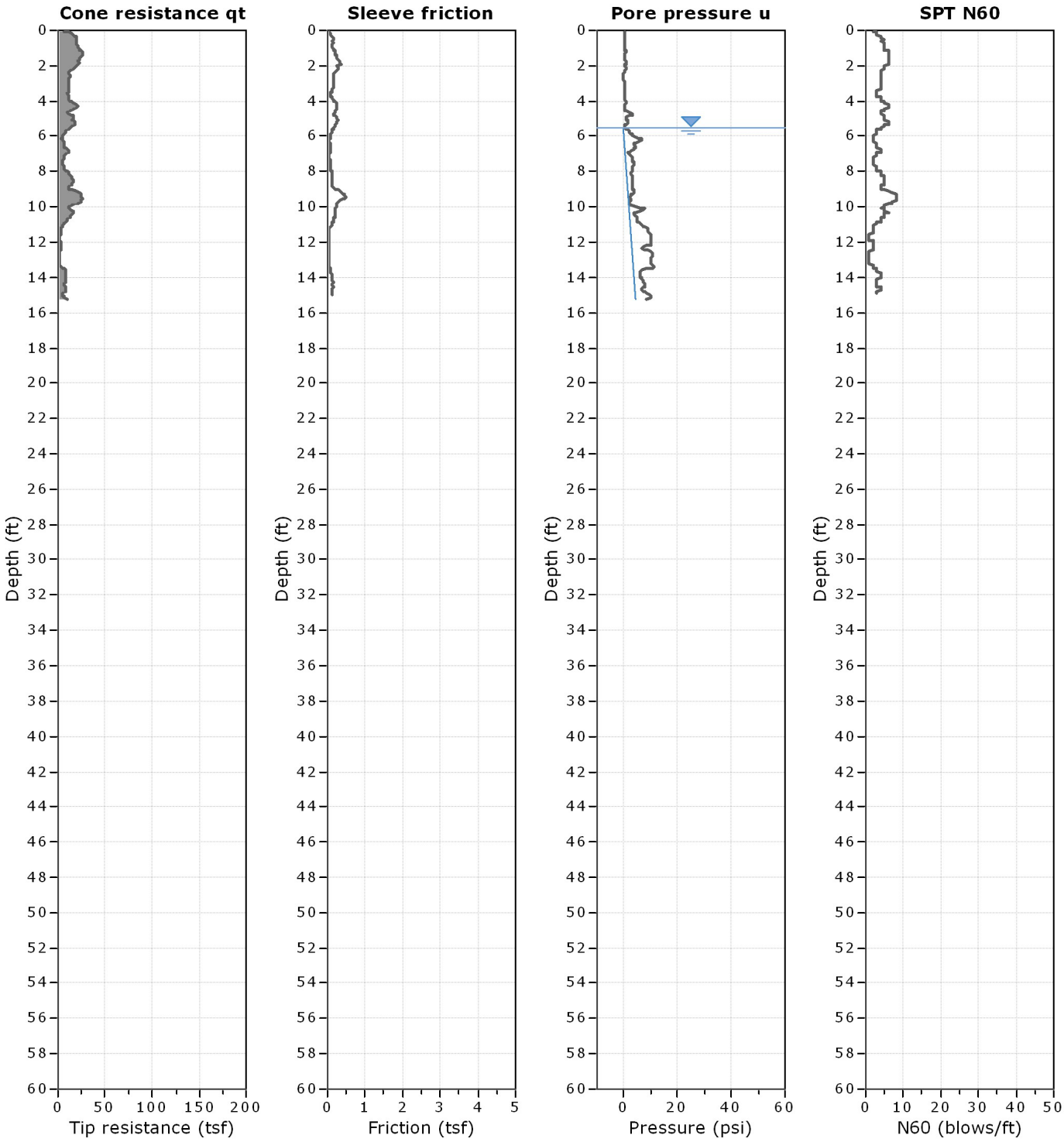
CPT: TC-07
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 331.00 ft
Coords: N 37.71000, W 78.27739

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
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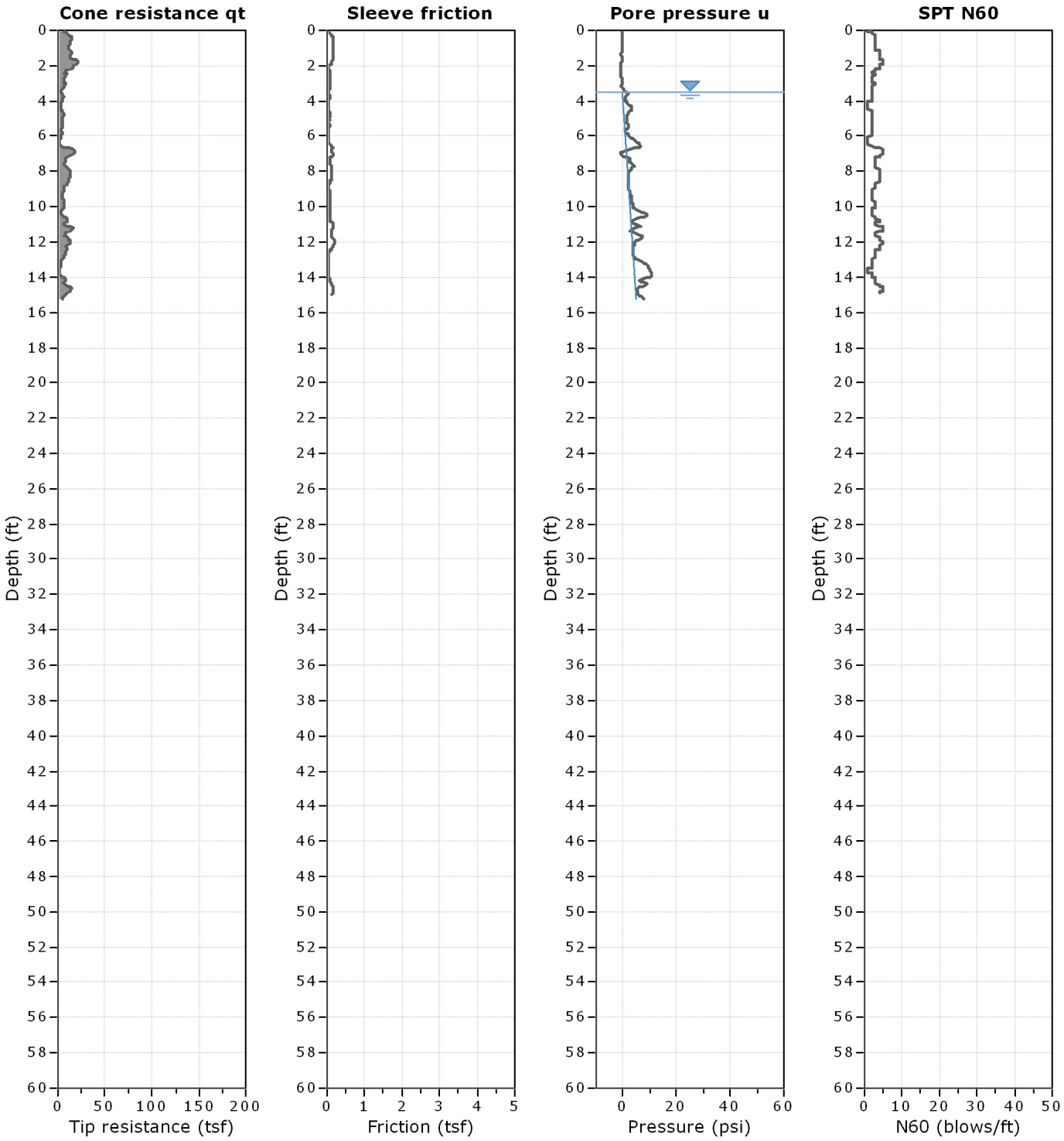
1 (770) 496-1893

CPT: TC-08
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 330.60 ft
Coords: N 37.70973, W 78.27730

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
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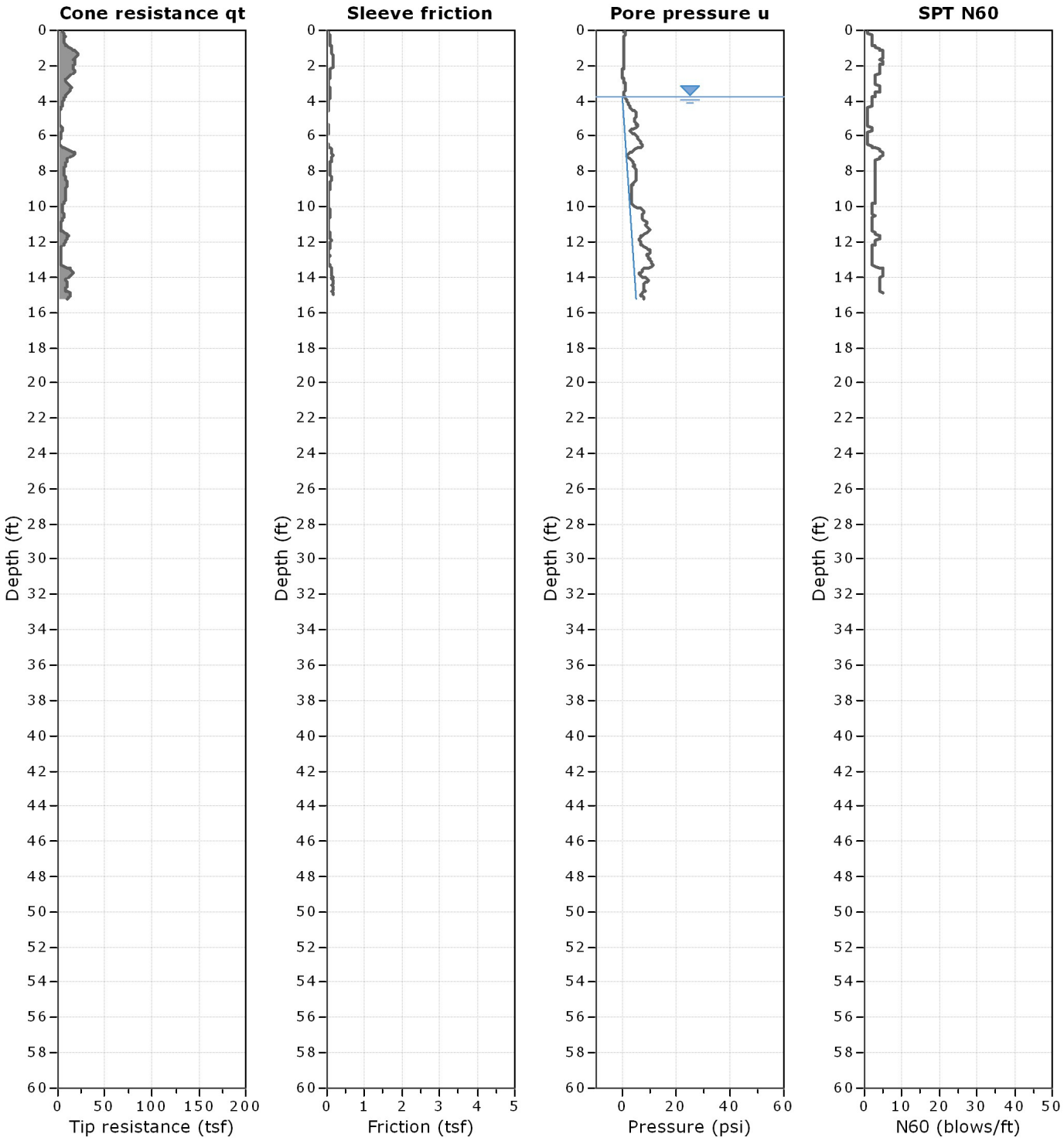
CPT: TC-09
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 330.10 ft
Coords: N 37.70955, W 78.27725

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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SANDY SILT
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CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
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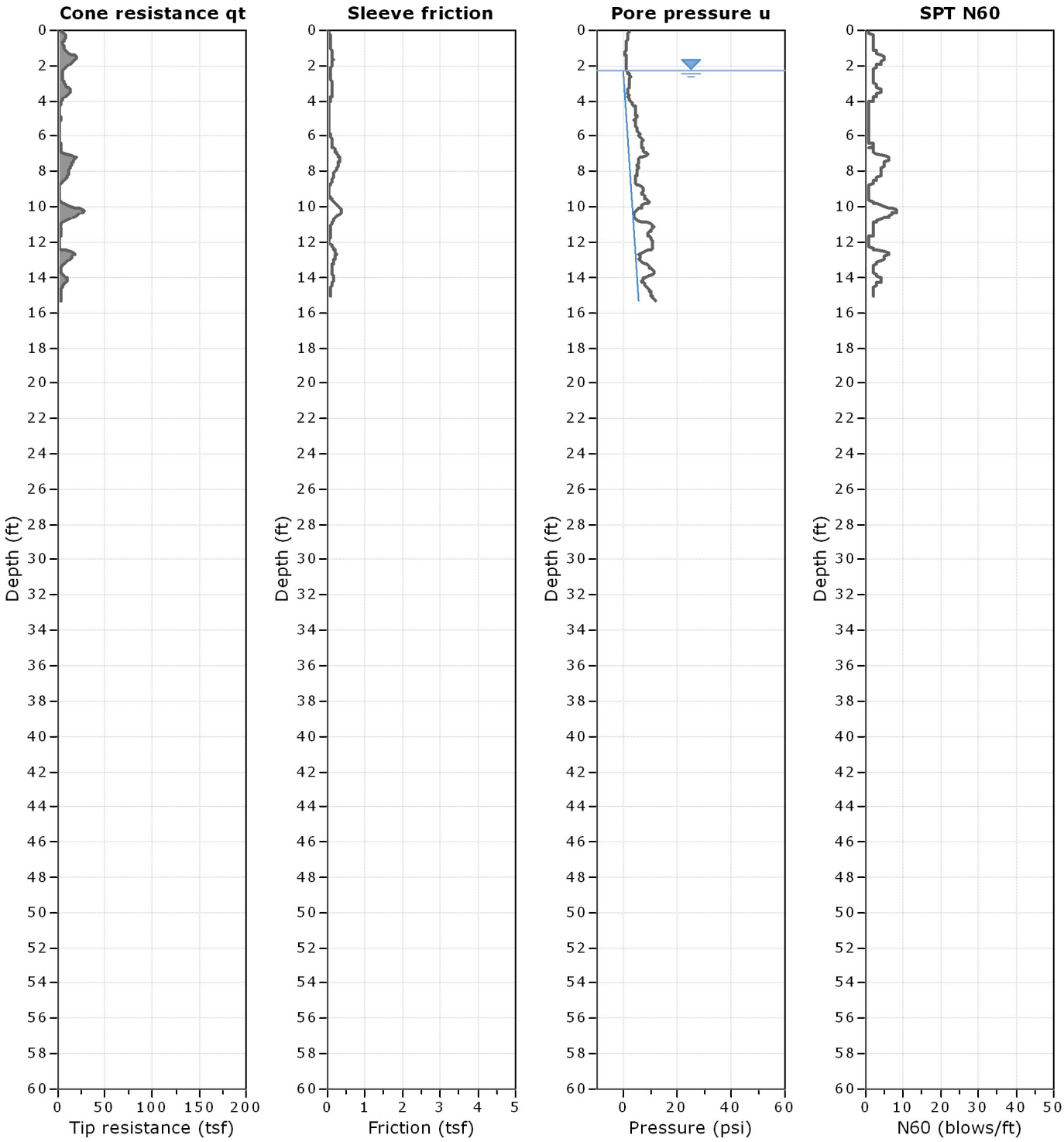
CPT: TC-10
Total depth: 15.35 ft, Date: 3/21/2015
Surface Elevation: 329.80 ft
Coords: N 37.70936, W 78.27720

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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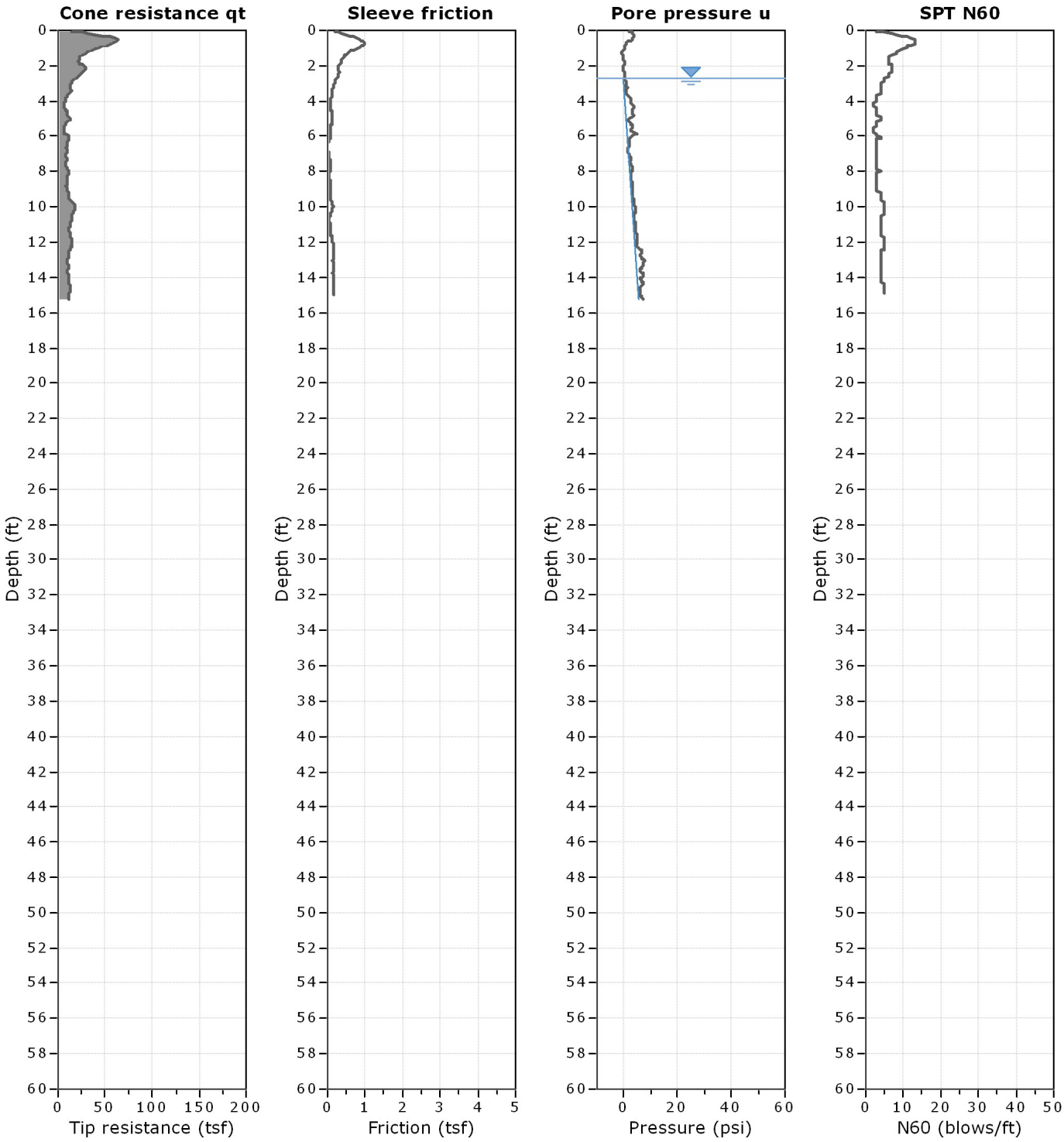
CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-11
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.90 ft
Coords: N 37.71020, W 78.27772

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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SANDY SILT
SILTY SAND
CLAY
CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
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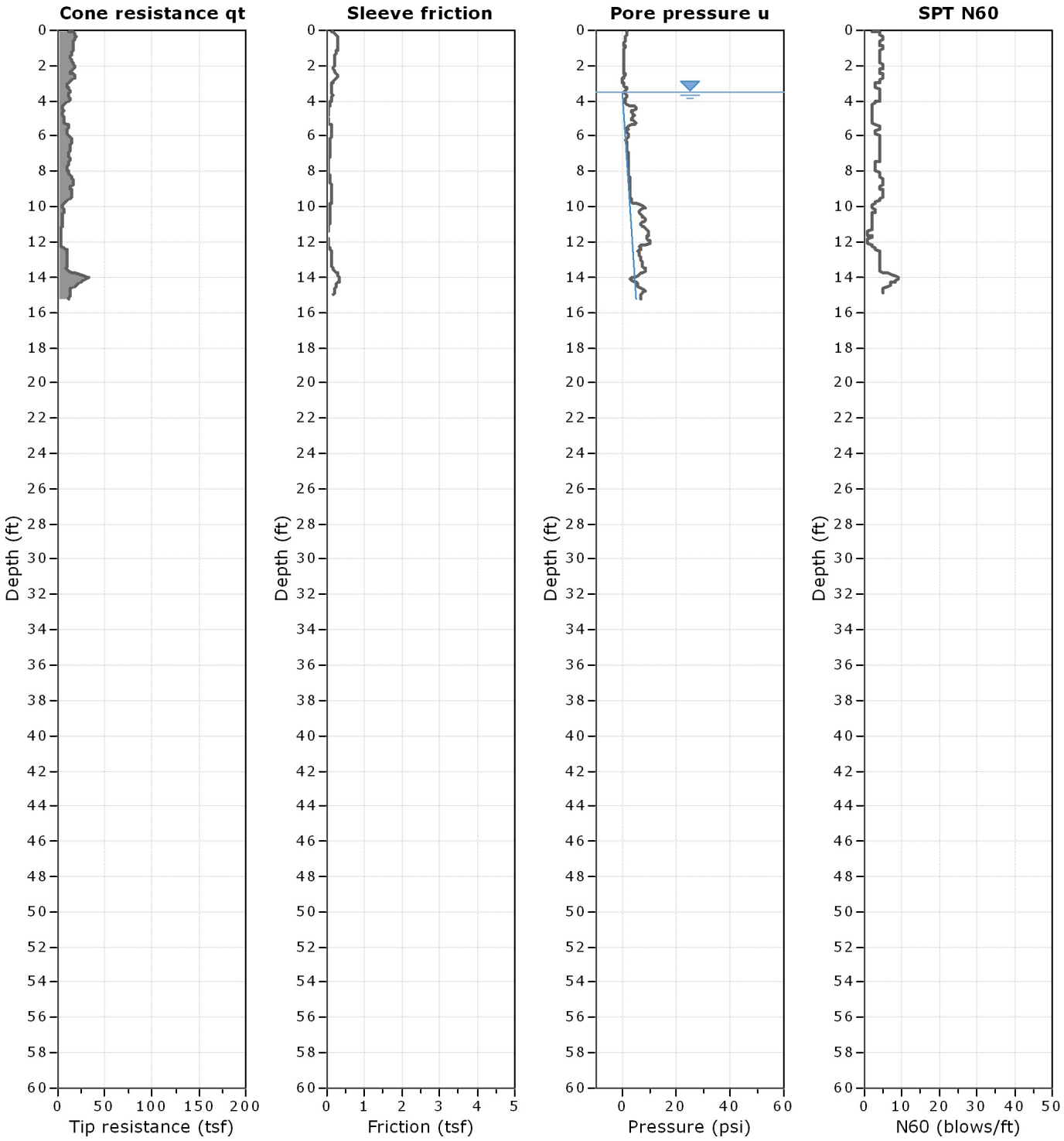
CPT: TC-12
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.90 ft
Coords: N 37.71003, W 78.27776

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**

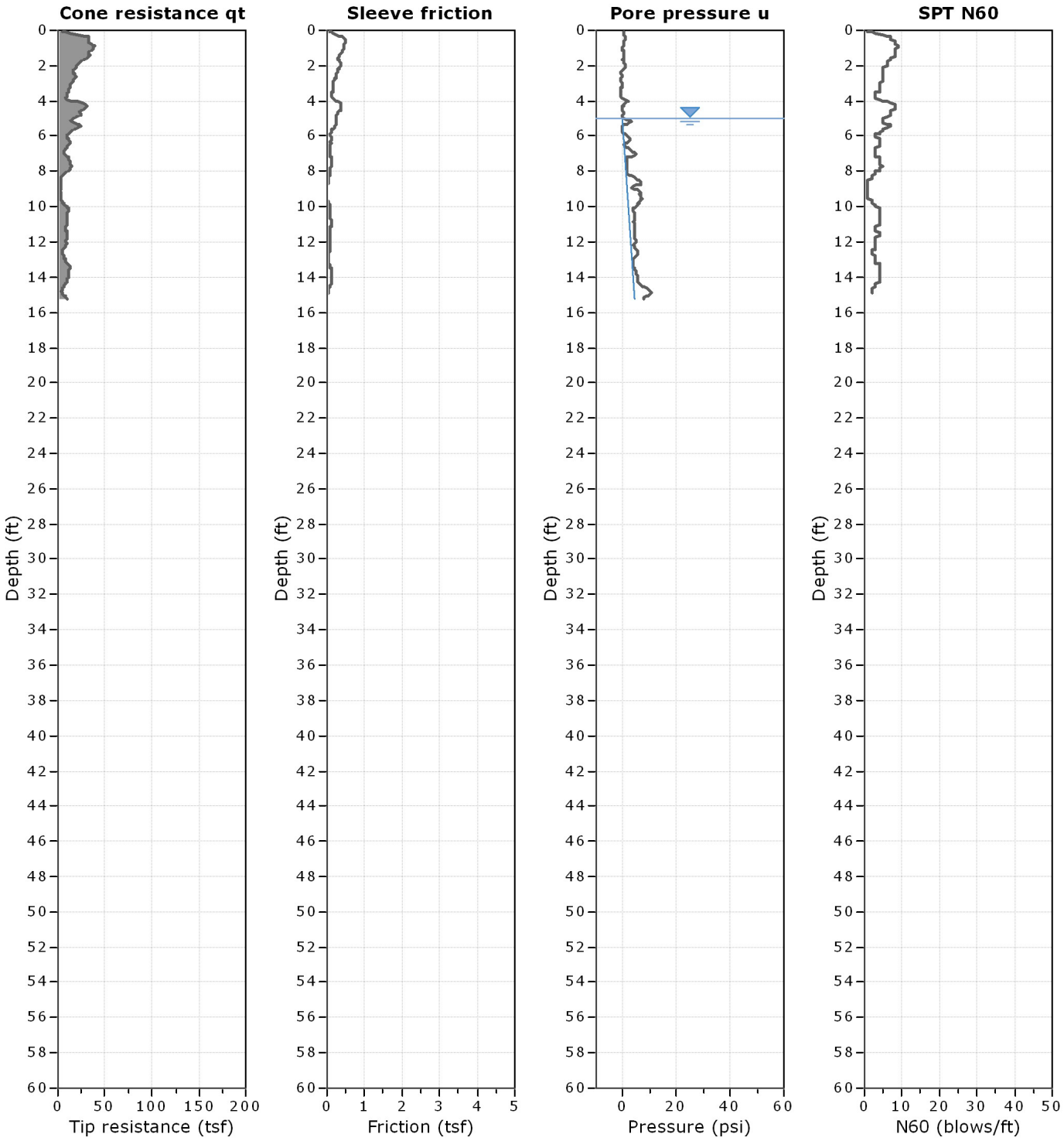


SANDY SILTY CLAY
SANDY SILT / SILTY SAND
SANDY SILT
SILTY SAND
CLAY
CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-13
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 329.80 ft
Coords: N 37.70977, W 78.27783

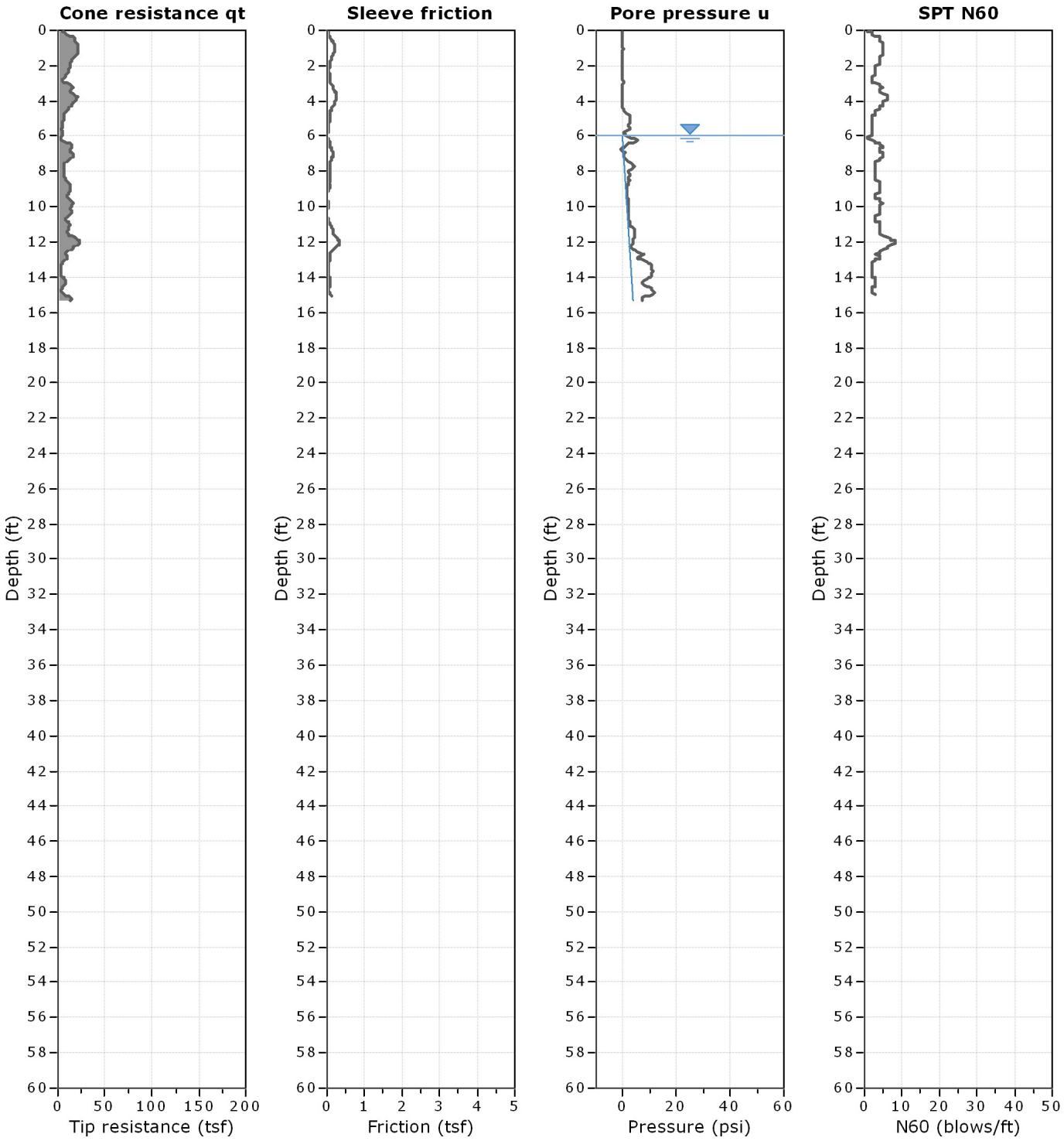
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-14
Total depth: 15.29 ft, Date: 3/21/2015
Surface Elevation: 329.80 ft
Coords: N 37.70952, W 78.27795

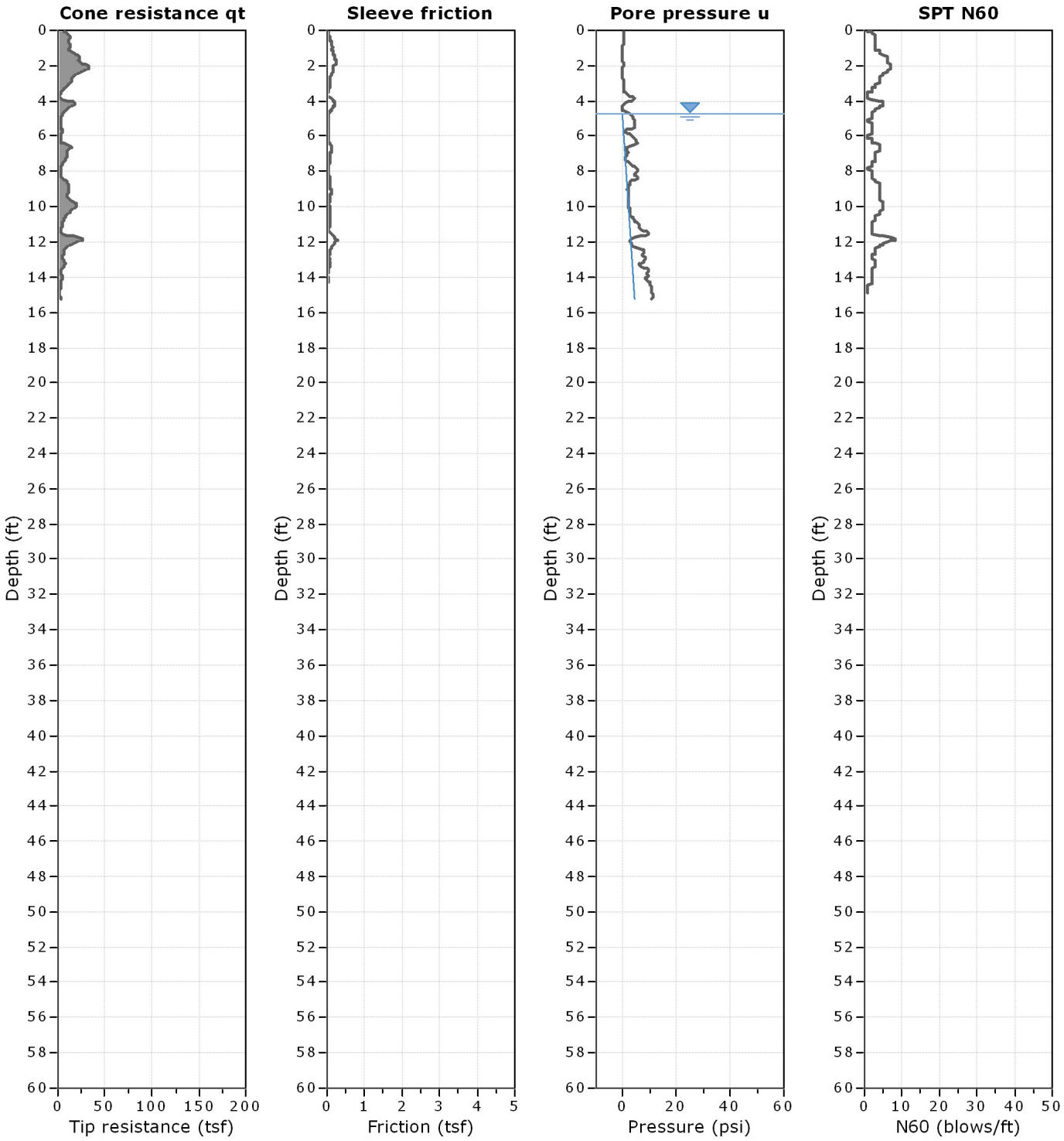
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-15
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 329.40 ft
Coords: N 37.70929, W 78.27807

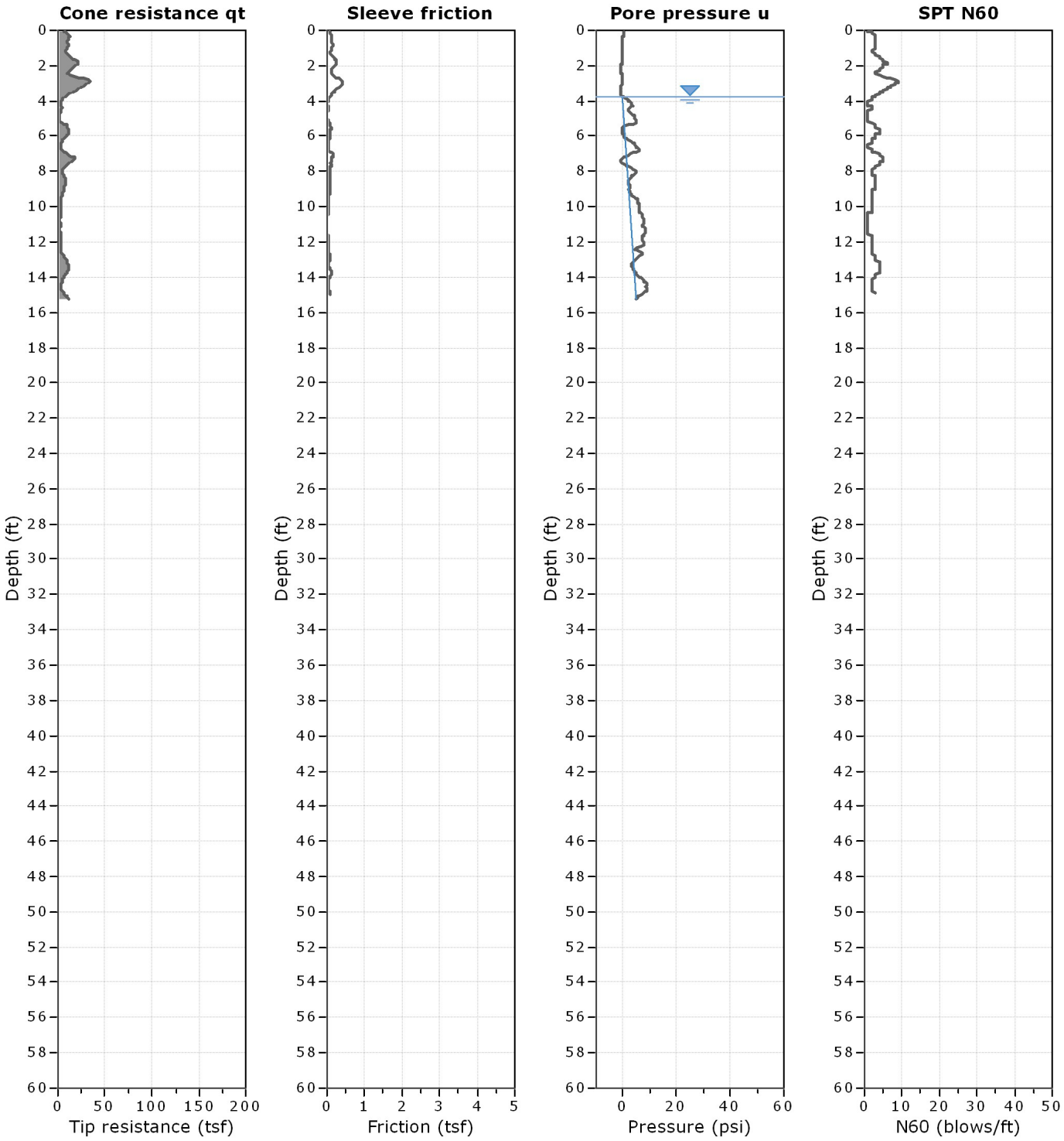
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-16
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 329.10 ft
Coords: N 37.70906, W78.27823

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**

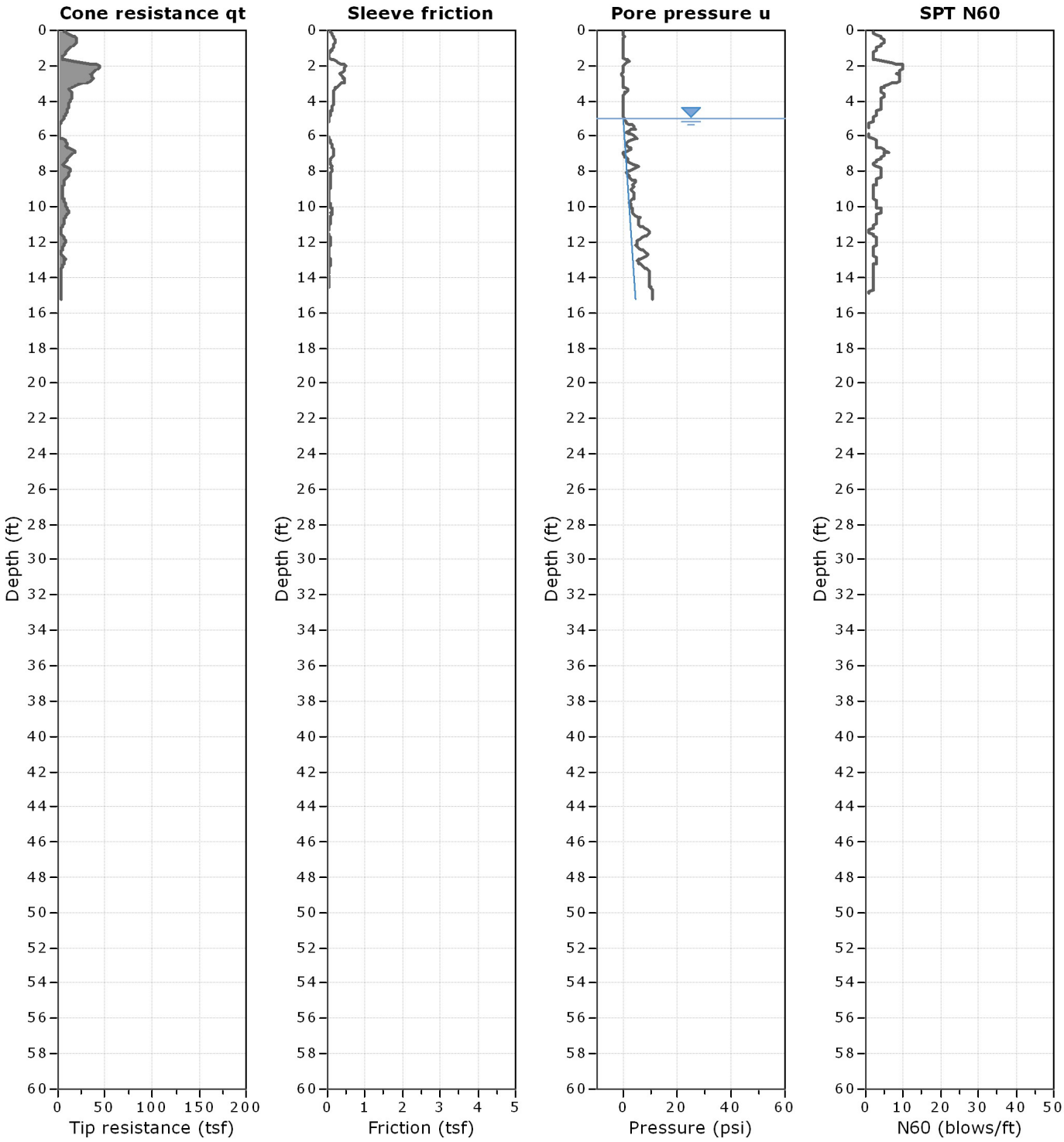


SANDY SILTY CLAY
SANDY SILT / SILTY SAND
SANDY SILT
SILTY SAND
CLAY
CCR/CLAY MIX
CCR
COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-17
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.90 ft
Coords: N 37.70882, W78.27836

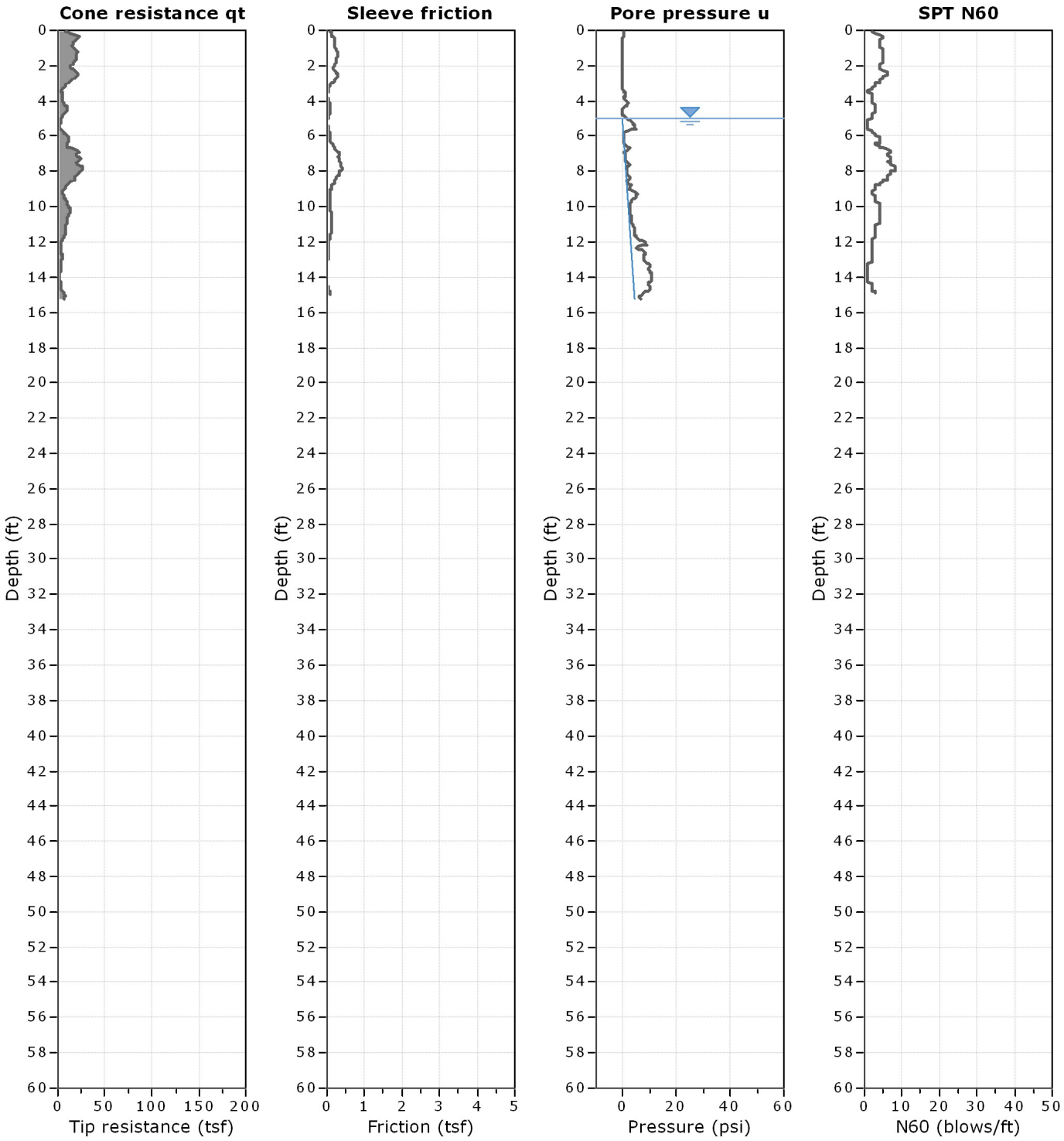
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: TC-18
Total depth: 15.22 ft, Date: 3/21/2015
Surface Elevation: 328.60 ft
Coords: N 37.70857, W 78.27847

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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ALLUVIUM, SILTY SAND
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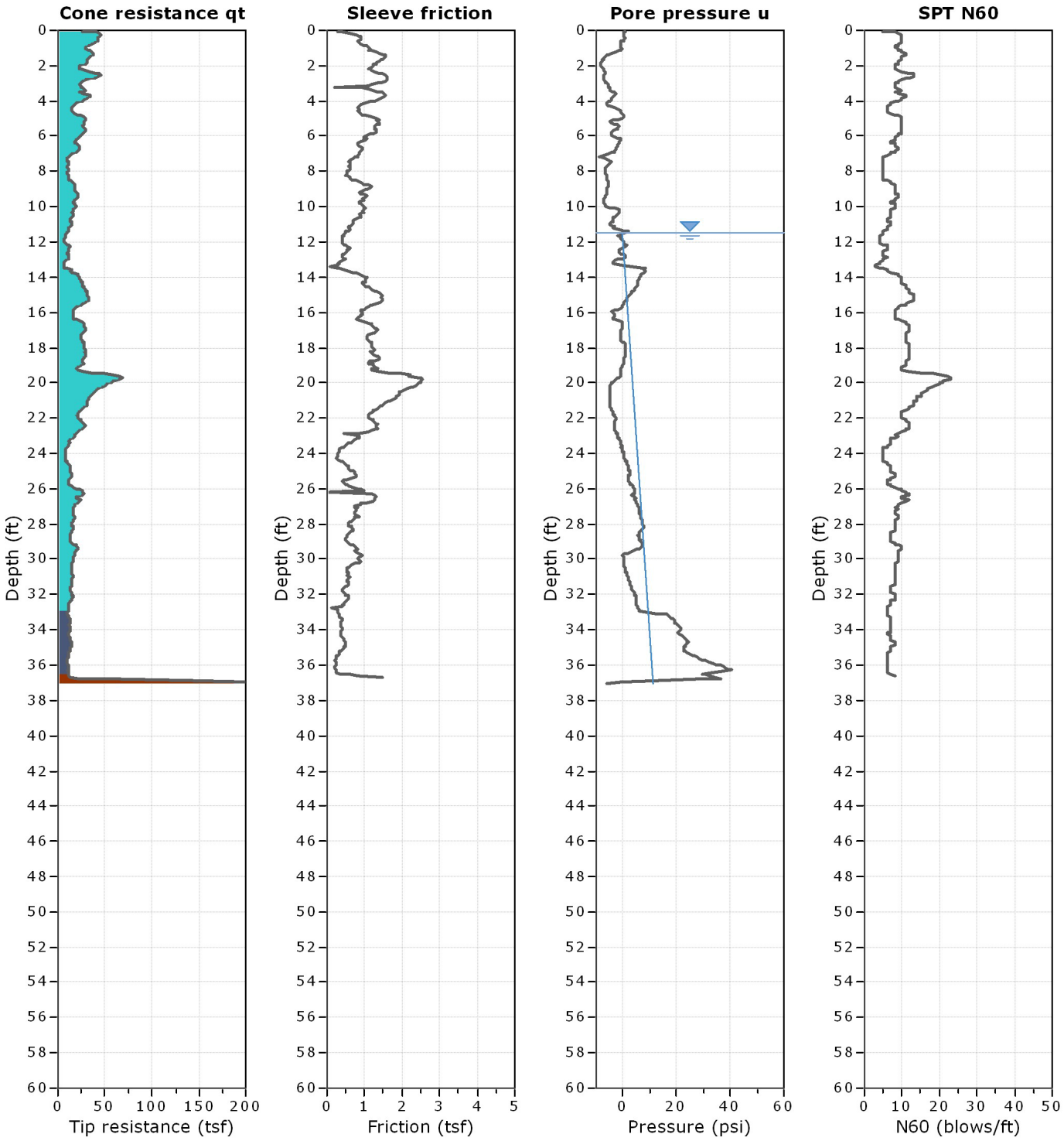
Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: WC-01
Total depth: 37.05 ft, Date: 3/21/2015
Surface Elevation: 234.60 ft
Coords: N 37.71108, W 78.29476

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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COMPACTED CCR
PWR / GRAVEL ALLUVIUM
ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
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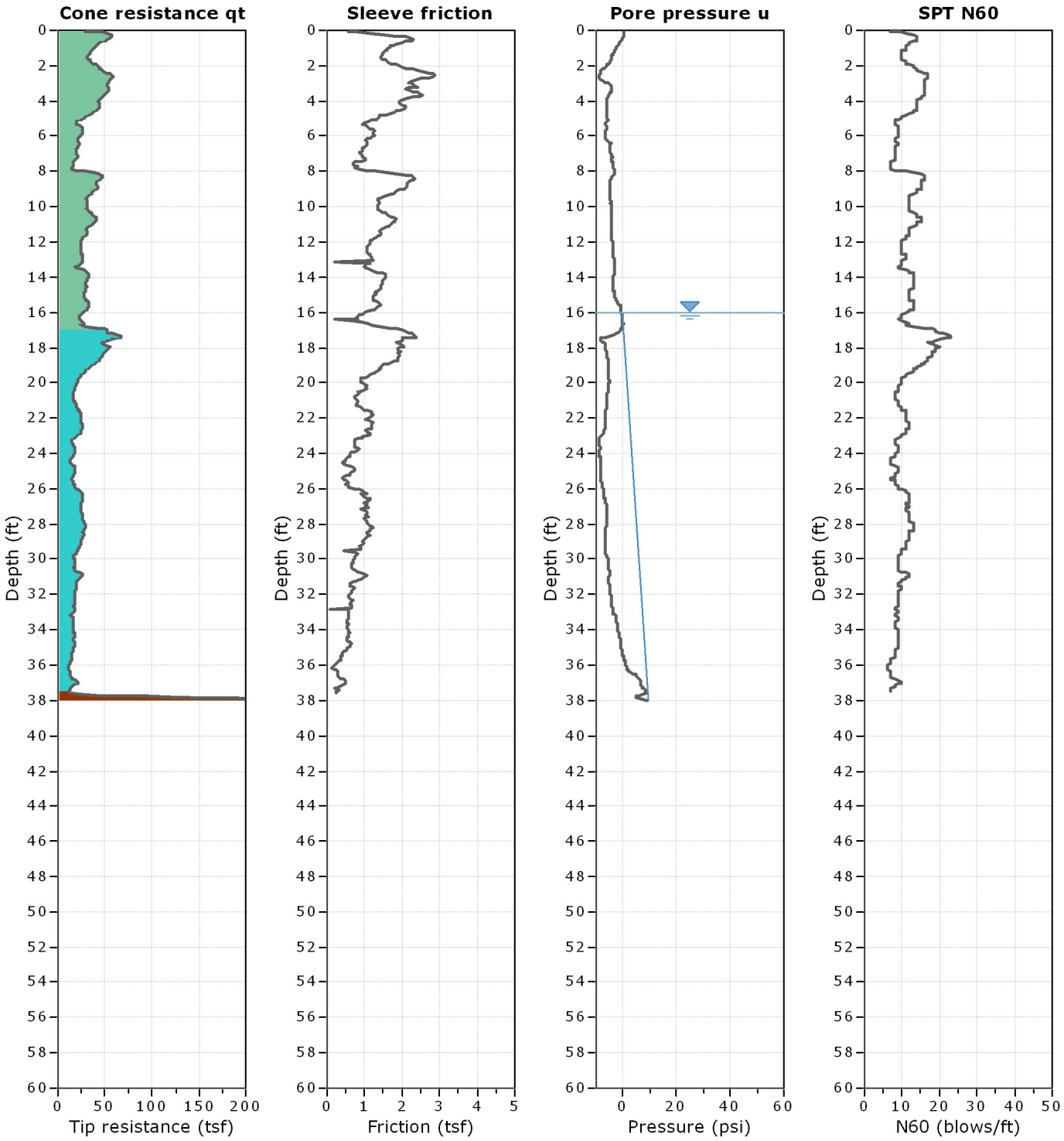
1 (770) 496-1893

CPT: WC-02
Total depth: 38.00 ft, Date: 3/17/2015
Surface Elevation: 233.90 ft
Coords: N 37.71067, W 78.29344

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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Golder Associates Inc.
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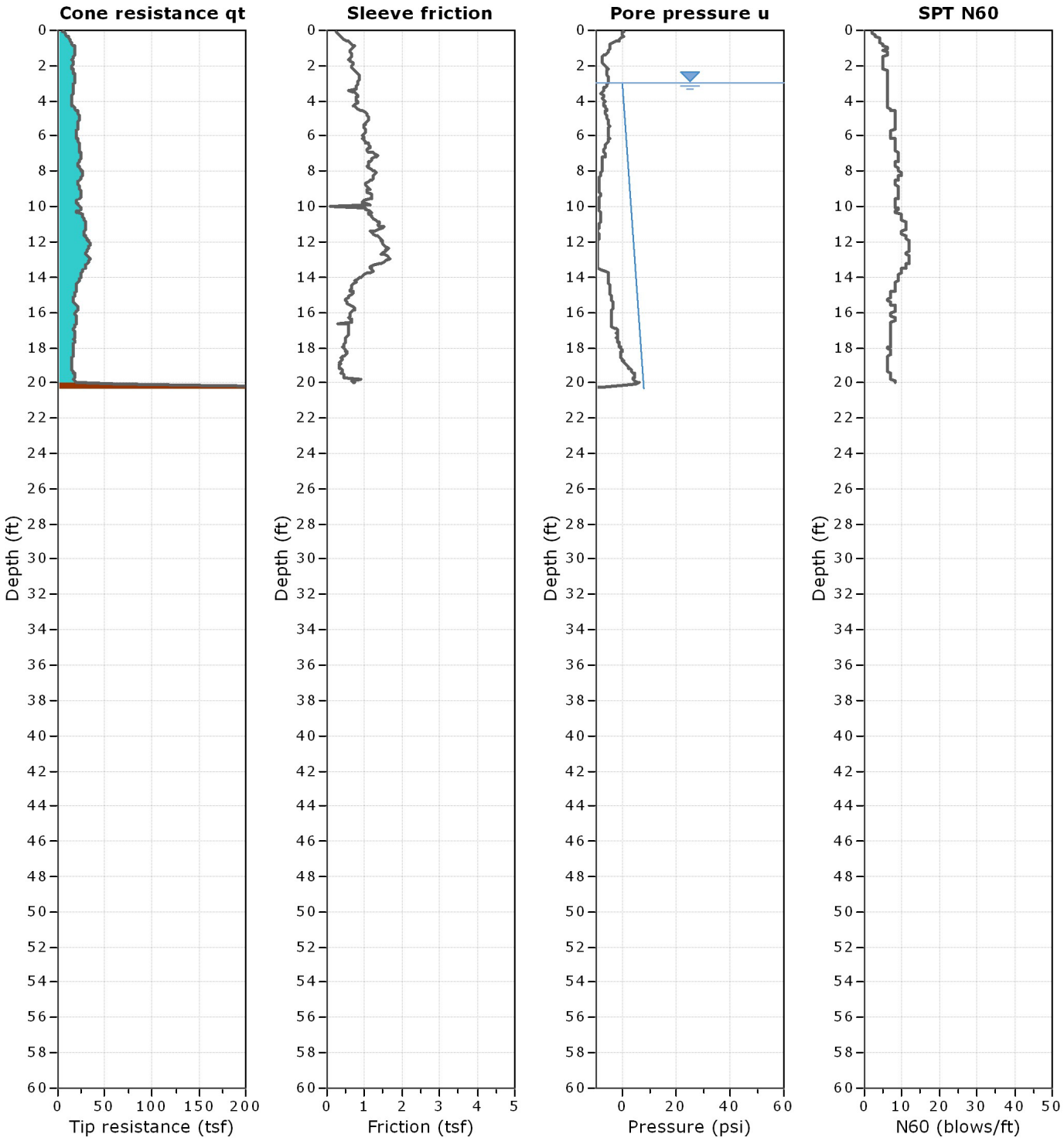
Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**

CPT: WC-03
Total depth: 20.30 ft, Date: 3/19/2015
Surface Elevation: 217.30 ft
Coords: N 37.70989, W 78.29118



SANDY SILTY CLAY
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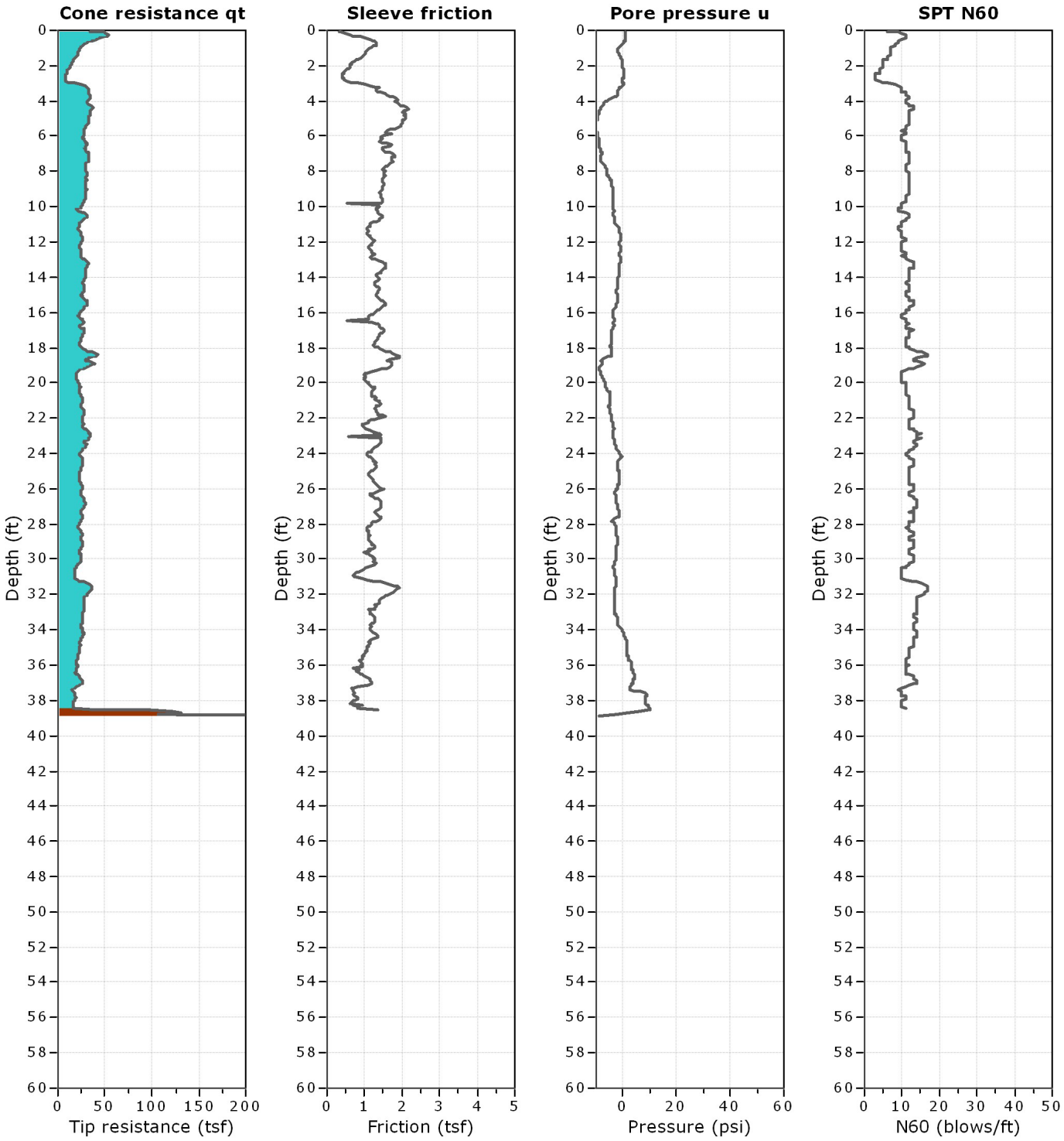
ALLUVIUM, SILT

Golder Associates Inc.
3730 Chamblee Tucker Rd.
Atlanta, Georgia 30307
1 (770) 496-1893

CPT: WC-04
Total depth: 38.90 ft, Date: 3/21/2015
Surface Elevation: 234.50 ft
Coords: N 37.71125, W 78.29075

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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3730 Chamblee Tucker Rd.
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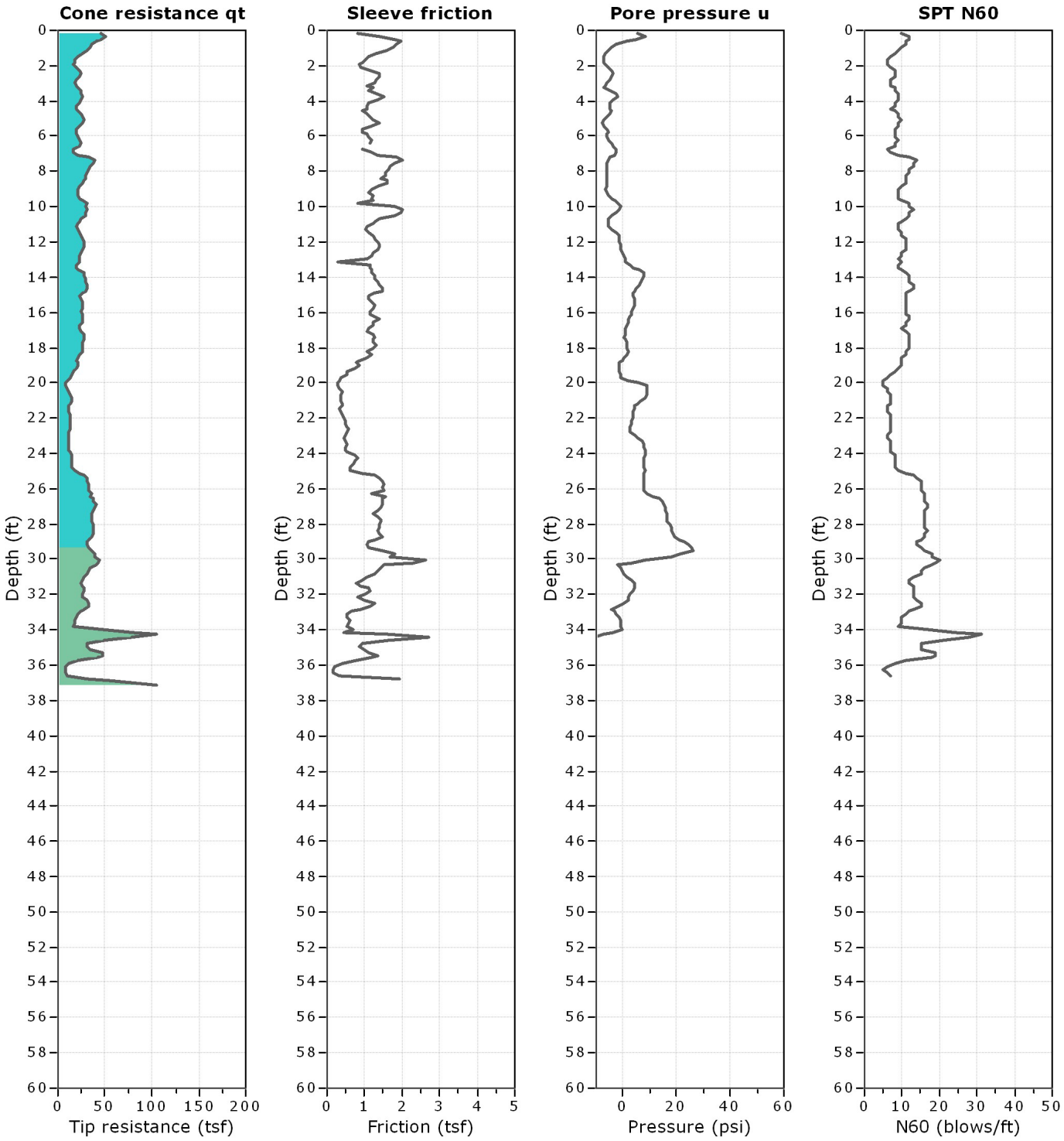
1 (770) 496-1893

CPT: WC-05
Total depth: 37.10 ft, Date: 3/17/2015
Surface Elevation: 233.10 ft
Coords: N 37.71228, W 78.29177

Project: **Bremo Power Station Investigation**
Location: **Bremo Bluff, VA**



SANDY SILTY CLAY
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ALLUVIUM, SILTY SAND
ALLUVIUM, SILT

Hand Auger Summary - Bremo Power Station CCR Investigation					
ID	Lat	Lon	Water Surface Elevation	Depth (feet)	Layer Description
HA-01	37.70938	-78.27226	No GW Encountered	0 - 2	Residuum - Tan Red Fine Sandy Silt
				2	Hand Auger Terminated in Residuum, no ash encountered
HA-02	37.70906	-78.27390	No GW Encountered	0 - 3	Fill - Tan Silty Fine Sand
				1 - 3	Refusal at 1 - 3' (5 attempts), no ash encountered
HA-03	37.70926	-78.27475	No GW Encountered	0 - 2	Residuum/Saprolite - Tan White Silty Fine Sand
				2	Hand Auger Terminated in Residuum, no ash encountered
HA-04	37.70872	-78.27484	No GW Encountered	0 - 3	Fill - Tan Gray White Silty Fine Sand
				3	Refusal at 3' (3 attempts), no ash encountered

Probe Location Summary - Bremo Power Station CCR Invesitgation								
ID	Lat	Lon	Water Surface Elevation	Depth to Mudline (ft)	Depth to Hard Layer (ft)	Sample Depth (ft)	Equipment	Notes
EP-01	37.70486	-78.27919	230.2	0.9	3.8	GB-01: 1 - 3 ft GB-02: 3 - 3.8 ft	Jon Boat	Soft zone consists of CCR, silty clay, and organics.
EP-02	37.70496	-78.27895	230.2	0.5	6.4	GB-01: 0.5 - 3.4 ft GB-02: 3.4 - 6.4 ft	Jon Boat	Soft zone consists of CCR, silty clay, and organics. No recovery on GB-02.
EP-03	37.70478	-78.27900	230.2	1.3	> 8.9 ft	GB-01: 1.3 - 4.2 ft GB-02: 4.2 - 8.9 ft	Jon Boat	Soft zone consists of CCR, silty clay, and organics. Unable to reach hard layer.
NP-01	37.70785	-78.27951	319.3	1.1	> 8.5 ft	GB-01: 2.6 - 5.0 ft GB-02: 5.0 - 8.5 ft	Jon Boat	CCR
NP-02	37.70775	-78.27946	319.3	2.2	N/A	N/A	Jon Boat	Attempted Vane Shear Test; CCR too soft
NP-03	37.71240	-78.27475	327.5	6.8	> 9 ft	No Recovery	Jon Boat	CCR; Attempted Sampling
NP-04	37.71225	-78.27462	330.1	4.9	> 9 ft	No Recovery	Jon Boat	CCR; Attempted Sampling
NP-05	37.71240	-78.27464	327.8	1.9	> 9 ft	No Recovery	Jon Boat	CCR; Attempted Sampling
NP-06	37.71199	-78.27548	327.5	4.6	> 9 ft	No Recovery	Jon Boat	CCR; Attempted Sampling
NP-07	37.70748	-78.27885	319.3	4.3	> 13.4 ft	GB-01: 4.3 - 9 ft GB-02: 9 - 13.4 ft	Jon Boat	CCR
WP-01	37.71202	-78.29279	230.3	N/A	N/A	BULK-01: 0.5 - 2.0 ft BULK-02: 0.5 - 2.0 ft	Test Pit; Shovel	CCR
WP-02	37.71196	-78.29360	230.8	N/A	N/A	BULK-01: 0.5 - 1.5 ft BULK-02: 1.5 - 2.0 ft	Test Pit; Shovel	Coarser CCR (likely bottom ash and slag)