Appendix A
Boring Logs

ERM
1777 Botelho Drive
Suite 260
Walnut Creek, California 94596
(925) 946-0455

BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 19.00'
X-Coordinate: 6113741.30
Y-Coordinate: 2167633.40
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	Hand Auger to 5.0'.
				0.0	
				0.0	
5		ML		0.0	CLAYEY SILT (ML): brown gray, dry.
				0.0	CLAYEY SILT (ML): brown, dry.
				0.0	CLAYEY SILT (ML): as above.
				0.0	CLAYEY SILT (ML): brown, dry.
				0.0	CLAYEY SILT (ML): as above.
10				0.0	CLAYEY SILT (ML): as above.
				0.0	
				0.0	CLAYEY SILT (ML): as above.
				0.0	
		CL		0.0	SILTY CLAY (CL): brown, dry. SILTY CLAY (CL): as above. SILTY CLAY (CL): as above, slightly moist.
15				0.0	SILTY CLAY (CL): as above.
		ML		0.0	CLAYEY SILT (ML): brown, dense, slightly moist.
		CL		0.0	SILTY CLAY (CL): brown, slightly moist.
				0.0	SILTY CLAY (CL): as above.
		▽		0.0	SILTY CLAY (CL): as above.
				0.0	

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BOREHOLE LOG

Project Number: 8219.10
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Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 19.00'
X-Coordinate: 6113741.30
Y-Coordinate: 2167633.40
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					CLAY (CL): brown, very dense, slightly moist.
				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): as above.
				0.6	
				0.0	CLAY (CL): as above.
25					CLAY WITH SILT (CL): brown, moist.
				0.0	CLAY (CL): brown, moist.
				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): brown, dense, moist.
				0.0	CLAY (CL): as above.
30				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): as above.
35					Water level tagged at ~19.0' bgs. Collected ground water sample B-35-32 for VOCs with disposable bailer.

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Suite 290
Walnut Creek, California 94596
(925) 946-0455

BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 24.00'
X-Coordinate: 6113768.40
Y-Coordinate: 2167785.40
Date(s): 09/25/01
Remarks: PID acting erratically.

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Top 8.0" – Fill with concrete pieces.
		ML			SANDY SILT (ML): brown, trace gravel, dry.
					SANDY SILT (ML): brown, dry.
5		SM			SILTY SAND (SM): light brown, fine grained, dry.
		ML		1.5	SILT (ML): light brown, rootlets, dry.
				2.2	
				2.8	SILT (ML): as above.
				2.8	
				3.4	SILT (ML): light brown, black organic material, rootlets, dry.
				2.8	SILT (ML): as above.
				2.2	
				6.6	SILT (ML): as above.
					SILT (ML): as above, trace very fine sand.
10					SANDY SILT (ML): light brown, very fine grained sand, damp.
		CL			CLAY (CL) dark brown, slightly silty, medium plasticity, damp.
					CLAY (CL): dark brown, trace silt, stiff, damp.
					CLAY (CL): as above, brown.
					CLAY (CL): as above.
15					
					CLAY (CL): as above.
		SM			SILTY SAND (SM): light brown, fine to coarse grained, clayey, moist.
					SILTY SAND (SM): as above, trace fine gravel.
		CL			CLAY (CL): light brown, slightly silty, soft, high plasticity, moist.
					CLAY (CL): as above, decreasing moisture.
					CLAY (CL): brown, trace silt, stiff, damp.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 24.00'
X-Coordinate: 6113768.40
Y-Coordinate: 2167785.40
Date(s): 09/25/01
Remarks: PID acting erratically.

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					CLAY (CL): dark brown, slightly silty, soft, moist.
					Grades to CLAY (CL): light brown, trace silt, high plasticity, moist.
					CLAY (CL): brown, medium plasticity, stiff.
					CLAY (CL): as above.
					CLAY (CL): as above.
					CLAY (CL): brown, medium plasticity, stiff, slightly moist.
					CLAY (CL): as above, trace silt.
25					CLAY (CL): as above, brown.
					CLAY (CL): as above, trace black organic material.
					CLAY (CL): as above, dark brown.
					CLAY (CL): as above, brown, increasing silt and plasticity.
					CLAY (CL): as above.
					Water level tagged at approximately 24' bgs.
					Collected ground water sample B-36-28 for VOCs.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 36.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.30'
X-Coordinate: 6113778.00
Y-Coordinate: 2167858.80
Date(s): 09/25/01
Remarks: PID acting erratically.

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Top 1.0' – Fill with concrete pieces.
		ML			SANDY SILT (ML): brown, trace gravel, dry.
		SC			CLAYEY SAND (SC): brown, slightly moist.
					CLAYEY SAND (SC): as above.
5		CL			CLAY (CL): light brown, trace silt, soft, slightly moist.
					Grades to SILTY CLAY (CL): brown, stiff, trace black organic material, damp.
		ML			SILT (ML): light brown, slightly clayey, black organic material, damp.
					SILT (ML): as above, trace clay.
					SILT (ML): as above.
					SILT (ML): as above, no clay.
10					SILT (ML): light brown, trace very fine sand, rootlets, damp.
					SILT (ML): light brown, slightly clayey, damp.
		CL			SILTY CLAY (CL): light brown, damp.
					CLAY (CL): as above, stiff, decreasing silt.
					CLAY (CL): brown, trace silt, stiff, damp.
					CLAY (CL): as above.
15					CLAY (CL): as above.
					CLAY (CL): light brown, slightly silty, medium plasticity, damp.
					CLAY (CL): as above.
					CLAY (CL): as above, increasing silt, soft, slightly moist.
		ML			CLAYEY SILT (ML): light brown, moist.
		CL			SILTY CLAY (CL): light brown, soft, slightly moist.
					CLAY (CL): as above, decreasing silt, stiff, damp.
					CLAY (CL): as above, brown.
					CLAY (CL): as above.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 36.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.30'
X-Coordinate: 6113778.00
Y-Coordinate: 2167858.80
Date(s): 09/25/01
Remarks: PID acting erratically.

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					CLAY (CL): light brown, trace silt, trace black organic material, stiff, slightly moist.
					CLAY (CL): brown, stiff, trace black organic material, damp.
					CLAY (CL): as above.
					CLAY (CL): light brown, trace silt, trace black organic material, damp.
					CLAY (CL): light brown, trace silt, medium plasticity, slightly moist.
25					CLAY (CL): as above.
					CLAY (CL): as above, brown, moist.
					CLAY (CL): olive green, trace silt, stiff, damp.
					CLAY (CL): as above, olive gray.
30					CLAY (CL): as above.
					CLAY (CL): as above, medium plasticity.
					CLAY (CL): as above, slightly moist.
		ML			CLAYEY SILT (ML): olive gray, slightly moist.
35					Water level tagged at 20.3' bgs.
					Collected ground water sample B-37-36 for VOCs.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.70'
X-Coordinate: 6113788.40
Y-Coordinate: 2167933.10
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Base rock at surface.
		CL			SILTY CLAY (CL): dark brown, damp.
					CLAY (CL): as above.
				0.0	CLAY (CL): as above, stiff.
				0.0	
5				0.0	
				0.0	CLAY (CL): as above.
				0.0	
				0.3	CLAY (CL): as above, brown.
				0.3	
		ML		0.3	CLAYEY SILT (ML): brown, damp.
				0.0	SANDY SILT (ML): light brown, very fine grained sand, damp.
				0.0	SILT (ML): light brown, trace clay and very fine grained sand, damp.
				0.0	SILT (ML): light brown, trace clay, damp.
10				0.0	SILT (ML): as above.
				0.0	
				0.0	SANDY SILT (ML): light brown, very fine grained sand, damp.
				0.0	SANDY SILT (ML): as above, trace clay.
				0.0	CLAYEY SILT (ML): light brown, damp.
				0.0	SANDY SILT (ML): light brown, very fine grained sand, damp.
		SM		0.0	SILTY SAND (SM): light brown, very fine grained, damp.
		ML		0.0	SILT (ML): light brown, slightly sandy, very fined grained, trace clay, damp.
				0.0	SILT (ML): as above, decreasing sand.
				0.0	SILT (ML): light brown, trace clay and very fined grained sand, damp.
15		SP		0.0	SILT (ML): as above, slightly moist.
				0.0	Grades to SAND (SP): fine grained, slightly silty and micaceous, slightly moist.
		ML		0.0	Grades to SILT (ML): light brown, trace clay and very fine grained sand, damp.
				0.0	SILT (ML): as above, increasing clay.
		SP		0.0	SAND (SP): light brown, fine to medium grained, micaceous, damp.
				0.0	SAND (SP): as above.
		CL		0.0	Grades to CLAY (CL): brown, trace silt, stiff, damp.
		▽		0.0	CLAY (CL): as above, medium plasticity, trace black organic material, slightly moist.
				0.0	Grades to CLAY (CL): brown, stiff, damp.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.70'
X-Coordinate: 6113788.40
Y-Coordinate: 2167933.10
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	CLAY (CL): dark brown, stiff, damp.
				0.0	
				0.0	CLAY (CL): as above, olive gray, black organic material.
				0.0	CLAY (CL): as above, increasing plasticity.
				0.0	
				0.0	
				0.0	CLAY (CL): as above.
				0.0	
		SM		0.0	SILTY SAND (SM): brown, very fined grained, slightly moist.
		CL		0.0	CLAY (CL): light brown, slightly silty, slightly moist.
25				0.0	CLAY (CL): brown, trace silt, stiff, damp.
				0.0	
				0.0	CLAY (CL): as above, increasing plasticity.
				0.0	CLAY (CL): as above, slightly silty.
				0.0	CLAY (CL): as above.
					Tagged water level at 18.7' bgs.
					Collected ground water sample B-38-28 for VOCs 8260.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.60'
X-Coordinate: 6113838.50
Y-Coordinate: 2168023.10
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Base rock surface.
					Used dummy rod to push to 4.0' bgs.
		CL		0.0	CLAY (CL): dark brown, slighty silty, medium plasticity, damp.
				0.0	
5				0.0	CLAY (CL): as above, brown.
				0.0	CLAY (CL): as above, increasing silt.
		ML		0.0	CLAYEY SILT (ML): brown, damp.
				0.0	
				0.0	CLAYEY SILT (ML): as above.
				0.0	
				0.0	CLAYEY SILT (ML): as above.
				0.0	
10					
		CL		0.0	CLAY (CL): dark brown, stiff, damp.
				0.0	CLAY (CL): as above, brown.
				0.0	CLAY (CL): as above, trace silt.
		ML		0.0	CLAYEY SILT (ML): light brown, soft, slightly moist.
		CL		0.0	CLAY (CL): brown, trace silt, high plasticity, damp.
15				0.0	Grades to CLAY (CL): as above, stiff.
				0.0	CLAY (CL): light brown to brown, slightly silty, soft to stiff, damp.
				0.0	CLAY (CL): brown, trace silt, stiff, damp.
				0.0	CLAY (CL): as above.
		ML		0.0	Grades to SANDY CLAYEY SILT (ML): brown, slightly moist.
				0.0	CLAYEY SILT (ML): brown, soft, slightly moist.
				0.0	CLAYEY SILT (ML): as above, trace very fine grained sand.
				0.0	CLAYEY SILT (ML): brown, clayey, slightly moist.

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BOREHOLE LOG

Site Id: B-39
Page 1 of 2

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.60'
X-Coordinate: 6113838.50
Y-Coordinate: 2168023.10
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
		CL		0.0	Grades to CLAY (CL): brown, slightly silty, stiff, damp.
				0.0	CLAY (CL): dark brown, stiff, damp.
				0.0	CLAY (CL): as above, brown, trace silt.
				0.0	SILTY CLAY (CL): brown, soft, damp.
		ML		0.0	CLAYEY SILT (ML): brown, damp.
				0.0	
				0.0	CLAYEY SILT (ML): as above, trace very fine grained sand.
		CL		0.0	CLAY (CL): slightly silty, stiff, damp.
		ML		0.0	CLAYEY SILT (ML): light brown, soft, slightly moist.
		CL		0.0	Grades to CLAY (CL): light brown, stiff, damp.
25				0.0	Grades to CLAY (CL): brown in color.
				0.0	
				0.0	CLAY (CL): brown, medium plasticity, moist.
				0.0	CLAY (CL): as above, increasing plasticity.
				0.0	CLAY (CL): brown, stiff, damp.
				0.0	Grades to SILTY CLAY (CL): brown, slightly gravelly, soft, sightly moist.
		ML		0.0	Grades to CLAY (CL): brown, stiff, damp.
				0.0	CLAYEY SILT (ML): brown, slightly moist.
		CL		0.0	
				0.0	Grades to CLAY (CL): brown, stiff, damp.
30				0.0	CLAY (CL): brown, medium plasticity, slightly moist.
				0.0	CLAY (CL): as above, trace gravel and silt.
		ML		0.0	CLAY (CL): brown, stiff, damp.
				0.0	Grades to CLAYEY SILT (ML): light brown, soft, moist.
				0.0	SILT (ML): as above, decreasing clay.
					Water level tagged at 20.6' bgs.
					Collected ground water sample B-39-32 for VOCs.
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.20'
X-Coordinate: 6113849.70
Y-Coordinate: 2168100.60
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Used auger to get through surface base rock to 4.0' bgs.
		ML		0.0	CLAYEY SILT (ML): light brown, dry.
5				0.0	CLAYEY SILT (ML): as above, decreasing clay.
				0.0	CLAYEY SILT (ML): as above.
				0.0	CLAYEY SILT (ML): as above.
				0.0	SILT (ML): light brown, trace clay, damp.
				0.0	SILT (ML): light brown, slightly sandy, very fined grained, damp.
				0.0	SILT (ML): light brown, damp.
10				0.0	SILT (ML): as above, brown, trace clay.
				0.0	SILT (ML): as above, increasing clay.
		CL		0.0	CLAY (CL): brown, slightly silty, stiff, damp.
				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): as above, increasing silt.
		ML		0.0	CLAYEY SILT (ML): light brown, soft, slightly moist.
15		CL		0.0	CLAY (CL): light brown, slightly silty, medium plasticity, slightly moist.
				0.0	CLAY (CL): as above, decreasing plasticity.
				0.0	CLAY (CL): as above, increasing plasticity, moist.
				0.0	CLAY (CL): light brown, trace silt, soft, slightly moist.
				0.0	CLAY (CL): brown, trace silt, stiff, damp.
				0.0	CLAY (CL): as above, dark brown.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.20'
X-Coordinate: 6113849.70
Y-Coordinate: 2168100.60
Date(s): 09/25/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	CLAY (CL): brown, medium plasticity, damp.
				0.0	CLAY (CL): as above, stiff.
				0.0	CLAY (CL): as above, slightly moist.
				0.0	CLAY (CL): as above.
				0.0	CLAY (CL): as above.
				0.0	Water level tagged at 17.2' bgs.
25				0.0	Collected ground water sample SB-40-24 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.70'
X-Coordinate: 6113865.80
Y-Coordinate: 2168199.70
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 5.0' bgs.
5		CL		0.0	SILTY CLAY (CL): dark brown, stiff, damp.
		ML		0.0	CLAYEY SILT (ML): brown, crumbly, damp.
				0.0	SILT (ML): light brown, trace clay, soft, damp.
				0.0	SILT (ML): brown, slightly clayey, damp.
				0.0	
10					
		CL			CLAY (CL): dark brown to brown, slightly silty, medium plasticity, slightly moist.
15					
		CL			CLAY (CL): brown, medium plasticity, damp.
					CLAY (CL): dark brown, stiff, damp.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.70'
X-Coordinate: 6113865.80
Y-Coordinate: 2168199.70
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	SILTY CLAY (CL): brown, medium plasticity, damp.
				0.0	SILTY CLAY (CL): as above, decreasing silt.
				0.0	CLAY (CL): dark brown, stiff, damp.
				0.0	CLAY (CL): as above, brown.
				0.0	CLAY (CL): as above, medium plasticity, slightly moist.
				0.0	CLAY (CL): as above, slightly silty, stiff.
				0.0	CLAY (CL): as above, with black organic material.
				0.0	SILTY CLAY (CL): brown, medium plasticity, damp.
25				0.0	SILTY CLAY (CL): as above, decreasing silt.
		ML		0.0	SANDY SILT (ML): brown, very fine grained sand, trace clay, moist.
		CL		0.0	SILTY CLAY (CL): brown, medium plasticity, slightly moist.
				0.0	CLAY (CL): brown, stiff, damp.
				0.0	CLAY (CL): as above.
				0.0	Water level tagged at 16.7' bgs.
					Collected ground water sample B-41-28 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.10'
X-Coordinate: 6113861.40
Y-Coordinate: 2168321.40
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 5.0' bgs.
5		ML		0.0	CLAYEY SILT (ML): brown, rootlets, slightly damp.
				0.0	CLAYEY SILT (ML): as above, decreasing clay.
				0.0	CLAYEY SILT (ML): as above, dry.
				0.0	
				0.0	SILT (ML): light brown, soft, dry.
				0.0	
				0.0	
10		CL		0.0	SILTY CLAY (CL): dark brown, stiff, trace black organic material, damp.
				0.0	SILTY CLAY (CL): as above, brown.
				0.0	
				0.0	SILTY CLAY (CL): as above.
				0.0	SILTY CLAY (CL): as above.
		ML		0.0	SILT (ML): light brown, slightly clayey, soft, slightly damp.
				0.0	SILT (ML): as above, increasing clay.
				0.0	
				0.0	SILT (ML): as above, rootlets, slightly moist.
15		CL		0.0	SILTY CLAY (CL): light brown, soft, slightly moist.
				0.0	
				0.0	SILTY CLAY (CL): olive gray, medium to high plasticity, very moist.
				0.0	Water level tagged at 17.1' bgs.
		SM		0.0	SILTY SAND (SM): olive green, fine grained, saturated.
		CL		0.0	Grades to SILTY CLAY (CL): olive gray, medium plasticity, moist.
				0.0	
				0.0	CLAY (CL): dark brown, trace silt, stiff, damp.
				0.0	
				0.0	Collected ground water sample B-42-20 for VOCs with disposable bailer.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.40'
X-Coordinate: 6113878.70
Y-Coordinate: 2168388.20
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: ballast.
					Hand auger to 5.0' bgs.
5		CL		0.0	SILTY CLAY (CL): brown, damp, stiff.
				0.0	
				0.0	
				0.0	SILTY CLAY (CL): as above, increasing silt.
		ML		0.7	CLAYEY SILT (ML): brown, soft, damp.
				0.5	
				0.5	SILT (ML): light brown, trace clay, trace very fine grained sand, soft, damp.
				0.5	
				0.5	SILT (ML): light brown, slightly clayey, soft, damp.
		CL		0.4	CLAY (CL): dark brown, slightly silty, damp.
10				0.4	
				0.3	
				0.3	CLAY (CL): as above, brown.
				0.3	
				0.0	CLAY (CL): as above.
				0.3	
				0.4	
				0.4	CLAY (CL): as above, increasing silt.
		ML		0.4	CLAYEY SILT (ML): light brown, soft, damp.
				0.3	CLAYEY SILT (ML): as above, trace very fine grained sand.
15				0.3	SILT (ML): light brown, slightly clayey, soft, damp.
		CL		0.0	SILTY CLAY (CL): light brown, medium plasticity, damp.
		▽		0.3	CLAY (CL): dark brown, stiff, damp.
				0.3	SILTY CLAY (CL): brown, soft, slightly moist.
		SM		0.3	SILTY SAND (SM): light brown, fine grained, very moist to saturated.
				0.4	SILTY CLAY (CL): brown, stiff, damp.
		CL		0.4	SILTY CLAY (CL): as above dark brown, decreasing silt.
				0.4	Pushed to 20.0' bgs. Hole collapsed to 16.0' bgs, soils sandy and very moist.
				0.0	Pushed casing to 19.0' bgs, tagged water. Water level tagged at 16.4' bgs.
				0.0	Collected ground water sample B-43-19 for VOCs 8260 with disposable bailer.
				0.0	

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.60'
X-Coordinate: 6113884.80
Y-Coordinate: 2168508.60
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: asphalt.
					Base rock to 1.5' bgs.
					Hand auger to 5.0' bgs.
5		CL		1.5	CLAY (CL): dark brown, slightly silty, stiff, damp.
				1.0	
				1.2	CLAY (CL): as above, brown.
				0.4	
				0.5	
				0.5	CLAY (CL): as above.
				0.4	CLAY (CL): as above, increasing silt.
		ML		0.4	SILT (ML): brown, trace clay, soft, slightly moist.
				0.4	
10				0.6	
		CL		0.6	Grades to CLAY (CL): dark brown, slightly silty, stiff, damp.
				0.6	
				0.5	
				0.7	CLAY (CL): as above.
				0.6	
				0.6	CLAY (CL): as above.
				0.6	
				0.6	CLAY (CL): as above, increasing silt.
		ML		0.5	CLAYEY SILT (ML): olive gray, soft, slightly moist.
15				0.5	
				0.6	CLAYEY SILT (ML): as above, increasing clay.
		SM		0.5	SILTY SAND (SM): olive gray, slightly clayey, fine to medium grained, slightly moist.
		ML		0.5	CLAYEY SILT (ML): olive gray, soft, damp.
		CL		0.4	CLAY (CL): brown, trace silt, stiff, damp.
				0.4	
		ML		0.4	CLAYEY SILT (ML): olive gray, trace very fine grained sand, damp.
				0.4	
				0.4	CLAYEY SILT (ML): as above, decreasing sand. Grades to
				0.4	SILTY SAND (SM): olive green, fine to medium grained, trace clay, slightly moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.60'
X-Coordinate: 6113884.80
Y-Coordinate: 2168508.60
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
		SM		0.3	SILTY SAND (SM): olive green, fine to medium grained, trace clay, very moist.
				1.2	SILTY SAND (SM): olive green, fine to medium grained, slight hydrocarbon-like odor.
		CL		1.1	CLAY (CL): gray, stiff, hydrocarbon-like odor, damp.
		SW		3.7	Grades to SAND (SW): olive green to olive gray, fine to coarse grained, trace silt and clay, very moist.
				2.2	
		CL		2.8	SILTY CLAY (CL): olive gray, medium plasticity, trace black organic material, slightly moist.
				3.5	
				1.3	
				1.0	
				1.2	SILTY CLAY (CL): as above.
25		SW		1.6	SAND (SW): olive green, fine to medium grained, trace silt and clay, very moist.
				1.6	
		SM		5.3	SILTY SAND (SM): olive green, fine grained, trace hydrocarbon-like odor, very moist.
		CL		4.9	CLAY (CL): olive gray, slightly silty, stiff, damp.
				0.9	CLAY (CL): as above.
				0.1	
					Water level tagged at 17.6' bgs.
					Collected ground water sample B-44-28 for VOCs with disposable bailer. Hydrocarbon-like odor.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.90'
X-Coordinate: 6113903.50
Y-Coordinate: 2168603.20
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: asphalt.
					Hand auger to 5.0' bgs.
5		CL		0.5	CLAY (CL): dark brown, trace silt, stiff, damp.
				0.5	
				0.6	CLAY (CL): as above, olive gray, increasing silt.
				0.4	
				0.3	
				0.1	CLAY (CL): as above.
				0.0	
				0.0	CLAY (CL): as above, medium plasticity.
		ML		0.0	CLAYEY SILT (ML): olive gray, soft, slightly moist.
				0.0	
10				0.0	CLAYEY SILT (ML): as above, increasing clay.
		CL		0.0	CLAY (CL): brown, trace silt, medium plasticity, damp.
				0.0	
				0.0	CLAY (CL): as above.
				0.0	SILTY CLAY (CL): olive gray, soft, slightly moist.
				0.0	
				0.0	Grades to CLAY (CL): brown, trace silt, medium plasticity, damp.
				0.0	
				0.0	SILTY CLAY (CL): olive gray, stiff, damp.
		ML		0.0	CLAYEY SILT (ML): olive gray, black organic material, soft, slightly moist.
15				0.0	
				0.0	
				0.0	CLAYEY SILT (ML): as above.
				5.5	
		SM		45.1	SILTY SAND (SM): olive green, fine to coarse grained, trace clay, hydrocarbon-like odor, moist.
		CL		11.7	
				7.1	Grades to CLAY (CL): olive gray, stiff, hydrocarbon-like odor, damp.
				10.7	CLAY (CL): as above, slightly silty.
				12.5	CLAY (CL): as above, silty, medium plasticity, slightly moist.
				11.4	CLAY (CL): as above, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.90'
X-Coordinate: 6113903.50
Y-Coordinate: 2168603.20
Date(s): 09/26/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				5.2	CLAY (CL): as above, olive green.
				40	
				27	
				18	CLAY (CL): as above, increasing silt and plasticity.
		ML		11	SILT (ML): olive gray, slightly clayey, slightly sandy, very fined grained, soft, moist.
				3.0	
				0.6	SILT (ML): as above brown, increasing sand.
				1.5	CLAYEY SILT (ML): brown, soft, slightly moist.
		CL		1.2	CLAY (CL): brown, slightly silty, high plasticity, very moist.
				2.3	CLAY (CL): as above, slight hydrocarbon-like odor, saturated.
25				1.8	CLAY (CL): as above, moist.
				1.1	CLAY (CL): brown, slightly silty, stiff, trace black organic material, faint hydrocarbon-like odor, damp.
				1.3	
				1.3	
				1.5	
				1.3	CLAY (CL): as above.
				1.3	Water level tagged at 15.9' bgs
					Collected ground water sample B-45-24 for VOCs with disposable bailer.
					Pushed to 24.0-28.0' bgs to view soils beneath water infiltration depth.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.01'
X-Coordinate: 6114001.00
Y-Coordinate: 2168584.40
Date(s): 09/27/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: ~3.0" asphalt.
					Hand auger to 5.0' bgs.
5		CL		0.0	SILTY CLAY (CL): dark brown, stiff, damp.
				0.0	
				0.0	SILTY CLAY (CL): as above, brown.
				0.2	SILTY CLAY (CL): as above, increasing silt.
		ML		0.4	CLAYEY SILT (ML): light brown, soft, damp.
				0.4	
				0.4	
				0.2	
		CL		0.2	SILTY CLAY (CL): brown, stiff, damp.
				0.2	
10		ML		0.4	Grades to CLAYEY SILT (ML): light brown, soft, damp.
				0.2	
		CL		0.2	SILTY CLAY (CL): brown, stiff, damp.
				0.2	
				0.2	SILTY CLAY (CL): as above.
				0.0	
				0.0	SILTY CLAY (CL): as above, light brown.
				0.0	
				0.0	SILTY CLAY (CL): as above, increasing silt.
		ML		0.0	CLAYEY SILT (ML): light brown, soft, damp.
15				0.0	
				0.0	Water level tagged at 16.01' bgs.
		▽		0.1	CLAYEY SILT (ML): as above.
		CL		0.1	SILTY CLAY (CL): light brown, medium plasticity, damp.
				0.1	CLAY (CL): brown, slightly silty, meduim plasticity, damp.
				0.1	
				0.1	CLAY (CL): as above, olive gray, slight hydrocarbon-like odor.
				0.1	CLAY (CL): olive gray, slightly silty, high plasticity, hydrocarbon-like odor, slightly moist.
				0.2	Collected ground water sample B-46-20 for VOCs with disposable bailer.
				0.8	Slight sheen on water sample and hydrocarbon-like odor.
				0.8	

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 26.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.53'
X-Coordinate: 6114098.70
Y-Coordinate: 2168591.70
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: ~3.0" asphalt. Hand auger to 5.0' bgs.
5		CL		0.1	SILTY CLAY (CL): very dark brown, trace lithics (gravel-sized, ~2.0mm), medium plasticity, damp.
				0.1	
		ML		0.1	CLAYEY SILT (ML): very dark brown, trace gravel, little plasticity, moist.
				0.1	CLAYEY SILT (ML): medium brown, medium plasticity.
		CL			SILTY CLAY (CL): dark brown, medium plasticity, trace organic material, moist.
10				0.1	SILTY CLAY (CL): medium to light brown, medium plasticity, trace organic material, very moist.
				0.0	
				0.0	
				0.0	SILTY CLAY (CL): as above, less plasticity.
				0.0	
				0.0	SANDY SILTY CLAY (CL): light brown, low plasticity, trace organic material, moist.
15				0.0	
				0.0	SILTY CLAY (CL): dark brown, medium plasticity, moist.
		∇			
				0.0	SILTY CLAY (CL): medium brown, low plasticity, moist at 18.5', silty sand layer, fine grained, medium brown, trace organic material.
				0.0	SILTY CLAY (CL): medium brown, medium plasticity, trace gravel, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 26.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.53'
X-Coordinate: 6114098.70
Y-Coordinate: 2168591.70
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	SILTY CLAY (CL): as above.
				0.0	SILTY CLAY (CL): as above.
				0.0	SILTY CLAY (CL): medium brown, medium plasticity, very moist.
				0.0	SILTY CLAY (CL): as above, very moist.
				0.0	SILTY CLAY (CL): as above.
25				0.0	SILTY CLAY (CL): as above.
				0.2	
					Water level tagged at 16.53' bgs. Collected ground water sample B-47-26 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.00'
X-Coordinate: 6114162.60
Y-Coordinate: 2168577.20
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: asphalt ~3.0".
					Hand auger to 6.0' bgs.
5					
		ML		0.1	SILT (ML): light brown, slightly sandy, very fined grained, damp.
				0.1	SILT (ML): as above, increasing sand.
					SILT (ML): light brown, trace clay and very fine grained sand, damp.
				0.0	SANDY SILT (ML): light brown, very fined grained, damp.
				0.0	
10				0.0	SILT (ML): as above.
				0.0	SILT (ML): as above, trace clay.
				0.0	CLAYEY SILT (ML): light brown, soft, slightly moist.
				0.0	CLAYEY SILT (ML): as above.
				0.0	
					SANDY SILT (ML): light brown, slightly clayey, very fined grained, damp.
15					SANDY SILT (ML): as above, trace amounts of silt, very damp.
					SANDY SILT (ML): light brown, very fine, very damp.
					SANDY SILT (ML): as above, at 17.5' sand is coarser, very damp.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.00'
X-Coordinate: 6114162.60
Y-Coordinate: 2168577.20
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Water level tagged at 16.0' bgs.
					Casing to ~18.0', very little water. Pushed to 22.0' bgs.
					Set casing to collect ground water samples.
					Collected ground water sample B-48-22 for VOCs with disposable bailer.
25					
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.60'
X-Coordinate: 6114181.40
Y-Coordinate: 2168469.60
Date(s): 09/27/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: gravel, base rock.
					Hand auger to 5.0' bgs.
5		ML		0.6	SILT (ML): brown, slightly clayey, soft, damp.
				0.5	
				0.4	
				0.5	SILT (ML): as above, increasing clay.
				0.5	
				0.5	SILT (ML): as above, light brown.
				0.4	
				0.2	SILT (ML): as above.
				0.2	
10				0.4	SILT (ML): as above, decreasing clay, trace very fine grained sand.
				0.8	
				0.4	SILT (ML): as above.
				0.2	
				0.4	SILT (ML): light brown, trace clay and very fined grained sand, damp.
				0.4	SILT (ML): as above, decreasing clay.
				0.6	SILT (ML): as above, increasing very fine grained sand, decreasing clay, slightly moist.
				0.4	SILT (ML): as above.
		SM		0.2	Grades to SILTY SAND (SM): olive gray, very fine grained, moist.
15				0.1	Water level tagged at 15.6' bgs.
		ML		0.1	Grades to SILT (ML): olive gray, trace clay and very fine grained sand, slightly moist.
				0.6	SILT (ML): as above, light brown.
				0.4	SAND (SP): olive gray, slightly silty, fine to medium grained, moist.
		SP		0.4	SAND (SP): as above, increasing moisture.
				0.2	SAND (SW): dark brown sand, fine to coarse grained, multi-colored gravel, subangular to subrounded, loose, saturated.
		SW		0.1	SAND (SW): as above, olive gray, trace silt and clay.
				0.1	SAND (SW): as above, brown, very moist.
				0.1	Collected ground water sample B-49-20 for VOC with disposable bailer.
				0.1	
				0.1	

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.10'
X-Coordinate: 6114165.60
Y-Coordinate: 2168373.50
Date(s): 09/27/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 4.0' bgs.
		CL		0.0	SILTY CLAY (CL): brown, stiff.
				0.0	
5				0.0	CLAY (CL): brown, stiff, damp.
				0.0	CLAY (CL): brown, stiff, some silt.
				0.1	CLAY (CL): silty, stiff, damp.
				0.0	
				0.0	CLAY (CL): as above, less silt.
				0.0	
				0.0	SILTY CLAY (CL): brown, damp.
10					
		CL		0.0	CLAY (CL): brown, some silt, low plasticity.
				0.0	CLAY (CL): as above, to medium plasticity, damp.
				0.0	SILTY CLAY (CL): brown, medium plasticity, damp.
				0.0	
				0.0	
15				0.0	CLAY (CL): as above.
				0.0	
				0.0	SILTY CLAY (CL): brown, damp.
				0.0	SILTY CLAY (CL): light brown, soft, damp.
		SP		0.0	SAND (SP): 3.0" layer, brown, slightly silty, medium grained, slightly moist.
		CL		0.0	CLAY (CL): brown, stiff, damp.
				0.0	
				0.0	
				0.0	CLAY (CL): as above, light brown, slightly silty.
				0.0	

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.10'
X-Coordinate: 6114165.60
Y-Coordinate: 2168373.50
Date(s): 09/27/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	SILTY CLAY (CL): light brown, soft, damp.
				0.2	CLAY (CL): brown, slightly silty, damp.
				1.3	CLAY (CL): brown, slightly silty, medium plasticity, damp.
				0.5	CLAY (CL): brown, trace of silt, stiff, damp.
				0.8	
				0.5	
				0.2	
				0.2	CLAY (CL): as above.
				0.2	Water level tagged at 16.1' bgs
25					Collected ground water sample B-50-24 for VOCs with disposable bailer.
					Also collected duplicate sample B-50-24dup.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.20'
X-Coordinate: 6114118.70
Y-Coordinate: 2168275.60
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 6.0' bgs.
5					
		CL		0.0	SILTY CLAY (CL): dark brown, slightly plastic, dense, moist.
				0.0	SILTY CLAY (CL): as above, lighter brown, less clay.
				0.0	SILTY CLAY (CL): as above.
				0.0	SILTY CLAY (CL): as above.
10				0.1	SILTY CLAY (CL): as above brown, slightly plastic, moist.
				0.0	SILTY CLAY (CL): as above.
				0.1	SILTY CLAY (CL): as above.
				0.2	
				0.2	SILTY CLAY (CL): brown to orangish/reddish brown, medium plasticity, moist.
15				0.6	SILTY CLAY (CL): as above, less dense.
				0.1	
				0.1	SILTY CLAY (CL): as above.
		▽		0.0	SILTY CLAY (CL): as above.
				0.5	SILTY CLAY (CL): brown, medium plasticity, trace iron oxidation, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.20'
X-Coordinate: 6114118.70
Y-Coordinate: 2168275.60
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.1	SILTY CLAY (CL): as above, slighty more plastic.
				0.8	SILTY CLAY (CL): as above, trace gravel.
				0.5	SILTY CLAY (CL): as above, trace gravel.
					Water level tagged at ~18.2' bgs.
					Collected ground water sample B-51-22 for VOCs with disposable bailer.
25					
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.50'
X-Coordinate: 6114105.10
Y-Coordinate: 2168181.70
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 6.0' bgs.
5					
		ML		0.2	CLAYEY SILT (ML): dark brown, dense, low plasticity, damp.
				0.2	CLAYEY SILT (ML): as above.
				0.2	CLAYEY SILT (ML): as above, slightly more plastic.
				0.1	CLAYEY SILT (ML): as above.
				0.1	CLAYEY SILT (ML): as above.
10		SP			SAND (SP): sand lense at 10.2', medium grained with gravel.
		CL		0.2	SILTY CLAY (CL): light brown, medium plasticity, moist.
				0.8	
				0.8	SILTY CLAY (CL): as above.
				0.2	SILTY CLAY (CL): brown to light brown, medium plasticity, moist, gravel at 14.3' (slough).
15				0.2	
				0.1	SILTY CLAY (CL): as above, softer.
				0.6	SILTY CLAY (CL): as above.
				2.0	SILTY CLAY (CL): as above, brown.
				5.9	SILTY CLAY (CL): light brown to brown, medium plasticity, moist, slough at 18.2'.
					SILTY CLAY (CL): as above, soft, medium plasticity.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 22.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.50'
X-Coordinate: 6114105.10
Y-Coordinate: 2168181.70
Date(s): 10/03/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.8	
				0.2	SILTY CLAY (CL): as above.
					Water level tagged at 17.5' bgs.
					Collected ground water sample, B-52-22, and duplicate sample, B-52-22DUP, for VOCs with disposable bailer.
25					
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.00'
X-Coordinate: 6114093.00
Y-Coordinate: 2168094.90
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock. Concrete pad ~8.0" bgs. Used dummy rod to push past. Then hand augered to 5.0' bgs.
5		CL		0.0	CLAY (CL): dark brown, slightly silty, stiff, damp.
				0.0	CLAY (CL): as above, brown, increasing silt.
				0.2	CLAY (CL): as above.
				0.4	
				0.0	CLAY (CL): as above, medium plasticity.
10				0.8	CLAY (CL): as above.
				0.0	CLAY (CL): as above, with black organic material.
				0.0	CLAY (CL): as above.
				0.0	
15					
		CL		0.4	SILTY CLAY (CL): brown, stiff, damp.
				0.0	SILTY CLAY (CL): as above, medium plasticity.
		ML			CLAYEY SILT (ML): light brown, soft, damp.
				0.0	CLAYEY SILT (ML): as above, slightly moist.
		CL		0.0	SILTY CLAY (CL): brown, medium plasticity, damp.
					SILTY CLAY (CL): as above, slightly moist.
					SILTY CLAY (CL): as above, high plasticity, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Hollow Stem Auger
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.00'
X-Coordinate: 6114093.00
Y-Coordinate: 2168094.90
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	SILTY CLAY (CL): as above, very moist to saturated.
				0.0	
		ML		0.0	SILT (ML): brown, trace clay and very fine grained sand, moist. CLAYEY SILT (ML): brown, soft, moist.
				0.0	
				0.0	CLAYEY SILT (ML): as above, trace very fine grained sand.
25					Water level tagged at ~18.0' bgs. Collect ground water sample B-53-24 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.20'
X-Coordinate: 6114071.30
Y-Coordinate: 2168038.60
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock. Hand auger to 5.0' bgs.
5		CL		0.0	CLAY (CL): dark brown, slightly silty, stiff, damp.
					CLAY (CL): as above, brown.
				0.0	CLAY (CL): as above, increasing silt, medium plasticity.
		ML		0.0	CLAYEY SILT (ML): brown, soft, damp.
10					
		ML		0.0	CLAYEY SILT (ML): as above.
		CL		0.0	CLAY (CL): brown, slightly silty, stiff, damp.
					SILTY CLAY (CL): light brown, medium plasticity, damp.
		ML		0.6	CLAYEY SILT (ML): light brown, soft, damp.
15				0.1	SILT (ML): light brown, trace clay and very fine grained sand, damp.
				0.4	SILT (ML): as above, slightly moist.
		CL			CLAY (CL): dark brown to brown, slightly silty, medium plasticity, damp.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.20'
X-Coordinate: 6114071.30
Y-Coordinate: 2168038.60
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
		CL			SILTY CLAY (CL): brown, medium plasticity, damp.
					SILTY CLAY (CL): as above, light brown, high plasticity.
					SILTY CLAY (CL): as above, slightly moist.
					SILTY CLAY (CL): as above, moist.
					SILTY CLAY (CL): as above, trace very fine grained sand, very moist.
		ML			SILT (ML): brown, slightly clayey and sand, very fined grained, black organic material, very soft, very moist.
					Water level tagged at 16.2' bgs.
25					Collected ground water sample B-54-24 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.20'
X-Coordinate: 6114066.40
Y-Coordinate: 2167929.20
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 5.0' bgs.
5		CL		0.6	SILTY CLAY (CL): dark brown, stiff, damp.
				0.6	SILTY CLAY (CL): as above, brown .
					SILTY CLAY (CL): as above, increasing silt.
		ML		1.3	SILT (ML): brown, slightly clayey, soft, damp.
				0.9	
		CL		0.5	SILTY CLAY (CL): brown, stiff, damp.
10				1.3	SILTY CLAY (CL): as above.
				1.0	SILTY CLAY (CL): as above, light brown, increasing silt.
		ML		0.5	CLAYEY SILT (ML): light brown, soft, damp.
					SILT (ML): brown, trace clay and very fine grained sand, damp.
				0.0	SILT (ML): as above, increasing clay.
					SILT (ML): as above, slightly moist.
		SM		0.0	SILTY SAND (SM): brown, very fine to fine grained, micaceous, slightly moist.
15				0.0	
		CL		0.0	SILTY CLAY (CL): dark brown, medium plasticity, damp.
				0.0	

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.20'
X-Coordinate: 6114066.40
Y-Coordinate: 2167929.20
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
		CL			SILTY CLAY (CL): as above, brown.
					SILTY CLAY (CL): as above, increasing plasticity, slightly moist.
					CLAY (CL): as above.
					CLAY (CL): as above with black organic material.
					CLAY (CL): brown, slightly silty, stiff, damp.
					Water level tagged at 17.2' bgs.
25					Collected ground water sample B-55-24 for VOCs with disposable bailer.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.10'
X-Coordinate: 6114040.30
Y-Coordinate: 2167806.50
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Surface: base rock.
					Hand auger to 5.0' bgs.
		CL			CLAY (CL): dark brown, damp.
5				0.0	CLAY (CL): dark brown, slightly silty, damp.
					CLAY (CL): as above, increasing silt.
		ML		0.0	CLAYEY SILT (ML): brown, damp.
					SILT (ML): light brown, trace clay, damp.
				0.0	SILT (ML): light brown, trace clay and very fine grained sand, soft, damp.
				0.0	SILT (ML): as above.
10				0.0	SILT (ML): as above, increasing clay, decreasing sand.
				0.0	
				0.0	CLAYEY SILT (ML): brown, soft, damp.
		SM		0.0	Grades to SILTY SAND (SM): light brown, very fine grained, loose, damp.
				0.0	
				0.0	
15					
		SM		0.0	SILTY SAND (SM): brown, very fine grained, slightly moist.
		ML			CLAYEY SILT (ML): light brown, soft, slightly moist.
		CL		0.0	Grades to CLAY (CL): dark brown, slightly silty, medium plasticity, damp.
		▽		0.0	Grades to CLAY (CL): dark brown, trace silt, stiff, damp.
				0.0	CLAY (CL): as above, grades to brown in color.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.10'
X-Coordinate: 6114040.30
Y-Coordinate: 2167806.50
Date(s): 10/01/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.0	CLAY (CL): as above, increasing silt, medium plasticity.
				0.0	
		CL		0.0	CLAY (CL): brown, slightly silty, medium plasticity, damp.
25				0.0	CLAY (CL): as above, high plasticity, slightly moist.
					CLAY (CL): as above, grades to medium plasticity.
				0.0	CLAY (CL): brown, trace silt, stiff, damp.
				0.0	
					CLAY (CL): slightly silty, medium plasticity, damp.
				0.0	CLAY (CL): dark brown, trace silt, stiff, damp.
					CLAY (CL): brown, slightly silty, high plasticity, slightly moist.
				0.0	CLAY (CL): as above, medium plasticity.
30				0.0	CLAY (CL): as above.
					Water level tagged at 18.1' bgs.
					Collected ground water sample B-56-32 for VOCs with disposable bailer.
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.90'
X-Coordinate: 6114031.00
Y-Coordinate: 2167740.90
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Hand auger to 5.0' bgs.
5		ML			SILT (ML): dark brown, slightly clayey, damp.
					SILT (ML): as above, brown.
					SILT (ML): as above, decreasing clay.
					CLAYEY SILT (ML): dark brown, damp.
					CLAYEY SILT (ML): as above, brown.
10					SILT (ML): as above, slightly clayey.
					SILT (ML): as above.
					SILT (ML): brown, slightly clayey, damp.
					SILT (ML): light brown, slightly sandy, very fine grained, slightly moist.
					SILT (ML): light brown, slightly clayey, slightly moist.
15					SILT (ML): as above, trace very fine grained sand.
					CLAYEY SILT (ML): brown, slightly moist.
		CL			CLAY (CL): dark brown, medium plasticity, damp.
					CLAY (CL): as above, brown.
					CLAY (CL): as above
					CLAY (CL): as above, dark brown.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 32.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.90'
X-Coordinate: 6114031.00
Y-Coordinate: 2167740.90
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					CLAY (CL): as above, brown, slightly moist.
					CLAY (CL): as above, high plasticity.
					CLAY (CL): as above, silty.
					CLAY (CL): as above, trace black organic material.
					CLAY (CL): as above, medium plasticity.
					CLAY (CL): as above, decreasing black organic material.
					SILTY CLAY (CL): brown, medium plasticity, slightly moist.
					CLAY (CL): dark brown, medium plasticity.
25					CLAY (CL): as above, brown, medium plasticity.
					CLAY (CL): as above, trace organic material.
					CLAY (CL): as above.
					CLAY (CL): brown, high plasticity, damp.
					CLAY (CL): as above, slightly silty.
30		SC			CLAYEY SAND (SC): brown, fined grained, moist.
		ML			SANDY SILT (ML): brown, very fined grained sand, slightly clayey, moist.
					SANDY SILT (ML): as above.
		CL			SILTY CLAY (CL): dark brown, hard, damp.
					Water level tagged at 17.9' bgs.
					Collected ground water sample, B-57-32, and duplicate sample, B-57-32dup.
					5.0' of screen used.
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.80'
X-Coordinate: 6114008.30
Y-Coordinate: 2167586.30
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
					Top 1.0' fill.
					Hand auger to 5.0' bgs.
		ML			SANDY SILT (ML): brown, slightly moist.
5				0.0	SILT (ML): gray brown, with trace coarse grained sand, dense, dry.
				0.0	CLAYEY SILT (ML): brown, with trace fine grained sand, dry.
					SILT (ML): as above.
				0.0	SANDY SILT (ML): brown, fine grained sand, slightly moist.
					CLAYEY SILT (ML): brown, slightly moist.
10				0.0	CLAYEY SILT (ML): as above.
				0.0	CLAYEY SILT (ML): as above.
					CLAYEY SILT (ML): brown, slightly moist.
				0.0	CLAYEY SILT (ML): brown, slightly moist.
15				0.0	SANDY SILT (ML): brown, very fine grained sand, slightly moist.
				0.0	CLAYEY SILT (ML): brown, moist.
				0.0	CLAYEY SILT (ML): brown, slightly moist.
				0.0	CLAYEY SILT (ML): brown, very slightly moist.
				0.0	CLAYEY SILT (ML): dark brown, very dense, very slightly moist.
					CLAYEY SILT (ML): as above.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Gregg Drilling
Drilling Method: Direct-Push
Logged By: D. Moberg

Total Depth: 28.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.80'
X-Coordinate: 6114008.30
Y-Coordinate: 2167586.30
Date(s): 09/24/01

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	PID (ppm)	Soil Description and Observations
				0.6	CLAYEY SILT (ML): brown, dense, slightly moist.
				0.6	
		CL		0.0	CLAY (CL): brown, slightly moist.
				0.0	CLAY (CL): brown, dense, slightly moist.
				0.0	
				0.0	CLAY (CL): brown, clay interbedded with very fine sand, saturated at sand.
25					CLAY (CL): as above
					CLAY (CL): brown, dense, moist.
					CLAY (CL): brown, very dense, slightly moist.
					Water level tagged at 15.8' bgs.
					Collected ground water sample B-58-28 for VOCs.
30					
35					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 31.00'
X-Coordinate: 6113805.50
Y-Coordinate: 2167543.7
Date(s): 09/16/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-59-0		SILTY CLAY (CL): dark brown, dry.
				B-59-2.5		
5				B-59-5.5	0.0	CLAY (CL): dark brown, stiff, dry to damp.
					0.0	SILTY CLAY (CL): brown, dry to damp.
10		ML		B-59-10.5	0.0	CLAYEY SILT (ML): light brown, loose, damp.
					0.0	CLAYEY SILT (ML): as above, damp to moist.
		CL			0.0	CLAY (CL): light brown, damp to moist.
15				B-59-15.5	0.0	CLAY (CL): dark brown, stiff, damp. CLAY (CL): brown, dry to damp.
					0.0	SILTY CLAY (CL): light brown, soft, damp.
20				B-59-20.5	0.0	CLAY (CL): dark brown, stiff, damp. SILTY CLAY (CL): light brown, damp.
					0.0	CLAY (CL): brown, damp.
25				B-59-25.5	0.0	CLAY (CL): dark brown, stiff, damp. CLAY (CL): dark brown, medium stiff, damp. CLAY (CL): brown, medium stiff, damp.
30				B-59-30.5	0.0	CLAY (CL): dark brown, lean, damp.
		SM				SILTY SAND (SM): light brown, fine grained, loose, saturated.
		CL			0.0	CLAY (CL): dark brown, lean, damp.
35					0.0	CLAY (CL): black, stiff, dry to damp. Total Depth – 35.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.00'
X-Coordinate: 6113788.50
Y-Coordinate: 2167596.30
Date(s): 09/18/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-60-0.5		Concrete, ~6.0". CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-60-2.5		
					1.4	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
5				B-60-5.5	1.5	CLAY (CL): as above.
					0.0	
					0.0	
					0.0	
					0.0	
10				B-60-10.5	0.0	CLAY (CL): olive brown, with fine grained sand, trace silt, moderate plasticity, dry.
					0.0	
					0.0	CLAY (CL): olive brown, trace silt, high plasticity, dry.
					0.0	
15				B-60-15.5	0.0	CLAY (CL): as above.
					0.0	
		SP			0.0	SAND (SP): brown, fine to medium grained, with silt, trace clay, damp.
20		CL		B-60-20.5	0.0	CLAY (CL): brown, trace silt, stiff, moderate plasticity, wet.
					0.0	
					0.0	
					0.0	
					0.0	CLAY (CL): brown, trace silt, medium stiff, high plasticity, dry.
25				B-60-25.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	
					0.0	CLAY (CL): brown, trace silt, soft, high plasticity, dry.
30				B-60-30.5	0.0	CLAY (CL): as above, olive brown.
					0.0	
					0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
35				B-60-35.0		Total Depth - 35.0'

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-60-35.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 26.50'
X-Coordinate: 6113757.20
Y-Coordinate: 2167625.80
Date(s): 09/18/03

Depth (ft)	USCS Code	Sample No.	PID (ppm)	Soil Description and Observations
	CL	B-61-0.5	0.0	Concrete, ~6.0".
			0.0	CLAY (CL): black, trace silt, stiff, low plasticity.
		B-61-2.5	0.0	
			2.4	
			0.7	
5		B-61-5.5	0.0	CLAY (CL): dark brown, some silt, stiff, low plasticity.
			0.0	
			0.0	
			0.0	
			0.0	
10		B-61-10.5	0.0	CLAY (CL): brown, with fine to medium grained sand, trace silt.
			0.0	CLAY (CL): olive brown, some silt, medium stiff, moderate plasticity.
			0.0	
			0.0	
			0.0	
15		B-61-15.5	0.0	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity.
			0.0	
			0.0	
			0.0	
			0.0	
20	SP	B-61-20.5	0.0	SAND (SP): brown, fine to medium grained, with clay, damp.
	CL		0.0	
			0.0	
			0.0	
25		B-61-25.5	0.0	CLAY (CL): olive brown, with fine grained sand, trace silt, soft, high plasticity, dry.
			0.0	
	SP		0.0	SAND (SP): rusty brown, fine to medium grained, with silt, saturated.
			0.0	
			0.0	
30	CL	B-61-30.5	0.0	CLAY (CL): brown, medium stiff, moderate plasticity, dry.
			0.0	CLAY (CL): as above.
			0.0	CLAY (CL): olive brown, with fine grained sand, trace silt, soft, high plasticity, damp.
			0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
			0.0	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
35			0.9	Total Depth - 35.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 21.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113787.80
Y-Coordinate: 2167661.60
Date(s): 10/02/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-62-0.5	3.8	Concrete, ~6.0". Fill, ~6.0".
		CL		B-62-2.5	1.4	CLAY (CL): black, with silt, stiff, low plasticity, dry.
					0.9	CLAY (CL): as above, dark brown.
					0.3	
5				B-62-5.0	1.1	
					2.2	
					9.7	CLAY (CL): olive brown, with some silt, medium stiff, low plasticity, dry.
		ML			8.1	CLAYEY SILT (ML): olive brown, medium stiff, low plasticity, damp.
					2.0	
10				B-62-10.0	0.0	CLAYEY SILT (ML): as above.
					5.1	
					5.7	CLAYEY SILT (ML): as above, moist.
		CL			4.3	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
15				B-62-15.0	3.3	
		ML				CLAYEY SILT (ML): olive brown, soft, high plasticity, moist.
		CL			9.5	CLAY (CL): olive brown, with some silt, stiff, low plasticity, dry.
					11.9	
						CLAY (CL): olive brown, trace silt, soft, high plasticity, damp.
20				B-62-20.0		CLAY (CL): as above, very soft, moist.
						Total Depth - 21.0'
25						
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: A. Cole

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113811.70
Y-Coordinate: 2167648.50
Date(s): 09/19/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-63-0.5		Asphalt, ~8.0". CLAY (CL): black, trace sand, stiff, low plasticity, dry.
				B-63-2.5		
5				B-63-5.5	0.4	
					0.5	CLAY (CL): dark brown, some fine grained sand, stiff, low plasticity, dry.
					1.6	
					1.6	
					6.1	CLAY (CL): as above, increase in sand content.
10				B-63-10.5	1.2	
					2.5	CLAY (CL): brown, trace sand, stiff, moderate plasticity, dry.
					2.8	
					0.9	
					0.8	CLAY (CL): dark brown, trace fine grained sand, stiff, high plasticity, dry.
15				B-63-15.5	0.2	
					6.6	CLAY (CL): olive brown, stiff, high plasticity, dry.
					1.1	
				B-63-17.5	13.4	
					2.9	CLAY (CL): as above, increase in moisture.
					0.9	
20				B-63-20.5	0.6	
					0.2	
					1.1	
					0.0	
					0.4	
25				B-63-25.5	0.4	
					0.8	
					2.9	CLAY (CL): dark brown, some fine grained sand, trace fine gravel, stiff, moist.
					0.1	
					0.5	
					0.4	
30				B-63-30.5	3.7	
					0.6	
					3.3	
					2.0	CLAY (CL): black, very stiff, moderate plasticity, dry.
					0.9	
35				B-63-35.0	7.0	Total Depth - 35.0'

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-63-35.0.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113876.20
Y-Coordinate: 2167600.40
Date(s): 09/06/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		GP			0.0	GRAVEL (GP): light gray, with dark brown, medium to coarse grained sand, dry.
		CL			0.0	CLAY (CL): black, moderately stiff to stiff, dry.
				B-64-2.5	0.0	
					0.0	SILTY CLAY (CL): dark brown to black, medium stiff, dry.
					0.0	
5					0.0	SILTY CLAY (CL): as above.
				B-64-6.0	0.0	CLAY (CL): dark brown, medium stiff, dry.
					0.0	
					0.0	SILTY CLAY (CL): brown, moderately loose, dry.
					0.0	
10				B-64-10.5	0.0	
					0.0	CLAY (CL): brown, trace silt, lean, soft, dry to damp.
					0.0	
					0.0	
15				B-64-15.5	0.0	CLAY (CL): brown, medium stiff, dry to damp.
					0.0	
					0.0	CLAY (CL): dark brown, stiff, dry to damp.
					0.0	
					0.0	
20				B-64-20.5	0.0	CLAY (CL): dark brown, stiff, dry to damp.
					0.0	
					0.0	
					0.0	
					0.0	
25				B-64-25.5	0.0	CLAY (CL): light brown to brown, lean, soft.
					0.0	
					0.0	
					0.0	CLAY (CL): dark brown, stiff, dry to damp.
					0.0	
30				B-64-30.5	0.0	CLAY (CL): brown, medium stiff, dry to damp.
					0.0	
					0.0	
					0.0	CLAY (CL): brown to dark brown, stiff, dry to damp.
					0.0	
35				B-64-35	0.0	Total Depth – 35.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 24.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113773.50
Y-Coordinate: 2167708.30
Date(s): 10/01/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Concrete, ~6.0".
				B-65-0.5	0.0	Fill, ~6.0".
		CL		B-65-2.5	7.4	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
					571	
					0.1	CLAY (CL): as above, dark brown.
5				B-65-5.5		
					0.3	
		ML			0.0	SILT (ML): brown, with some clay, medium stiff, low plasticity, dry.
					0.0	
					0.0	
					0.0	SILT (ML): as above.
10				B-65-10.5	0.0	
					25	SILT (ML): as above, damp.
					2.4	
		CL			23.9	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					20.7	CLAY (CL): olive brown, with some silt, soft, high plasticity, moist.
15				B-65-15.0	4.1	CLAY (CL): dark olive brown, trace silt, stiff, low plasticity, dry.
					7.7	
					10.3	
					2.8	CLAY (CL): as above.
					7.1	SILT (ML): olive brown, with some fine grained sand, some clay, soft, high plasticity, slightly moist.
20		ML		B-65-20.0	4.8	
		CL			0.9	CLAY (CL): dark olive brown, trace silt, stiff, moderate plasticity, dry.
				B-65-24.0		Total Depth – 24.0'
25						Temporary well point screened from 14.0-24.0' was used to collect ground water sample: B-65-24.0.
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: A. Cole

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 09/19/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Concrete, ~1.0'.
		SM				SILTY SAND (SM): brown, fine to medium grained sand, 1/8" gravel, loose, dry.
		CL				CLAY (CL): black, some fine grained sand, medium stiff, dry.
5				B-66-5.5	0.0	SILTY CLAY (CL): dark brown, silt (30%), medium stiff, no plasticity, dry.
					0.4	
					0.1	
					0.1	
					0.0	
10				B-66-10.5	0.0	
					0.0	
					0.0	
					0.0	
					0.1	
					0.0	
		SP			0.0	SAND (SP): 3.0" lens, fine grained, laminated.
15		CL		B-66-15.5	0.0	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.1	CLAY (CL): dark brown, stiff, high plasticity, dry to trace moisture.
					0.1	
20				B-66-20.5	0.0	
					0.0	
					0.0	
					0.0	CLAY (CL): dark brown, trace fine grained sand, stiff, high plasticity, dry.
					0.0	
25				B-66-25.5	0.0	
					0.0	
					0.0	
					0.0	CLAY (CL): as above.
					0.0	
30				B-66-30.5	0.0	
					0.0	
					0.1	
					0.0	
					0.0	
					0.0	CLAY (CL): as above.
35				B-66-35.0	0.0	Total Depth - 35.0'

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-66-35.0.
Ground water sample B-66-55.0 was collected by HydroPunch, Screen: 51.0-55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 27.50'
X-Coordinate: 6113810.30
Y-Coordinate: 2167718.50
Date(s): 09/18/03

Depth (ft)	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
	CL		B-67-0.5		Concrete, ~3.0". CLAY (CL): black, trace silt, stiff, low plasticity, dry.
			B-67-2.5		
5			B-67-5.5	0.4	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
				0.0	
				1.2	
				0.0	
				0.0	
10			B-67-10.5	0.0	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
				0.0	
				0.7	
15			B-67-15.5	0.0	CLAY (CL): dark brown, trace silt, with thin fine to medium grained sand layer with silt, moderate plasticity, moist.
				0.0	
				0.0	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, dry.
				0.0	
				0.0	
20			B-67-20.5	0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity.
				0.0	
				0.0	
				0.0	
25			B-67-25.5		CLAY (CL): as above.
	SM			0.6	SILTY SAND (SM): olive gray, trace clay, wet.
	CL			0.0	CLAY (CL): brown, trace silt, medium stiff, moderate plasticity, dry.
30	SC		B-67-30.5	0.0	CLAYEY SAND (SC): olive gray, trace silt, soft.
	CL			0.0	CLAY (CL): olive gray, with some silt, soft, high plasticity.
				0.0	
				0.0	
				0.0	
35			B-67-35.0		Total Depth – 35.0'

Temporary well point screened from 25.0–35.0' was used to collect ground water sample: B-67-35.0.
Ground water sample B-67-55.0 was collected by HydroPunch, Screen: 51.0–55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113811.70
Y-Coordinate: 2167648.50
Date(s): 09/29/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Asphalt, ~6.0". Baserock, ~1.0'.
		CL		B-68-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-68-5.5	0.0	CLAY (CL): as above, dark brown.
					1.7	
					0.5	
					0.0	
					0.0	
10		ML		B-68-10.5	0.1	CLAYEY SILT (ML): olive brown, loose, damp.
					1.8	
		CL			5.2	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
					5.4	
					1.2	
15				B-68-15.5	0.0	CLAY (CL): as above.
					1.7	
					0.4	
		SM		B-68-18.5	0.5	SANDY SILT (SM): olive brown, trace clay, soft, moist.
		CL			0.0	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
20				B-68-20.5	0.9	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
					0.3	
					0.6	CLAY (CL): brown, trace silt, medium stiff, high plasticity, dry.
					0.0	
					0.0	
25					0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
					17.6	
					0.0	CLAY (CL): as above.
					0.7	
					0.1	
30				B-68-30.0	0.1	Total Depth - 30.0'
						Temporary well point screened from 20.0-30.0' was used to collect ground water sample: B-68-30.0.
						Ground water sample B-68-55.0 was collected by HydroPunch, Screen: 51.0-55.0'
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.70'
X-Coordinate: 6113888.50
Y-Coordinate: 2167657.20
Date(s): 09/17/03

Depth (ft)	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				0.0	Baserock, ~6.0".
	CL		B-69-0.5	0.0	CLAY (CL): black, with some silt, compacted, low plasticity, dry.
			B-69-2.5	0.0	CLAY (CL): as above, dark brown.
				0.0	
				0.0	
5	SM		B-69-5.5	0.0	SILTY SAND (SM): rusty brown, with trace gravel, dry.
	CL			0.0	CLAY (CL): dark brown, stiff, moderate plasticity, dry.
				0.0	
				0.0	CLAY (CL): brown, trace silt, low plasticity, dry.
				0.0	
10			B-69-10.5	0.0	
	SM			0.0	SILTY SAND (SM): rusty brown, dry.
	CL			0.0	CLAY (CL): olive brown, stiff, moderate plasticity, dry.
15	SM		B-69-15.5	0.0	SILTY SAND (SM): brown, with gravel, dry.
	CL			0.0	CLAY (CL): dark brown, moderate plasticity, dry.
				3.9	
				0.0	CLAY (CL): as above, brown.
				0.0	
20			B-69-20.5		CLAY (CL): dark brown, high plasticity, dry to damp.
25					CLAY (CL): olive brown, trace fine grained sand, high plasticity, dry.
30			B-69-30.5		CLAY (CL): brown, moderate plasticity, dry to damp.
	CL				
35			B-69-35.0		CLAY (CL): as above, trace sand.

Total Depth - 35.0'
Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-69-35.0.
Ground water sample B-69-55.0 was collected by HydroPunch, Screen: 51.0-55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'/55.00'
Borehole Dia.: 2.00in
Initial Water Level: 26.50', 45.00'
X-Coordinate: 6113944.80
Y-Coordinate: 2167630.90
Date(s): 09/17/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-70-0.5	0.0	Baserock, ~1.0".
					0.0	CLAY (CL): black, with some silt silt, friable, dry.
				B-70-2.5	0.0	
					0.0	
					0.0	CLAY (CL): brown, with some silt, compacted, low plasticity, dry.
5				B-70-5.5	0.0	CLAY (CL): brown, with some silt, low plasticity, damp.
					0.0	
					0.0	
					0.0	
					0.0	
10				B-70-10.5	0.0	CLAY (CL): brown, moderate plasticity, damp.
15				B-70-15.5	0.0	
		SM			0.0	SILTY SAND (SM): rust brown, with trace subangular gravel (1/4"), dry to damp.
		CL			0.0	CLAY (CL): brown, stiff, moderate plasticity.
20				B-70-20.5	0.0	CLAY (CL): olive brown, high plasticity, damp.
					0.0	
					0.0	
25				B-70-25.5	0.0	CLAY (CL): olive brown, high plasticity, damp.
					0.0	
		SM			0.0	SILTY SAND (SM): brown, saturated.
		CL			0.0	CLAY (CL): brown, moderate plasticity, damp.
					0.0	
30				B-70-30.0	0.0	Total Depth of B-70(A) – 30.0'
						Temporary well point screened from 20.0-30.0' was used to collect ground water sample: B-70-30.0.
35	Interval Not Cored					

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'/55.00'
Borehole Dia.: 2.00in
Initial Water Level: 26.50', 45.00'
X-Coordinate: 6113944.80
Y-Coordinate: 2167630.90
Date(s): 09/17/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL			0.0 0.0 0.0 0.0 0.0	CLAY (CL): brown, stiff/hard, high plasticity, dry.
45		SP			0.0 0.0	SAND (SP): brown, fine to medium grained, trace silt, poorly graded, saturated.
		SW			0.0 0.0	GRAVELLY SAND (SW): brown to rusty brown, fine to coarse grained, subangular gravel (1/8"-1/4"), well graded, wet.
50		CL				SANDY CLAY (CL): olive brown, fine to medium grained sand, trace silt, moderate plasticity, wet.
55		SW		B-70-55.0		GRAVELLY SAND (SW): fine to coarse grained, subangular gravel (1/8"-1/4"), with clay, moist. Total Depth of B-70(B) - 55.0' Ground water sample B-70-55.0 was collected by HydroPunch, Screen: 51.0-55.0'
60						
65						
70						
75						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 26.50'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-71-0.5		Concrete, ~1.5'.
		CL		B-71-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-71-5.5	0.2	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
					0.7	
					1.1	
					1.2	
					1.9	
10		SC		B-71-10.5	3.2	CLAYEY SAND (SC): fine grained sand, trace silt, damp.
					0.2	
		CL			1.5	CLAY (CL): brown, with some silt, soft, high plasticity, dry.
					0.7	
					0.6	
15				B-71-15.5	5.7	CLAY (CL): as above, olive brown.
					0.1	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.1	
					1.5	CLAY (CL): as above, stiff, low plasticity.
					1.0	
					0.0	
20				B-71-20.5	1.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, dry.
		SP			0.9	SAND (SP): olive brown, fine to medium grained, trace silt, moist.
		CL			1.2	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
					0.1	
					0.1	
25				B-71-25.5	0.4	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, wet.
					0.0	
					0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
					0.0	
30					0.0	Total Depth - 30.0'
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-72-0.5		Concrete, ~1.5'.
		CL		B-72-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-72-5.5	0.1	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
					0.1	
					0.3	
					0.1	
					0.6	
10		SC		B-72-10.5	0.1	CLAYEY SAND (SC): fine grained sand, trace silt, dry.
					2.3	
					1.7	
		CL			0.3	CLAY (CL): olive brown, with some silt, stiff, moderate plasticity, dry.
					0.7	CLAY (CL): as above.
15				B-72-15.5	0.3	CLAY (CL): dark brown, with some sand, stiff, low plasticity, dry.
					0.4	
				B-72-17.0	12.2	
					4.7	
					0.9	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
20				B-72-20.5	0.6	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, cleaning solvent-like odor, dry.
					6.1	
					5.5	
					0.8	
					0.6	
25				B-72-25.5	0.3	CLAY (CL): as above.
					0.3	
					0.3	CLAY (CL): as above, damp.
					0.3	
					0.0	
30						Total Depth - 30.0'
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113829.70
Y-Coordinate: 2167800.50
Date(s): 09/29/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-73-0.5		Asphalt, ~6.0". Baserock, ~1.0'.
		CL		B-73-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-73-5.5	0.0	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					0.0	
				B-73-7.5	3.5	
				B-73-9.0	2.9	
					0.5	
10		SM		B-73-10.5	0.0	SILTY SAND (SM): olive brown, fine grained, trace clay, loose, damp.
					1.1	
					0.3	SILTY SAND (SM): as above, moist.
					1.3	
		CL			0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
15				B-73-15.5	0.0	CLAY (CL): dark olive brown, trace silt, stiff, moderate plasticity, dry.
					0.3	
					0.1	
					0.0	CLAY (CL): as above, olive brown.
		SM			0.0	SILTY SAND (SM): olive brown, trace clay, loose, moist.
20					0.0	
		CL			0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
					0.0	
					0.0	
25						Total Depth - 25.0'
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 21.50'
X-Coordinate: 6113870.90
Y-Coordinate: 2167769.00
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Asphalt, ~6.0".
		CL		B-74-0.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-74-2.5		
5				B-74-5.5	0.0	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.0	Thin sand layer.
					0.0	CLAY (CL): as above.
10				B-74-10.5	0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.0	
					0.0	
					0.0	
					0.0	
15				B-74-15.5	0.0	CLAY (CL): as above.
		SM			0.0	SILTY SAND (SM): brown, fine to medium grained, trace clay, damp.
		CL			0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.0	CLAY (CL): olive green, with some silt, soft, high plasticity, dry.
					0.0	
20				B-74-20.5	0.0	CLAY (CL): as above.
					0.0	
		SM			0.0	SILTY SAND (SM): brown, trace clay, wet
		CL			0.0	CLAY (CL): olive green, trace silt, stiff, moderate plasticity, dry.
					0.0	
25				B-74-25.5	0.0	CLAY (CL): as above.
		SM			0.2	SILTY SAND (SM): brown, fine to medium grained, trace clay, saturated.
		CL			1.8	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, dry.
					0.0	
					0.0	
30				B-74-30.5	0.0	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
						CLAY (CL): olive brown, with fine grained sand, wet.
35				B-74-35.0		Total Depth - 35.0'

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-74-35.0.
Ground water sample B-74-55.0 was collected by HydroPunch, Screen: 51.0-55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.10'
X-Coordinate: 6113826.00
Y-Coordinate: 2168012.60
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-75-0.5		Baserock, ~1.0'. SILTY CLAY (CL): black, stiff, low plasticity, dry.
				B-75-2.5		
5				B-75-5.5	0.0	SILTY CLAY (CL): dark brown, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.0	
					0.0	
10				B-75-10.5	0.0	SILTY CLAY (CL): as above.
					0.0	CLAY (CL): olive brown, with some sand, medium stiff, moderate plasticity, dry.
					0.0	
					0.0	
15				B-75-15.5	0.0	SILTY CLAY (CL): brown, medium stiff, moderate plasticity, dry.
					0.0	
					0.0	
		▽			0.1	SANDY CLAY (CL): olive brown, fine grained sand, trace silt, soft, high plasticity, moist.
					0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
20					0.0	
25				B-75-25.5	0.0	SILTY CLAY (CL): olive brown, soft, high plasticity, dry.
					0.1	
					0.3	SILTY CLAY (CL): as above.
					0.2	
					0.0	SILTY CLAY (CL): dark brown, soft, high plasticity, dry.
					0.0	
30					0.0	SILTY CLAY (CL): as above.
					0.0	SANDY CLAY (CL): olive brown, fine grained sand, trace silt, soft, high plasticity, damp.
					0.0	
					0.1	CLAY (CL): olive brown, with some silt, soft, high plasticity, dry.
					0.1	
35				B-75-35.0	0.0	Total Depth - 35.0'

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-75-35.0.
Ground water sample B-75-55.0 was collected by HydroPunch, Screen: 51.0-55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113846.30
Y-Coordinate: 2167903.30
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-76-0.5		Asphalt, ~1.5'.
		CL		B-76-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-76-5.5	0.6	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					0.3	
					0.3	CLAY (CL): brown, trace silt and fine grained sand, medium stiff, low plasticity, dry.
					0.0	
					0.0	
10				B-76-10.5	0.2	SILTY SAND (SM): olive brown, fine grained, some clay, dry.
					0.2	CLAY (CL): olive brown, with some silt, trace clay, soft, moderate plasticity, dry.
					0.5	
					2.5	
					0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
15				B-76-15.5	0.0	CLAY (CL): olive brown, trace silt and fine grained sand, soft, moderate plasticity, damp.
					0.0	
					0.0	
					0.0	
					0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
20					0.0	
25				B-76-25.5	0.0	CLAY (CL): olive brown, trace silt and sand, soft, high plasticity, damp.
					0.0	
					0.0	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, moist.
					0.0	
					0.0	
30						Total Depth – 30.0' bgs
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: A. Cole

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 27.13'
X-Coordinate: 6113998.60
Y-Coordinate: 2167811.40
Date(s): 09/19/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Base gravel, ~1.0'.
		CL				Hand auger to 5.0'.
						CLAY (CL): dark gray, some fine grained sand, stiff, dry.
5				B-77-5.5	0.5	
					0.5	
					0.4	
					0.5	
					0.5	CLAY (CL): brown, some fine grained sand, stiff, low plasticity, dry.
					0.4	
					0.4	
10				B-77-10.5	0.2	
					0.3	
					0.4	
					0.4	CLAY (CL): brown, some fine grained sand, medium stiff, low plasticity.
					0.3	
					0.4	
15				B-77-15.5	0.3	CLAY (CL): olive brown, black mottling in center of core, trace fine grained sand, high plasticity, damp.
					0.3	
					0.3	
					0.2	
					0.1	
20				B-77-20.5	0.4	CLAY (CL): as above, increase in plasticity and moisture.
					0.4	
					0.3	
					0.2	
					0.3	
25				B-77-25.5	0.1	
					0.5	
		▽			0.2	
					0.2	
					0.2	
30				B-77-30.5	0.2	CLAY (CL): dark brown, very stiff, moderate plasticity, dry.
					0.3	
					0.2	
					0.3	
35				B-77-35.0		Total Depth – 35.0' bgs
						Temporary well point screened from 25.0–35.0' was used to collect ground water sample: B-77-35.0.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 25.50'
X-Coordinate: 6113892.00
Y-Coordinate: 2167960.40
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Baserock, ~1.0'.
		CL		B-78-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-78-5.5	0.0	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.1	
					0.3	CLAY (CL): olive brown, with some fine grained sand and silt, friable, low plasticity, dry.
10				B-78-10.5	1.8	CLAY (CL): as above.
					0.6	CLAY (CL): olive brown, trace fine grained sand and silt, soft, high plasticity, damp.
					1.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					0.6	
					0.4	CLAY (CL): as above.
15						
20				B-78-20.5	0.2	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, moist.
					0.0	
					0.1	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, damp.
					0.0	
					0.0	
25		▽			0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, moist.
					0.0	CLAY (CL): olive brown, with some silt, soft, very wet.
					0.0	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, moist.
					0.0	
					0.0	
30				B-78-30.0	0.0	Total Depth - 30.0' bgs
						Temporary well point screened from 20.0-30.0' was used to collect ground water sample: B-78-30.0.
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113970.80
Y-Coordinate: 2167906.60
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL				Baserock, ~3.0".
						CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-79-2.5		
5				B-79-5.5	1.1	CLAY (CL): dark brown, with some silt, stiff, low plasticity.
					0.0	
					0.0	
					0.3	
					0.0	SANDY CLAY (CL): brown, fine grained sand, trace silt, medium stiff, low plasticity.
10				B-79-10.5	0.4	CLAY (CL): brown, trace silt, medium stiff, moderate plasticity.
					0.0	
					0.0	SANDY CLAY (CL): fine grained sand, trace silt, medium stiff, low plasticity, dry.
					0.1	
15				B-79-15.5	0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
					2.6	
				B-79-17.0	12.4	
					0.0	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, dry.
20				B-79-20.5	16.4	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
					1.4	
					0.5	CLAY (CL): olive brown, with some silt, stiff, moderate plasticity, dry.
					0.0	
					0.0	
25				B-79-25.5	0.0	
					11.5	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
					2.6	
					1.2	
					0.4	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
30				B-79-30.0	0.3	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
					0.3	
					3.1	
					0.9	SANDY CLAY (CL): olive brown, trace silt, soft, high plasticity, moist.
					2.2	SANDY CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, damp.
35					0.4	Total Depth - 35.0' bgs
						Temporary well point screened from 20.0-30.0' was used to collect ground water sample: B-79-30.0.
						Well collapse from 30.0-35.0'.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 35.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.30'
X-Coordinate: 6113958.60
Y-Coordinate: 2168028.90
Date(s): 09/25/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Baserock, silty sand with fine to medium gravel, gray, dry.
		CL				CLAY (CL): brown, trace silt, medium stiff, moderate plasticity, dry.
				B-80-2.5		
5				B-80-5.5	0.0	CLAY (CL): dark brown, trace silt, soft, high plasticity, dry.
					0.3	
				B-80-7.0	111	
					103	CLAY (CL): as above, black.
					1.4	
					0.6	CLAY (CL): brown, trace silt, stiff, moderate plasticity, dry.
10				B-80-10.5	0.7	CLAY (CL): as above.
					25	
					0.1	
					0.0	CLAY (CL): brown, trace fine grained sand and silt, medium stiff, damp.
15				B-80-15.5	4.0	CLAY (CL): olive brown, with some sand, medium stiff, moderate plasticity, dry.
					47	
					73	
		ML			63	CLAYEY SILT (ML): olive brown, trace fine grained sand, medium stiff, loose, damp.
		CL			1.7	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
20		SM		B-80-20.5	0.8	SILTY SAND (SM): brown, trace clay, loose, damp.
					1.8	
		CL			2.3	CLAY (CL): dark olive brown, trace silt, medium stiff, moderate plasticity, damp.
					3.2	
					1.8	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, damp.
25					2.5	CLAY (CL): as above.
					11.7	CLAY (CL): brown, with some sand, trace silt, soft, high plasticity, damp.
					1.3	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
					1.9	CLAY (CL): dark olive brown, trace silt, stiff, moderate plasticity, dry.
					0.0	
30					0.0	CLAY (CL): as above,
					3.8	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, damp.
					9.0	
					0.5	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					1.0	
35				B-80-35.0	1.5	Total Depth - 35.0' bgs

Temporary well point screened from 25.0-35.0' was used to collect ground water sample: B-80-35.0.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: A. Cole

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.40'
X-Coordinate: 6114001.60
Y-Coordinate: 2167967.10
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SM				SILTY SAND (SM): light gray, fine to medium grained, subangular gravel (1/4-1/2"), compacted, dry.
		CL		B-81-2.5		CLAY (CL): dark brown to black, some fine grained sand, stiff, low plasticity, dry.
5				B-81-5.5	1.9	
					0.8	
					0.6	
					2.3	
					2.4	
10				B-81-10.5	0.3	CLAY (CL): brown, trace fine grained sand, medium stiff, moderate plasticity, dry.
					1.2	
					1.2	
					1.2	
					2.2	
15		SM		B-81-15.5	2.2	SILTY SAND (SM): olive brown, fine grained, some clay, damp.
					2.6	
					0.0	
		CL			2.2	CLAY (CL): olive brown, trace fine grained sand, medium stiff, moderate plasticity, moist.
					0.8	
					4.5	
					0.0	
					0.0	
20					1.1	CLAY (CL): as above, increasing moisture.
					1.3	CLAY (CL): olive brown, with some silt, stiff, high plasticity, moist.
					1.2	
					0.1	
					0.0	
25					4.4	
					10.5	CLAY (CL): dark brown, stiff, high plasticity, moist.
					5.0	
					2.3	
					1.6	CLAY (CL): as above, increase in sand content and moisture.
30				B-81-30.0		Total Depth - 30.0' bgs
						Temporary well point screened from 20.0-30.0' was used to collect ground water sample: B-81-30.0.
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: A. Cole

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.15'
X-Coordinate: 6114050.40
Y-Coordinate: 2167930.70
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SM				SILTY SAND (SM): light gray, fine to medium sand, gravel (1/4-1/2"), loose, dry.
		CL		B-82-2.5		CLAY (CL): black, trace fine grained sand, stiff, low plasticity, dry.
5				B-82-5.5	0.6 1.6 1.7 4.8	
				B-82-8.5	12 13 2.5	CLAY (CL): dark brown, stiff, moderate plasticity, dry.
10					0.4 0.6 2.4 1.4 4.7 3.0	
15		SW		B-82-15.5	0.5 0.5 0.6	SAND (SW): brown, fine to coarse grained sand, silty, gravel (1/8-1/4"), moist.
		CL			0.2 0.2 0.1	CLAY (CL): olive brown, trace fine grained sand, stiff, high plasticity, wet.
20		SM			0.0 0.6	SILTY SAND (SM): olive brown, fine to medium grained, some clay, medium dense, wet.
		CL			0.3 0.1 0.0 1.1	CLAY (CL): olive brown, trace fine grained sand, medium stiff, high plasticity, wet.
25				B-82-25.0		Water Sample B-82-25. Total Depth - 25.0' bgs Temporary well point screened from 15.0-25.0' was used to collect ground water sample: B-82-25.0 Ground water sample B-82-55.0 was collected by HydroPunch, Screen: 51.0-55.0'
30						
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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6114023.00
Y-Coordinate: 2168050.70
Date(s): 09/17/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-83-0.5		Baserock, ~6.0".
		CL				CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-83-2.5		
					0.3	
5				B-83-5.5	0.1	CLAY (CL): dark brown, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.0	
					0.0	
10				B-83-10.5	0.0	CLAY (CL): brown, high plasticity, dry.
					0.0	
					0.0	
15				B-83-15.5	0.0	CLAY (CL): olive brown, trace silt, high plasticity, dry.
					0.0	
					0.0	
					0.0	
					0.0	SANDY CLAY (CL): olive brown, fine grained sand, high plasticity, damp.
20				B-83-20.5	0.0	SANDY CLAY (CL): as above.
					0.0	CLAY (CL): olive brown, with some fine grained sand, high plasticity, moist.
					0.0	CLAY (CL): dark brown, moderate plasticity, damp.
					0.0	
					0.0	
25						Total Depth – 25.0' bgs
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 21.50'
X-Coordinate: 6114009.20
Y-Coordinate: 2168172.30
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-84-0.5	0.0 0.0	Baserock, ~2.0'.
		CL		B-84-2.5	0.0 0.3	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-84-5.5	0.2 0.0 0.0 0.0 0.0	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
10				B-84-10.5	0.0 0.0 0.2 0.0 0.1 0.0	CLAY (CL): brown, with some silt, medium stiff, low plasticity, dry. CLAY (CL): olive brown, with some silt, soft, high plasticity, dry. CLAY (CL): as above.
15				B-84-15.5	0.0 0.0 0.0 0.6 0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, dry. CLAY (CL): brown, with some silt, medium stiff, high plasticity, dry. CLAY (CL): olive brown, with some silt, soft, high plasticity, moist.
20				B-84-20.5	0.0 0.0 0.1	CLAY (CL): olive brown, with some fine grained sand and silt, medium stiff, moderate plasticity, dry. GRAVELLY SAND (SW): olive brown, fine to coarse grained, subangular gravel (1/8-1/4"), trace silt, wet.
25		CL		B-84-25.5	0.0 0.0 0.0 1.9 0.2 0.0	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry. CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry. SILTY SAND (SM): olive brown, fine grained, trace clay, wet.
30		SM				Total Depth - 30.0' bgs
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.75'
X-Coordinate: 6114080.20
Y-Coordinate: 2168132.70
Date(s): 09/16/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					0.0	Baserock, gravel, very compacted, dry.
		ML				CLAYEY SILT (ML): dark brown to black, compacted, dry.
				B-85-2.5	0.0	
					0.0	
5		CL/ML		B-85-5.5	0.0	SILTY CLAY/CLAYEY SILT (CL/ML): dark brown, stiff, compacted, dry.
					0.0	
					0.0	
		ML			0.0	CLAYEY SILT (ML): brown, compacted, dry.
					0.0	
10				B-85-10.5	0.0	CLAYEY SILT (ML): as above, beige-brown, dry.
					0.0	
					0.0	
					0.0	CLAYEY SILT (ML): as above.
					0.0	
15		CL		B-85-15.5	0.0	SILTY CLAY (CL): dark brown, stiff, damp.
					0.0	
					0.0	SILTY CLAY (CL): olive brown, high plasticity, damp.
					0.0	
					0.0	
20		ML			0.0	CLAYEY SILT (CL): olive brown, soft, high plasticity, damp to moist.
					0.0	
					0.0	
					0.0	
		CL			0.0	CLAY (CL): olive brown, lean, medium stiff, damp.
					0.0	
25				B-85-25.0	0.0	Total Depth - 25.0' bgs
						Temporary well point screened from 15.0-25.0' was used to collect ground water sample: B-85-25.0.
30						
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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6113863.50
Y-Coordinate: 2168297.30
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SM			0.9	SILTY SAND WITH GRAVEL (SM): gray brown, fine to coarse grained, subangular gravel, (1/8-1/4"), loose, dry.
		CL			1.2	
				B-87-2.0	1.7	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
5				B-87-5.5	0.1	CLAY (CL): olive brown, with some silt, trace sand, medium stiff, low plasticity, dry.
					0.2	
					0.1	
					0.6	
					0.6	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
10				B-87-10.5	0.3	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
					0.0	CLAY (CL): as above, more silt, moderate plasticity.
					0.3	
					0.9	
					0.9	CLAY (CL): as above, damp.
15				B-87-15.5	0.1	CLAY (CL): as above.
					0.3	
		SC			0.8	CLAYEY SAND (SC): olive brown, fine grained, with some clay, trace silt, moist.
		CL			1.8	CLAY (CL): olive brown, with some silt, soft, high plasticity, moist.
					0.3	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, dry.
20					0.2	Total Depth - 20.0' bgs.
						Ground water sample B-87-55.0 was collected by HydroPunch, Screen: 51.0-55.0'
25						
30						
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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.00'
X-Coordinate: 6113962.70
Y-Coordinate: 2168274.60
Date(s): 10/02/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Asphalt, ~6.0".
		SM				CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-88-2.5		
						CLAY (CL): as above, dark brown.
5				B-88-5.5	0.3 59.1	CLAY (CL): dark brown, with some silt, medium stiff, low plasticity, dry.
				B-88-9.5		
10				B-88-10.5	22.8 19.6 16.4 13.3	CLAY (CL): as above.
		ML			9.1	CLAYEY SILT (ML): olive brown, medium stiff, moderate plasticity, moist.
15		SM		B-88-15.5	6.1 5.9	SILTY SAND (SM): brown, fine to medium sand, trace clay, trace subangular gravel (1/8-1/4"), loose, wet.
		SW			1.2	SAND (SW): brown, fine to coarse grained, silty, subangular gravel (1/8-1/4"), loose, wet.
		SM			2.1	SILTY SAND (SM): brown, fine grained, loose, saturated.
		CL			0.3	CLAY (CL): olive brown, trace silt, soft, high plasticity, damp.
20		ML		B-88-20.5	3.2 1.9 3.9 2.3	CLAYEY SILT (ML): olive brown, soft, high plasticity, wet.
		CL			3.8 3.1	CLAY (CL): olive brown, trace silt, medium stiff, low plasticity, dry.
25						Total Depth - 25.0' bgs.
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 25.00'
X-Coordinate: 6114015.90
Y-Coordinate: 2168300.40
Date(s): 09/25/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					0.0	Baserock ~1.5'.
					6.3	
		CL		B-89-2.5	4.4	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
					4.2	
					1.5	
					2.0	
					0.7	CLAY (CL): as above, dark brown.
5				B-89-5.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	CLAY (CL): brown, with some silt, stiff, low plasticity, dry.
					0.0	
					1.5	
10				B-89-10.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	
					1.7	CLAY (CL): as above.
					0.0	
15				B-89-15.5	0.0	CLAY (CL): as above.
					1.4	
					1.6	
		ML			1.0	CLAYEY SILT (ML): brown, loose, dry.
					0.0	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
20		CL		B-89-20.5	0.0	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
					0.0	CLAYEY SILT (ML): olive brown, loose, dry.
		ML			0.7	
					0.0	CLAYEY SILT (ML): as above, damp.
					0.0	
25		∇			0.0	CLAYEY SILT (ML): as above, trace fine grained sand, moist to wet.
					0.0	
					0.0	
		CL			0.0	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
					0.0	
30					0.0	Total Depth – 30.0' bgs
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 20.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.00'
X-Coordinate: 6114067.90
Y-Coordinate: 2168259.80
Date(s): 09/16/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		ML			0.0	Baserock (1.5"), gravel and sand, light gray.
					0.0	CLAYEY SILT (ML): dark brown to black, compacted, dry.
				B-90-2.5	0.0	
					0.0	
					0.0	
5				B-90-5.0	0.0	CLAYEY SILT (ML): as above, dark brown, dry.
					0.0	
		CL			0.0	CLAY (CL): dark brown, stiff, low plasticity, dry.
					0.0	
					0.0	
10				B-90-10.5	0.0	SILTY CLAY (CL): brown, lean, dry.
					0.0	
						SILTY CLAY (CL): olive brown, lean, dry to damp.
					0.0	
15				B-90-15.5	0.0	CLAY (CL): dark brown, stiff, dry to damp.
					0.0	
		▽			0.0	
20				B-90-20.0		Total Depth – 20.0' bgs
						Temporary well point screened from 10.0–20.0' was used to collect ground water sample: B-90-20.0.
25						
30						
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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: 6114209.90
Y-Coordinate: 2168196.80
Date(s): 10/03/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Asphalt, ~6.0".
						Baserock, ~12.0".
		CL		B-91-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
						CLAY (CL): as above, dark brown.
5				B-91-5.0	3.0	CLAY (CL): as above.
		ML			10.6	CLAYEY SILT (ML): olive brown, medium stiff, low plasticity, damp.
					4.3	
					14.7	
					0.7	
10				B-91-10.0	12.8	CLAYEY SILT (ML): as above.
		CL			5.4	CLAY (CL): olive brown, with some silt, medium stiff, low plasticity, dry.
					9.2	
					0.2	
15				B-91-15.0	6.2	CLAY (CL): dark olive brown, trace silt, stiff, moderate plasticity, dry.
					16.1	
					19.7	
					5.2	
		ML			1.6	CLAYEY SILT (ML): olive brown, soft, high plasticity, moist.
		CL			7.4	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, damp.
20				B-91-20.0	60.4	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
25				B-91-25.0		Total Depth – 25.0' bgs
						Temporary well point screened from 15.0–25.0' was used to collect ground water sample: B-91-25.0.
						Ground water sample B-91-55.0 was collected by HydroPunch, Screen: 51.0–55.0'
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.10'
X-Coordinate: 6114107.49
Y-Coordinate: 2168310.53
Date(s): 09/16/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					0.0	Baserock, gravel and sand, light gray, dry.
					0.0	
		ML		B-92-2.5	0.0	CLAYEY SILT (ML): black, stiff, dry.
					0.0	
					0.0	CLAYEY SILT (ML): as above, dark brown, dry.
5				B-92-5.5	0.0	CLAYEY SILT (ML): as above.
					0.0	
					0.0	
		CL			0.0	SILTY CLAY (CL): dark brown, stiff, dry.
					0.0	
10				B-92-10.5	0.0	
		ML			0.0	CLAYEY SILT (ML): brown, stiff, dry.
					0.0	
					0.0	
15				B-92-15.5	0.0	CLAYEY SILT (ML): brown, loose, damp to moist.
					0.0	SILTY CLAY (CL): olive brown, medium stiff, damp.
		CL			0.0	SILTY CLAY (CL): as above, stiff.
		∇				
20				B-92-20.5	0.0	SILTY CLAY (CL): olive brown, lean, soft, damp.
					0.0	
					0.0	SILTY CLAY (CL): as above, less lean and soft.
					0.0	
25				B-92-25.0		Total Depth - 25.0' bgs
						Temporary well point screened from 15.0-25.0' was used to collect ground water sample: B-92-25.0.
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 22.00'
X-Coordinate: 6114152.20
Y-Coordinate: 2168296.50
Date(s): 10/03/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Baserock, gravelly sand.
		CL		B-93-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-93-5.0	20.3	CLAY (CL): dark brown, trace silt, medium stiff, moderate plasticity, dry.
					55.6	
					128	
					64	
					7.4	CLAY (CL): as above, olive brown.
10				B-93-10.0	5.1	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
					27.3	
					24.8	CLAY (CL): as above.
					49.9	
					10.2	
15				B-93-15.0	53.2	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
					31.7	
					12.7	CLAY (CL): as above.
					4.0	
					1.2	
20				B-93-20.0	0.0	CLAY (CL): as above, moist.
					6.8	
		▽			17	CLAYEY SILT (ML): olive brown, soft, high plasticity, wet.
		ML			19.6	
		CL			93.5	CLAY (CL): olive brown, trace silt, stiff, low plasticity, dry.
25				B-93-25.0		Total Depth – 25.0' bgs
						Temporary well point screened from 15.0–25.0' was used to collect ground water sample: B-93-25.0.
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 22.30'
X-Coordinate: 6114071.20
Y-Coordinate: 2168378.80
Date(s): 09/29/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-94-0.5		Baserock, ~1.0'.
		CL				CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-94-2.5		
5				B-94-5.5	0.0	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
					0.0	
					0.0	
					0.6	
					0.0	
10				B-94-10.5	0.0	CLAY (CL): olive brown, with some sand, medium stiff, moderate plasticity, damp.
					0.6	
					0.9	
		ML			0.0	CLAYEY SILT (ML): olive brown, loose, low plasticity, damp.
					0.0	
15				B-94-15.5	2.0	CLAYEY SILT (ML): as above.
		CL			3.3	CLAY (CL): dark olive brown, trace silt, medium stiff, low plasticity, dry.
					0.4	
					0.0	CLAY (CL): as above.
		ML			0.0	CLAYEY SILT (ML): olive brown, soft, high plasticity, damp.
					0.1	
20		CL		B-94-20.5	0.4	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
		ML			0.0	CLAYEY SILT (ML): olive brown, medium stiff, low plasticity, dry.
					0.0	
					0.0	CLAYEY SILT (ML): olive brown, soft, high plasticity, moist.
					0.0	
25				B-94-25.0	0.0	Total Depth – 25.0' bgs
						Temporary well point screened from 15.0–25.0' was used to collect ground water sample: B-94-25.0.
						Ground water sample B-94-55.0 was collected by HydroPunch, Screen: 51.0–55.0'
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 20.00'
X-Coordinate: 6113900.31
Y-Coordinate: 2168461.50
Date(s): 09/29/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-95-0.5		Asphalt, ~6.0". Baserock, ~1.0'.
		CL		B-95-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-95-5.5	0.0	CLAY (CL): as above.
					0.0	CLAY (CL): as above, dark brown.
					0.0	
					0.0	
		ML			0.0	SILT (ML): olive brown, with some clay, medium stiff, moderate plasticity.
10				B-95-10.5	0.0	
					0.0	SANDY SILT (ML): olive brown, fine grained sand, with some clay, soft, moist.
		CL			0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
					0.0	
					0.0	
15				B-95-15.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	CLAY (CL): dark brown, trace silt, stiff, moderate plasticity, dry.
					0.3	
					3.8	
					9.6	
					1.5	
20		▽			0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp (sampler wet).
					0.4	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, strong PHC-like odor, dry.
		ML			69.3	CLAYEY SILT (ML): olive brown, soft, high plasticity, moist.
					0.0	
					0.0	
25					0.0	Total Depth - 25.0'
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 12.00'
X-Coordinate: 6114008.30
Y-Coordinate: 2168462.70
Date(s): 09/29/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Baserock, ~1.0'.
		CL		B-96-2.5		CLAY (CL): brown, trace silt, medium stiff, moderate plasticity, dry.
5				B-96-5.5	2.9 6.6 4.8	CLAY (CL): as above.
10				B-96-10.5	0.6 5.9 6.5	CLAY (CL): as above.
		▽				
		ML			6.7 10	SANDY SILT (ML): olive brown, trace clay, loose, damp to moist.
15				B-96-15.0	8.0	SANDY SILT (ML): as above.
		SM			2.5	SILTY SAND (SM): olive brown, fine to medium grained, loose, moist.
		ML			2.0	SANDY SILT (ML): olive brown, trace clay, loose, damp to moist.
		CL			3.0 5.6	CLAY (CL): dark olive brown, trace silt, medium stiff, moderate plasticity, dry.
20					99+	CLAY (CL): olive brown, with some silt, soft, high plasticity, dry.
		ML			0.6	CLAYEY SILT (ML): olive brown, soft, high plasticity, damp.
		CL			0.6	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
		ML			1.9	CLAYEY SILT (ML): olive brown, soft, high plasticity, moist.
					2.1	
25		CL		B-96-25.0	0.5	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
30						
35						

Total Depth – 25.0' bgs
Temporary well point screened from 15.0–25.0' was used to collect ground water sample: B-96-25.0.
Ground water sample B-96-55.0 was collected by HydroPunch, Screen: 51.0–55.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 16.50'
X-Coordinate: 6114122.30
Y-Coordinate: 2168418.60
Date(s): 09/16/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					0.0	Baserock, ~6.0".
		ML			0.0	CLAYEY SILT (ML): black, compacted, dry.
				B-97-2.5	0.0	
					0.0	CLAYEY SILT (ML): dark brown, compacted, dry.
					0.0	
5		CL		B-97-5.5	0.0	SILTY CLAY (CL): dark brown, stiff, dry.
					0.0	
		ML			0.0	CLAYEY SILT (ML): light brown, compacted, damp.
					0.0	
					0.0	
10				B-97-10.5	0.0	CLAYEY SILT (ML): olive brown, compacted, damp.
					0.0	
					0.0	
					0.0	
15				B-97-15.5	0.0	CLAYEY SILT (ML): olive brown, compacted, damp.
					0.0	CLAY (CL): brown, stiff, damp.
		CL			0.0	
					0.0	
					0.0	
20				B-97-20.5	0.0	SILTY CLAY (CL): olive brown, lean, soft, damp.
					0.0	
					0.0	CLAY (CL): olive brown, compacted, stiff, damp.
					0.0	
25				B-97-25.0		Total Depth – 25.0' bgs
						Temporary well point screened from 15.0–25.0' was used to collect ground water sample: B-97-25.0.
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 30.00'
Borehole Dia.: 2.00in
Initial Water Level: 26.50'
X-Coordinate: 6113889.70
Y-Coordinate: 2168595.70
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-98-0.5		Asphalt, ~3.0".
				B-98-2.5		SILTY CLAY (CL): black, soft, moderate plasticity, dry.
5				B-98-5.5	0.4	SILTY CLAY (CL): black, medium stiff, moderate plasticity, dry.
					0.2	
					0.0	
					0.0	
					0.2	SILTY CLAY (CL): as above, dark brown.
10				B-98-10.5	0.0	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
					1.2	SANDY CLAY (CL): gray, fine grained sand, trace silt, soft, high plasticity, damp.
					0.8	SILTY CLAY (CL): olive brown, soft, high plasticity, dry.
					0.2	
					0.1	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
15				B-98-15.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	CLAY (CL): olive brown, with some silt, soft, high plasticity, dry.
					0.0	
20				B-98-20.5	0.3	CLAY (CL): as above.
					3.6	CLAY (CL): brown, trace silt, stiff, moderate plasticity, mild PHC-like odor, dry.
		SP			0.1	SAND (SP): gray with green soil discoloration, medium to fine grained, trace silt, mild PHC-like odor, moist.
		CL			0.7	SANDY CLAY (CL): gray green, trace silt, soft, high plasticity, mild PHC-like odor.
					1.2	CLAY (CL): brown, trace silt, medium stiff, moderate plasticity, damp.
25				B-98-25.5	3.6	CLAY (CL): trace fine grained sand and silt, soft, high plasticity, damp.
					8.6	CLAY (CL): as above, gray, saturated.
		SM			1.9	SILTY SAND (SM): gray, trace clay, saturated.
		CL			2.8	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, damp.
30					1.5	Total Depth - 30.0' bgs.
					0.0	
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 14.00'
X-Coordinate: 6114023.20
Y-Coordinate: 2168581.30
Date(s): 09/22/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					0.0	Baserock, ~12.0".
		CL			2.9	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
				B-99-2.5	0.0	
					0.6	CLAY (CL): as above, dark brown.
5				B-99-5.5	0.0	CLAY (CL): dark brown, trace clay, stiff, low plasticity, dry.
					1.2	
					1.1	
					0.0	
					0.0	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
10				B-99-10.5	0.0	CLAY (CL): brown, with some silt, stiff, low plasticity, dry.
					0.0	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, damp.
					0.0	
					0.0	
					0.0	
15				B-99-15.5	0.0	CLAY (CL): as above.
					0.0	
					0.0	
					0.0	CLAY (CL): as above.
20				B-99-20.5	0.0	CLAY (CL): as above.
		ML			0.0	CLAYEY SILT (ML): olive brown, soft, high plasticity, damp.
					0.0	
					0.0	
25						Total Depth – 25.0' bgs
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 15.00'
X-Coordinate: 6114141.40
Y-Coordinate: 2168560.80
Date(s): 09/23/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
						Baserock, 1.0".
		CL		B-100-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5				B-100-5.5	0.0	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
					0.4	
					6.7	SANDY CLAY (CL): dark brown to brown, trace silt and fine grained sand, medium stiff, low plasticity, dry.
					1.2	
					0.6	
10		SM		B-100-10.5	0.8	SILTY SAND (SM): olive brown, fine grained, trace clay, dry.
					5.1	SILTY SAND (SM): as above.
					0.5	
					0.3	SILTY SAND (SM): olive brown, with some clay, damp.
15		SW		B-100-15.5	0.3	SAND (SW): olive brown, fine to medium grained, with fine gravel, trace silt, wet.
					0.3	
		CL			0.2	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, damp.
					0.3	
					0.2	
20		SW			0.2	GRAVELLY SAND (SW): fine to coarse grained, subangular gravel (1/8-1/4"), silty, wet.
					0.2	
					0.1	
		CL			0.1	CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
					0.1	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
25					0.0	Total Depth - 25.0' bgs
30						
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 60.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.00'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03-12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-101-0.5		Mulch, 3.0". CLAY (CL): black, with silt, medium stiff, low plasticity, damp.
				B-101-2.5		CLAY (CL): as above, dark brown.
5		ML		B-101-5.5	0.0	SANDY SILT (ML): light brown, loose, dry.
10				B-101-10.5	0.0	SANDY SILT (ML): as above.
15				B-101-15.5	0.0	SANDY SILT (ML): as above, damp.
		▽				SANDY SILT (ML): as above, saturated.
20					0.0	
					+2000	Collected Groundwater Sample B-101-22' and duplicate.
25						
30						
35						No water at 35.0'

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 60.00'
Borehole Dia.: 2.00in
Initial Water Level: 17.00'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03-12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
45						No water at 45.0'
50						No water at 50.0'
55						
60						Hydropunched to 60.0' on 12/12/03, pulled back 4.0'. Collected Sample B-101-60'
65						
70						
75						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 52.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.00'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL		B-102-0.5		Asphalt, 3.0". Baserock, 3.0". CLAY (CL): black, trace silt, medium stiff, low plasticity, dry.
				B-102-2.5		
5		ML		B-102-5.5	1000+	SILT (ML): brown, some clay, loose, dry. SILT (ML): as above.
		SP				SAND (SP): brown, fine to medium grained, loose, dry.
10		SM		B-102-10.5		SILTY SAND (SM): brown, fine to medium grained, loose, dry.
		SW				SAND (SW): brown, fine to coarse grained, loose, dry.
15		SP		B-102-15.5		SAND (SP): brown, fine to medium grained, loose, dry.
20		ML				CLAYEY SILT (ML): brown, soft, saturated.
		ML/SW				CLAYEY SILT/SAND STRINGERS (ML/SW): as above, with interbedded sand stringers, fine to coarse grained sand, saturated.
25						Collected Groundwater Sample at 25.0', B-102-25'
30						Little to no water at 30.0-35.0'
35						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 52.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.00'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
45						
50						Hydropunched to 52.0', pulled back 4.0'. Collected Sample at 52.0', B-102-52'
55						
60						
65						
70						
75						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 45.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03-12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
				B-103-0.5		Asphalt, 3.0". Baserock, 3.0".
		CL				SILTY CLAY (CL): dark brown, medium stiff, low plasticity, dry.
				B-103-2.5		
		ML				SILT (ML): brown, trace clay, loose, dry.
5				B-103-5.5		SILT (ML): brown, trace clay, fine grained sand, slightly compacted, dry.
10				B-103-10.5		SILT (ML): as above.
						CLAYEY SILT (ML): brown, trace fine to coarse grained sand, slightly compacted, dry.
15		CL		B-103-15.5		CLAY (CL): dark brown, stiff, moderate plasticity, dry.
						SILTY CLAY (CL): olive brown, soft, high plasticity, moist to dry.
20				B-103-20.5		CLAY (CL): dark brown, stiff, low plasticity, dry.
25				B-103-25.5		CLAY (CL): as above.
						CLAY (CL): trace coarse grained sand, medium stiff, high plasticity, dry.
30				B-103-30.5		
35						Collected Groundwater Sample B-103-35

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 45.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/11/03-12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
45						Hydropunched to 45.0', pulled back 4.0'. Collected Sample B-103-45'
50						
55						
60						
65						
70						
75						

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 55.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		GP		B-104-0.5	0.0	Asphalt, 6.0". GRAVEL/SAND (GP): dark brown, fine to medium grained sand, trace silt.
				B-104-2.5	0.0	GRAVEL/SAND (GP): tan, fine to medium grained sand, trace silt.
		CL				SILTY CLAY (CL): brown, medium stiff, dry.
5				B-104-5.5	0.0	SILTY CLAY (CL): as above.
		ML				CLAYEY SILT (ML): light brown, trace fine to medium grained sand.
10				B-104-10.5	0.0	CLAYEY SILT (ML): as above.
		SP				SAND (SP): brown, fine to medium grained, trace silt and coarse grained sand, loose, damp.
		CL				CLAY (CL): dark brown, stiff, moderate plasticity, damp.
15				B-104-15.5	0.0	SILTY CLAY (CL): light brown, soft, high plasticity, damp.
						SILTY CLAY (CL): as above, medium stiff, moderate plasticity.
20				B-104-20.5	0.0	SILTY CLAY (CL): light brown, soft, high plasticity, dry.
						SILTY CLAY (CL): brown, medium stiff, low plasticity, dry.
25				B-104-25.5	0.0	SILTY CLAY (CL): light brown, soft, high plasticity, dry. Some interbedded sands, fine to medium grained.
						SILTY CLAY (CL): brown, medium stiff, moderately plasticity, dry.
30						Collected Groundwater Sample B-104-30'
35						

ERM
1777 Botelho Drive
Suite 260
Walnut Creek, California 94596
(925) 946-0455

BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 55.00'
Borehole Dia.: 2.00in
Initial Water Level: NA
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
45						
50						
55						Hydropunched to 55.0', pulled back 4.0'. Collected Sample B-104-55'
60						
65						
70						
75						

ERM
1777 Botelho Drive
Suite 260
Walnut Creek, California 94596
(925) 946-0455

BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill, California
Contractor: Vironex
Drilling Method: Hand Augered to 5.00'/Direct-Push
Logged By: R. Sijgers

Total Depth: 25.00'
Borehole Dia.: 2.00in
Initial Water Level: 18.00'
X-Coordinate: NA
Y-Coordinate: NA
Date(s): 12/12/03

Depth (ft)	Graphic Log	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		ML		B-105-0.5		Asphalt, 3.0" Baserock, 3.0". CLAYEY SILT (ML): dark brown, stiff, low plasticity, dry.
				B-105-2.5		SILT (ML): brown, trace clay, loose, dry.
5				B-105-5.5	0.0	SILT (ML): light brown, trace clay, loose, dry.
						SILT (ML): light brown, trace clay, compacted, dry.
10				B-105-10.5		SILT (ML): as above.
						CLAYEY SILT (ML): light brown, soft, high plasticity, dry.
15		CL		B-105-15.5	0.0	SILTY CLAY (CL): olive brown, moderately stiff.
		SW				SAND (SW): brown, fine to coarse grained, loose, saturated.
20					0.0	SAND (SW): as above.
25						Collected Groundwater Sample B-105-25' Total Depth - 25.0' bgs
30						
35						

Appendix B
Geophysical Logs

PRESENTATION OF CONE PENETRATION TEST DATA

HOOKSTON PLACE

PLEASANT HILL, CALIFORNIA

Prepared for:

ERM WEST

Prepared by:

GREGG IN SITU, INC.
Martinez, California
02-129MA

Prepared on:

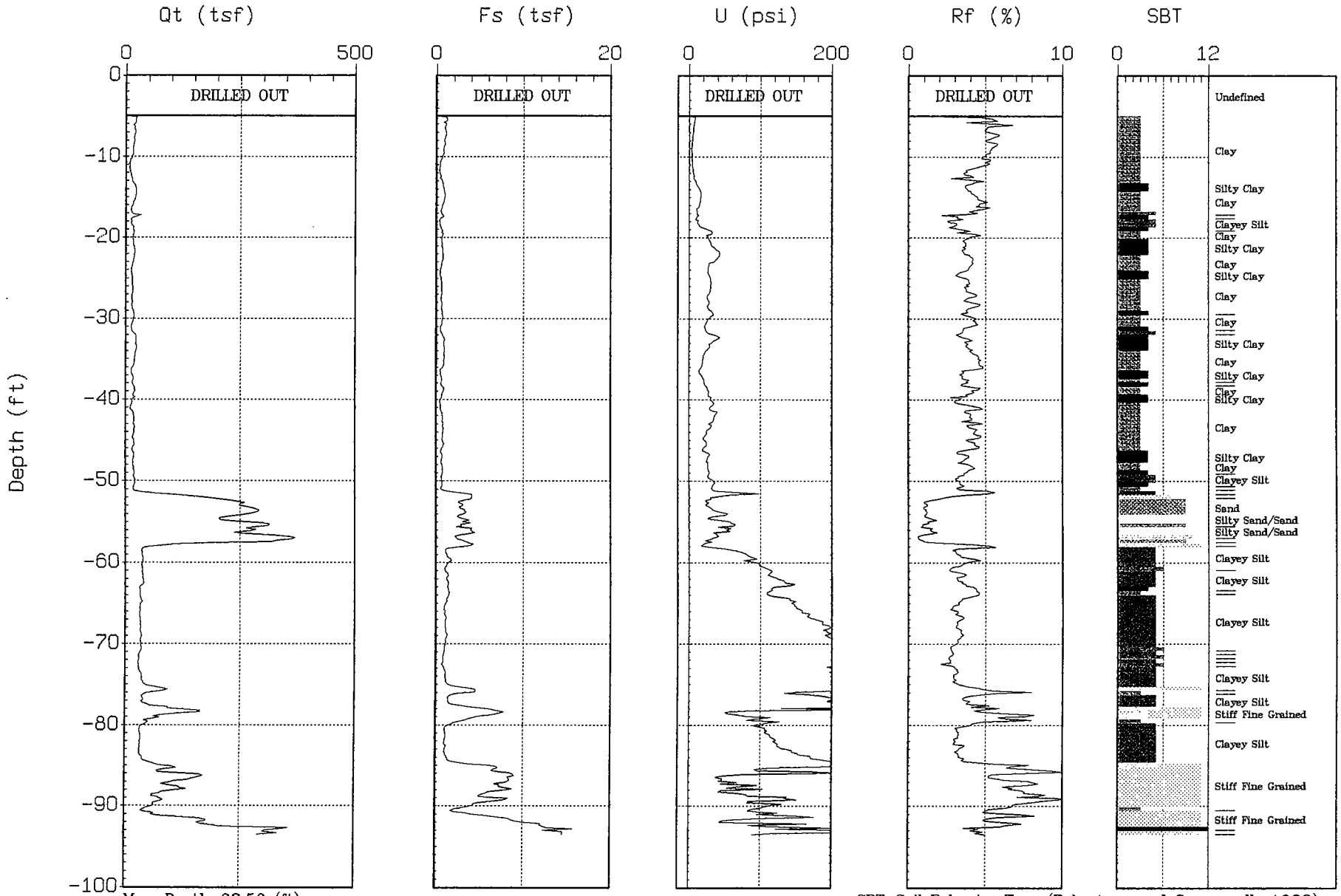
September 30, 2002

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-1

Engineer: D. MOBERG
Date : 10:23:01 12:36



Max. Depth: 93.50 (ft)

Depth Inc.: 0.164 (ft)

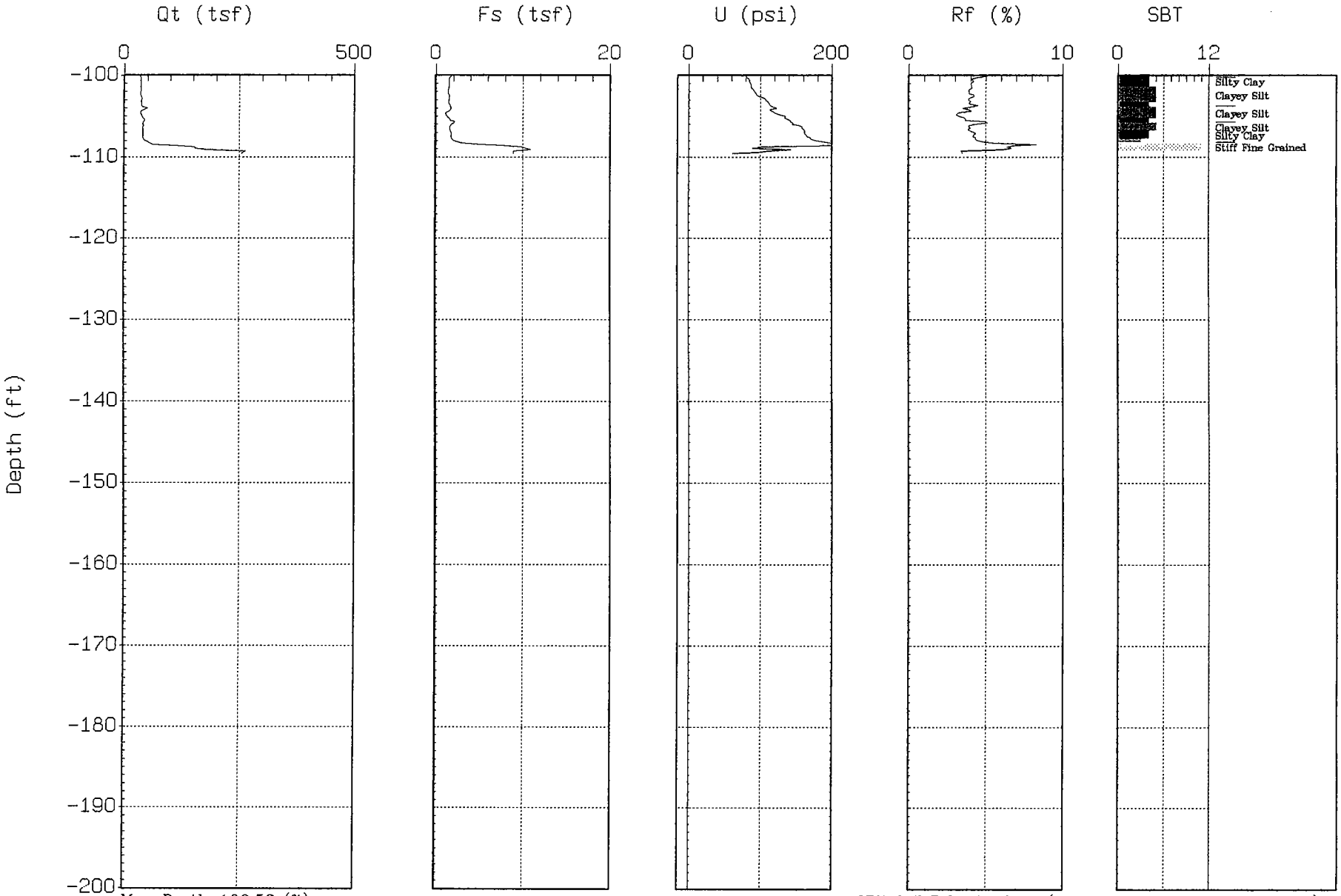
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-2

Engineer: D. MOBERG
Date : 10:22:01 09:52



Max. Depth: 109.58 (ft)

Depth Inc.: 0.164 (ft)

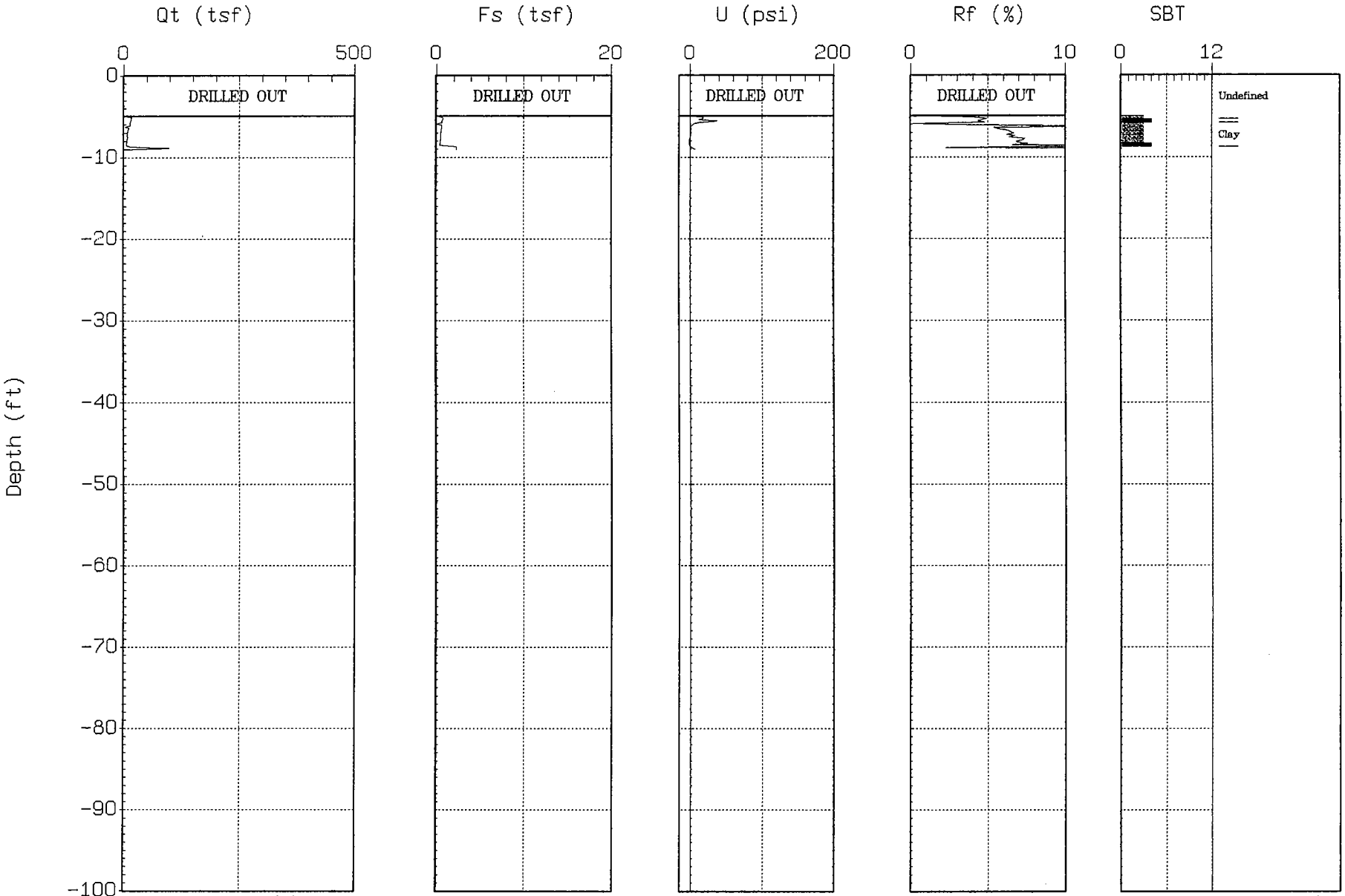
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-3

Engineer: D. MOBERG
Date : 10:25:01 16:43



Max. Depth: 9.02 (ft)

Depth Inc.: 0.164 (ft)

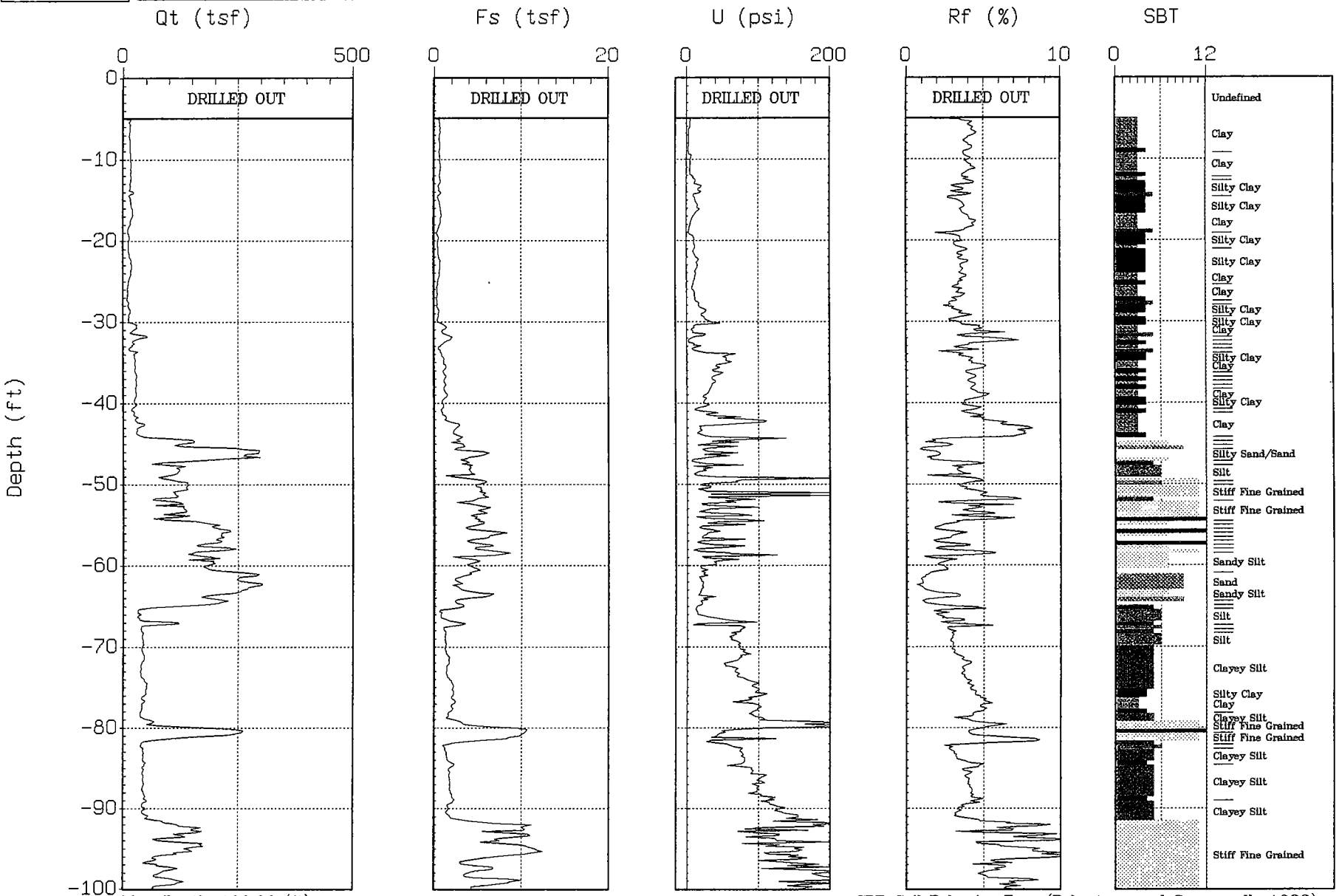
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-4

Engineer: D. MOBERG
Date : 10:22:01 15:10



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

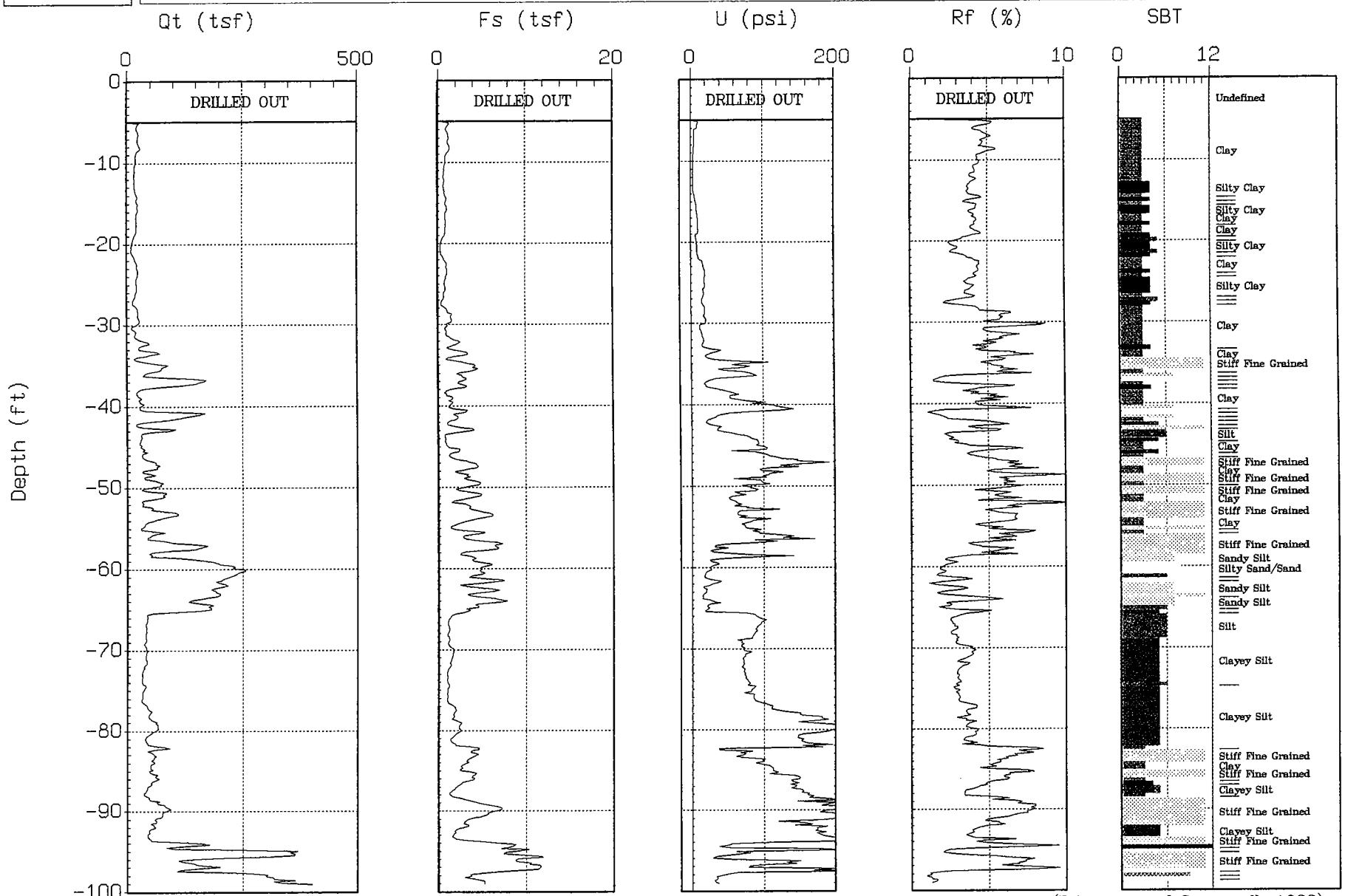
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-5

Engineer: D. MOBERG
Date : 10:24:01 13:37



Max. Depth: 99.08 (ft)

Depth Inc.: 0.164 (ft)

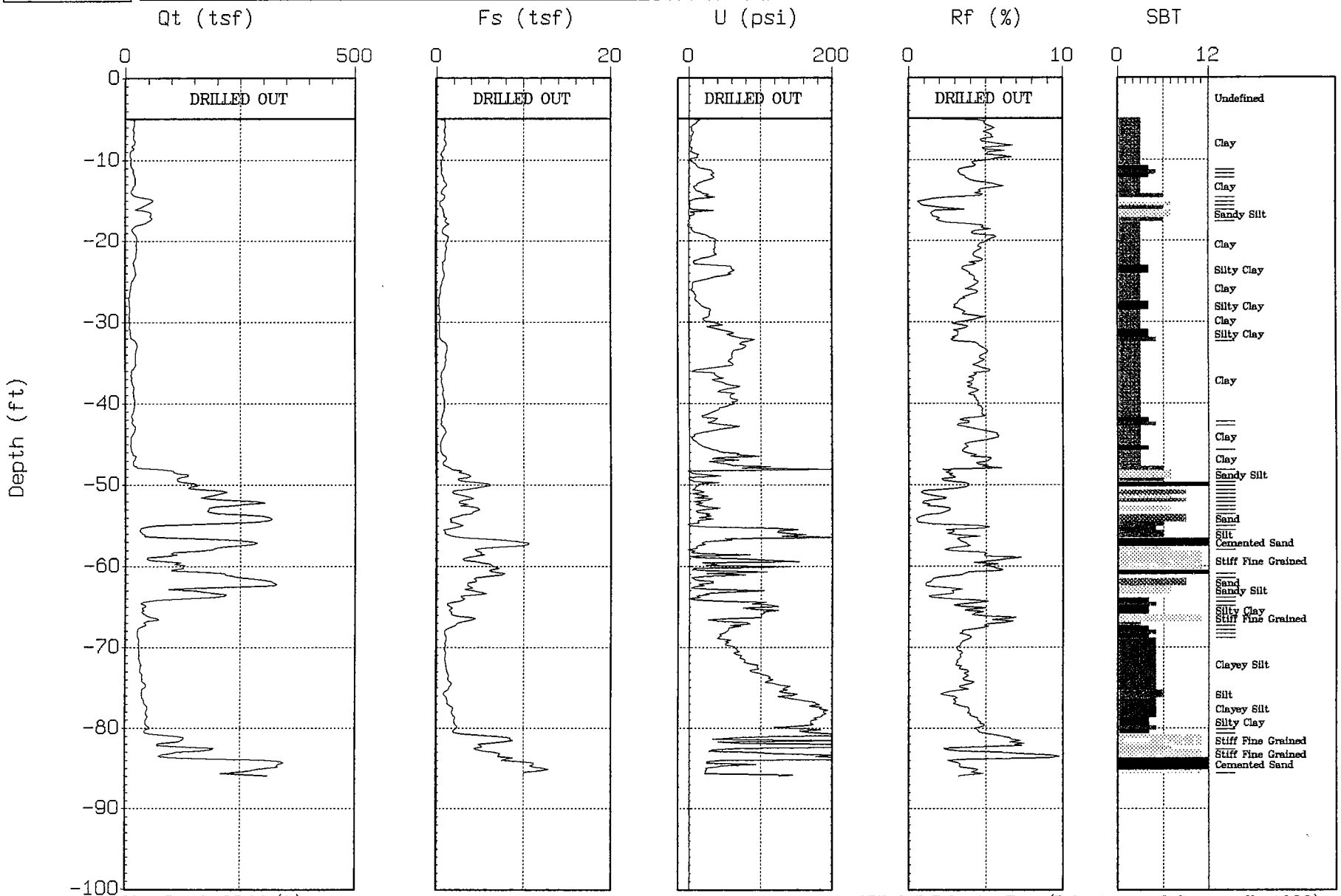
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-6

Engineer: D. MOBERG
Date : 10:23:01 17:12



Max. Depth: 85.96 (ft)

Depth Inc.: 0.164 (ft)

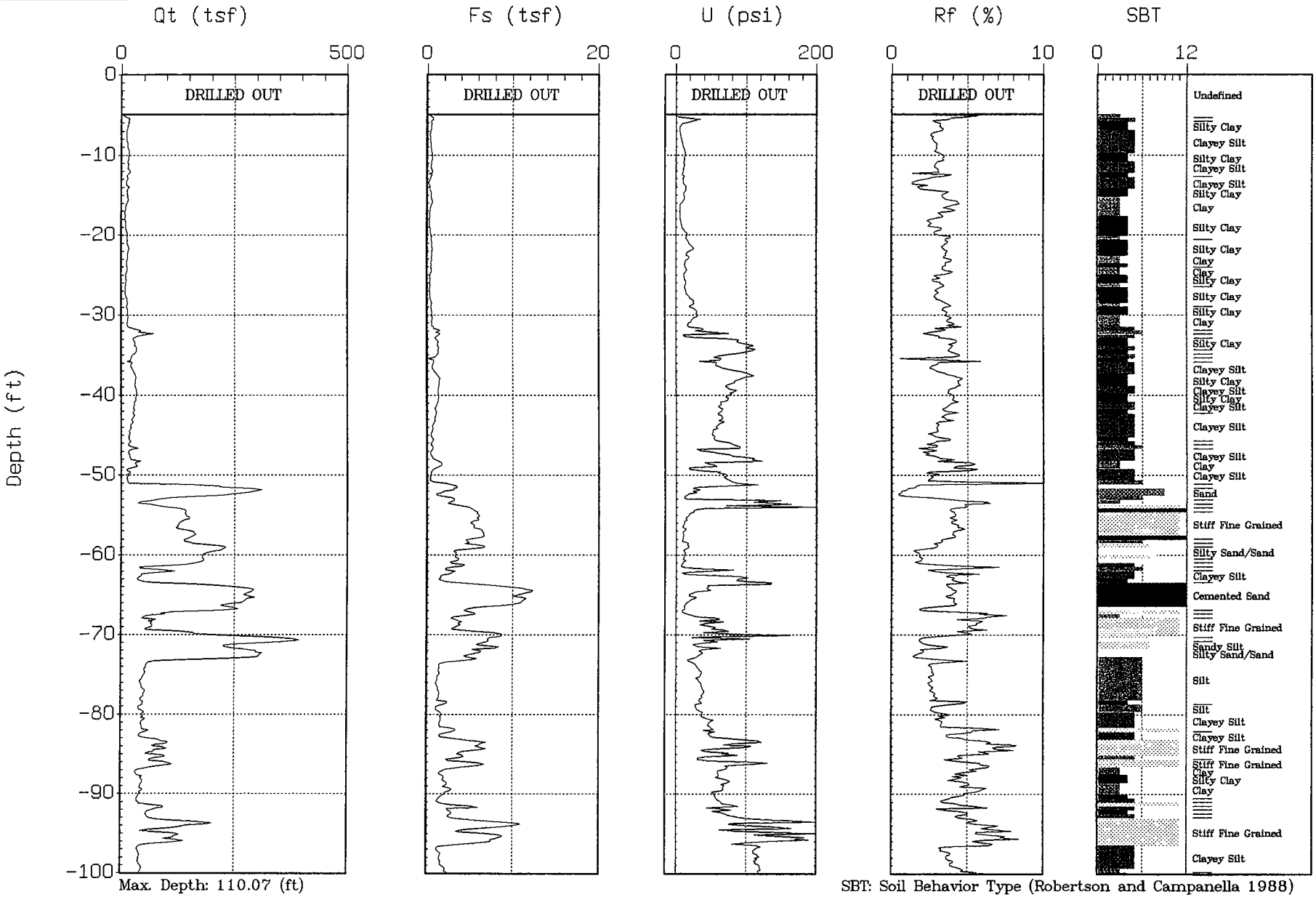
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-7

Engineer: D. MOBERG
Date : 10:25:01 10:09



Max. Depth: 110.07 (ft)

Depth Inc.: 0.164 (ft)

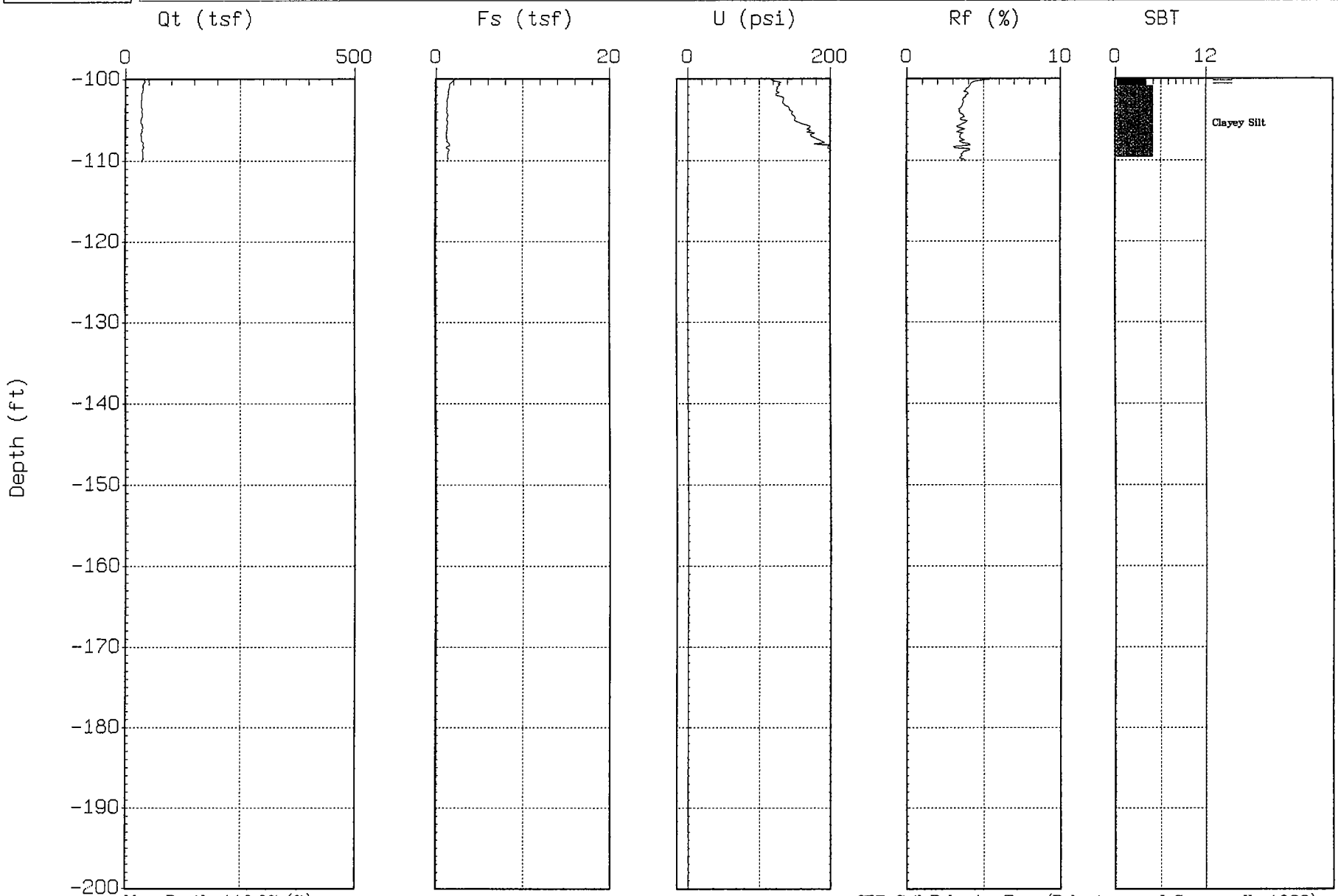
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-7

Engineer: D. MOBERG
Date : 10:25:01 10:09



Max. Depth: 110.07 (ft)

Depth Inc.: 0.164 (ft)

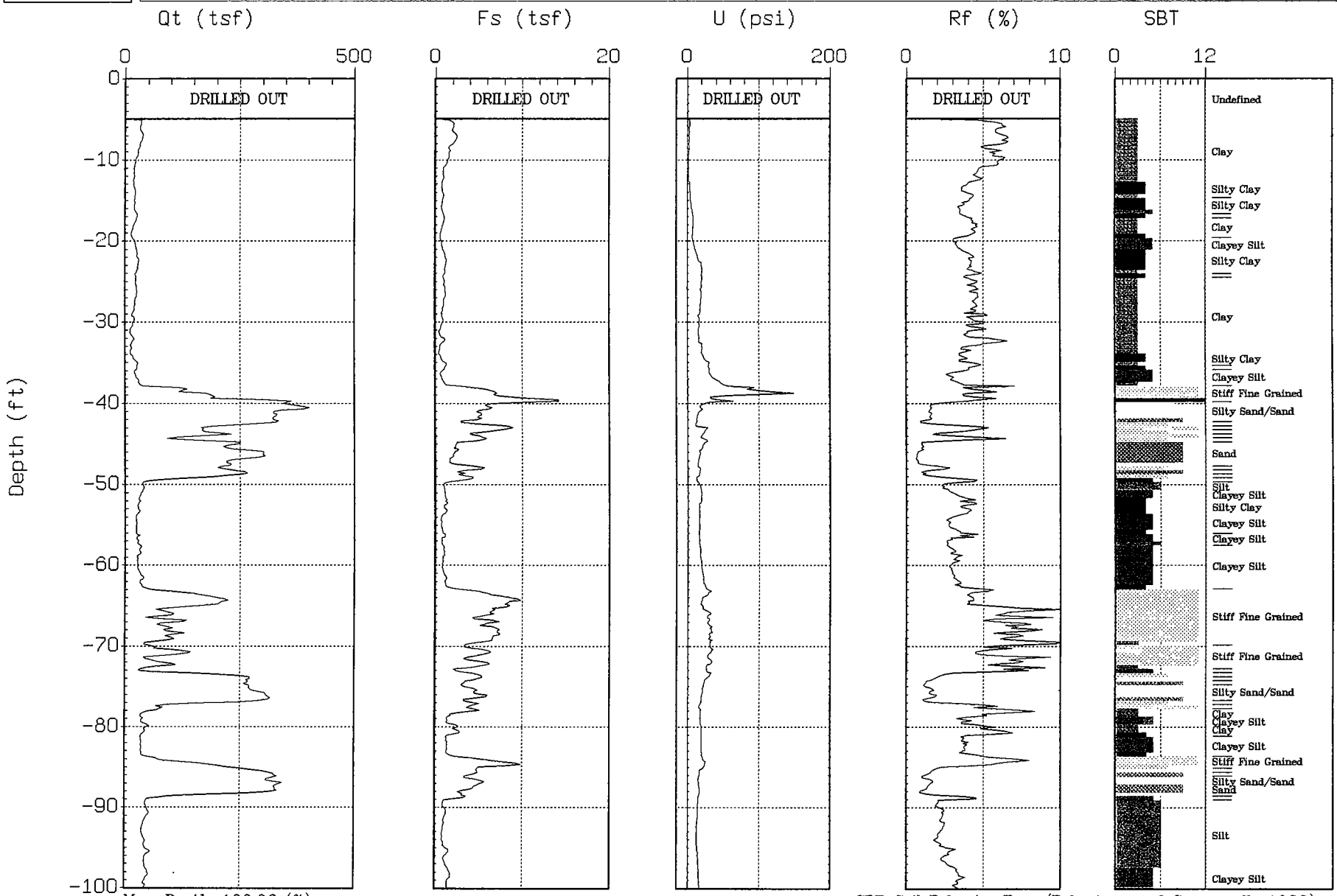
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-8

Engineer: D. MOBERG
Date : 10:29:01 16:33



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

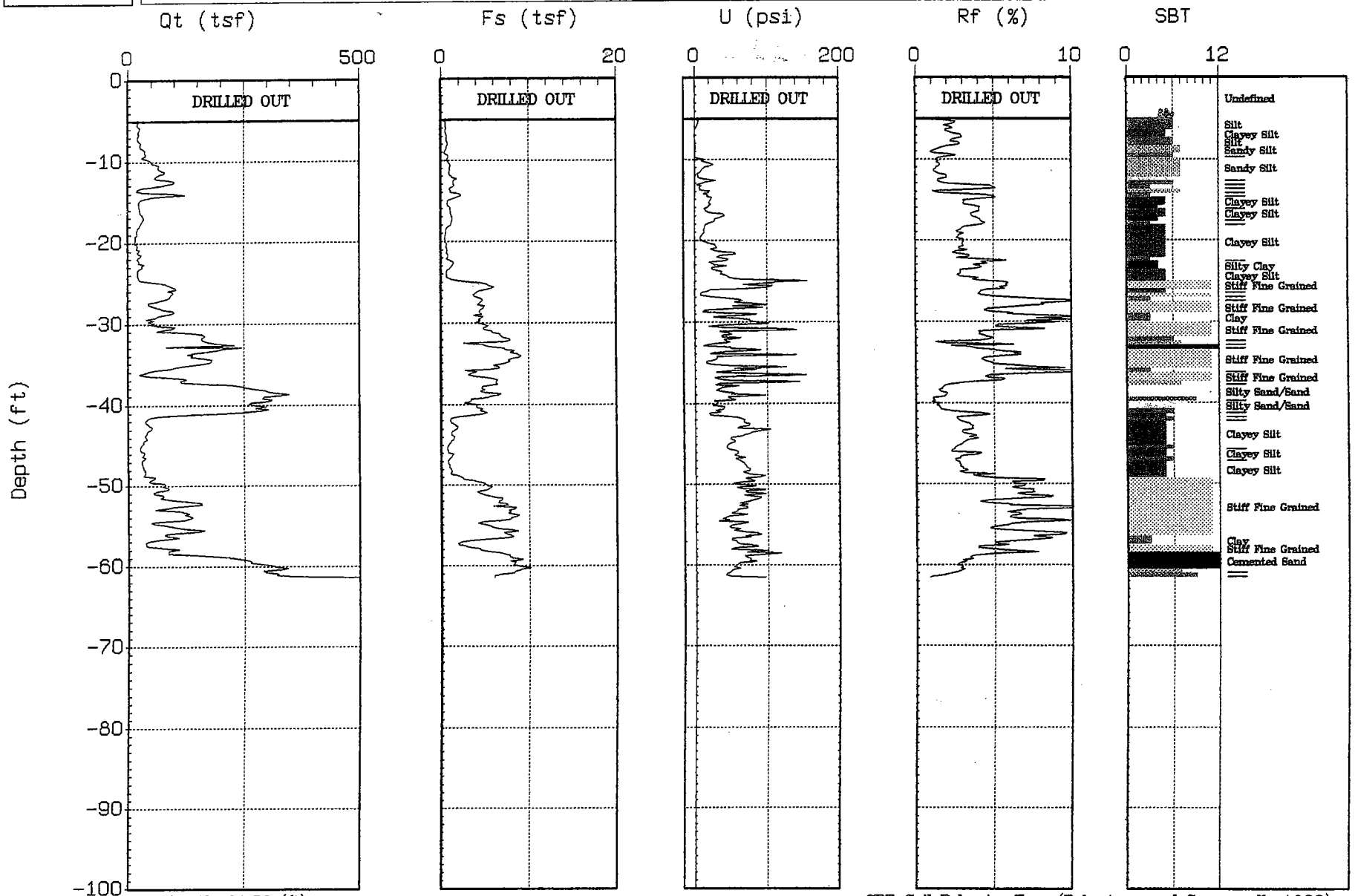
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-9

Engineer: D. MOBERG
Date : 11:02:01 10:32



Max. Depth: 61.52 (ft)

Depth Inc.: 0.164 (ft)

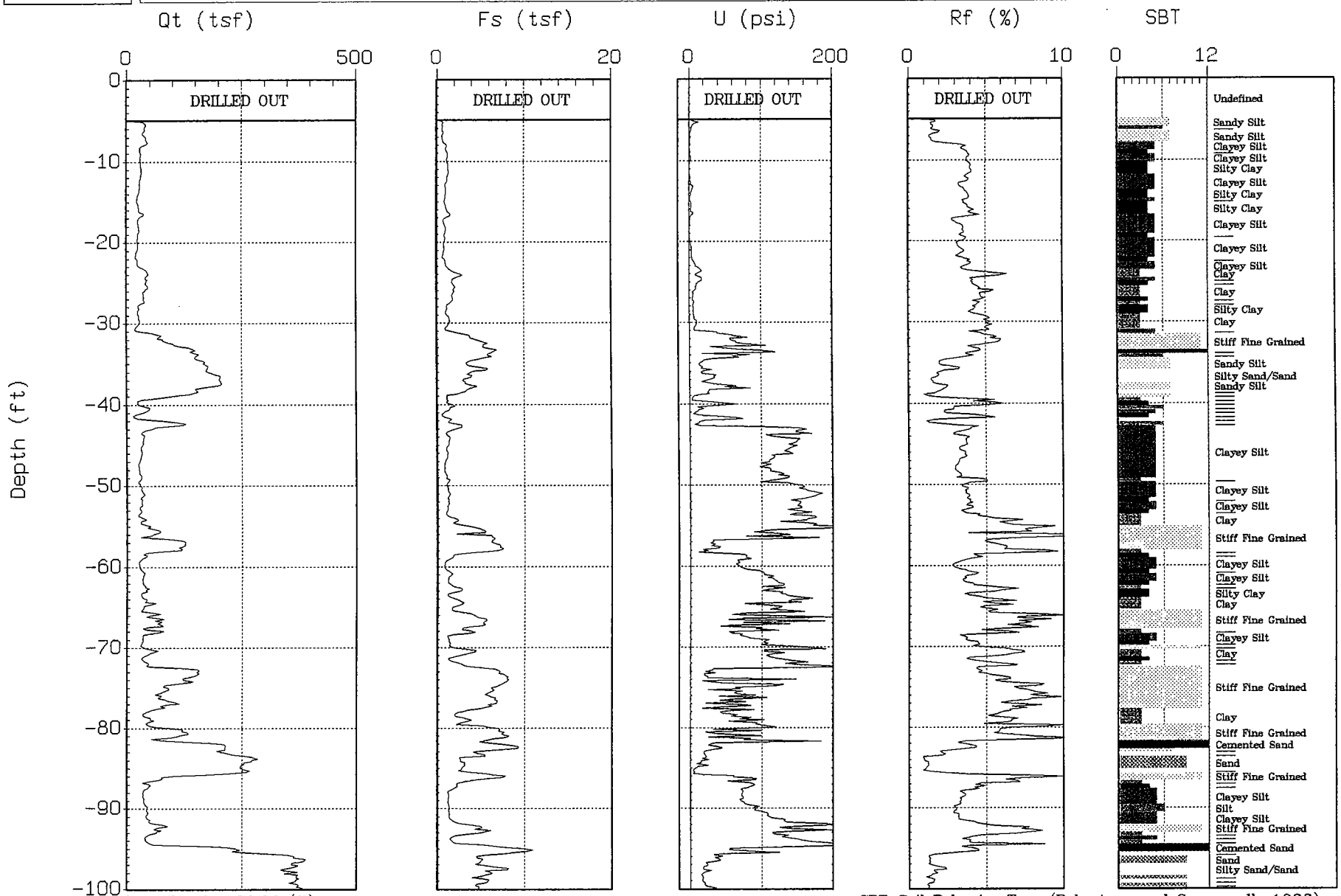
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-10

Engineer: D. MOBERG
Date : 11:02:01 15:18



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

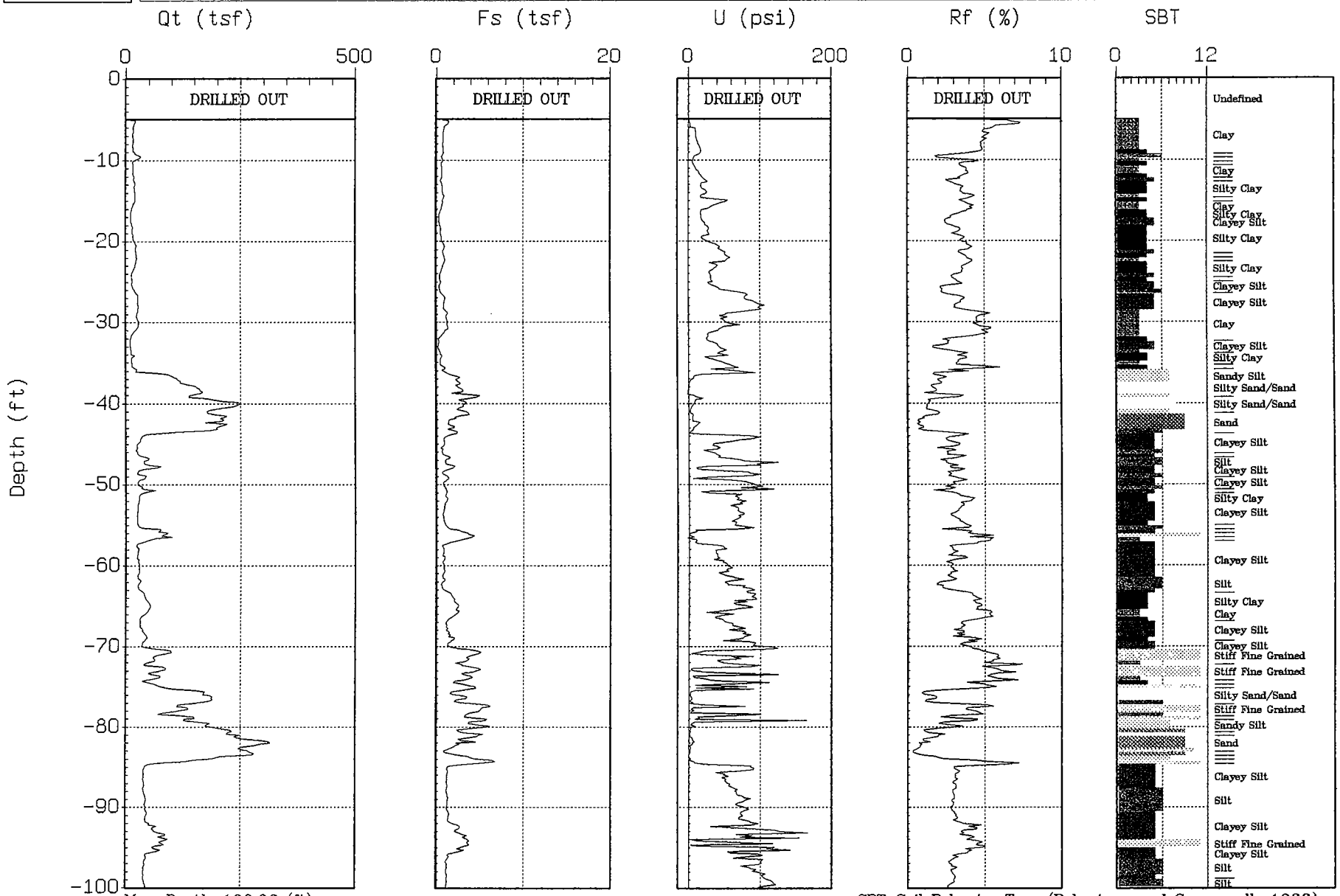
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-11

Engineer: D. MOBERG
Date : 11:07:01 10:47



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

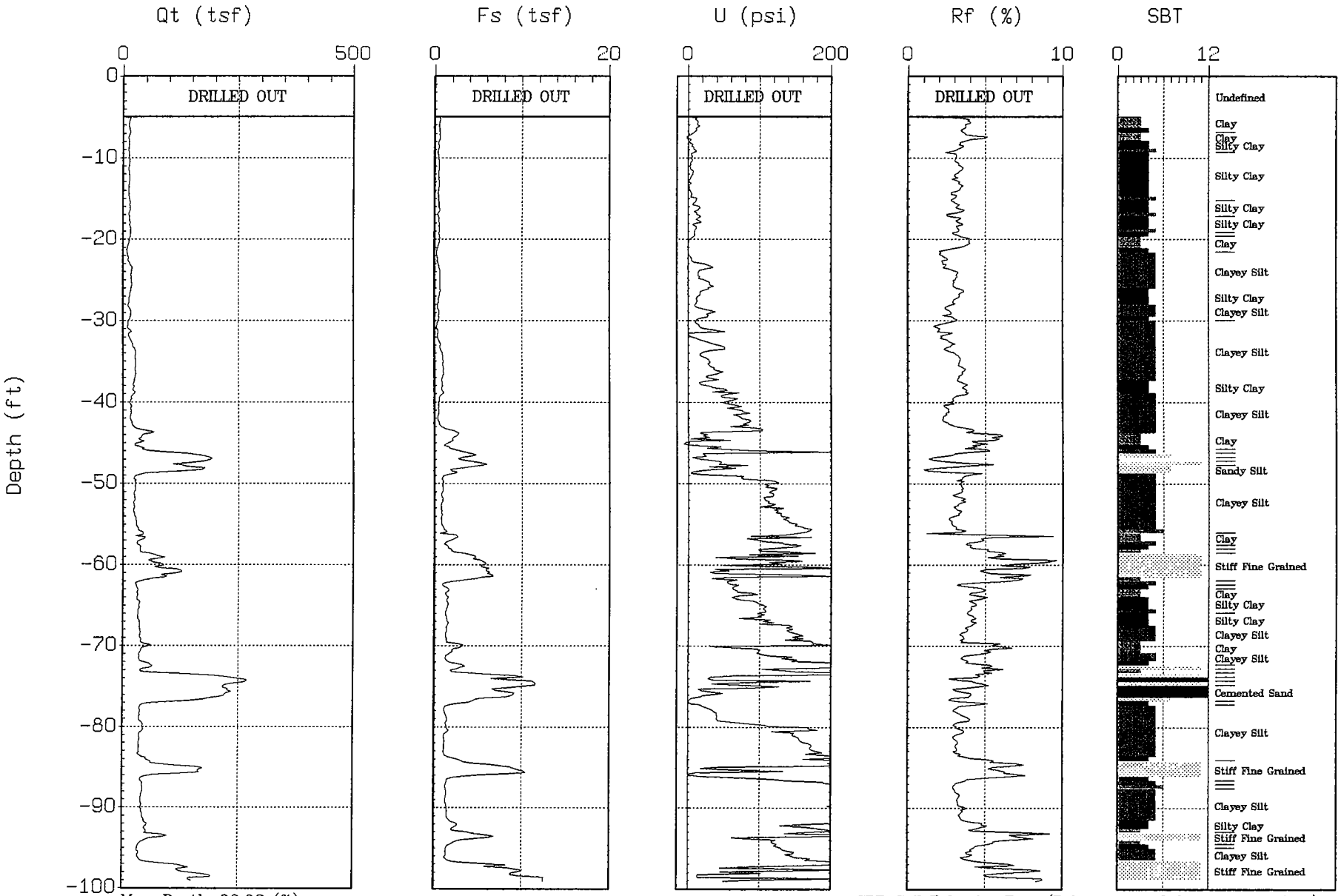
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P HOOKSTON STA.
Location : CPT-12

Engineer: D. MOBERG
Date : 10:29:01 10:26



Max. Depth: 99.08 (ft)

Depth Inc.: 0.164 (ft)

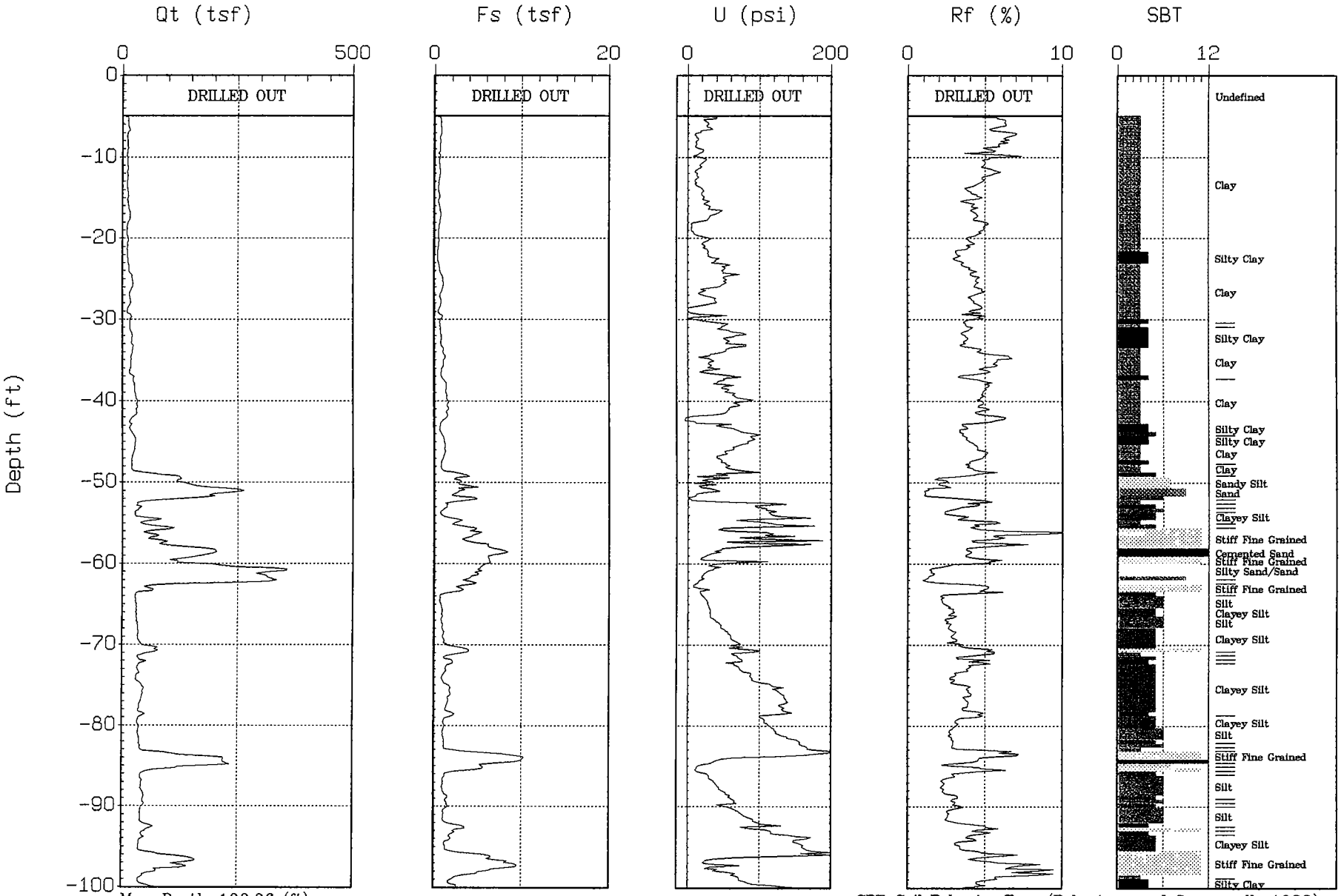
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-13

Engineer: D. MOBERG
Date : 10:26:01 09:31



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

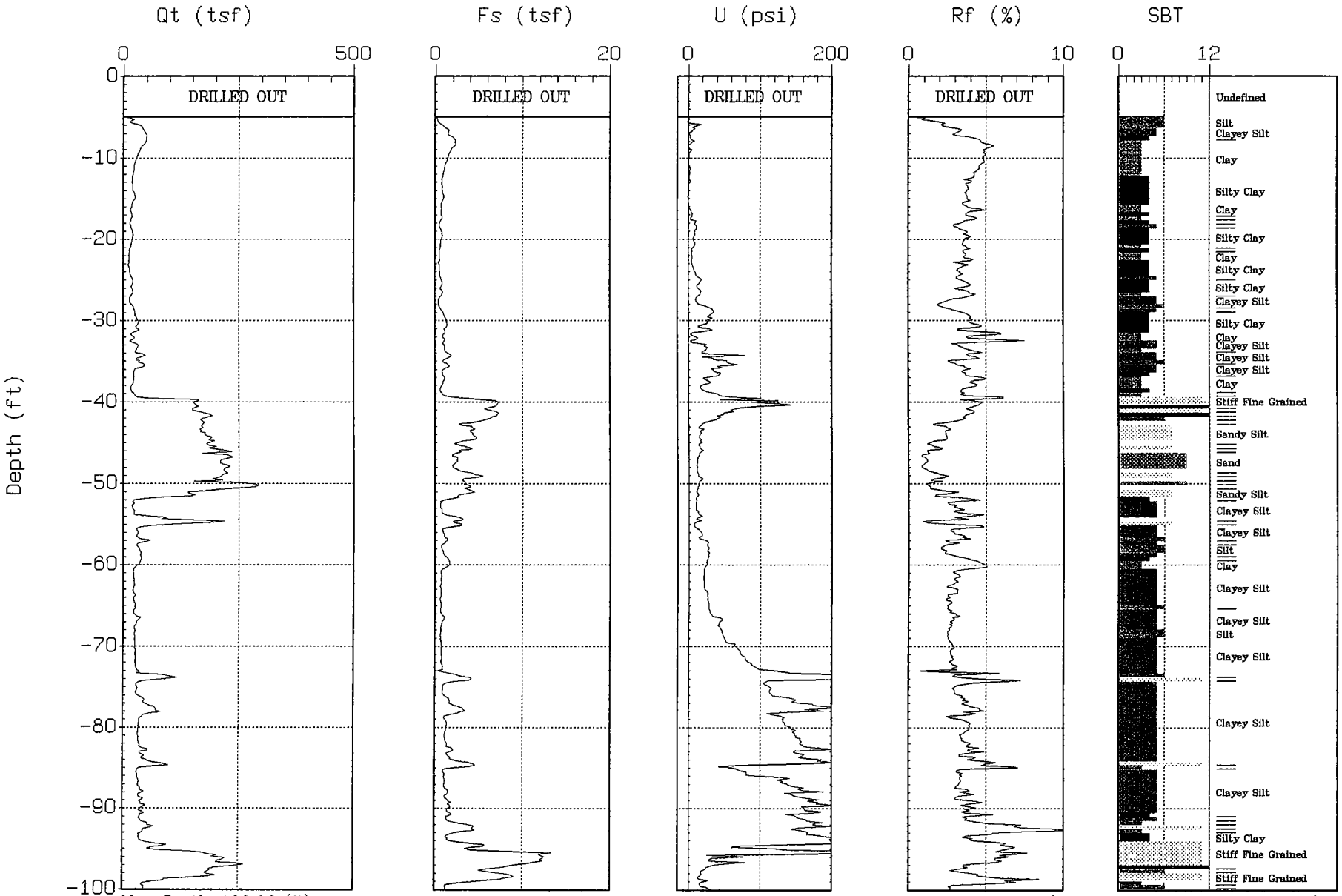
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-14

Engineer: D. MOBERG
Date : 10:30:01 13:58



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

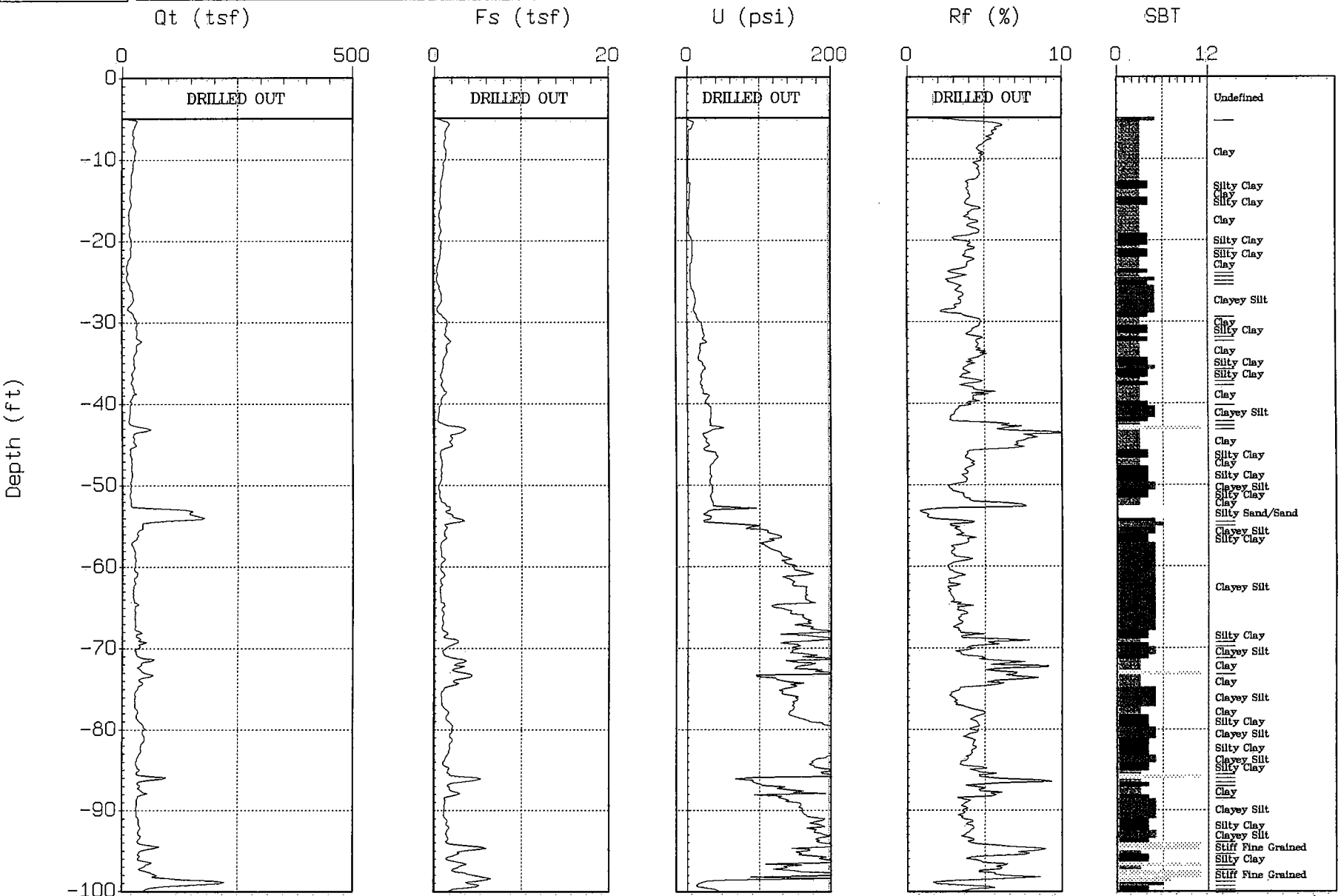
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-15

Engineer: D. MOBERG
Date : 10:31:01 10:35



Max. Depth: 105.15 (ft)

Depth Inc.: 0.164 (ft)

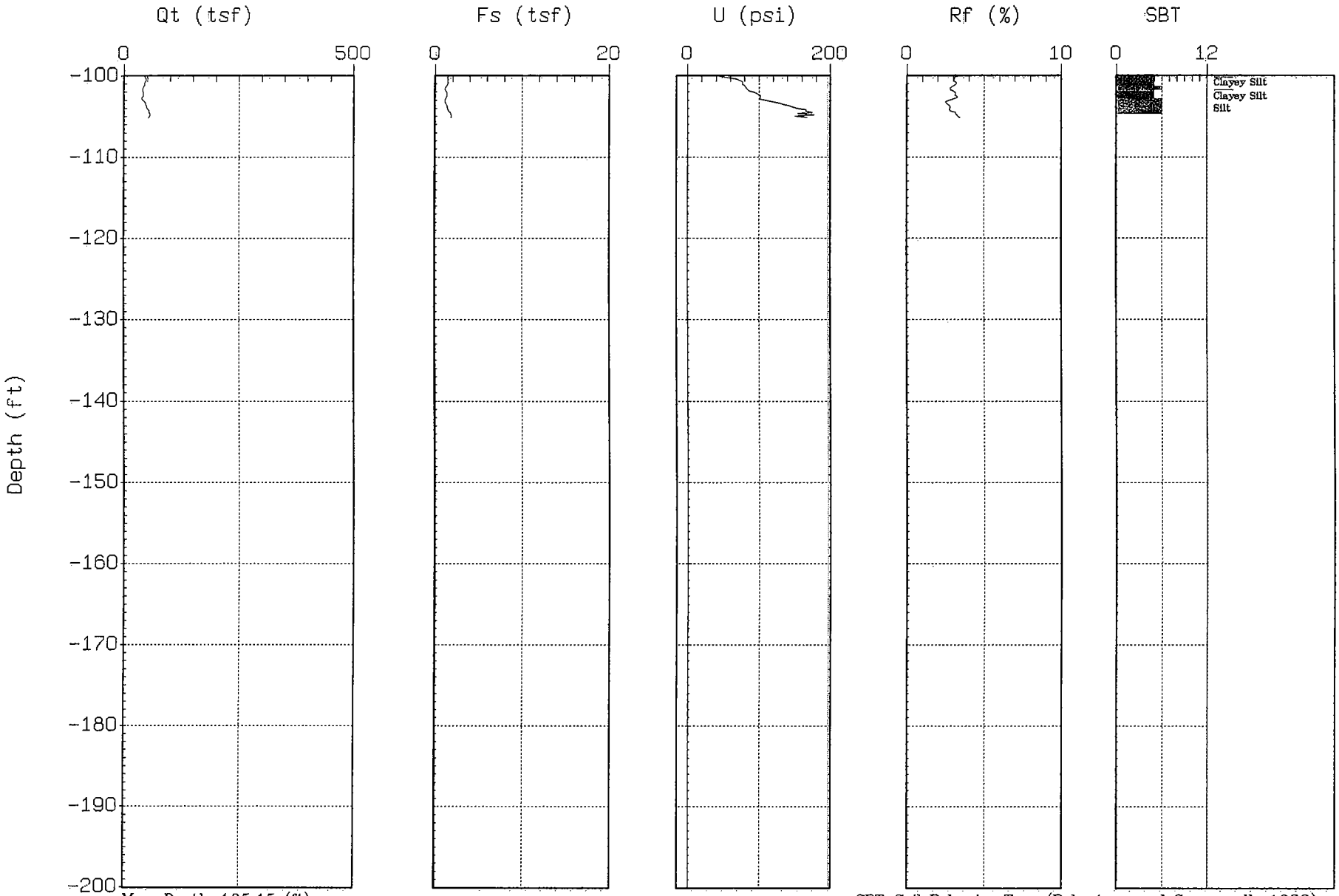
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-15

Engineer: D. MOBERG
Date : 10:31:01 10:35



Max. Depth: 105.15 (ft)

Depth Inc.: 0.164 (ft)

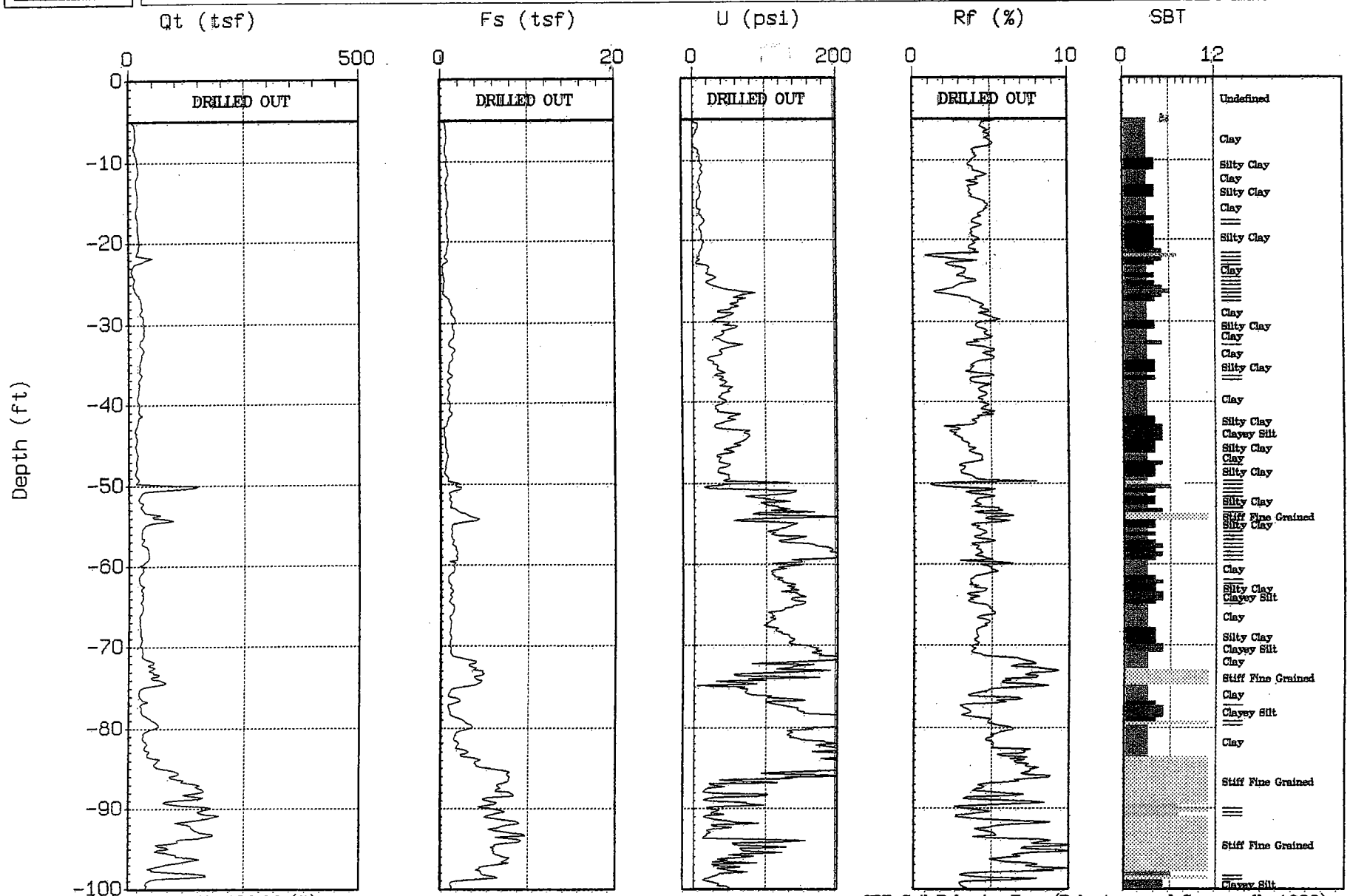
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-16

Engineer: D. MOBERG
Date : 10:31:01 15:41



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

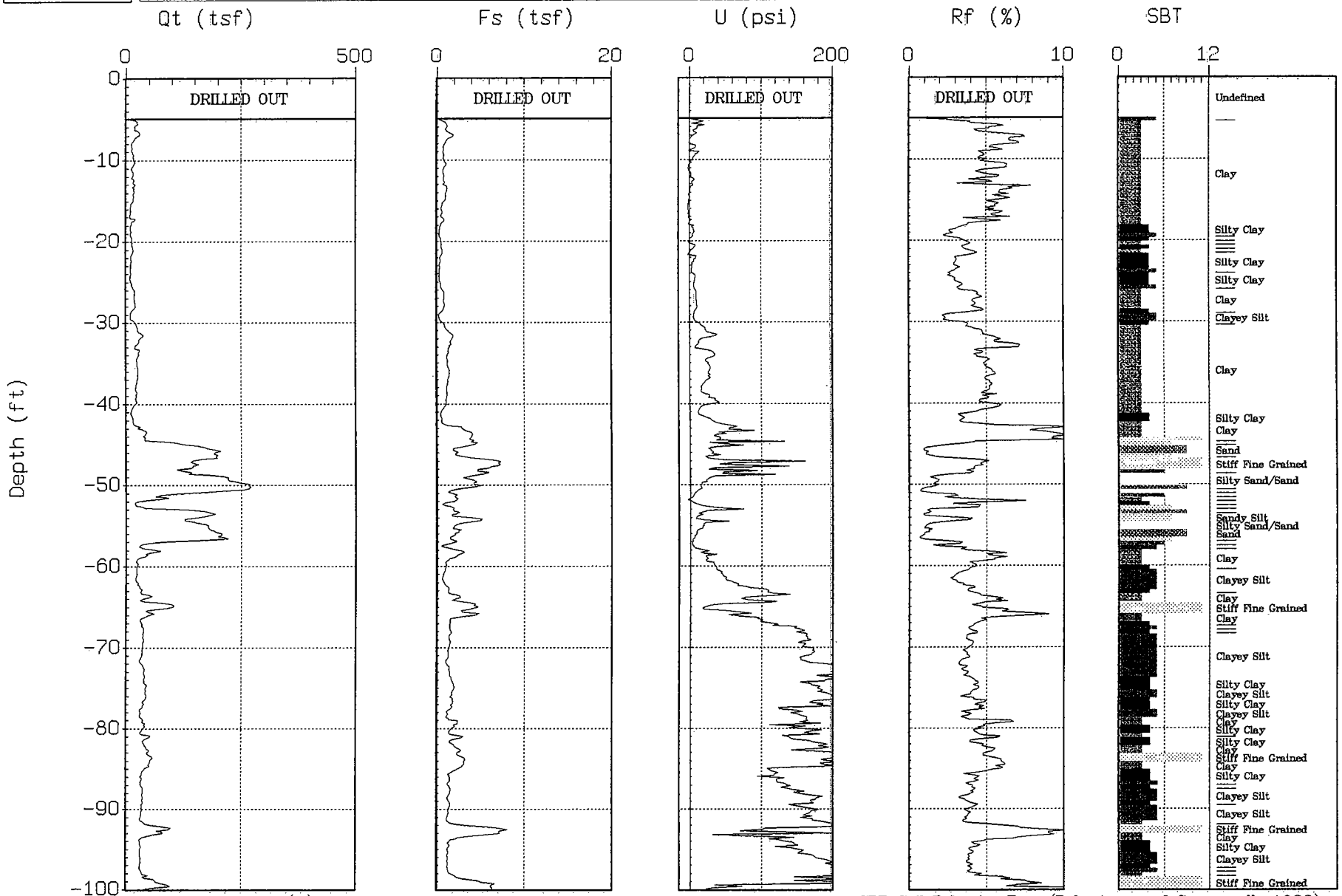
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : U.P. HOOKSTON STA.
Location : CPT-17

Engineer: D. MOBERG
Date : 11:01:01 14:20



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

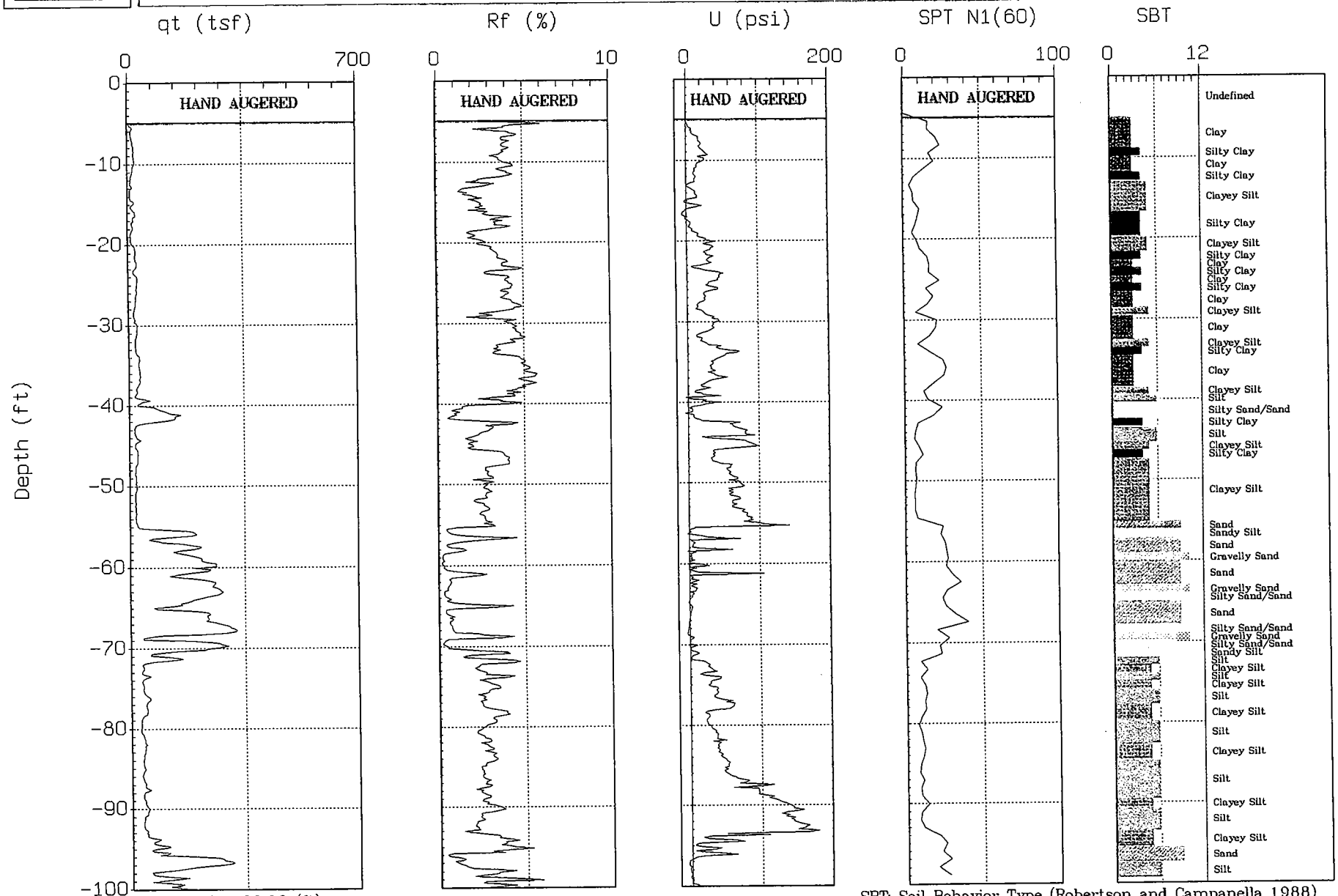
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : HOOKSTON PLACE
Location : CPT-18

Geologist : D. MOBERG
Date : 03:28:02 09:42



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

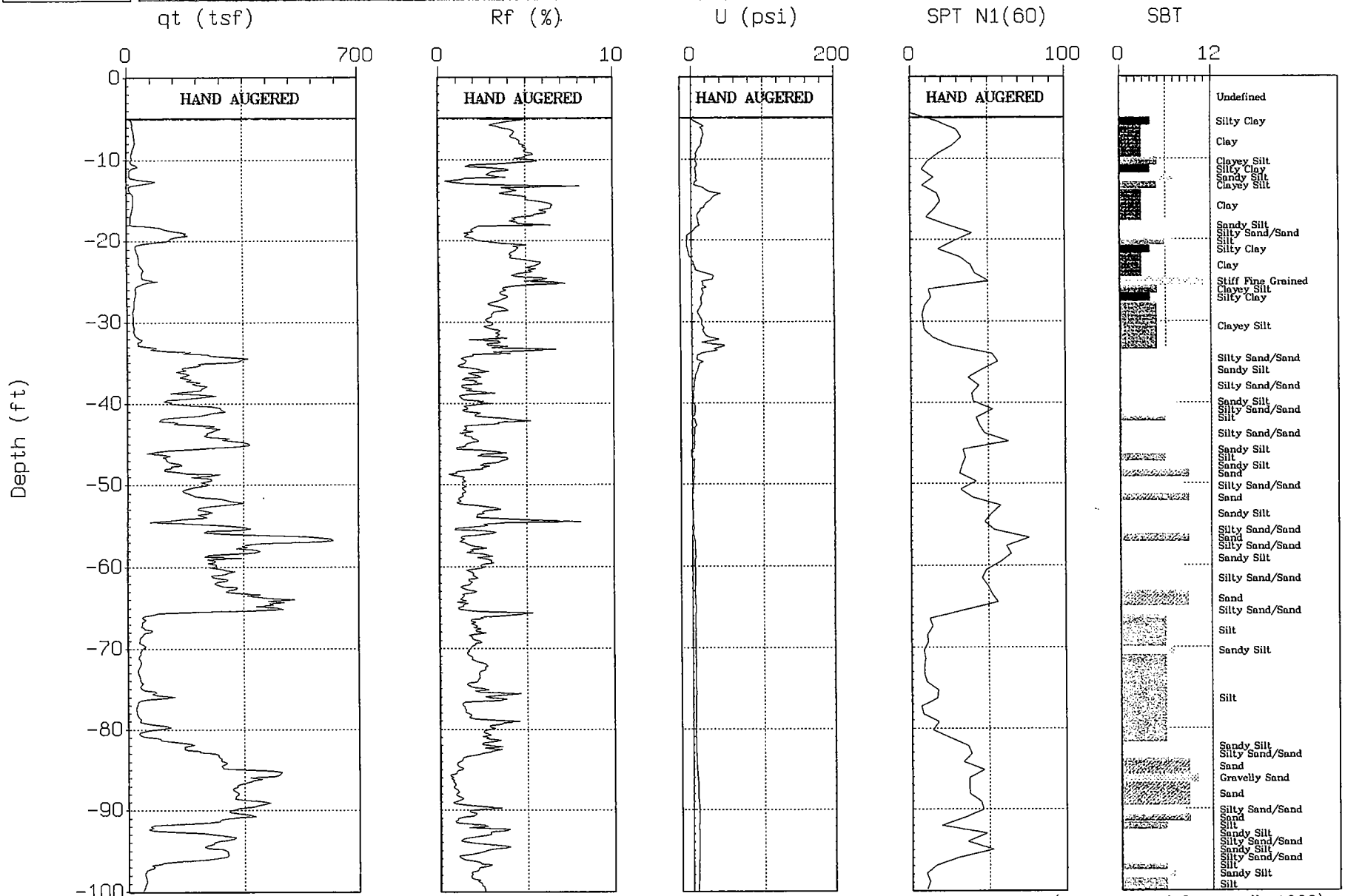
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : HOOKSTON PLACE
Location : CPT-19

Geologist : D. MOBERG
Date : 03:29:02 14:04



Max. Depth: 100.39 (ft)

Depth Inc.: 0.164 (ft)

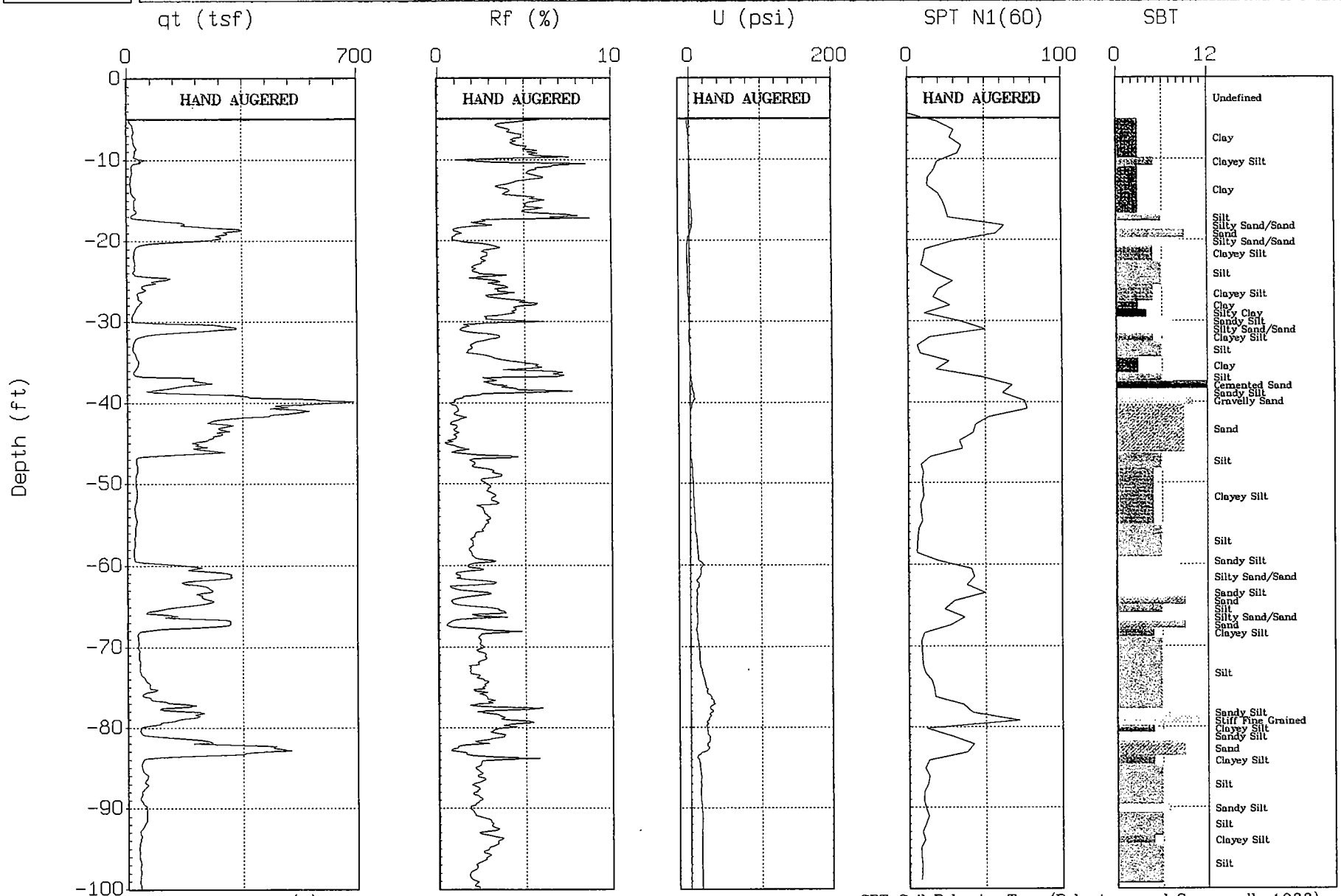
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM

Site : HOOKSTON PLACE
Location : CPT-20

Geologist : D. MOBERG
Date : 03:28:02 12:08



Max. Depth: 100.06 (ft)

Depth Inc.: 0.164 (ft)

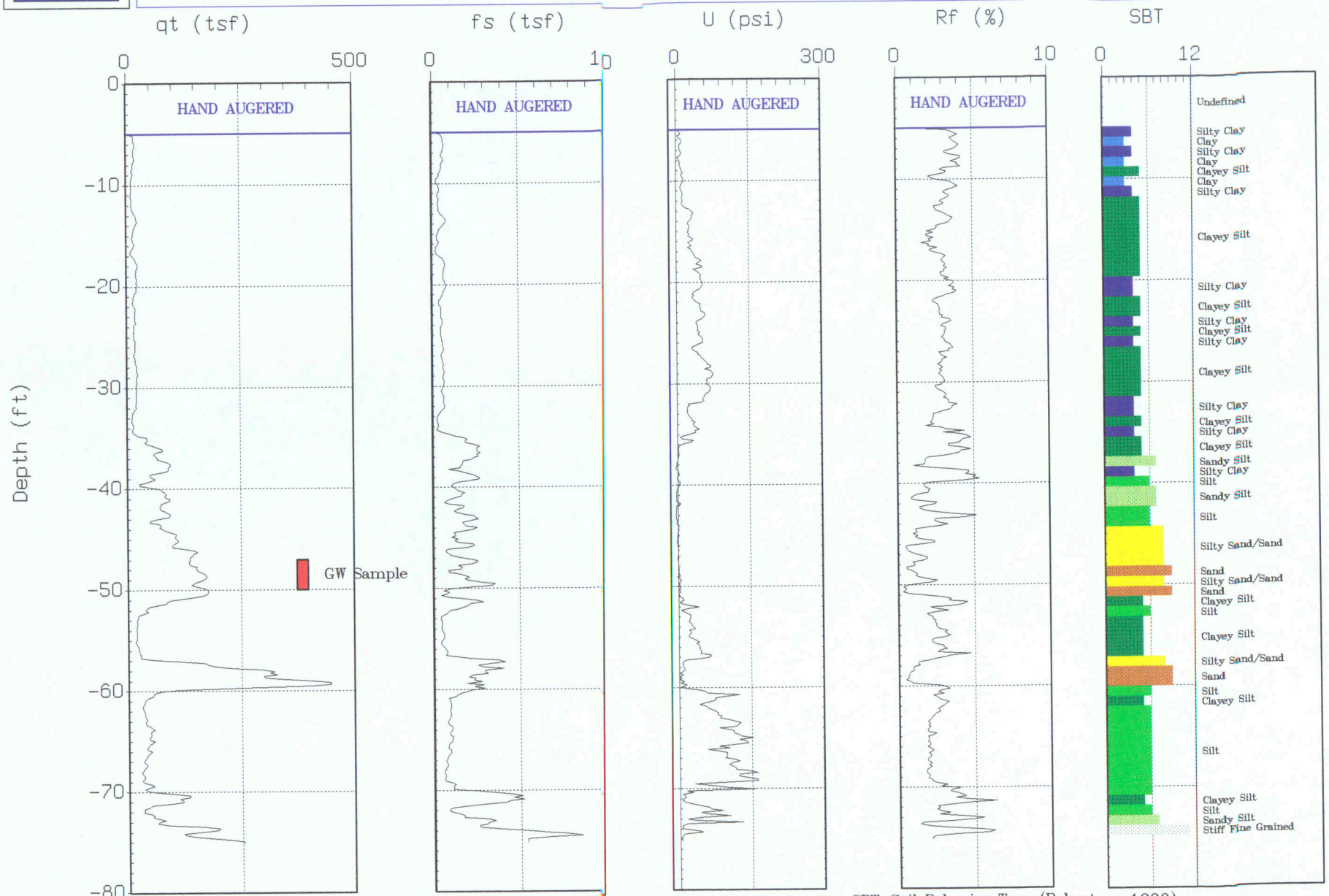
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-21

Geologist : D. MOBERG
Date : 09:25:02 09:15



Max. Depth: 75.13 (ft)

Depth Inc.: 0.164 (ft)

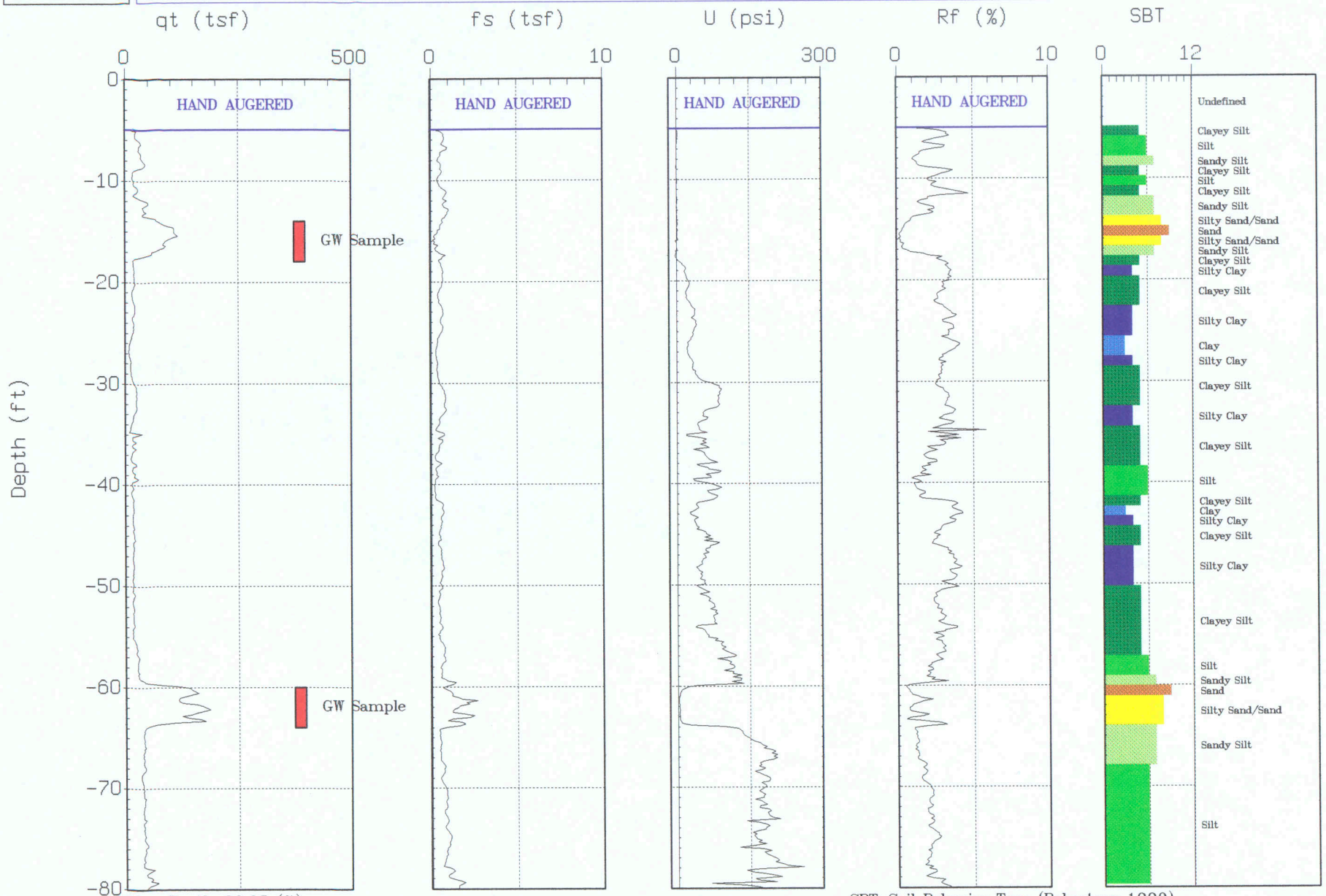
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-22

Geologist : D. MOBERG
Date : 09:18:02 16:28



Max. Depth: 80.05 (ft)

Depth Inc.: 0.164 (ft)

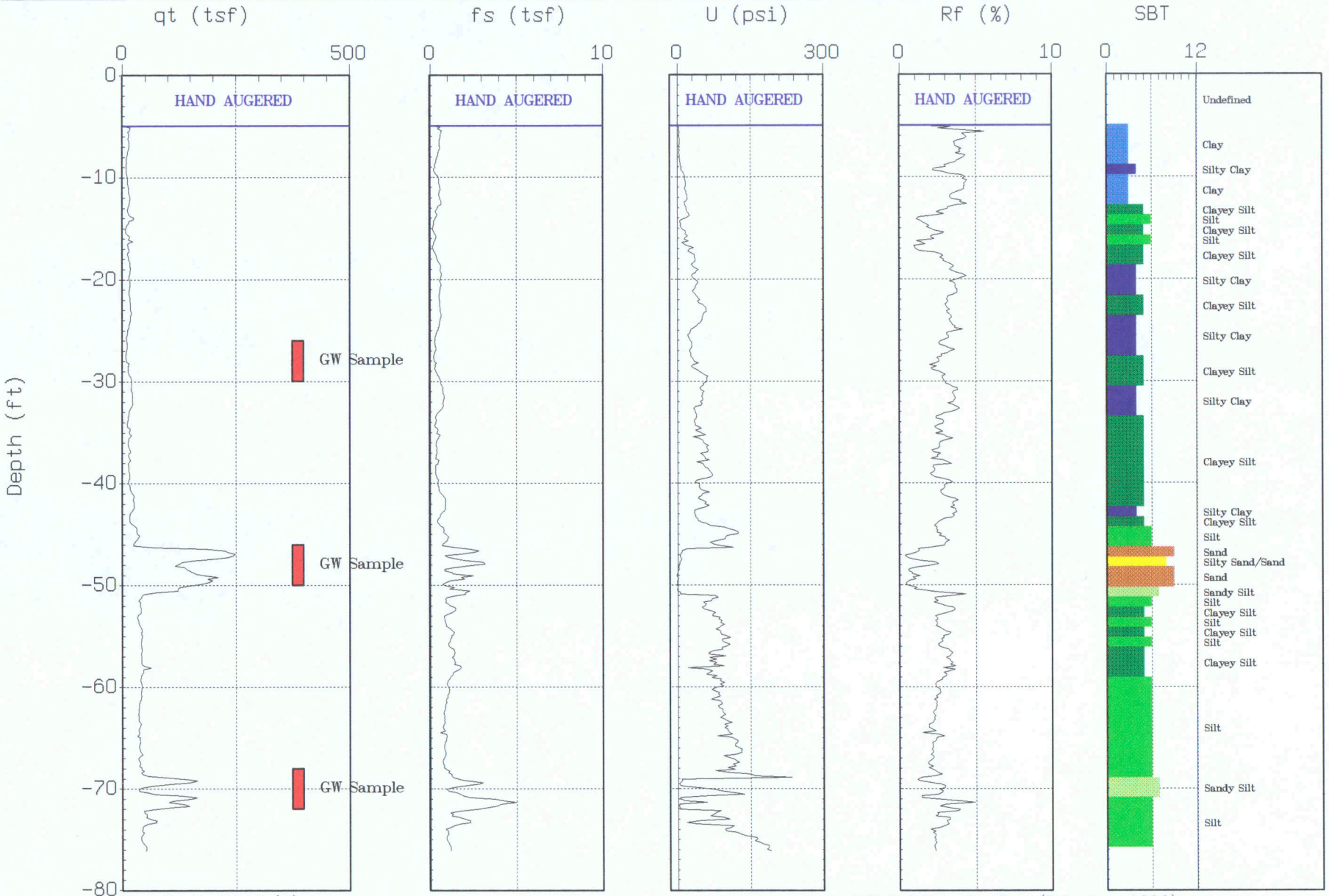
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-23

Geologist : D. MOBERG
Date : 09:18:02 12:37



Max. Depth: 76.11 (ft)

Depth Inc.: 0.164 (ft)

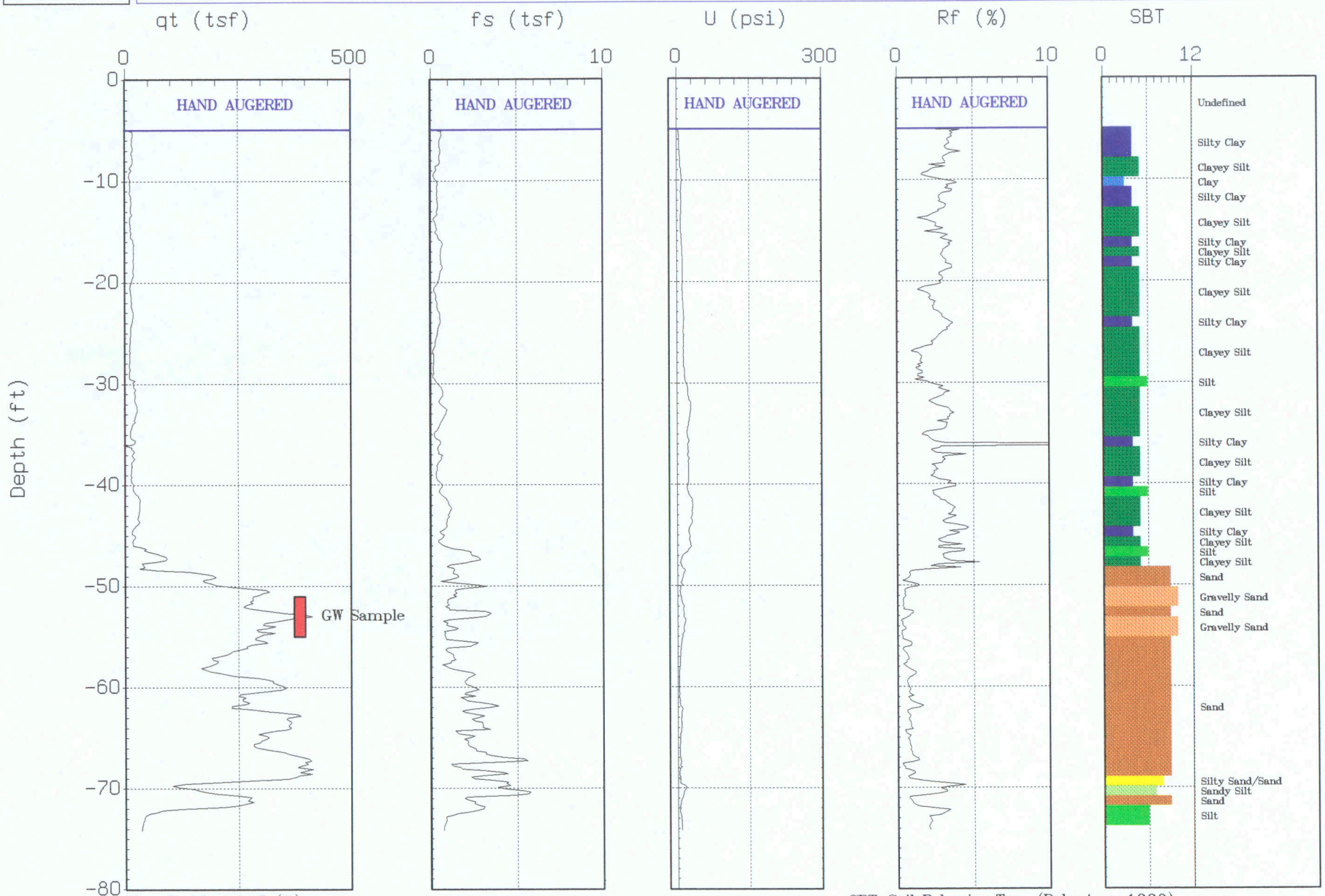
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-24

Geologist : D. MOBERG
Date : 09:18:02 09:38



Max. Depth: 74.15 (ft)

Depth Inc.: 0.164 (ft)

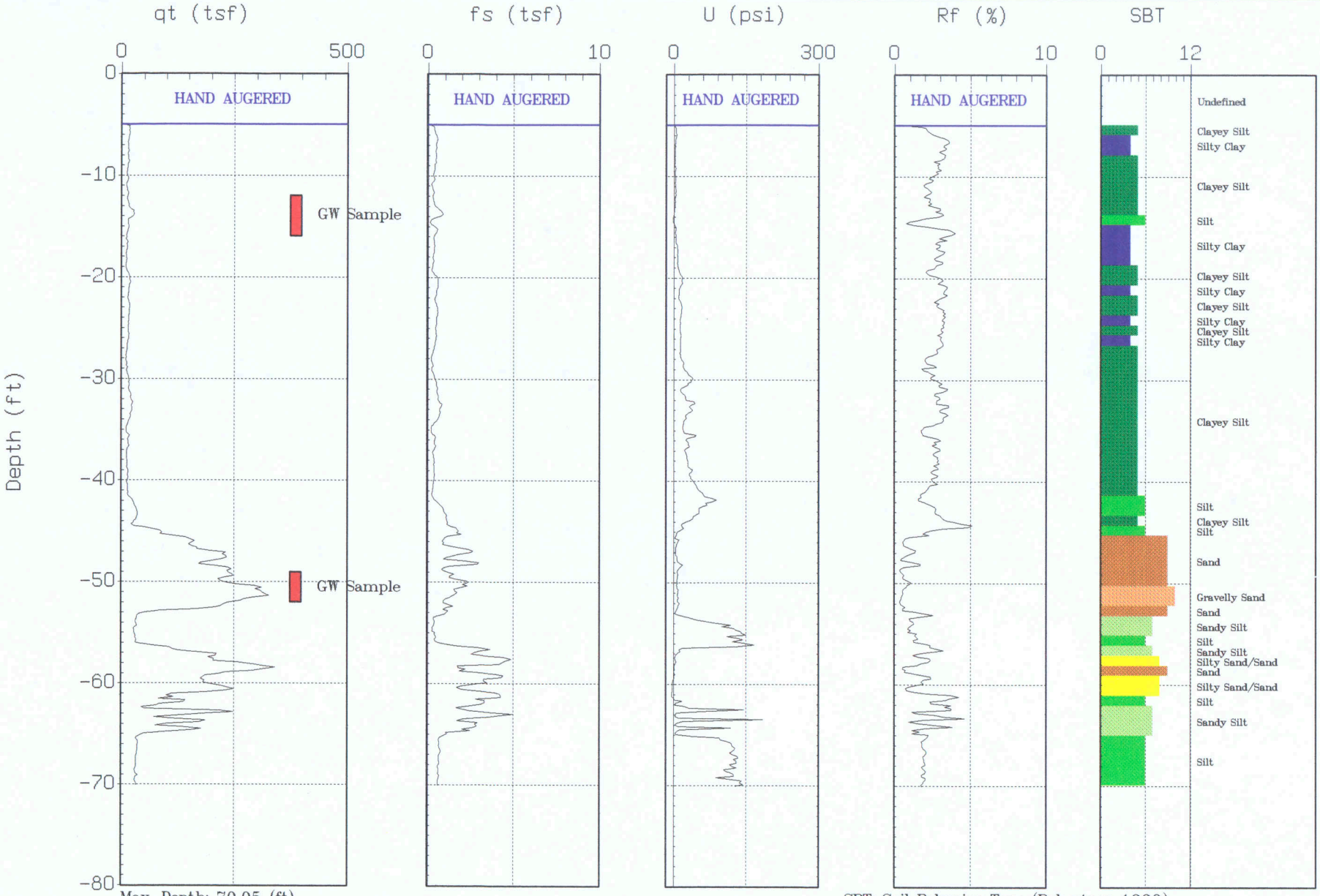
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-25

Geologist : D. MOBERG
Date : 09:25:02 11:35



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

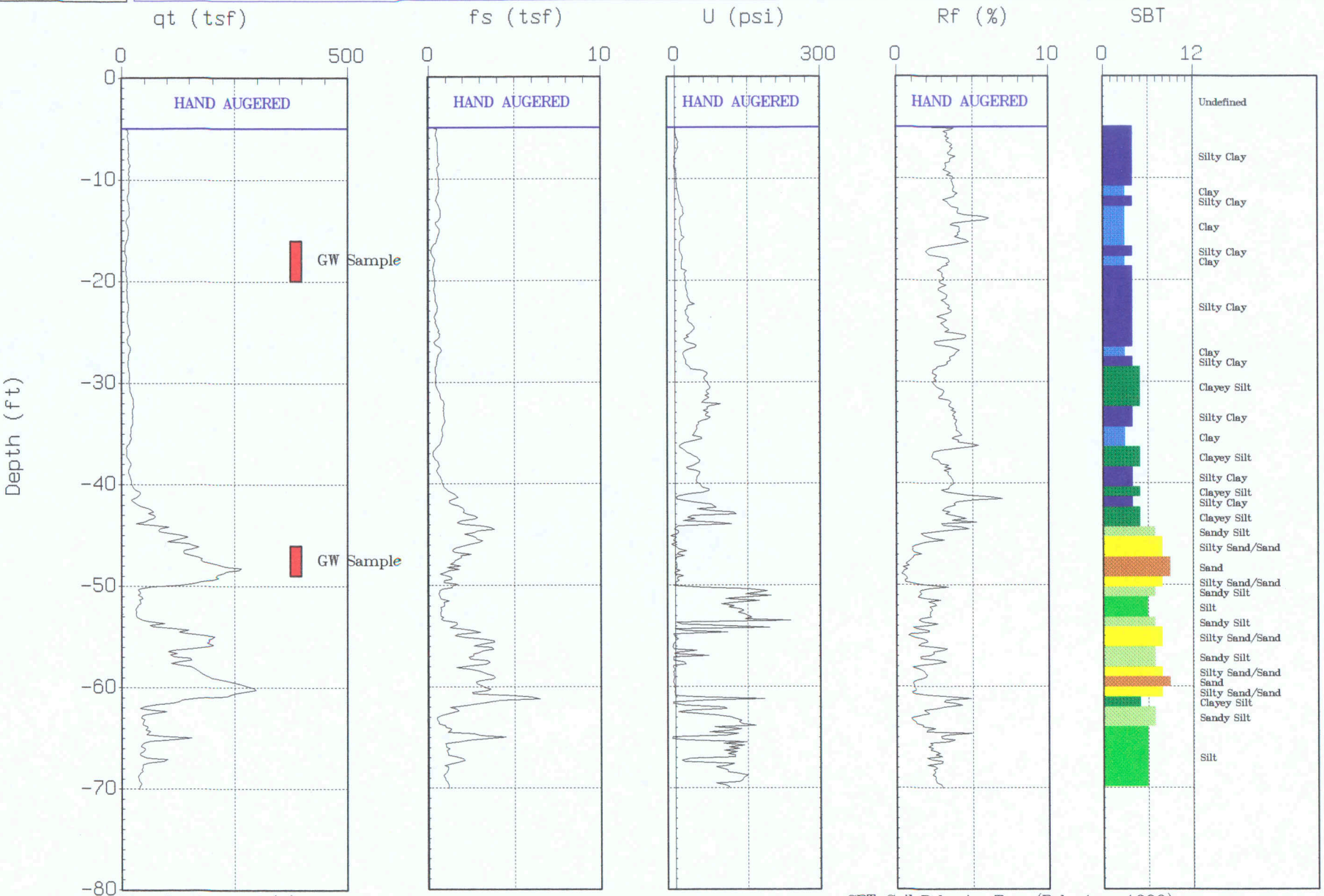
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-26

Geologist : D. MOBERG
Date : 09:25:02 14:06



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

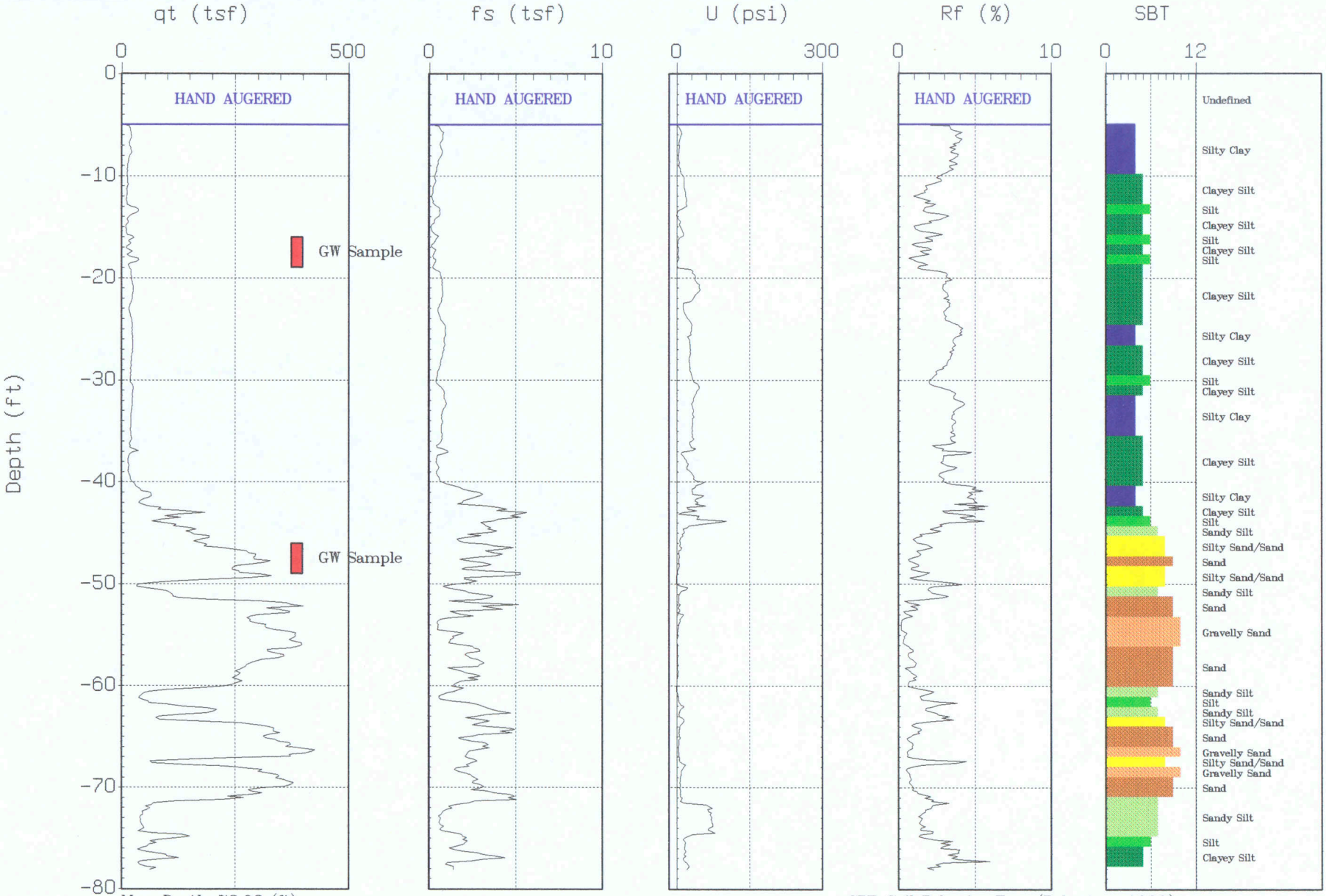
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-27

Geologist : D. MOBERG
Date : 09:26:02 09:28



Max. Depth: 78.08 (ft)

Depth Inc.: 0.164 (ft)

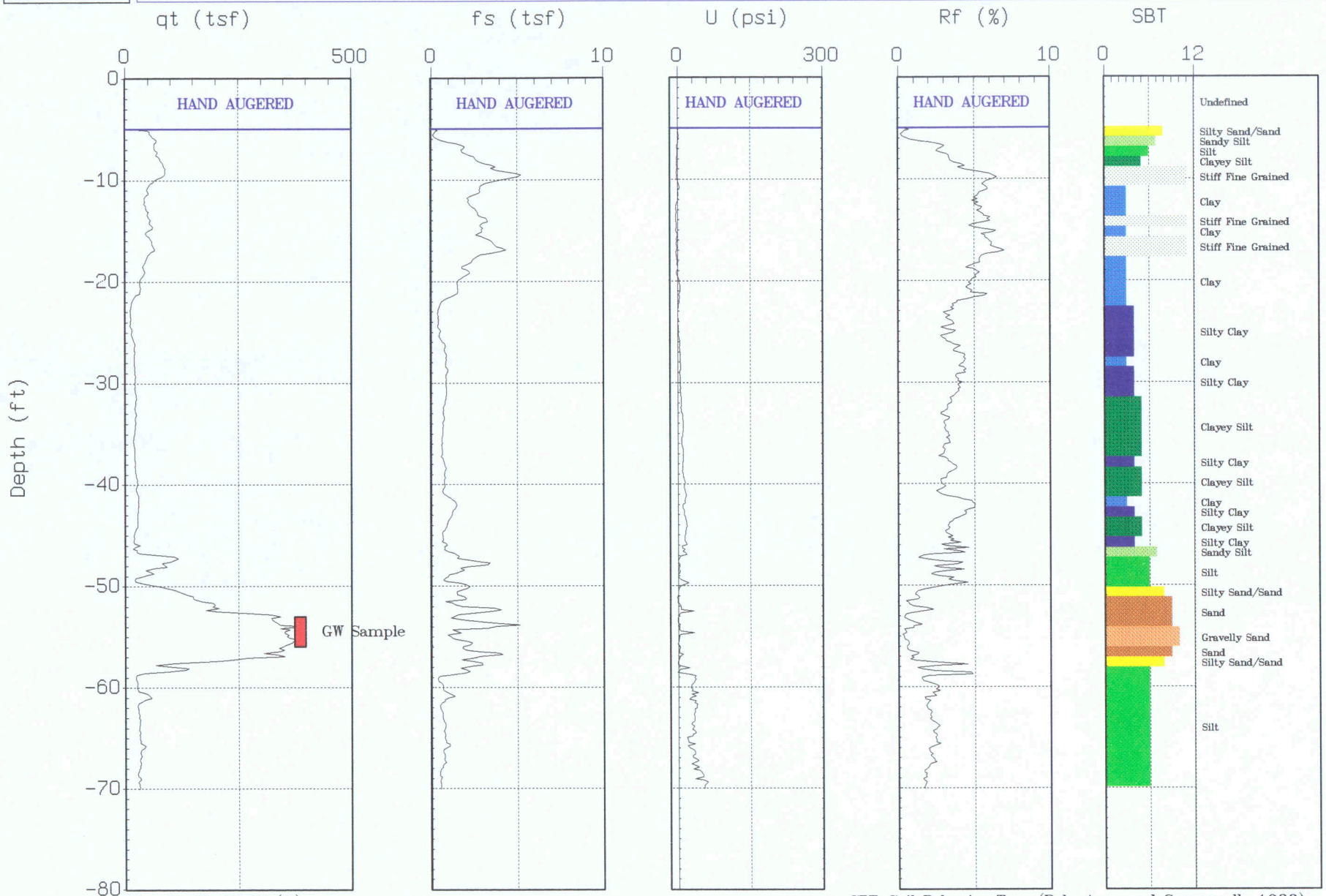
SBT: Soil Behavior Type (Robertson 1990)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-28

Geologist : D. MOBERG
Date : 09:27:02 10:38



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

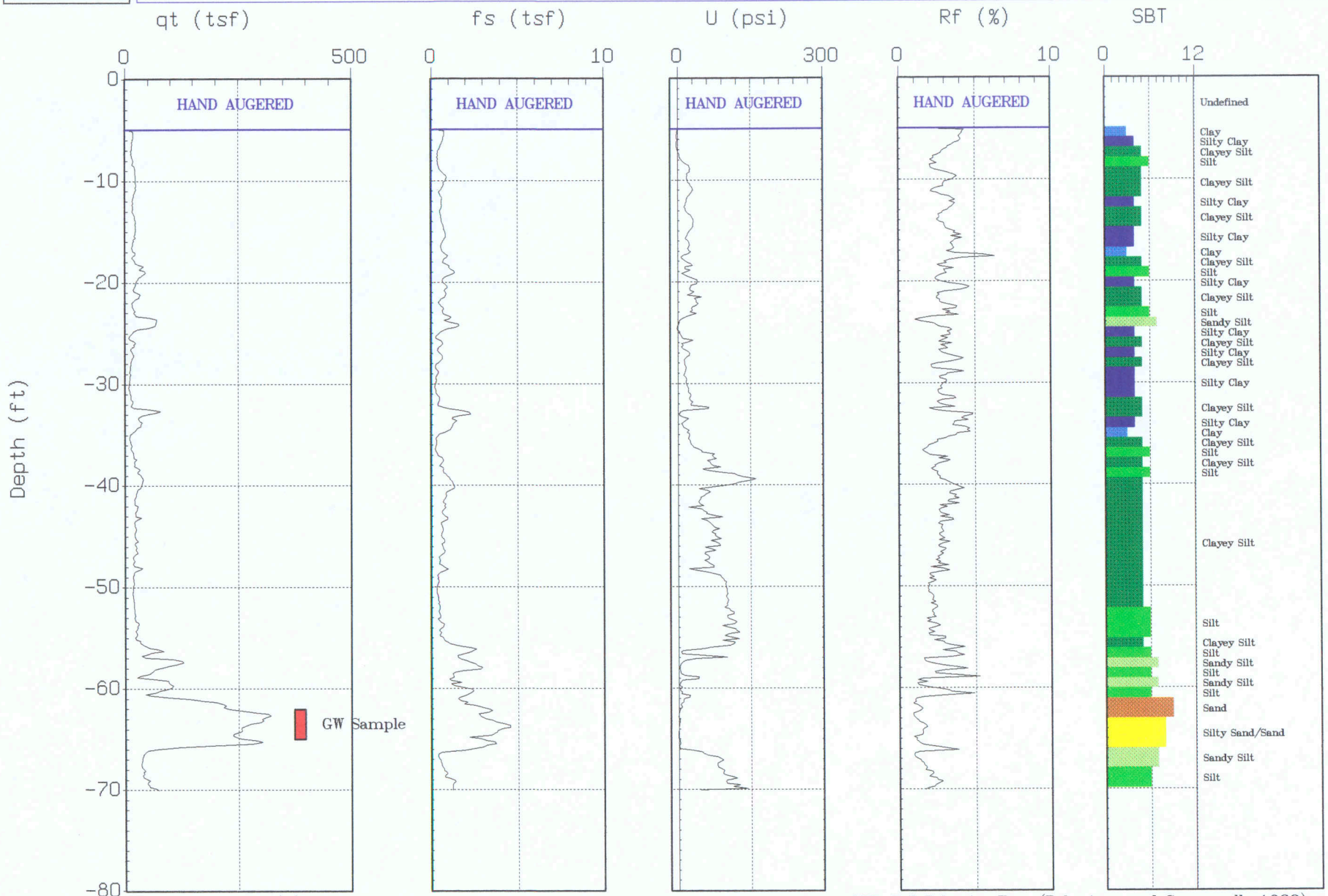
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-29

Geologist : D. MOBERG
Date : 09:27:02 13:13



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

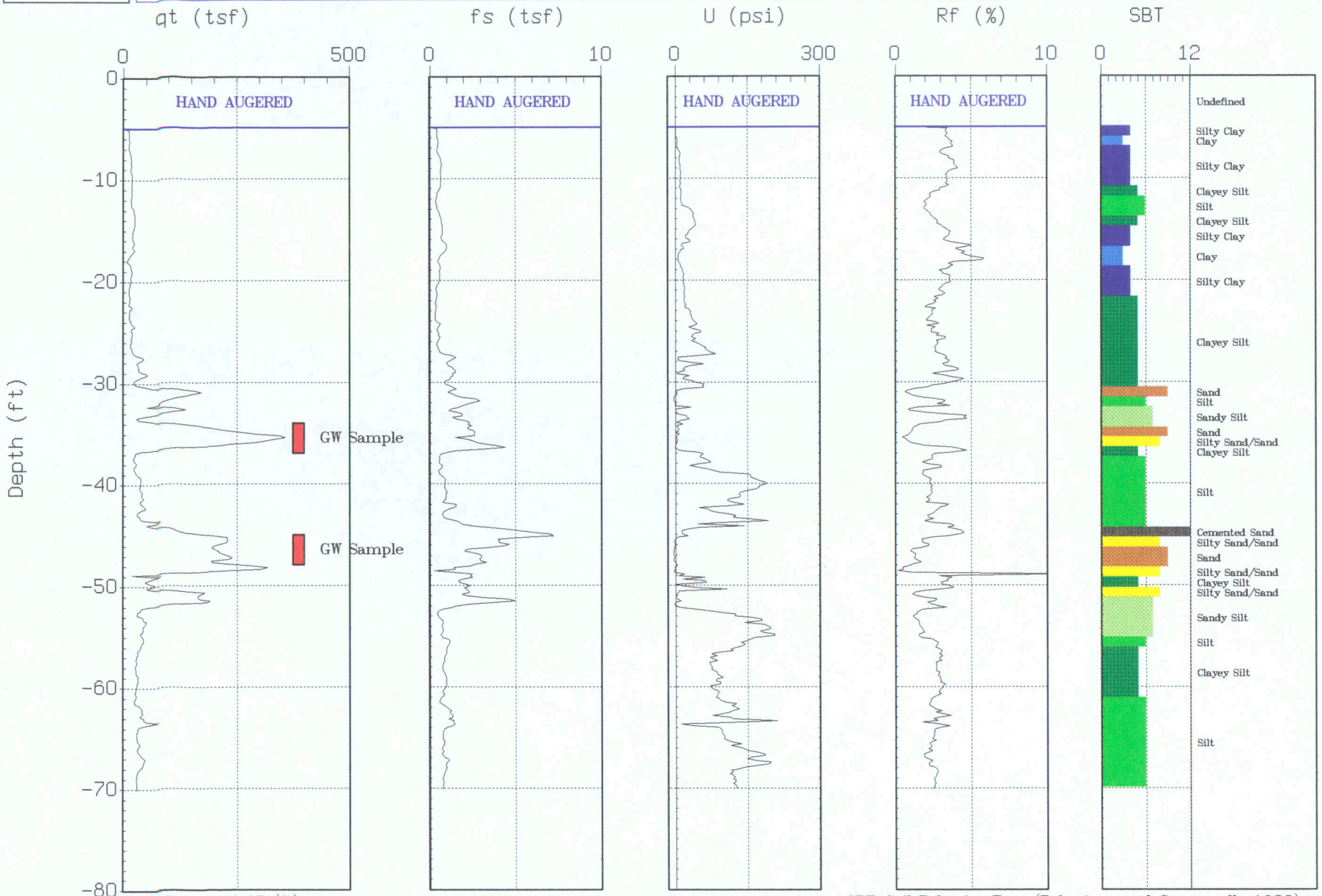
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-31

Geologist : D. MOBERG
Date : 09:26:02 12:13



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

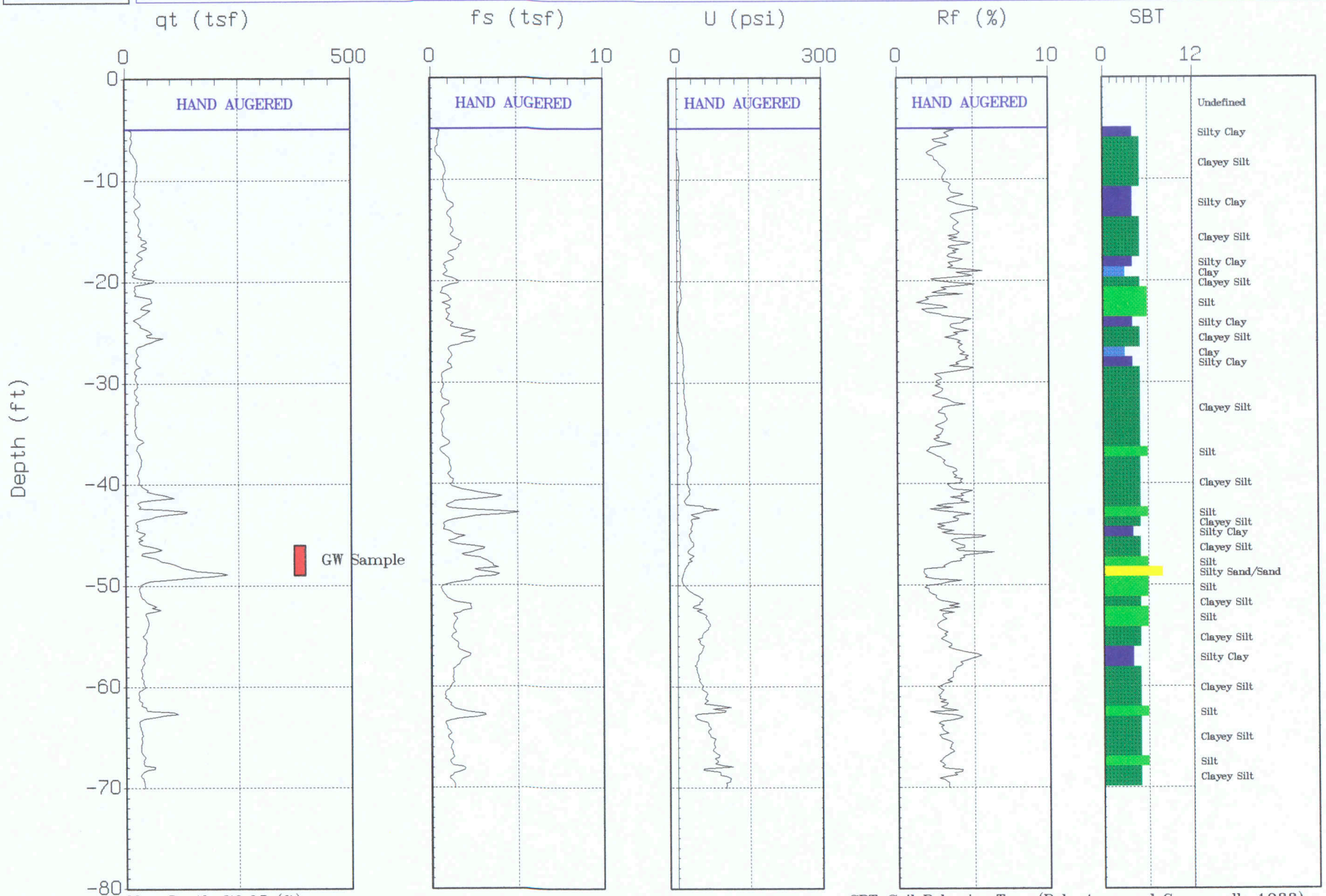
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

ERM WEST

Site : HOOKSTON PLACE
Location : CPT-32

Geologist : D. MOBERG
Date : 09:26:02 14:53



Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

Appendix C
Monitoring Well
Completion Reports

ERM
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BOREHOLE LOG

Site Id: MW-08A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Dual Tube/Direct-Push

Logged By: R. Sijgers

Date(s): 09/25/03

Initial Water Level: NA

X-Coordinate: 6113990.80

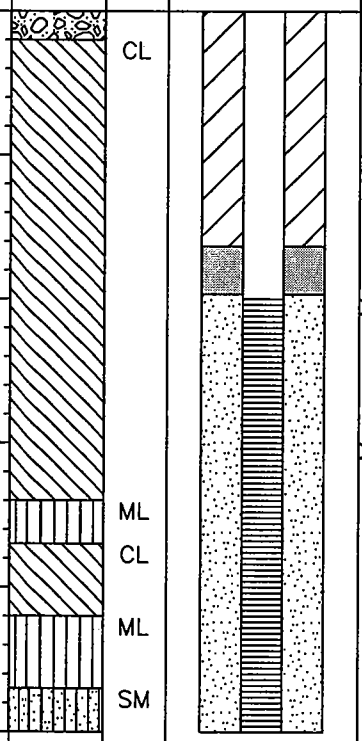
Y-Coordinate: 2168095.30

Total Depth: 25.00'

Completed Depth: 25.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 10.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 10.00'	to: 25.00'
Annular Fill: type: Grout			fm: 0.00'	to: 8.17'
type: Bentonite Chips			fm: 8.17'	to: 9.83'
type: Prepack Sand Pack			fm: 9.83'	to: 25.00'



Depth (ft)	USCS Code	Sample No.	PID (ppm)	Soil Description and Observations
			0.3	Baserock, ~12.0".
	CL		1.1	CLAY (CL): black, trace silt, stiff, low plasticity, dry.
		MW-08-2.5	0.0	
			0.1	
			0.0	CLAY (CL): as above, dark brown.
5		MW-08-5.5	0.0	CLAY (CL): as above.
			1.0	CLAY (CL): brown, with some silt, medium stiff, moderate plasticity, dry.
			5.3	
			2.0	
			1.3	
10		MW-08-10.5	0.0	CLAY (CL): as above.
			0.8	
			0.4	
			3.4	
			0.0	
15		MW-08-15.5	0.0	CLAY (CL): as above.
			4.0	CLAY (CL): brown to olive brown, trace silt, stiff, moderate plasticity, dry.
	ML		1.2	CLAYEY SILT (ML): brown, moderately loose.
			0.1	
	CL		0.0	CLAY (CL): brown, trace silt, stiff, moderate plasticity, dry.
20			0.1	CLAY (CL): as above.
	ML		0.0	CLAYEY SILT (ML): brown, moderately loose.
			0.0	
			0.0	
	SM			SILTY SAND (SM): brown, fine to medium grained, with some clay.
25				Total Depth – 25.0' bgs.
30				
35		MW-08-35.0		Ground water sample collected by HydroPunch, Screen: 31.0–35.0'.

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BOREHOLE LOG

Site Id: MW-11A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Dual Tube/Direct-Push

Logged By: R. Sijgers

Date(s): 09/24/03

Initial Water Level: NA

X-Coordinate: 6113733.20

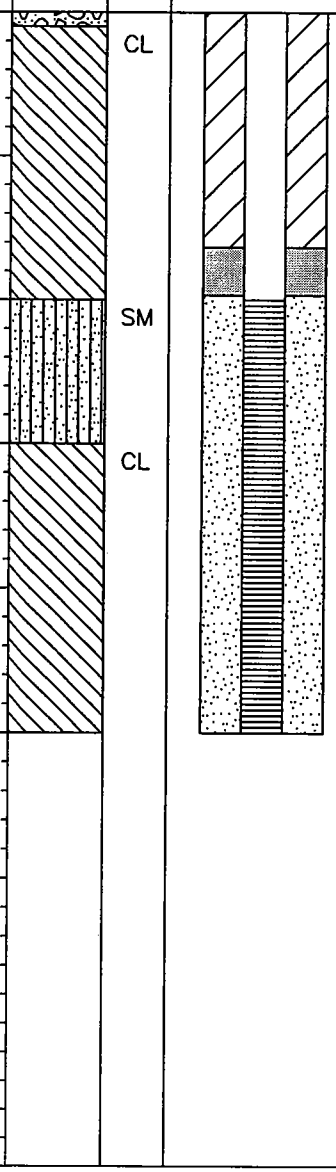
Y-Coordinate: 2167631.00

Total Depth: 25.00'

Completed Depth: 25.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 10.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 10.00'	to: 25.00'
Annular Fill: type: Grout			fm: 0.00'	to: 8.17'
type: Bentonite Chips			fm: 8.17'	to: 9.83'
type: Prepack Sand Pack			fm: 9.83'	to: 25.00'



Depth (ft)	USCS Code	Soil Description and Observations
	CL	Baserock, ~6.0". CLAY (CL): dark brown, with some silt, medium stiff, moderate plasticity, dry.
5		CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
10	SM	SILTY SAND (SM): olive brown, trace clay, compacted, dry.
15	CL	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
		CLAY (CL): olive brown, with some silt, stiff, low plasticity, dry.
20		CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, dry.
		CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
25		Total Depth - 25.0' bgs
30		
35		

Graphic Log | Well Construction | Sample Recovery | Sample No. | PID (ppm)

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BOREHOLE LOG

Site Id: MW-11B

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Dual Tube/Direct-Push
Logged By: R. Sijgers
Date(s): 09/24/03
Initial Water Level: 18.20'
X-Coordinate: 6113732.40
Y-Coordinate: 2167625.50

Total Depth: 50.00'
Completed Depth: 50.00'
Borehole Dia.: 8.00in, 3.25in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 38.17'
type: Bentonite Chips			fm: 38.17'	to: 39.46'
type: Prepack Sand Pack			fm: 39.46'	to: 50.00'

Depth (ft)	USCS Code	Sample No.	PID (ppm)	Soil Description and Observations
	CL			Baserock, ~6.0". CLAY (CL): dark brown, with some silt, medium stiff, moderate plasticity, dry.
		MW-11B-2.5		
5		MW-11B-5.5	0.0	CLAY (CL): dark brown, with some silt, stiff, low plasticity, dry.
			0.2	
			0.3	
			0.3	
			0.4	
10	SM	MW-11B-10.5	0.2	SILTY SAND (SM): olive brown, trace clay, compacted, dry.
			0.2	
			0.6	
			0.9	
			0.6	
15	CL	MW-11B-15.5	0.2	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
			0.3	
			1.9	CLAY (CL): olive brown, with some silt, stiff, low plasticity, dry.
	▽		3.6	
		MW-11B-19.5	11.2	
20		MW-11B-20.5	13.2	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, dry.
			6.4	
			0.0	
			0.6	
			0.3	
			14.2	CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
			7.0	
25		MW-11B-25.5	6.4	
			12.1	CLAY (CL): as above.
			0.6	
			0.0	
			0.3	
			0.1	CLAY (CL): olive brown, trace silt, soft, high plasticity, dry.
30		MW-11B-30.5	0.9	CLAY (CL): as above.
			0.0	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.
			0.0	
			0.0	
			0.0	CLAY (CL): as above, damp.
35			1.8	CLAY (CL): dark brown, trace silt, very stiff, low plasticity, damp.
			0.0	CLAY (CL): as above, dark brown/black.
			0.1	
			16.7	
			6.8	CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, dry.

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BOREHOLE LOG

Site Id: MW-11B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Dual Tube/Direct-Push

Logged By: R. Sijgers

Date(s): 09/24/03

Initial Water Level: 18.20'

X-Coordinate: 6113732.40

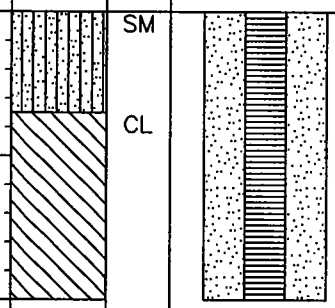
Y-Coordinate: 2167625.50

Total Depth: 50.00'

Completed Depth: 50.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing:				
type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 40.00'
Screens:				
type: Slotted	size: 0.020in	dia: 1.00in	fm: 40.00'	to: 50.00'
Annular Fill:				
type: Grout			fm: 0.00'	to: 38.17'
type: Bentonite Chips			fm: 38.17'	to: 39.46'
type: Prepack Sand Pack			fm: 39.46'	to: 50.00'



Depth (ft)	USCS Code	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
	SM			10.4	SILTY SAND (SM): olive brown, fine grained, with clay, wet.
				9.3	
				15.5	
				24.6	
				25.3	
	CL			21.3	CLAY (CL): olive brown, with some silt, medium stiff, high plasticity, damp.
45				1.2	CLAY (CL): as above, wet/saturated.
				500+	
				124	
				19	
				1.2	
				0.8	CLAY (CL): olive brown, trace silt, medium stiff, damp.
50				0.6	Total Depth - 50.0' bgs
55					
60					
65					
70					
75					

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BOREHOLE LOG

Site Id: MW-12A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Dual Tube/Direct-Push

Logged By: R. Sijgers

Date(s): 10/01/03

Initial Water Level: NA

X-Coordinate: 6113791.80

Y-Coordinate: 2167644.90

Total Depth: 25.00'

Completed Depth: 25.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 10.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 10.00'	to: 25.00'
Annular Fill: type: Grout			fm: 0.00'	to: 8.17'
type: Bentonite Chips			fm: 8.17'	to: 9.83'
type: Prepack Sand Pack			fm: 9.83'	to: 25.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
							Concrete, ~6.0".
							Fill, silty sand with gravel.
		CL					CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5							CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
10		SM					SILTY SAND (SM): brown, fine grained, trace clay, loose.
		CL					CLAY (CL): olive brown, with some sand, medium stiff, high plasticity, damp.
							CLAY (CL): as above.
15							CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
		SM					SILTY SAND (SM): brown, fine to medium grained, trace clay, loose, moist.
		CL					CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
20							CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
							CLAY (CL): as above, dark olive brown.
25							Total Depth - 25.0' bgs.
30							
35							

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BOREHOLE LOG

Site Id: MW-12B

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Direct-Push
Logged By: R. Sijgers
Date(s): 10/01/03
Initial Water Level: 45.00'
X-Coordinate: 6113793.10
Y-Coordinate: 2167643.30

Total Depth: 60.00'
Completed Depth: 60.00'
Borehole Dia.: 8.00in, 3.25in

Blank Casing:
type: Sch 40 PVC dia: 1.00in fm: 0.0' to: 50.00'

Screens:
type: Slotted size: 0.020in dia: 1.00in fm: 50.00' to: 60.00'

Annular Fill:
type: Grout fm: 0.00' to: 48.10'
type: Bentonite fm: 48.10' to: 49.83'
type: Prepack Sand Pack fm: 49.83' to: 60.00'
Packer set at 50.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					MW-12B-0.5		Concrete, ~6.0".
							Fill, silty sand with gravel.
		CL			MW-12B-2.5		CLAY (CL): black, trace silt, stiff, low plasticity, dry.
5					MW-12B-5.5	562	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
10		SM			MW-12B-10.5		SILTY SAND (SM): brown, fine grained, trace clay, loose.
		CL					CLAY (CL): olive brown, with some sand, medium stiff, high plasticity, damp.
							CLAY (CL): as above.
15					MW-12B-15.5		CLAY (CL): olive brown, trace silt, stiff, moderate plasticity, dry.
		SM			MW-12B-18.5		SILTY SAND (SM): brown, fine to medium grained, trace clay, loose, moist.
		CL					CLAY (CL): olive brown, with some silt, soft, high plasticity, damp.
20					MW-12B-20.5		CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
							CLAY (CL): as above, dark olive brown.
25						0.0	CLAY (CL): as above.
						0.0	
						0.0	
						0.0	
						0.0	
30						0.0	CLAY (CL): as above.
						0.0	
						0.0	SILTY CLAY (CL): olive brown, trace sand, soft, high plasticity, moist.
						0.0	
						0.0	
35						0.0	CLAY (CL): dark gray, trace silt, very stiff, low plasticity, dry.
						0.0	
						0.0	
						0.0	SILTY CLAY (CL): olive brown, trace fine grained sand, soft, high plasticity, moist.
		SM				0.0	SILTY SAND (SM): olive brown, trace clay, loose, moist.

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BOREHOLE LOG

Site Id: MW-12B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Direct-Push

Logged By: R. Sijgers

Date(s): 10/01/03

Initial Water Level: 45.00'

X-Coordinate: 6113793.10

Y-Coordinate: 2167643.30

Total Depth: 60.00'

Completed Depth: 60.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing:
type: Sch 40 PVC dia: 1.00in fm: 0.0' to: 50.00'

Screens:
type: Slotted size: 0.020in dia: 1.00in fm: 50.00' to: 60.00'

Annular Fill:
type: Grout fm: 0.00' to: 48.10'
type: Bentonite fm: 48.10' to: 49.83'
type: Prepack Sand Pack fm: 49.83' to: 60.00'
Packer set at 50.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SP				0.0	SAND (SP): olive brown, fine to medium grained, trace silt and clay, loose, wet.
		CL					CLAY (CL): dark olive brown, with some silt, medium stiff, high plasticity, moist.
45							CLAY (CL): dark olive brown, trace silt, stiff, low plasticity, dry.
							CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, wet.
50							SILTY CLAY (CL): olive gray, medium stiff, high plasticity, moist.
		SM			MW-12B-53		SILTY SAND (SM): olive gray, trace clay, wet.
55		CL					CLAY (CL): olive, trace silt, particles of calcium carbonate, stiff, dry.
		SW					SAND (SW): dark brown, fine to coarse grained, silty, with some clay, gravel (1/8-1.0"), calcium carbonate-rich, partially cemented, dry.
60							Total Depth - 60.0' bgs.
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-13A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Dual Tube/Direct-Push

Logged By: R. Sijgers

Date(s): 10/01/03

Initial Water Level: NA

X-Coordinate: 6113932.20

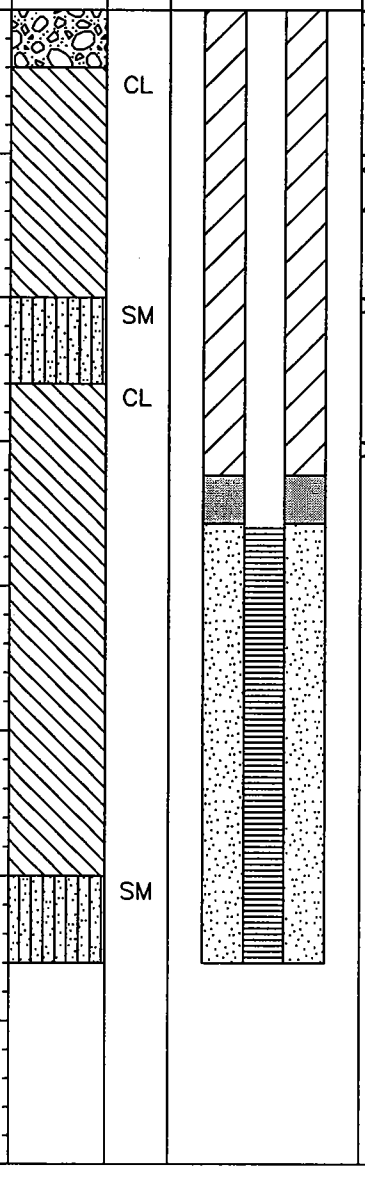
Y-Coordinate: 2167838.70

Total Depth: 33.00'

Completed Depth: 33.00'

Borehole Dia.: 8.00in, 3.25in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 18.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 18.00'	to: 33.00'
Annular Fill: type: Grout			fm: 0.00'	to: 16.17'
type: Bentonite Chips			fm: 16.17'	to: 17.83'
type: Prepack Sand Pack			fm: 17.83'	to: 33.00'



Depth (ft)	USCS Code	Sample No.	PID (ppm)	Soil Description and Observations
		MW-13A-0.5		Baserock, ~2.0', gravelly sand.
	CL	MW-13A-2.5		CLAY (CL): black with reddish rust stain, trace silt, stiff, low plasticity, dry.
5		MW-13A-5.5	0.1	CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
		MW-13A-7.0	1.2	
			1.2	
10	SM	MW-13A-10.5	0.2	SILTY SAND (SM): olive brown, trace clay, soft, loose.
			3.6	
			7.1	
	CL		3.3	CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
			2.8	
15		MW-13A-15.5	4.2	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
			4.3	
			100+	Note: PID failed to function.
20				CLAY (CL): olive brown, with some sand, trace silt, small gravel, root fragments, medium stiff, high plasticity, damp.
25				
30	SM			SILTY SAND (SM): olive brown, trace clay, soft, moist.
				Total Depth - 33.0' bgs
35				

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BOREHOLE LOG

Site Id: MW-13B

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Direct-Push
Logged By: R. Sijgers
Date(s): 09/30/03
Initial Water Level: 45.00'
X-Coordinate: 6113934.10
Y-Coordinate: 2167848.30

Total Depth: 55.00'
Completed Depth: 55.00'
Borehole Dia.: 6.00in

Blank Casing: type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 45.00'
Screens: type: Slotted	size: 0.020in	dia: 1.00in	fm: 45.00'	to: 55.00'
Annular Fill: type: Grout			fm: 0.00'	to: 42.00'
type: Bentonite Chips			fm: 42.00'	to: 44.00'
type: Prepack Sand Pack			fm: 44.00'	to: 55.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
							Baserock, ~2.0', gravelly sand.
		CL					CLAY (CL): black, trace sand, stiff, low plasticity, dry.
5							CLAY (CL): dark brown, trace silt, stiff, low plasticity, dry.
10		SM					SILTY SAND (SM): brown, trace clay, compacted, dry to damp.
		CL					CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, dry.
15							CLAY (CL): as above, damp.
20							CLAY (CL): as above.
							CLAY (CL): olive brown, trace sand and silt, medium stiff, high plasticity, damp.
					MW-13B-23		SANDY CLAY (CL): olive brown, fine grained sand, trace silt, soft, high plasticity, damp.
25							CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
							CLAY (CL): olive brown, trace silt, medium stiff, high plasticity, damp.
							CLAY (CL): as above, stiff.
30		SM					SILTY SAND (SM): olive brown, trace clay, soft, high plasticity, moist.
		CL					CLAY (CL): dark gray, trace silt, very stiff, low plasticity, dry.
35							CLAY (CL): olive brown, with some silt, medium stiff, moderate plasticity, damp.

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BOREHOLE LOG

Site Id: MW-13B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Direct-Push

Logged By: R. Sijgers

Date(s): 09/30/03

Initial Water Level: 45.00'

X-Coordinate: 6113934.10

Y-Coordinate: 2167848.30

Total Depth: 55.00'

Completed Depth: 55.00'

Borehole Dia.: 6.00in

Blank Casing:				
type: Sch 40 PVC		dia: 1.00in	fm: 0.0'	to: 45.00'
Screens:				
type: Slotted	size: 0.020in	dia: 1.00in	fm: 45.00'	to: 55.00'
Annular Fill:				
type: Grout			fm: 0.00'	to: 42.00'
type: Bentonite Chips			fm: 42.00'	to: 44.00'
type: Prepack Sand Pack			fm: 44.00'	to: 55.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
							CLAY (CL): dark olive brown, with some silt, stiff, low plasticity, dry.
45		SP					SAND (SP): brown, fine to medium grained, with some silt, poorly graded, wet.
		SW					GRAVELLY SAND (SW): brown to rusty brown, fine to coarse grained, subangular gravel (1/8-1/4"), wet.
50		CL					CLAY (CL): brown, with some fine to medium grained sand, trace silt, moderate plasticity.
55		SW					SAND (SW): fine to coarse grained, trace subangular gravel (1/8-1/4"), trace clay, wet.
							Total Depth - 55.0' bgs
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-14A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: R. Sijgers

Date(s): 02/20/04

Initial Water Level: 21.50'

X-Coordinate: 6114171.60

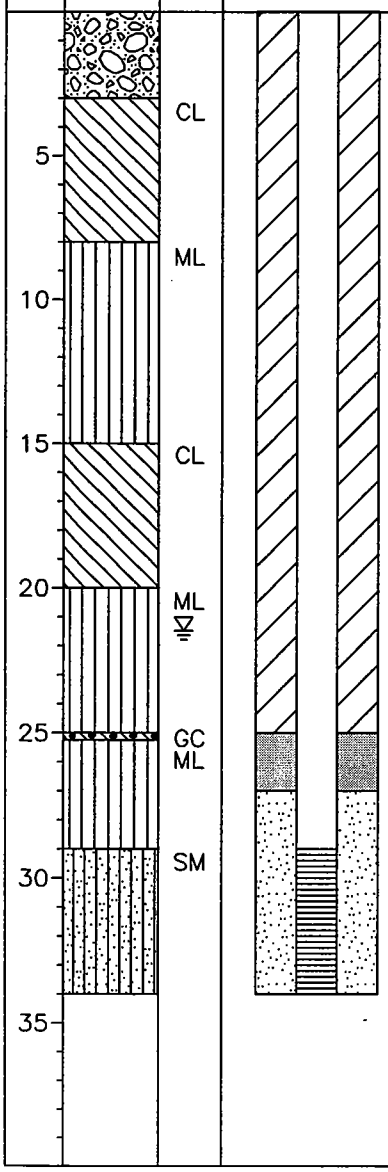
Y-Coordinate: 2168347.70

Total Depth: 34.00'

Completed Depth: 34.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 29.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 29.00'	to: 34.00'
Annular Fill: type: Grout			fm: 0.00'	to: 25.00'
type: Bentonite			fm: 25.00'	to: 27.00'
type: #2/12 Sand Filter			fm: 27.00'	to: 34.00'



Depth (ft)	USCS Code	Soil Description and Observations
		Surface, thin layer of bark.
		FILL: clay, coarse grained sand, subangular gravel (0.25–0.5"), loose, damp.
	CL	CLAY (CL): dark brown, trace silt, moderately stiff, high plasticity, dry.
5		CLAY (CL): beige brown, some silt, moderately soft, high plasticity, dry.
		CLAY (CL): as above, mottled dark and light brown.
	ML	CLAYEY SILT (ML): brown, soft, moderate plasticity, dry.
10		CLAYEY SILT (ML): as above, trace fine to medium sand, slight granular texture.
15	CL	SILTY CLAY (CL): beige brown, top 6.0" mottled dark brown/beige, moderately stiff, moderate plasticity, dry.
20	ML	CLAYEY SILT (ML): olive brown, trace fine grained sand, moderately soft, moist.
		Sampler wet at 21.5'.
25	GC	GRAVELLY CLAY (GC): subangular gravel (0.25"), soft, saturated.
	ML	CLAYEY SILT (ML): brown, moderately soft, saturated.
30	SM	SILTY SAND (SM): brown, fine grained, soft, saturated.
		SILTY SAND (SM): brown, fine grained, soft, saturated.
		SILTY SAND (SM): as above.
		SILTY SAND (SM): as above.
35		Total Depth – 34.0' bgs

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BOREHOLE LOG

Site Id: MW-14B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: R. Sijgers

Date(s): 02/20/04

Initial Water Level: 21.50'

X-Coordinate: 6114170.90

Y-Coordinate: 2168351.60

Total Depth: 50.00'

Completed Depth: 50.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 36.00'
type: Bentonite			fm: 36.00'	to: 38.00'
type: #2/12 Sand Filter			fm: 38.00'	to: 50.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
					Surface, thin layer of bark.
					FILL: clay, coarse grained sand, subangular gravel (0.25–0.5"), loose, damp.
	CL				CLAY (CL): dark brown, trace silt, moderately stiff, high plasticity, dry.
5					CLAY (CL): beige brown, some silt, moderately soft, high plasticity, dry.
					CLAY (CL): as above, mottled dark and light brown.
	ML				CLAYEY SILT (ML): brown, soft, moderate plasticity, dry.
10					CLAYEY SILT (ML): as above, trace fine to medium sand, slight granular texture.
15	CL		5 6 6	0.2 0.8 0.0	SILTY CLAY (CL): beige brown, top 6.0" mottled dark brown/beige, moderately stiff, moderate plasticity, dry.
20	ML ▽		5 10 10	0.0 0.0 0.0	CLAYEY SILT (ML): olive brown, trace fine grained sand, moderately soft, moist. Sampler wet at 21.5'.
25	GC ML		10 8 7	0.0 0.0 0.0	GRAVELLY CLAY (GC): subangular gravel (0.25"), soft, saturated. CLAYEY SILT (ML): brown, moderately soft, saturated.
30	SM		6 9 8 8 12 11 6 12 10 5 11 19	2.8 0.0 0.0 0.0 1.6 2.2 0.2	SILTY SAND (SM): brown, fine grained, soft, saturated. SILTY SAND (SM): brown, fine grained, soft, saturated. SILTY SAND (SM): as above. SILTY SAND (SM): as above.
35	CL				CLAY (CL): gray, trace silt, shell material, moderately soft, high plasticity, moist.
	ML		8 13	0.9 0.2	SANDY SILT (ML): brown, predominantly fine grained, trace coarse grained, white calcium carbonate-like deposits, moderately stiff.

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BOREHOLE LOG

Site Id: MW-14B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: R. Sijgers

Date(s): 02/20/04

Initial Water Level: 21.50'

X-Coordinate: 6114170.90

Y-Coordinate: 2168351.60

Total Depth: 50.00'

Completed Depth: 50.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 36.00'
type: Bentonite			fm: 36.00'	to: 38.00'
type: #2/12 Sand Filter			fm: 38.00'	to: 50.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL			18	1.1	SANDY SILT (ML): dark gray, some clay, white calcium carbonate-like deposits, stiff.
		SP			16		CLAY (CL): gray, stiff, moderate plasticity.
					17		SAND (SP): brown gray, mostly medium grained with some fine and coarse, trace gravel, loose, saturated.
					20		SAND (SP): brown gray, medium to coarse grained, fine to medium gravel subangular to subrounded (0.25-0.5"), saturated.
					15		SAND (SP): as above.
					28		SAND (SP): brown, very fine to fine grained, silty, dense, dry.
					28		
					28		
					21		
					22		
45					24		
					41		
					38		
					35		
					22		
					25		
					28		
					25		
					30		
					22		
50							Total Depth - 50.0' bgs
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-15A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Direct Push/Hollow Stem Auger

Logged By: D. Moberg

Date(s): 02/05/04

Initial Water Level: 16.35'

X-Coordinate: 6114402.20

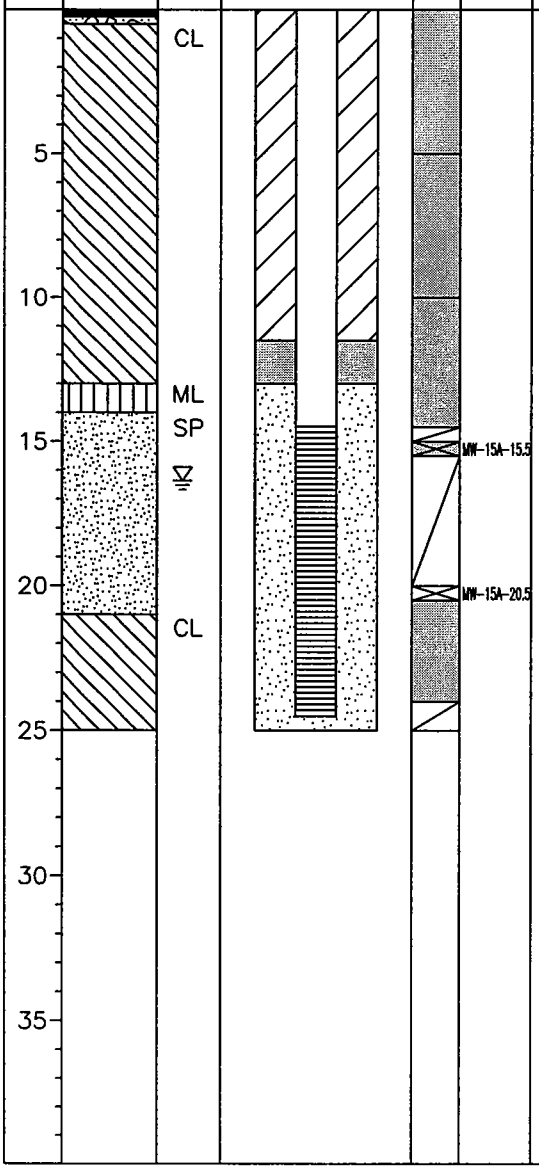
Y-Coordinate: 2168700.50

Total Depth: 25.00'

Completed Depth: 24.50'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 14.50'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 14.50'	to: 24.50'
Annular Fill: type: Grout			fm: 0.50'	to: 11.50'
type: Bentonite			fm: 11.50'	to: 13.00'
type: #2/12 Sand Filter			fm: 13.00'	to: 25.00'



Soil Description and Observations

Surface, asphalt (3.0").
FILL: light brown, silt, baserock, slightly sandy, damp.
SILTY CLAY (CL): dark gray, medium plasticity, dry.

SILTY CLAY (CL): as above.

SILTY CLAY (CL): as above, gray.
SILTY CLAY (CL): as above, dark brown.

SILTY CLAY (CL): as above, brown, increasing moisture.
SILTY CLAY (CL): as above.

CLAYEY SILT (ML): brown, damp.
GRAVELLY SAND (SP): fine grained sand, silty, gravelly, subrounded to angular gravel, damp.
GRAVELLY SAND (SP): as above, moist.

GRAVELLY SAND (SP): as above.
SILTY CLAY (CL): brown, high plasticity, moist.

CLAY (CL): dark brown, slightly silty, stiff, low to medium plasticity.
Total Depth – 25.0' bgs

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BOREHOLE LOG

Site Id: MW-15B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/05/04

Initial Water Level: NA

X-Coordinate: 6114406.70

Y-Coordinate: 2168728.40

Total Depth: 59.50'

Completed Depth: 59.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 49.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 49.00'	to: 59.00'
Annular Fill: type: Grout			fm: 0.00'	to: 44.00'
type: Bentonite			fm: 44.00'	to: 46.00'
type: #2/12 Sand Filter			fm: 46.00'	to: 59.50'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Asphalt, Gravel/Fill. SILTY CLAY (CL): brown, medium plasticity, stiff, dry. CLAY (CL): gray, soft, high plasticity, dry.
5					4 5 10		CLAY (CL): as above, moist.
10					4 5 8	0.0	No recovery.
15		SC			4 7 8	0.0	CLAYEY SAND (SC): brown, fine to coarse grained, soft, no plasticity, moist.
20		CL			6 8 8	0.0	CLAY (CL): gray brown, trace white banding visible, soft, high plasticity, very wet.
25					4 8 10	0.0	CLAY (CL): as above.
30		SC			6 8 10	0.0	CLAY (CL): as above, moist. CLAYEY SAND (SC): gray brown, fine grained, soft, medium plasticity, moist.
35					7 10 11	0.0	CLAYEY SAND (SC): olive brown, fine grained, trace white and rust-colored banding, trace coarse gravel, stiff, medium plasticity, dry.

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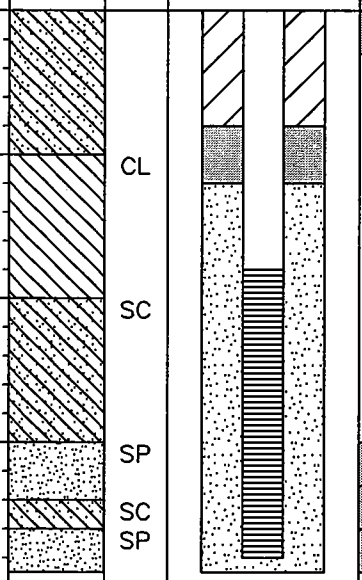
BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 02/05/04
Initial Water Level: NA
X-Coordinate: 6114406.70
Y-Coordinate: 2168728.40

Total Depth: 59.50'
Completed Depth: 59.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 49.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 49.00'	to: 59.00'
Annular Fill: type: Grout			fm: 0.00'	to: 44.00'
type: Bentonite			fm: 44.00'	to: 46.00'
type: #2/12 Sand Filter			fm: 46.00'	to: 59.50'



Depth (ft)	USCS Code	Sample No.	PID (ppm)	Soil Description and Observations
		20 18 32	0.0	CLAYEY SAND (SC): gray brown, fine grained, trace white banding, very stiff, high plasticity, dry.
45	CL		0.0	SILTY CLAY (CL): brown, trace gravel, high plasticity, saturated. SILTY CLAY (CL): brown, stiff, medium to high plasticity, moist. SANDY CLAY (CL): brown, fine grained sand, medium stiff, high plasticity, moist to wet.
50	SC		0.0	CLAYEY SAND (SC): brown, fine grained, soft, medium plasticity, very wet.
				CLAYEY SAND (SC): as above.
55	SP	15 25 30	0.0	SAND (SP): gray brown, fine grained, trace clay, very soft, very wet. SAND (SP): gray brown, fine grained, trace clay, soft, wet.
	SC	12 27 13		CLAYEY SAND (SC): gray brown, fine grained, soft, wet.
	SP	12 15 19	0.0	SAND (SP): gray brown, fine grained, trace clay, medium stiff, wet. Total Depth – 59.5' bgs
60				
65				
70				
75				

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BOREHOLE LOG

Site Id: MW-15C

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: WDC
Drilling Method: ARCH
Logged By: J. Hamilton
Date(s): 01/29/04
Initial Water Level: NA
X-Coordinate: 6114414.80
Y-Coordinate: 2168783.20

Total Depth: 96.00'
Completed Depth: 95.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 90.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 90.00'	to: 95.00'
Annular Fill: type: Grout			fm: 0.00'	to: 85.00'
type: Bentonite			fm: 85.00'	to: 88.00'
type: #2/12 Sand Filter			fm: 88.00'	to: 96.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Asphalt, Baserock. CLAY (CL): dark gray brown, very stiff, high plasticity.
5							
10							CLAY (CL): as above, red brown.
15							CLAY (CL): as above, stiff.
20							SILTY CLAY (CL): brown, stiff, moderate plasticity.
25							
30							SILTY CLAY (CL): yellow brown, very stiff, high plasticity.
35							
		GM					SILTY SANDY GRAVEL (GM): brown, fine to coarse grained sand, gravel (0.25-1.0"), dense.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: WDC
Drilling Method: ARCH
Logged By: J. Hamilton
Date(s): 01/29/04
Initial Water Level: NA
X-Coordinate: 6114414.80
Y-Coordinate: 2168783.20

Total Depth: 96.00'
Completed Depth: 95.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 90.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 90.00'	to: 95.00'
Annular Fill: type: Grout			fm: 0.00'	to: 85.00'
type: Bentonite			fm: 85.00'	to: 88.00'
type: #2/12 Sand Filter			fm: 88.00'	to: 96.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		CL					SILTY SANDY GRAVEL (GM): brown, fine to coarse grained sand, gravel (0.25–1.0"), dense. SANDY GRAVELLY CLAY (CL): brown, fine to coarse grained sand, stiff, moderate plasticity.
45							
50							SANDY GRAVELLY CLAY (CL): as above, decrease in gravel, increase in clay.
55							
		ML					CLAYEY SILT (ML): brown, soft, low plasticity.
		SM					SILTY SAND (SM): brown, fine to coarse grained sand, with gravel (0.25–0.5"), loose.
60							
		CL					SANDY SILTY CLAY (CL): brown, fine to coarse grained sand, soft, low to moderate plasticity.
65							
		SM					SILTY SAND (SM): brown, fine to medium grained, medium dense.
70							Increase in gravel.
		GM					SILTY SANDY GRAVEL (GM): brown, fine to coarse grained sand, gravel (0.25–0.75"), medium dense.
75							
		CL					SILTY CLAY (CL): brown, medium stiff, moderate plasticity.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: WDC
Drilling Method: ARCH
Logged By: J. Hamilton
Date(s): 01/29/04
Initial Water Level: NA
X-Coordinate: 6114414.80
Y-Coordinate: 2168783.20

Total Depth: 96.00'
Completed Depth: 95.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 90.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 90.00'	to: 95.00'
Annular Fill: type: Grout			fm: 0.00'	to: 85.00'
type: Bentonite			fm: 85.00'	to: 88.00'
type: #2/12 Sand Filter			fm: 88.00'	to: 96.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
85							CLAY (CL): brown, very stiff, high plasticity.
90		SW					SAND (SW): white to black, fine to coarse grained, with silt.
95		CL					SILTY SANDY CLAY (CL): brown, stiff, moderate plasticity. Total Depth – 96.0'
100							
105							
110							
115							

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BOREHOLE LOG

Site Id: MW-16A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/04/04

Initial Water Level: 15.14'

X-Coordinate: 6114962.50

Y-Coordinate: 2169181.30

Total Depth: 25.00'

Completed Depth: 25.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 15.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 15.00'	to: 25.00'
Annular Fill: type: Grout			fm: 0.00'	to: 11.00'
type: Bentonite			fm: 11.00'	to: 13.00'
type: #2/12 Sand Filter			fm: 13.00'	to: 25.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
							Asphalt, Gravel/Fill.
		CL					CLAY (CL): red gray, soft, moderate to high plasticity, moist.
5							CLAY (CL): red brown, trace light gray and rust colored banding, soft, moderate plasticity, moist.
10							CLAY (CL): red brown, soft, high plasticity, moist.
15		▽					CLAY (CL): brown, trace fine grained sand, medium stiff, moist to wet.
							CLAY (CL): brown, very soft, high plasticity, wet
							CLAY (CL): as above.
							CLAY (CL): brown, trace fine grained sand, black particles, roots, medium stiff, moist to wet.
20							CLAY (CL): brown, very soft, high plasticity, wet.
							CLAY (CL): red gray, trace white banding, very stiff, moderate plasticity, dry to moist.
							CLAY (CL): gray brown, trace white banding and black particles, medium medium stiff, moderate plasticity, dry to moist.
25							Total Depth – 25.0' bgs
30							
35							

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BOREHOLE LOG

Site Id: MW-16B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/04/04

Initial Water Level: 16.40'

X-Coordinate: 6114956.40

Y-Coordinate: 2169180.70

Total Depth: 45.00'

Completed Depth: 45.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 35.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 35.00'	to: 45.00'
Annular Fill: type: Grout			fm: 0.00'	to: 31.00'
type: Bentonite			fm: 31.00'	to: 33.00'
type: #2/12 Sand Filter			fm: 33.00'	to: 45.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	CL				Asphalt, Gravel/Fill. CLAY (CL): red gray, soft, moderate to high plasticity, moist.
5			6 8 12	0.0	CLAY (CL): red brown, trace light gray and rust colored banding, soft, moderate plasticity, moist.
10			6 7 12	0.0	CLAY (CL): red brown, soft, high plasticity, moist.
15			10 12 15	0.0	CLAY (CL): brown, trace fine grained sand, medium stiff, moist to wet. CLAY (CL): brown, very soft, high plasticity, wet
			6 5 8		CLAY (CL): as above.
			8 10 13		CLAY (CL): brown, trace fine grained sand, black particles, roots, medium stiff, moist to wet.
20			9 10 21	0.0	CLAY (CL): brown, very soft, high plasticity, wet.
			10 12 15	0.0	CLAY (CL): red gray, trace white banding, very stiff, moderate plasticity, dry to moist. No recovery.
25			6 8 11	0.0	CLAY (CL): gray brown, trace white banding and black particles, medium medium stiff, moderate plasticity, dry to moist.
30			6 6 18	0.0	SANDY CLAY (CL): red brown, trace white banding and black particles, medium stiff, dry.
35	SC		14 8 10		CLAY (CL): olive brown, soft, high plasticity, moist to wet. CLAYEY SAND (SC): olive brown, fine grained, soft, very wet. CLAYEY SAND (SC): gray brown, medium stiff, moderate plasticity, moist-wet.

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BOREHOLE LOG

Site Id: MW-16B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/04/04

Initial Water Level: 16.40'

X-Coordinate: 6114956.40

Y-Coordinate: 2169180.70

Total Depth: 45.00'

Completed Depth: 45.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 35.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 35.00'	to: 45.00'
Annular Fill: type: Grout			fm: 0.00'	to: 31.00'
type: Bentonite			fm: 31.00'	to: 33.00'
type: #2/12 Sand Filter			fm: 33.00'	to: 45.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SW			16	0.0	GRAVELLY SAND (SW): gray brown, coarse grained, soft, fine to coarse gravel, very wet.
		GW			29		SANDY GRAVEL (GW): gray brown, coarse gravel, coarse grained sand, soft, very wet.
		SW			28		GRAVELLY SAND (SW): gray brown, coarse grained, soft, fine gravel, very wet.
					14		Total Depth – 45.0' bgs
					19		
					26		
					18	5.0	
					15		
					22		
45							
50							
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-17A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/30/04

Initial Water Level: 25.40'

X-Coordinate: 6115468.80

Y-Coordinate: 2169689.60

Total Depth: 30.70'

Completed Depth: 30.70'

Borehole Dia.: 8.00in

Blank Casing:				
type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 20.70'
Screens:				
type: Slotted	size: 0.020in	dia: 2.00in	fm: 20.70'	to: 30.70'
Annular Fill:				
type: Grout			fm: 0.00'	to: 16.00'
type: Bentonite			fm: 16.00'	to: 18.00'
type: #2/12 Sand Filter			fm: 18.00'	to: 30.70'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Asphalt, Gravelly Silt/Fill.
							SANDY CLAY (CL): medium to dark brown, trace silt, fine grained sand, decomposed roots, soft, moderate to high plasticity, dry.
5							SANDY CLAY (CL): as above, no roots.
							SANDY CLAY (CL): as above, brown.
10		SM					SILTY SAND (SM): red brown, fine grained, medium stiff, weak to moderate cementation, dry.
							SILTY SAND (SM): as above, moist.
							SILTY SAND (SM): brown, fine grained, soft, moist.
15		SP					SAND (SP): light brown, fine grained, soft, moist.
20							GRAVELLY SAND (SP): light gray, fine to medium grained, soft, wet.
		CL					SANDY CLAY (CL): medium brown, soft, high plasticity, cohesive, moist.
25							SANDY CLAY (CL): medium brown, fine grained sand, medium stiff, medium to high plasticity, wet.
							SANDY CLAY (CL): medium brown, fine grained sand, medium to high plasticity, wet.
							SANDY CLAY (CL): as above.
30							SANDY CLAY (CL): olive, fine grained sand, trace gray banding, stiff, high plasticity, dry.
							Total Depth – 30.7' bgs
35							

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BOREHOLE LOG

Site Id: MW-17B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/29/04

Initial Water Level: Not Available

X-Coordinate: 6115474.30

Y-Coordinate: 2169685.40

Total Depth: 54.00'

Completed Depth: 54.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 44.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 44.00'	to: 54.00'
Annular Fill: type: Grout			fm: 0.00'	to: 39.00'
type: Bentonite			fm: 39.00'	to: 41.00'
type: #2/12 Sand Filter			fm: 41.00'	to: 54.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
					Asphalt, Gravelly Silt/Fill.
	CL			0.0	SANDY CLAY (CL): medium to dark brown, trace silt, fine grained sand, decomposed roots, soft, medium to high plasticity, dry.
					SANDY CLAY (CL): as above, no roots.
5					
					SANDY CLAY (CL): as above, brown.
10	SM		3 15 20	0.0	SILTY SAND (SM): red brown, fine grained, medium stiff, weak to moderate cementation, dry.
			3 6 8		SILTY SAND (SM): as above, moist.
			4 7 7		SILTY SAND (SM): brown, fine grained, soft, moist.
15	SP		6 5 6	0.0	SAND (SP): light brown, fine grained, soft, moist.
20			3 7 7	0.0	GRAVELLY SAND (SP): light gray, fine to medium grained, soft, wet.
	CL				SANDY CLAY (CL): medium brown, soft, high plasticity, cohesive, moist.
25			7 6 10	0.0	SANDY CLAY (CL): medium brown, fine grained sand, medium stiff, medium to high plasticity, wet.
			7 12 20	0.0	SANDY CLAY (CL): medium brown, fine grained sand, medium to high plasticity, wet.
			5 4 8	0.0	SANDY CLAY (CL): as above.
30			15 30 48		SANDY CLAY (CL): olive, fine grained sand, trace gray banding, stiff, high plasticity, dry.
			15 24 26		SANDY CLAY (CL): as above.
			8 10 10		SANDY CLAY (CL): as above.
35			10 12 29	0.0	SANDY CLAY (CL): as above.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 01/29/04
Initial Water Level: Not Available
X-Coordinate: 6115474.30
Y-Coordinate: 2169685.40

Total Depth: 54.00'
Completed Depth: 54.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 44.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 44.00'	to: 54.00'
Annular Fill: type: Grout			fm: 0.00'	to: 39.00'
type: Bentonite			fm: 39.00'	to: 41.00'
type: #2/12 Sand Filter			fm: 41.00'	to: 54.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
							No recovery.
45					20 23 30	0.0	SANDY CLAY (CL): brown, fine grained sand, very stiff, high plasticity, moist.
					6 8 10 12		SANDY CLAY (CL): light olive, fine grained sand, trace light gray banding, stiff, high plasticity, wet.
					8 10	0.0	SANDY GRAVELLY CLAY (CL): medium olive, fine grained sand, soft, high plasticity, wet.
50					3 8 5 7		SANDY CLAY (CL): medium olive, fine grained sand, stiff, high plasticity, wet.
					4 3 13 12 10	0.0	SANDY CLAY (CL): as above. Total Depth – 54.0' bgs
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-18A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/26/04

Initial Water Level: 20.40'

X-Coordinate: 6114473.60

Y-Coordinate: 2167783.4

Total Depth: 25.20'

Completed Depth: 24.70'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 14.70'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 14.70'	to: 24.70'
Annular Fill: type: Grout			fm: 0.00'	to: 10.00'
type: Bentonite			fm: 10.00'	to: 12.00'
type: #2/12 Sand Filter			fm: 12.00'	to: 25.20'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
							Asphalt to 1.0' bgs.
		CL					SILTY CLAY (CL): dark brown, soft, low plasticity, dry.
5							SILTY CLAY (CL): as above.
10							SILTY CLAY (CL): as above.
15							CLAY (CL): medium brown, trace amounts of light gray banding, trace silt, soft, low to medium plasticity, dry.
20		▽					CLAY (CL): medium brown, trace amounts of light gray banding, trace silt, soft, medium plasticity, dry.
25							CLAY (CL): medium brown, trace amounts of light gray banding, trace fine grained sand, soft, high plasticity, damp.
							Total Depth – 25.2' bgs
30							
35							

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BOREHOLE LOG

Site Id: MW-18B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/26/04

Initial Water Level: Not Available

X-Coordinate: 6114478.50

Y-Coordinate: 2167776.50

Total Depth: 44.50'

Completed Depth: 42.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 32.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 32.00'	to: 42.00'
Annular Fill: type: Grout			fm: 0.00'	to: 28.00'
type: Bentonite			fm: 28.00'	to: 30.00'
type: #2/12 Sand Filter			fm: 30.00'	to: 44.50'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
					Asphalt to 1.0' bgs.
	CL				SILTY CLAY (CL): dark brown, soft, low plasticity, dry.
5					SILTY CLAY (CL): as above.
10			22 34 34	0.0 0.0 0.0	SILTY CLAY (CL): as above.
15			9 6 12	0.0 0.0	No recovery (13.5–14.5') CLAY (CL): medium brown, trace amounts of light gray banding, trace silt, soft, low to medium plasticity, dry.
20			6 6 11		No recovery (18.5–19.5') CLAY (CL): medium brown, trace amounts of light gray banding, trace silt, soft, medium plasticity, dry.
25			3 3 5		CLAY (CL): medium brown, trace amounts of light gray banding, trace fine grained sand, soft, high plasticity, damp.
30			6 6 12	0.0 0.0	CLAY (CL): as above.
					CLAY (CL): as above.
35	SC		6 8 11	0.0	CLAYEY SAND (SC): medium brown, medium to fine grained, medium soft, wet.
	CL		3 3 6	0.0	SANDY CLAY (CL): medium brown, fine to coarse grained sand, soft, high plasticity, wet.
	SP		NA NA		SAND (SP): medium brown, coarse grained, trace gravel, soft, wet.
	CL		NA NA		SANDY CLAY (CL): fine to coarse grained sand, soft, high plasticity, wet.
	SP		NA NA		SAND (SP): medium brown, coarse grained, trace clay, soft, wet.
	CL		4 12		SANDY CLAY (CL): medium brown, fine grained, very soft, high plasticity, wet.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 01/26/04
Initial Water Level: Not Available
X-Coordinate: 6114478.50
Y-Coordinate: 2167776.50

Total Depth: 44.50'
Completed Depth: 42.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 32.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 32.00'	to: 42.00'
Annular Fill: type: Grout			fm: 0.00'	to: 28.00'
type: Bentonite			fm: 28.00'	to: 30.00'
type: #2/12 Sand Filter			fm: 30.00'	to: 44.50'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					18	0.0	
					4		
					16		
					4		CLAY (CL): medium brown, trace fine grained sand, stiff, high plasticity, damp.
					12		
					20		No recovery.
					6		
					3		
45					25	0.0	Total Depth – 44.5' bgs
50							
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-19A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: R. Sijgers

Date(s): 02/12/04

Initial Water Level: 22.90'

X-Coordinate: 6115253.40

Y-Coordinate: 2168599.90

Total Depth: 24.00'

Completed Depth: 24.00'

Borehole Dia.: 8.00in

Blank Casing:				
type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 14.00'
Screens:				
type: Slotted	size: 0.020in	dia: 2.00in	fm: 14.00'	to: 24.00'
Annular Fill:				
type: Grout			fm: 0.00'	to: 11.00'
type: Bentonite			fm: 11.00'	to: 13.00'
type: #2/12 Sand Filter			fm: 13.00'	to: 24.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		SP					2.0-3.0" Asphalt. SAND (SP): yellow brown, trace silt, loose, dry.
		CL					CLAY (CL): dark brown, trace silt, medium stiff, moderate plasticity, dry.
		SM					SILTY SAND (SM): brown, fine grained, loose, dry.
5							SILTY SAND (SM): as above, yellow brown and brown.
		ML					CLAYEY SILT (ML): brown, trace fine gravel, dry.
		CL					CLAY (CL): dark brown, medium stiff, moderate plasticity, dry.
10							
15							CLAY (CL): as above.
		SW					SANDY (SW): brown, trace clay and silt, fine to coarse grained, loose, damp.
20							
		▽					Total Depth - 24.0' bgs.
25							
30							
35							

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BOREHOLE LOG

Site Id: MW-19B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/02/04

Initial Water Level: Not Available

X-Coordinate: 6115249.50

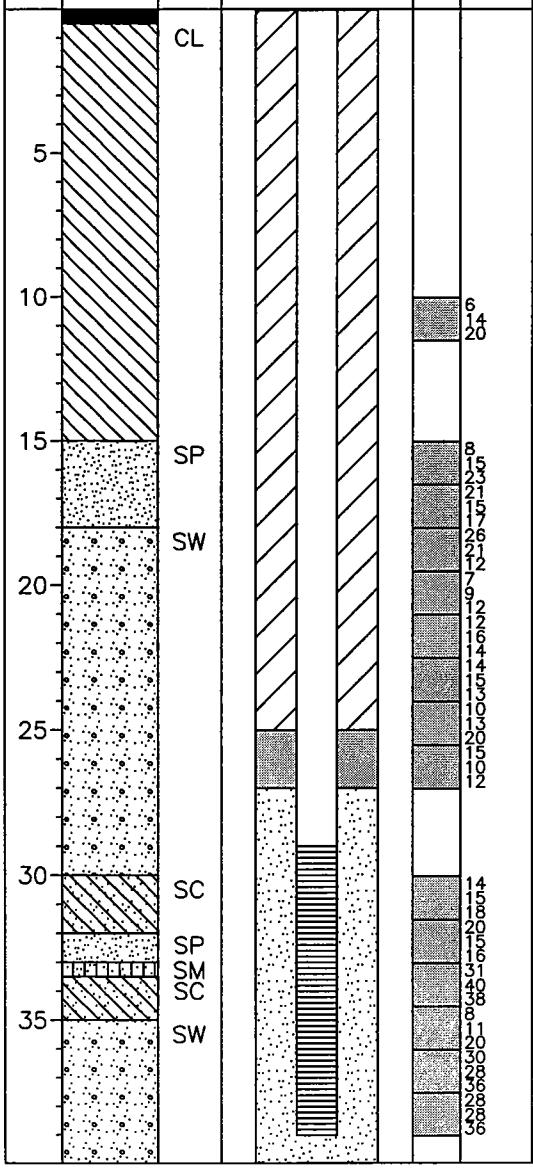
Y-Coordinate: 2168598.30

Total Depth: 40.00'

Completed Depth: 39.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 29.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 29.00'	to: 39.00'
Annular Fill:				
type: Grout			fm: 0.00'	to: 27.00'
type: Bentonite			fm: 25.00'	to: 27.00'
type: #2/12 Sand Filter			fm: 27.00'	to: 40.00'



Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	CL			0.0	Asphalt. SILTY SANDY CLAY (CL): red brown, fine grained sand, soft, low to moderate plasticity, dry.
10			6 14 20	0.0	SANDY CLAY (CL): red brown, trace light gray banding, fine grained sand, trace silt, stiff, no to low plasticity, moderate cementation, dry.
15	SP		8 15 23 21 15 17	0.0	SAND (SP): gray brown, fine grained, soft, moist. SAND (SP): gray brown, medium to fine grained, soft, moist.
	SW		26 21 12		GRAVELLY SAND (SW): gray brown, fine to coarse grained, soft, moist.
20			7 9 12 12 16 14	0.0	GRAVELLY SAND (SW): as above, with rust-colored banding. GRAVELLY SAND (SW): as above, wet.
			14 15 13 10 13	0.0	GRAVELLY SAND (SW): as above.
25			20 15 10 12	0.0	GRAVELLY SAND (SW): as above, increasing gravel.
30	SC		14 15 18 20	0.0	CLAYEY SAND (SC): gray brown, fine to medium grained, soft, wet. CLAYEY SILTY SAND (SC): gray brown, fine grained, soft, moist.
	SP		15 16		GRAVELLY SAND (SP): gray brown, fine to medium grained, soft, wet.
	SM		31 40		CLAYEY SILTY SAND (SM): gray brown, fine grained, medium stifff, wet.
	SC		38		CLAYEY SAND (SC): brown, medium to fine grained, soft, wet.
35	SW		8 11 20 30 28 36 28 28 36	0.0	SAND (SW): gray brown, fine to coarse grained, soft, wet. SAND (SW): as above.

Total Depth - 40.0' bgs

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BOREHOLE LOG

Site Id: MW-19C

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: ARCH
Logged By: J. Hamilton
Date(s): 01/28/04
Initial Water Level: Not Available
X-Coordinate: 6115237.60
Y-Coordinate: 2168599.10

Total Depth: 80.00'
Completed Depth: 80.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 70.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 70.00'	to: 80.00'
Annular Fill: type: Grout			fm: 0.00'	to: 65.00'
type: Bentonite			fm: 65.00'	to: 68.00'
type: #2/12 Sand Filter			fm: 68.00'	to: 80.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
							Asphalt.
		CL					SANDY SILTY CLAY (CL): brown, soft, low plasticity, moist.
5							
							SILTY CLAY (CL): brown, very stiff, high plasticity.
10							
15							
		SW					SILTY SAND/GRAVEL (SW): brown, fine to coarse grained, gravel up to 3/8".
20		SM					SILTY SAND (SM): light brown, very fine grained, soft.
25		CL					SILTY CLAY (CL): light brown, soft, low to moderate plasticity.
		SM					SILTY SAND (SM): light brown, fine to medium grained, soft.
30							
35							SILTY SAND (SM): light brown, fine to coarse grained, loose.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: ARCH
Logged By: J. Hamilton
Date(s): 01/28/04
Initial Water Level: Not Available
X-Coordinate: 6115237.60
Y-Coordinate: 2168599.10

Total Depth: 80.00'
Completed Depth: 80.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 70.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 70.00'	to: 80.00'
Annular Fill: type: Grout			fm: 0.00'	to: 65.00'
type: Bentonite			fm: 65.00'	to: 68.00'
type: #2/12 Sand Filter			fm: 68.00'	to: 80.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		SM/GM					SILTY SAND/SILTY GRAVEL (SM/GM): brown, fine to coarse grained, medium dense, gravel (0.25–0.5").
45		CL					SILTY CLAY (CL): light brown, stiff, high plasticity.
50							SILTY CLAY (CL): light brown, medium stiff, moderate plasticity.
55							
60							SANDY SILTY CLAY (CL): light brown, medium stiff, low to moderate plasticity.
65							
70							SANDY SILTY CLAY (CL): as above.
		SM					SILTY SAND (SM): brown, fine to medium grained, medium dense.
75		CL					SANDY SILTY CLAY (CL): light brown, medium stiff, low to medium plasticity.
							Total Depth – 80.0' bgs

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BOREHOLE LOG

Site Id: MW-20A

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Direct-Push/Hollow Stem Auger
Logged By: D. Betts
Date(s): 01/27/04
Initial Water Level: 13.50'
X-Coordinate: 6113535.10
Y-Coordinate: 2167909.30

Total Depth: 20.00'
Completed Depth: 20.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 10.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 10.00'	to: 20.00'
Annular Fill: type: Grout			fm: 0.00'	to: 7.00'
type: Bentonite			fm: 7.00'	to: 9.00'
type: #2/12 Sand Filter			fm: 9.00'	to: 20.00'

Depth (ft)	USCS Code	PID (ppm)	Soil Description and Observations
			Asphalt.
	ML	0.0	SILT (ML): light brown, trace clay and gravel, soft, dry.
	CL		SILTY CLAY (CL): dark brown, soft, no to low plasticity, damp.
			SILTY CLAY (CL): light brown, soft, low plasticity, dry.
5	SM	0.0	SILTY SAND (SM): light brown, fine grained, soft, loose, damp.
	SP		SAND (SP): light brown, fine grained, soft, loose, damp.
			No recovery.
		0.0	SAND (SP): as above.
	SM		SILTY SAND (SM): light brown, fine grained, trace small gravel, soft, damp.
10			No recovery.
	SP	0.0	SAND (SP): light brown, fine grained, soft, loose, damp.
	▽		
			SAND (SP): as above, moisture content increasing.
15		0.0	No recovery.
			SAND (SP): as above.
			GRAVELLY SAND (SP): medium brown/gray, soft, loose, wet.
	CL		CLAY (CL): medium brown, with trace light gray banding, trace silt, soft, moderate plasticity, wet.
20		0.0	Total Depth – 20.0' bgs
25			
30			
35			

Graphic Log | Well Construction | Sample Recovery | Blow Count

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BOREHOLE LOG

Site Id: MW-20B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/28/04

Initial Water Level: 22.30'

X-Coordinate: 6113533.20

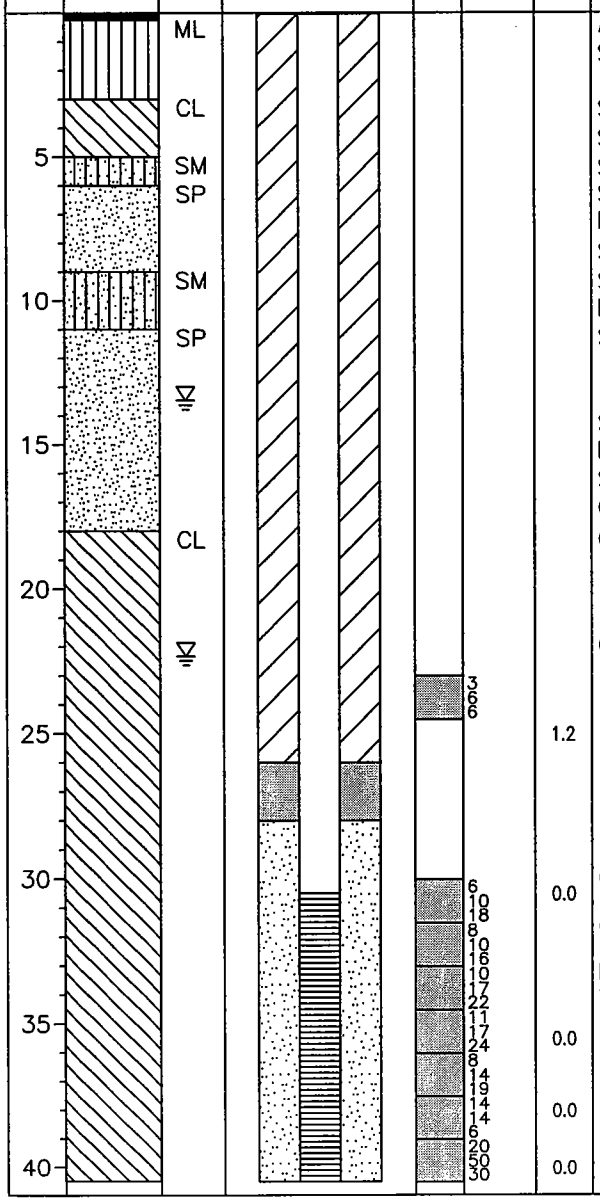
Y-Coordinate: 2167900.10

Total Depth: 40.50'

Completed Depth: 40.50'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 30.50'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 30.50'	to: 40.50'
Annular Fill: type: Grout			fm: 0.00'	to: 26.00'
type: Bentonite			fm: 26.00'	to: 28.00'
type: #2/12 Sand Filter			fm: 28.00'	to: 40.50'



Soil Description and Observations
Asphalt.
SILT (ML): light brown, trace clay and gravel, soft, dry.
SILTY CLAY (CL): dark brown, soft, no to low plasticity, damp.
SILTY CLAY (CL): light brown, soft, low plasticity, dry.
SILTY SAND (SM): light brown, fine grained, soft, loose, damp.
SAND (SP): light brown, fine grained, soft, loose, damp.
No recovery.
SAND (SP): as above.
SILTY SAND (SM): light brown, fine grained, trace small gravel, soft, damp.
No recovery.
SAND (SP): light brown, fine grained, soft, loose, damp.
SAND (SP): as above, moisture content increasing.
No recovery.
SAND (SP): as above.
GRAVELLY SAND (SP): medium brown/gray, soft, loose, wet.
CLAY (CL): medium brown, with trace light gray banding, trace silt, soft, moderate plasticity, wet.
CLAY (CL): medium brown, medium stiff, moderate to high plasticity, no cementation.
CLAY (CL): dark brown, medium stiff, moderate plasticity, no cementation, dry (sampler wet).
CLAY (CL): dark brown, medium stiff, moderate plasticity, no cementation, dry (sampler wet).
No recovery.
SANDY CLAY (CL): medium gray brown, fine grained sand, trace black banding (organics), soft, high plasticity, wet.
SANDY CLAY (CL): as above, no black banding.
SANDY CLAY (CL): fine grained sand, medium stiff, low plasticity, dry.
Total Depth – 40.5' bgs.

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BOREHOLE LOG

Site Id: MW-21A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Direct-Push/Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/27/04

Initial Water Level: 13.50'

X-Coordinate: 6113584.10

Y-Coordinate: 2168025.20

Total Depth: 20.50'

Completed Depth: 20.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 10.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 10.00'	to: 20.00'
Annular Fill: type: Grout			fm: 0.00'	to: 7.00'
type: Bentonite			fm: 7.00'	to: 9.00'
type: #2/12 Sand Filter			fm: 9.00'	to: 20.00'

Depth (ft)	USCS Code	PID (ppm)	Soil Description and Observations
	SM		Asphalt, Gravel/Fill.
			SANDY SILT (SM): light brown, fine grained sand, mixed with gravel, hard, dry.
	CL	0.0	SILTY CLAY (CL): dark brown, medium stiff, no plasticity, dry.
	SM		SANDY SILT (SM): light yellow brown, medium stiff, weak cementation.
5		0.0	SANDY SILT (SM): as above.
		0.0	
	CL		SILTY CLAY (CL): medium brown, trace gray banding, trace black organics (roots), medium stiff, no plasticity, cemented, dry.
	ML		CLAYEY SILT (ML): light yellow brown, soft, weak cementation, dry.
10		0.0	
	CL		SILTY CLAY (CL): medium brown, medium stiff, low to moderate plasticity, moderate cementation, dry.
		0.0	SILTY CLAY (CL): as above, trace gray banding, no plasticity.
			CLAY (CL): as above, no banding, moderate plasticity.
15		0.0	SILTY CLAY (CL): light brown, high plasticity, moderate cementation, moist-wet.
	SM		SILTY SAND (SM): light brown, fine grained, very soft, very wet.
	CL	0.0	CLAY (CL): light brown, soft, high plasticity, wet.
	SC		CLAYEY SAND (SC): light brown, fine grained, soft, wet.
	CL		CLAY (CL): medium brown, soft, high plasticity, no cementation, moist.
20		0.0	CLAY (CL): as above.
			Total Depth - 20.0' bgs
25			
30			
35			

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BOREHOLE LOG

Site Id: MW-21B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/28/04

Initial Water Level: 19.20'

X-Coordinate: 6113583.60

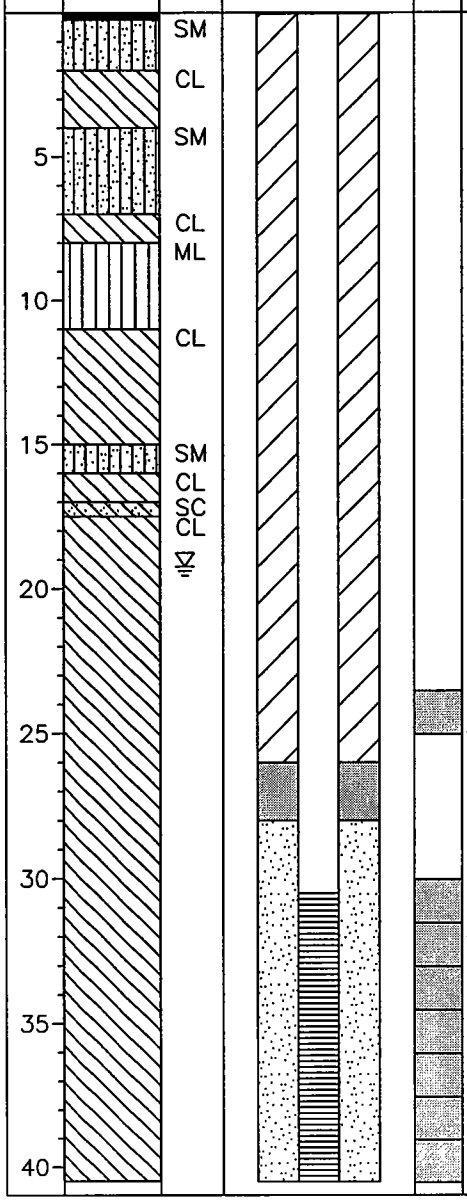
Y-Coordinate: 2168018.80

Total Depth: 40.50'

Completed Depth: 40.50'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 29.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 29.00'	to: 39.00'
Annular Fill: type: Grout			fm: 0.00'	to: 26.00'
type: Bentonite			fm: 26.00'	to: 28.00'
type: #2/12 Sand Filter			fm: 28.00'	to: 40.50'



Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	SM				Asphalt, Gravel/Fill.
					SANDY SILT (SM): light brown, fine grained sand, mixed with gravel, hard, dry.
	CL				SILTY CLAY (CL): dark brown, medium stiff, no plasticity, dry.
	SM				SANDY SILT (SM): light yellow brown, medium stiff, weak cementation.
5					SANDY SILT (SM): as above.
	CL				SILTY CLAY (CL): medium brown, trace gray banding, trace black organics (roots), medium stiff, no plasticity, cemented, dry.
	ML				CLAYEY SILT (ML): light yellow brown, soft, weak cementation, dry.
10	CL				SILTY CLAY (CL): medium brown, medium stiff, low to moderate plasticity, moderate cementation, dry.
					SILTY CLAY (CL): as above, trace gray banding, no plasticity.
					CLAY (CL): as above, no banding, moderate plasticity.
15	SM				SILTY CLAY (CL): light brown, high plasticity, moderate cementation, moist-wet.
	CL				SILTY SAND (SM): light brown, fine grained, very soft, very wet.
	SC				CLAY (CL): light brown, soft, high plasticity, wet.
	CL				CLAYEY SAND (SC): light brown, fine grained, soft, wet.
	▽				CLAY (CL): medium brown, soft, high plasticity, no cementation, moist.
20					
			11, 19, 27		CLAY (CL): medium brown, trace fine grained sand, medium stiff, high plasticity, wet.
25				0.0	
					CLAY (CL): medium gray brown, soft, high plasticity, no cementation, wet.
					CLAY (CL): dark gray, medium stiff, high plasticity, no cementation, dry.
					SANDY CLAY (CL): medium gray, fine to medium sand, soft, high plasticity, wet.
30			10, 12, 15, 22, 37, 44	0.0	CLAY (CL): dark gray, trace light gray banding, trace black organic material, medium stiff, high plasticity, no cementation, wet.
				0.0	CLAY (CL): dark gray, stiff, moderate plasticity, moist.
			13, 14, 12		SANDY CLAY (CL): medium brown, fine grained sand, soft, high plasticity, wet.
35			15, 27, 29	0.0	CLAY (CL): dark gray, stiff, moderate plasticity, moist.
			15, 27, 35	0.0	SANDY CLAY (CL): medium brown, trace light gray banding, fine grained sand, soft, high plasticity, wet.
			14, 20, 26		CLAY (CL): dark gray, medium stiff, moderate plasticity, moist.
			10, 8, 12		SANDY CLAY (CL): medium brown, trace light gray banding, fine grained sand, soft, high plasticity, wet.
40				0.0	Total Depth - 40.5' bgs

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BOREHOLE LOG

Site Id: MW-22A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 01/30/04

Initial Water Level: Not Available

X-Coordinate: 6113913.80

Y-Coordinate: 2168592.40

Total Depth: 25.00'

Completed Depth: 25.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 15.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 15.00'	to: 25.00'
Annular Fill: type: Grout			fm: 0.00'	to: 11.00'
type: Bentonite			fm: 11.00'	to: 13.00'
type: #2/12 Sand Filter			fm: 13.00'	to: 25.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
							Asphalt.
		SM					SILTY SAND (SM): dark gray and black, fine grained, soft, loose, dry.
		CL					CLAY (CL): dark olive gray, stiff, moderate plasticity, no cementation, dry.
5							CLAY (CL): as above.
10							CLAY (CL): olive gray, trace fine grained sand, soft, high plasticity, slightly moist.
							CLAY (CL): as above, moderate plasticity.
15		SP					SAND (SP): dark gray blue, medium grained, soft, strong hydrocarbon-like odor, wet.
		CL					SILTY CLAY (CL): olive brown, with rust-colored banding, moderate plasticity, hydrocarbon-like odor, slightly moist.
20		SP					GRAVELLY SAND (SP): dark brown gray, medium to coarse grained, soft, very wet.
25							Total Depth - 25.0' bgs
30							
35							

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 01/30/04
Initial Water Level: Not Available
X-Coordinate: 6113920.70
Y-Coordinate: 2168591.50

Total Depth: 50.00'
Completed Depth: 50.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 38.00'
type: Bentonite			fm: 38.00'	to: 40.00'
type: #2/12 Sand Filter			fm: 40.00'	to: 50.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	SM			0.0	Asphalt. SILTY SAND (SM): dark gray and black, fine grained, soft, loose, dry.
	CL				CLAY (CL): dark olive gray, stiff, moderate plasticity, no cementation, dry.
5			4 8 6	0.0	CLAY (CL): as above.
10			5 6 10	0.0	CLAY (CL): olive gray, trace fine grained sand, soft, high plasticity, slightly moist. CLAY (CL): as above, moderate plasticity.
15	SP		4 6 10	256	SAND (SP): dark gray blue, medium grained, soft, strong hydrocarbon-like odor, wet.
	CL				SILTY CLAY (CL): olive brown, with rust-colored banding, moderate plasticity, hydrocarbon-like odor, slightly moist.
20	SP		11 11 10	0.0	GRAVELLY SAND (SP): dark brown gray, medium to coarse grained, soft, very wet.
25	ML		11 15 16	0.0	SANDY SILT (ML): medium brown, fine grained sand, very soft, very wet.
	SM				SILTY SAND (SM): brown, fine grained, soft, wet.
30	ML		5 7 7	0.0	SANDY SILT (ML): medium brown, fine grained sand, very soft, very wet.
35	SP		16 18 24	3.2	GRAVELLY SAND (SP): medium brown, medium to coarse grained, soft, very wet.
	CL			5.8	CLAY (CL): olive gray, trace white banding, trace fine grained sand, medium stiff, moderate plasticity, dry.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 01/30/04
Initial Water Level: Not Available
X-Coordinate: 6113920.70
Y-Coordinate: 2168591.50

Total Depth: 50.00'
Completed Depth: 50.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 38.00'
type: Bentonite			fm: 38.00'	to: 40.00'
type: #2/12 Sand Filter			fm: 40.00'	to: 50.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		ML			6		CLAY (CL): as above.
		SM			6		SANDY SILT (ML): medium brown, fine grained sand, soft, wet.
		SP			8		SILTY SAND (SM): medium brown, soft, moist.
					20		GRAVELLY SAND (SP): medium brown, medium to coarse grained, saturated.
					17		GRAVELLY SAND (SP): medium brown, medium to coarse grained, with silt, saturated.
45					20		
					11		
					17		
					22		
					24		
					32		
					32		
					12		
					23		SANDY SILT (ML): light brown, medium stiff, slightly cemented, dry.
		ML			17		
		SP			10	0.0	GRAVELLY SAND (SP): medium brown, medium to coarse grained, with silt, saturated.
					11		
					12		
					12		
50		CL			8		GRAVELLY SAND (SP): as above, trace clay in shoe.
					6		CLAY (CL): dark gray, medium stiff, moderate plasticity, wet.
					50-6"		Total Depth – 50.0' bgs
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-23A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Enviromental West

Drilling Method: Hollow Stem Auger

Logged By: K. Lake

Date(s): 06/02/04

Initial Water Level: NA

X-Coordinate: NA

Y-Coordinate: NA

Total Depth: 27.00'

Completed Depth: 27.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 17.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 17.00'	to: 27.00'
Annular Fill: type: Grout			fm: 0.00'	to: 13.50'
type: Bentonite			fm: 13.50'	to: 15.50'
type: #2/12 Sand Filter			fm: 15.50'	to: 27.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Hand augured 0-5.0'. SILTY CLAY (CL): brown, some sand and gravel, medium dense, no plasticity, damp.
5							SILTY CLAY (CL): brown, some fine grained sand, hard, friable, damp.
10							SILTY CLAY (CL): as above, some gravel up to 0.5".
15							CLAY (CL): brown, some silt, very stiff, grading to highly plastic, moist.
							CLAY (CL): brown to olive brown, some silt and fine grained sand, medium dense, stiff, moderate plasticity, moist.
20							SANDY SILTY CLAY (CL): olive brown, sandy grading to silty, soft, moderate plasticity, wet.
							SILTY CLAY (CL): olive brown, some fine grained sand, firm, high plasticity, wet.
							SILTY CLAY (CL): as above, except soft to firm, wet.
25							SANDY SILTY CLAY (CL): olive brown, soft to firm, sticky, plastic, wet.
							Total Depth - 27.0' bgs
30							
35							

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BOREHOLE LOG

Site Id: MW-23B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Enviromental West

Drilling Method: Hollow Stem Auger

Logged By: K. Lake

Date(s): 06/02/04

Initial Water Level: NA

X-Coordinate: NA

Y-Coordinate: NA

Total Depth: 58.00'

Completed Depth: 58.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 48.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 48.00'	to: 58.00'
Annular Fill: type: Grout			fm: 0.00'	to: 44.00'
type: Bentonite			fm: 44.00'	to: 46.00'
type: #2/12 Sand Filter			fm: 46.00'	to: 58.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Hand augured 0-5.0'. SILTY CLAY (CL): brown, some sand and gravel, medium dense, no plasticity, damp.
5							SILTY CLAY (CL): brown, some fine grained sand, hard, friable, damp.
10							SILTY CLAY (CL): as above, some gravel up to 0.5".
15							CLAY (CL): brown, some silt, very stiff, grading to highly plastic, moist.
							CLAY (CL): brown to olive brown, some silt and fine grained sand, medium dense, stiff, moderate plasticity, moist.
20							SANDY SILTY CLAY (CL): olive brown, sandy grading to silty, soft, moderate plasticity, wet.
							SILTY CLAY (CL): olive brown, some fine grained sand, firm, high plasticity, wet.
							SILTY CLAY (CL): as above, except soft to firm, wet.
25							SANDY SILTY CLAY (CL): olive brown, soft to firm, sticky, plastic, wet.
							SANDY SILTY CLAY (CL): as above.
		CH					CLAY (CH): olive brown, fat clay, trace silt and fine grained sand, very stiff, high plasticity, moist.
30		CL					SILTY CLAY (CL): olive brown, trace fine grained sand, very stiff, moderate plasticity, moist.
35							SILTY CLAY (CL): olive brown grading to dark brown with mottled brown, trace fine grained sand, very stiff, moderate plasticity, moist.

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BOREHOLE LOG

Site Id: MW-23B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Enviromental West

Drilling Method: Hollow Stem Auger

Logged By: K. Lake

Date(s): 06/02/04

Initial Water Level: NA

X-Coordinate: NA

Y-Coordinate: NA

Total Depth: 58.00'

Completed Depth: 58.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 48.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 48.00'	to: 58.00'
Annular Fill: type: Grout			fm: 0.00'	to: 44.00'
type: Bentonite			fm: 44.00'	to: 46.00'
type: #2/12 Sand Filter			fm: 46.00'	to: 58.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
							SILTY CLAY (CL): strongly mottled light brown/olive/light gray, very stiff. moderate plasticity, moist.
45							SANDY SILTY CLAY (CL): brown, stiff, friable to nonfriable with depth, moist to wet.
		ML			5 13 20 36 40 20		SANDY CLAYEY SILT (ML): olive brown, fine grained sand, medium stiff, no plasticity, wet.
50		SP			50-6		GRAVELLY SAND (SP): coarse grained sand with some fine to medium sand and fine gravel, subrounded to subangular, trace clay and silt, loose, wet.
							GRAVELLY SAND (SP): medium to very coarse grained sand grading to very coarse grained sand and fine gravel, sub rounded to subangular gravel, some to trace clay and silt with depth, loose, wet.
55							SAND (SP): coarse to very coarse grained, some fine to medium grained, trace fine gravel, trace clay and silt, loose, wet.
							GRAVELLY SAND (SP): coarse grained sand, very fine gravel, some fine to medium grained sand, trace silt and clay, loose, wet.
							Total Depth - 58.0' bgs
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-23C

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Enviromental West

Drilling Method: Hollow Stem Auger

Logged By: K. Lake

Date(s): 05/25/04-05/26/04

Initial Water Level: 50.00'

X-Coordinate: NA

Y-Coordinate: NA

Total Depth: 103.00'

Completed Depth: 103.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 93.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 93.00'	to: 103.00'
Annular Fill: type: Grout			fm: 0.00'	to: 89.00'
type: Bentonite			fm: 89.00'	to: 91.00'
type: #2/12 Sand Filter			fm: 91.00'	to: 103.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL		HAND AUGERED			SILTY CLAY (CL): brown, some sand and gravel, medium dense, no plasticity, damp.
5					45 50-5	0.0	SILTY CLAY (CL): brown, some fine grained sand, hard, friable, damp.
10						0.0	SILTY CLAY (CL): as above, some gravel up to 0.5".
15					4 7 5 7	0.0	CLAY (CL): brown, some silt, very stiff, grading to highly plastic, moist.
					2 4 5 6	0.0	CLAY (CL): brown to olive brown, some silt and fine grained sand, medium dense, stiff, moderate plasticity, moist.
20					2 2 4 5	0.0	SANDY SILTY CLAY (CL): olive brown, sandy grading to silty, soft, moderate plasticity, wet.
					1 2 3 4	0.0	SILTY CLAY (CL): olive brown, some fine grained sand, firm, high plasticity, wet.
					2 2 2 3	0.0	SILTY CLAY (CL): as above, except soft to firm, wet.
25					1 3 3 3		SANDY SILTY CLAY (CL): olive brown, soft to firm, sticky, plastic, wet.
					7 12 22 30	0.0	SANDY SILTY CLAY (CL): as above. CLAY (CH): olive brown, fat clay, trace silt and fine grained sand, very stiff, high plasticity, moist.
		CH					
		CL			5 6 8		
30						0.0	SILTY CLAY (CL): olive brown, trace fine grained sand, very stiff, moderate plasticity, moist.
35					3 5 8 9	0.0	SILTY CLAY (CL): olive brown grading to dark brown with mottled brown, trace fine grained sand, very stiff, moderate plasticity, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Enviromental West
Drilling Method: Hollow Stem Auger
Logged By: K. Lake
Date(s): 05/25/04-05/26/04
Initial Water Level: 50.00'
X-Coordinate: NA
Y-Coordinate: NA

Total Depth: 103.00'
Completed Depth: 103.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 93.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 93.00'	to: 103.00'
Annular Fill: type: Grout			fm: 0.00'	to: 89.00'
type: Bentonite			fm: 89.00'	to: 91.00'
type: #2/12 Sand Filter			fm: 91.00'	to: 103.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
			4 5 7 9	0.0	SILTY CLAY (CL): strongly mottled light brown/olive/light gray, very stiff. moderate plasticity, moist.
45			5 5 9 10	0.0	SANDY SILTY CLAY (CL): brown, stiff, friable to nonfriable with depth, moist to wet.
	ML		5 13 20 36		SANDY CLAYEY SILT (ML): olive brown, fine grained sand, medium stiff, no plasticity, wet.
50	SP		2 2 4 7	0.0	GRAVELLY SAND (SP): coarse grained sand with some fine to medium sand and fine gravel, subrounded to subangular, trace clay and silt, loose, wet.
			3 6 10	0.0	GRAVELLY SAND (SP): medium to very coarse grained sand grading to very coarse grained sand and fine gravel, sub rounded to subangular gravel, some to trace clay and silt with depth, loose, wet.
55			8 9 11 15 28	0.0	SAND (SP): coarse to very coarse grained, some fine to medium grained, trace fine gravel, trace clay and silt, loose, wet.
			9 6 7 21	0.0	GRAVELLY SAND (SP): coarse grained sand, very fine gravel, some fine to medium grained sand, trace silt and clay, loose, wet.
	CL			0.0	SILTY CLAY (CL): some very fine to fine grained sand, stiff, low plasticity, moist.
60	CL/SC		5 10 13 18	0.0	SANDY CLAY (CL): fine grained sand, some silt, stiff, very low plasticity to friable, moist.
					CLAYEY SAND/SILT (SC): olive brown, cohesive (from 61.0-61.5').
	CL				
65			3 4 4 7	0.0	SILTY SANDY CLAY (CL): olive brown, some silt grading to some fine grained sand, stiff, high to low plasticity with depth, moist.
70			6 9 13 14	0.0	SILTY CLAY (CL): olive, some fine grained sand, very stiff, low plasticity, moist.
75			4 10 17	0.0	SILTY CLAY (CL): as above.
			8 5 6 12	0.0	SANDY CLAY (CL): brown, fine grained sand, some silt, firm, sticky, moist to wet.
			4 6	0.0	SANDY CLAY (CL): brown, fine grained sand, increasing sand with depth, hard to

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Enviromental West
Drilling Method: Hollow Stem Auger
Logged By: K. Lake
Date(s): 05/25/04-05/26/04
Initial Water Level: 50.00'
X-Coordinate: NA
Y-Coordinate: NA

Total Depth: 103.00'
Completed Depth: 103.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 93.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 93.00'	to: 103.00'
Annular Fill: type: Grout			fm: 0.00'	to: 89.00'
type: Bentonite			fm: 89.00'	to: 91.00'
type: #2/12 Sand Filter			fm: 91.00'	to: 103.00'

Depth (ft)	USCS Code	Blow Count	PID (ppm)	Soil Description and Observations
	CL	6 18		firm with depth, plastic, sticky, moist.
		4 8 21 29	0.0	CLAY (CL): brown, some fine grained sand and silt, few secondary mineral deposits in fine veins, very stiff, very low plasticity, moist.
		4 7 18 28		CLAY (CL): as above.
85		6 12 22 26		CLAY (CL): as above.
		9 11 18 28		CLAY (CL): trace sand and silt, trace gravel up to 1.0" in diameter, very stiff, sticky, moist.
90		8 5 3 8	0.0	CLAY (CL): as above, stiff, moderate plasticity, moist.
		6 15 23 32	0.0	SANDY CLAY (CL): brown, fine grained sand, brown, very stiff, very low to no plasticity, moist.
		3 11 14 12	0.0	CLAY (CL): brown, some fine grained sand and silt, stiff, sticky, plastic, moist.
95		2 5 10 22	0.0	CLAY (CL): as above to 96.5'.
	SC	3 4 8 21	0.0	CLAYEY SAND (SC): fine grained sand, trace medium grained, cohesive, moist, with a 2.0" hard clay/silt lens at 96.7'.
		1 3 7 9	0.0	CLAYEY SAND (SC): brown, fine to medium grained, weakly cohesive, wet.
100	ML	4 8 6 7	0.0	CLAYEY SAND (SC): brown, fine to medium grained, medium dense, wet.
	CL			CLAYEY SAND WITH SILT (SC): brown, fine grained, very compact, dense, moist to wet.
				SANDY SILT WITH CLAY (ML): brown, fine grained sand, dense, very compact, no plasticity, moist.
				SANDY CLAY (CL): brown, stiff, sticky, moist.
				Total Depth - 103.0' bgs
105				
110				
115				

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BOREHOLE LOG

Site Id: MW-24A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Moberg

Date(s): 02/03/04

Initial Water Level: 18.00'

X-Coordinate: 6114971.90

Y-Coordinate: 2169887.40

Total Depth: 30.00'

Completed Depth: 29.50'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 19.50'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 19.50'	to: 29.50'
Annular Fill: type: Grout			fm: 0.00'	to: 16.00'
type: Bentonite			fm: 16.00'	to: 17.00'
type: #2/12 Sand Filter			fm: 17.00'	to: 30.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		CL					Asphalt, Gravel/Fill.
							CLAY (CL): dark brown, stiff, low to moderate plastcity, dry.
							CLAY (CL): as above, moderate plasticity.
5							SANDY CLAY (CL): olive brown, with rust-colored banding, soft, low to moderate plasticity, dry.
							SANDY CLAY (CL): as above, moderate plasticity.
10							CLAY (CL): red brown, with rust-colored banding, soft, low to moderate plasticity, dry.
							CLAY (CL): brown, trace fine grained sand, soft, high plasticity, dry to moist.
15							CLAY (CL): gray brown, trace white banding, trace fine grained sand, medium stiff, moderate to high plasticity, moist.
							No recovery.
							CLAY (CL): as above.
20							CLAY (CL): gray brown, with white banding, black particles and roots, medium stiff, high plasticity, moist.
							CLAY (CL): as above.
							CLAY (CL): as above.
							CLAY (CL): as above, no black particles.
25							CLAY (CL): as above, increasing moisture.
							CLAY (CL): as above, wet.
							CLAY (CL): as above, very soft, very wet.
							CLAY (CL): as above, medium stiff, moist.
							CLAY (CL): as above, red brown, very soft, very wet.
30							Total Depth - 30.0' bgs
35							

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BOREHOLE LOG

Site Id: MW-24B

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 02/03/04
Initial Water Level: Not Available
X-Coordinate: 6114975.50
Y-Coordinate: 2169887.60

Total Depth: 50.50'
Completed Depth: 49.50'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 39.50'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 39.50'	to: 49.50'
Annular Fill: type: Grout			fm: 0.00'	to: 35.00'
type: Bentonite			fm: 35.00'	to: 37.00'
type: #2/12 Sand Filter			fm: 37.00'	to: 50.50'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	CL				Asphalt, Gravel/Fill.
					CLAY (CL): dark brown, stiff, low to moderate plastcity, dry.
					CLAY (CL): as above, moderate plasticity.
5			10 12 13		SANDY CLAY (CL): olive brown, with rust-colored banding, soft, low to moderate plasticity, dry.
					SANDY CLAY (CL): as above, moderate plasticity.
10			8 8 10	0.0	CLAY (CL): red brown, with rust-colored banding, soft, low to moderate plasticity, dry.
					CLAY (CL): brown, trace fine grained sand, soft, high plasticity, dry to moist.
15			15 20 22	0.0	CLAY (CL): gray brown, trace white banding, trace fine grained sand, medium stiff, moderate to high plasticity, moist.
			11 17 15	0.0	No recovery.
			11 12 16		CLAY (CL): as above.
20			16 19 21	0.0	CLAY (CL): gray brown, with white banding, black particles and roots, medium stiff, high plasticity, moist.
			12 16 22	0.0	CLAY (CL): as above.
			10 18 25		CLAY (CL): as above.
			7 15 16	0.0	CLAY (CL): as above, no black particles.
25			6 4 4		CLAY (CL): as above, increasing moisture.
			8 11 15	0.0	CLAY (CL): as above, wet.
			8 8 6		CLAY (CL): as above, very soft, very wet.
					CLAY (CL): as above, medium stiff, moist.
30				0.0	CLAY (CL): as above, red brown, very soft, very wet.
35			10 6 20	0.0	CLAY (CL): gray brown, trace fine grained sand, soft, high plasticity, moist.
					CLAY (CL): as above, wet.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 02/03/04
Initial Water Level: Not Available
X-Coordinate: 6114975.50
Y-Coordinate: 2169887.60

Total Depth: 50.50'
Completed Depth: 49.50'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 39.50'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 39.50'	to: 49.50'
Annular Fill: type: Grout			fm: 0.00'	to: 35.00'
type: Bentonite			fm: 35.00'	to: 37.00'
type: #2/12 Sand Filter			fm: 37.00'	to: 50.50'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
		GP			30 18 17	0.0	GRAVEL (GP): gray brown, fine gravel mixed with coarse grained sand, soft, very wet.
		SW			40 30 18	0.0	SAND (SW): gray brown, fine to coarse grained, soft, wet.
		GP			24 30 32 20 15 18	0.0	GRAVEL (GP): gray brown, fine gravel mixed with coarse grained sand, soft, very wet.
45							No recovery.
		SC			17 20 18 27 21 31	0.0	CLAYEY SAND (SC): gray brown, fine grained, soft, wet.
							CLAYEY SAND (SC): as above, with interbedded fine gravel lenses.
		SP			16 12 18	0.0	SAND (SP): gray brown, medium grained, trace fine gravel, soft, very wet.
50							Total Depth – 50.5' bgs
55							
60							
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-25A

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Enviromental West

Drilling Method: Hollow Stem Auger

Logged By: R. Sijgers

Date(s): 06/08/04

Initial Water Level: NA

X-Coordinate: NA

Y-Coordinate: NA

Total Depth: 28.00'

Completed Depth: 28.00'

Borehole Dia.: 8.00in

Blank Casing:				
type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 18.00'
Screens:				
type: Slotted	size: 0.010in	dia: 2.00in	fm: 18.00'	to: 28.00'
Annular Fill:				
type: Grout			fm: 0.00'	to: 14.00'
type: Bentonite			fm: 14.00'	to: 16.00'
type: #2/12 Sand Filter			fm: 16.00'	to: 28.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
		ML					Hand augured 0-5.0'. SANDY SILT WITH CLAY (ML): brown, root material, moderately compacted, dry.
5							CLAYEY SILT WITH SAND (ML): brown, fine grained sand, root material, moderately compacted, dry.
10		CL					CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
							CLAY (CL): as above.
15							SILTY CLAY (CL): brown, stiff, moderate plasticity, dry.
							SILTY CLAY (CL): olive brown, medium stiff, moderate plasticity, damp.
20							SILTY CLAY (CL): brown to olive brown, medium soft, high plasticity, moist.
		ML					CLAYEY SILT WITH SAND (ML): dark gray with rust-colored mottling, medium soft, no plasticity, wet.
		CL					SILTY CLAY (CL): brown, medium stiff, moderate plasticity, dry. CLAY (CL): olive brown with dark gray mottling, trace silt, stiff, moderate plasticity, dry to moist with depth.
25							SILTY CLAY (CL): olive brown, trace fine grained sand, medium stiff, high plasticity, moist.
							Total Depth - 28.0' bgs
30							
35							

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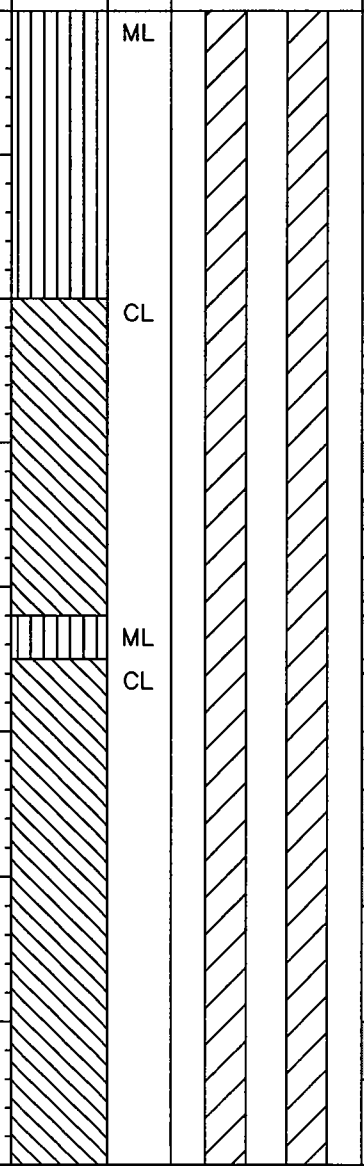
BOREHOLE LOG

Site Id: MW-25B

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Enviromental West
Drilling Method: Hollow Stem Auger
Logged By: R. Sijgers
Date(s): 06/04/04-06/07/04
Initial Water Level: 49.00'
X-Coordinate: NA
Y-Coordinate: NA

Total Depth: 59.00'
Completed Depth: 58.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 48.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 48.00'	to: 58.00'
Annular Fill: type: Grout			fm: 0.00'	to: 43.00'
type: Bentonite			fm: 43.00'	to: 45.00'
type: #2/12 Sand Filter			fm: 45.00'	to: 59.00'



Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	ML	HAND AUGERED			SANDY SILT WITH CLAY (ML): brown, root material, moderately compacted, dry.
5			17 34 12 50-4	0.0	CLAYEY SILT WITH SAND (ML): brown, fine grained sand, root material, moderately compacted, dry.
				0.0	
10	CL		4 7 11 12	0.0	CLAY (CL): olive brown, trace silt, medium stiff, moderate plasticity, dry.
				0.0	CLAY (CL): as above.
15			2 4 6 6 2 3 5 5 2 2 3 3	0.0	SILTY CLAY (CL): brown, stiff, moderate plasticity, dry.
				0.0	SILTY CLAY (CL): olive brown, medium stiff, moderate plasticity, damp.
20				0.0	SILTY CLAY (CL): brown to olive brown, medium soft, high plasticity, moist.
	ML		2 2 5 3	0.0	CLAYEY SILT WITH SAND (ML): dark gray with rust-colored mottling, medium soft, no plasticity, wet.
	CL		2 4 6 7	0.0	SILTY CLAY (CL): brown, medium stiff, moderate plasticity, dry. CLAY (CL): olive brown with dark gray mottling, trace silt, stiff, moderate plasticity, dry to moist with depth.
25			2 2 3 5	0.0	SILTY CLAY (CL): olive brown, trace fine grained sand, medium stiff, high plasticity, moist.
			2 2 6 7	0.0	SILTY CLAY (CL): as above, grades to SILTY CLAY (CL): olive brown, calcareous deposits, stiff, moderate plasticity, wet.
30			2 4 5 7	0.0	SILTY CLAY (CL): dark to olive brown, stiff, moderate plasticity, moist, sampler wet.
35			2 2 3 3	0.0	SILTY CLAY (CL): olive brown, stiff, moderate plasticity, moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Enviromental West
Drilling Method: Hollow Stem Auger
Logged By: R. Sijgers
Date(s): 06/04/04-06/07/04
Initial Water Level: 49.00'
X-Coordinate: NA
Y-Coordinate: NA

Total Depth: 59.00'
Completed Depth: 58.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 48.00'
Screens: type: Slotted	size: 0.010in	dia: 2.00in	fm: 48.00'	to: 58.00'
Annular Fill: type: Grout			fm: 0.00'	to: 43.00'
type: Bentonite			fm: 43.00'	to: 45.00'
type: #2/12 Sand Filter			fm: 45.00'	to: 59.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
					1 1 2 6		SILTY CLAY (CL): olive brown, stiff, moderate plasticity, moist.
45					5 8 12 14		SILTY CLAY (CL): olive brown, trace fine grained sand, medium stiff to soft, high plasticity, moist.
					4 6 11 22		SILTY CLAY (CL): as above.
		ML			4 6 6 6		CLAYEY SILT WITH SAND (ML): olive brown, fine grained sand with trace medium to coarse, stiff, no plasticity, moist.
50		SM			3 6 6 7		SILTY SAND (SM): olive brown, medium to coarse grained, trace fine gravel, subangular to subrounded (0.25-0.5"), some clay, loose, wet.
		CL			4 8 9 11		SILTY CLAY (CL): olive brown, some fine to medium grained sand, medium stiff, moderate plasticity, wet.
		ML			6 5 4 3		CLAYEY SILT (ML): olive brown, trace fine to medium grained sand, medium stiff, moderate plasticity, moist.
55							CLAYEY SILT (ML): as above.
		CL			4 9 6 5		SILTY CLAY (CL): olive brown, trace fine grained sand, medium stiff, moderate plasticity.
60							Total Depth - 59.0' bgs.
65							
70							
75							

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BOREHOLE LOG

Site Id: MW-26B

Project Number: 8219.10

Project Name: UP Hookston Station

Location: Pleasant Hill

Contractor: Vironex

Drilling Method: Hollow Stem Auger

Logged By: D. Betts

Date(s): 02/06/04

Initial Water Level: Not Available

X-Coordinate: 6116066.40

Y-Coordinate: 2169886.60

Total Depth: 50.00'

Completed Depth: 50.00'

Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 36.00'
type: Bentonite			fm: 36.00'	to: 38.00'
type: #2/12 Sand Filter			fm: 38.00'	to: 50.00'

Depth (ft)	USCS Code	Sample Recovery	Blow Count	PID (ppm)	Soil Description and Observations
	CL				Asphalt, Gravel/Fill. CLAY (CL): gray, stiff, low plasticity, slightly moist.
5			7 10 12	0.0	CLAY (CL): red brown, medium stiff, low plasticity, dry.
10	SM		6 7 11	0.0	SILTY SAND (SM): gray brown, fine grained, soft, slightly moist.
15	CL		13 16 23	0.0	CLAY (CL): light gray brown, trace white banding, black particles, moderate plasticity, slightly moist.
20			7 13 12	0.0	SILTY CLAY (CL): light gray brown, stiff, low plasticity, dry.
25			8 10 15	0.0	SILTY CLAY (CL): as above.
30			6 13 35	0.0	CLAY (CL): light brown, stiff, moderate plasticity, moist. CLAY (CL): light brown, soft, high plasticity, wet.
35			15 24 30	0.0	SILTY CLAY (CL): light gray brown, stiff, no to low plasticity, dry. SANDY CLAY (CL): light gray brown, soft, moderate plasticity, slightly moist.
			11 16 28	0.0	SILTY CLAY (CL): as above. No recovery.
			18 23 34 10		SILTY CLAY (CL): light gray brown, stiff, low plasticity, slightly moist.

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BOREHOLE LOG

Project Number: 8219.10
Project Name: UP Hookston Station
Location: Pleasant Hill
Contractor: Vironex
Drilling Method: Hollow Stem Auger
Logged By: D. Betts
Date(s): 02/06/04
Initial Water Level: Not Available
X-Coordinate: 6116066.40
Y-Coordinate: 2169886.60

Total Depth: 50.00'
Completed Depth: 50.00'
Borehole Dia.: 8.00in

Blank Casing: type: Sch 40 PVC		dia: 2.00in	fm: 0.0'	to: 40.00'
Screens: type: Slotted	size: 0.020in	dia: 2.00in	fm: 40.00'	to: 50.00'
Annular Fill: type: Grout			fm: 0.00'	to: 36.00'
type: Bentonite			fm: 36.00'	to: 38.00'
type: #2/12 Sand Filter			fm: 38.00'	to: 50.00'

Depth (ft)	Graphic Log	USCS Code	Well Construction	Sample Recovery	Sample No.	PID (ppm)	Soil Description and Observations
					12 13 18 24 26	0.0	SILTY CLAY (CL): as above.
		SM			17 22 27 12 5	0.0	SILTY SAND (SM): brown gray, fine grained, medium stiff, dry. SILTY SAND (SM): as above, moist to wet.
45		CL			13 24 26 37 12	0.0	SILTY CLAY (CL); light brown, stiff, moderate plasticity, wet.
		SM					SILTY SAND (SM): medium brown, fine grained, very soft, very wet.
		CL			17 27 19 20 30		SILTY CLAY (CL): light brown, soft, high plasticity, wet.
		SC					CLAYEY SAND (SC): gray brown, trace white and black particles, trace silt, soft, no plasticity, moist to wet.
50							Total Depth – 50.0' bgs
55							
60							
65							
70							
75							