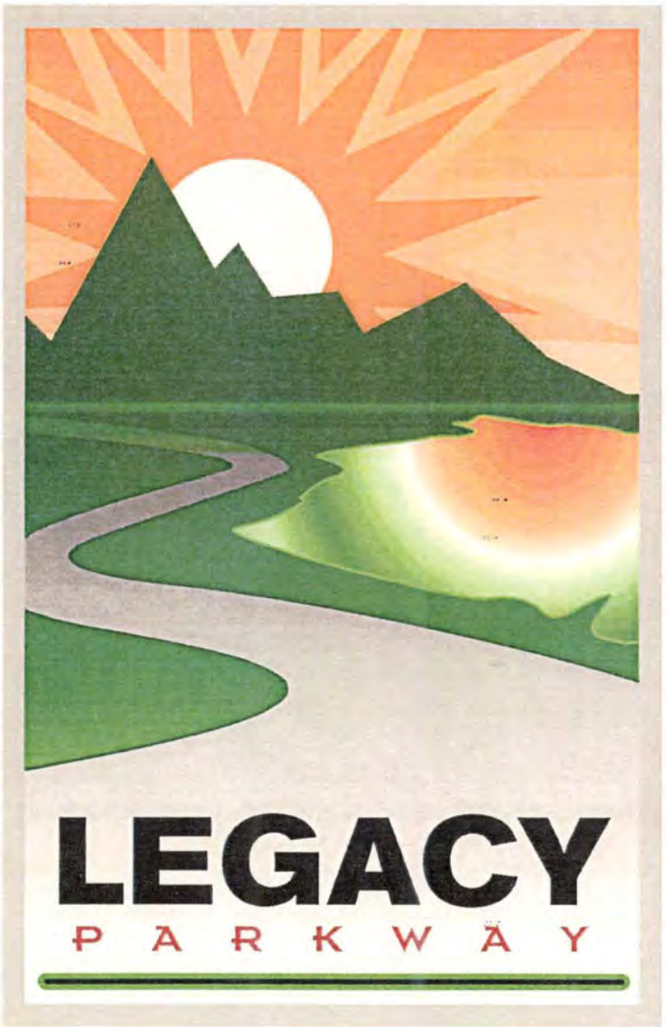
REPORT OF GEOTECHNICAL FIELD AND LABORATORY INVESTIGATIONS LEGACY PARKWAY PREFERRED ALTERNATIVE SALT LAKE AND DAVIS COUNTIES, UTAH

VOLUME 2 OF 4



Prepared for: HDR *and* UDOT

Prepared by: KLEINFELDER

Appendix C

Boring: WB- 1-240
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: SAND, SILT, and GRAVEL, very moist to wet, light brown, occasional grass roots in upper 150 mm				MC	559			26 39 50 47							
			1		SPT	2921			28 32 34 50							
1295		5														
			2		SPT	305	SM	A-2-5	50							
	Silty SAND - medium dense, wet, gray, occasional gravel layers	10	3		MC	0			13 10 10 14							
			4		SPT	457			11 10 10 9							
		15			MC	0			7 5 5 6							
			5		SPT	610	ML	A-4	5 7 9 9							
	SILT with sand - stiff to very stiff, wet, light brown to gray	20	6		MC	406			11 4 7 8			27			79	
1290			7		SPT	610			3 4 4 6							
	- frequent sand seams and layers	25	8		MC	2921			15 8 8 10							
	Poorly Graded SAND - loose to medium dense, wet, gray, frequent gravel andt silt layers				SPT	610	SP	A-3	7 11 11 15							
		30	9		MC	305			3 2 5 8			21				
	- loose		10		SPT	610			2 2 3 2							
	- no visible silt layers	35	11		MC	0			15 16 22 19							
1285					SPT	76			13 12 20 24							
	SILT - very stiff to hard, wet, light brown, frequent silty sand seams and layers	40	12		MC	406	ML	A-4	6 7 7 9							
			13		SPT	610			9 11 10 12			21	33	13		
		45	14		MC	457			8 12 26 41							
	Silty SAND with gravel - dense, wet, gray, frequent silt seams and layers				SPT	305	SM	A-2-5	17 30 31 34							
	- very dense	50	15													
1280		55	16													
			17													
		60	18													
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 1-240**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	1/12/00
Date Finish:	1/13/00
Station:	59+493.295 70.03 LT
Line:	I-15
Coordinates (m):	N 124,334.943 E 18,805.525
Elevation (m):	1296.647
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB- 2-241
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND and GRAVEL, medium dense to dense, moist, olive-brown				MC	610			2 8 16 18							
			1		SPT	305			17 15 17 24							
		5	2		MC	457			11 15 19 22							
					SPT	610			15 15 24 28							
	- cobbles approximately 250 to 350 mm in size	10	3		MC	0			50/125mm							
	-very dense		4		SPT	406			17 28 29 27							
1295	- cobbles approximately 400 mm in size	15	5													
	Lean CLAY with sand - medium stiff to stiff, moist to wet, dark gray-black, frequent silt seams and layers				SPT	610	CL	A-6	2 3 3 6							
		20	6		MC	457			3 3 4 5							
▽			7		MC	610			3 3 4 5							
		25	8		SH	610				42 *38*	16.8	23	28	6	79	C SG
					SPT	610			3 5 7 9							
1290		30	9		MC	610			4 4 6 6	*57*						
			10		SPT	610										
		35	11		SH	610				*53*			32	10		
	- becomes reddish brown				SPT	610			4 4 6 6							
		40	12		MC	508			5 5 8 8	*57*						
			13		SPT	610			6 8 9 11							
		45	14		SH	635				*62*						
1285					SPT	610			13 12 20 24							
		50	15													
			16													
		55	17													
			18													
		60	19													
1280		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 2-241**

Sheet 1 of 1

Logged by:	R. Yates
Date Start:	1/13/00
Date Finish:	1/14/00
Station:	59+647.927 57.07 LT
Line:	I-15
Coordinates (m):	N 124,432.213 E 18,684.621
Elevation (m):	1299.532
Total Depth Drilled (m):	14.9
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB- 3-242
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - dense to very dense, moist, olive-brown				MC	610			14 19 20 29							
		5	1		SPT	457			19 22 28 50/125 mm							
			2		MC	229			14 50/100mm							
1295		10	3		MC	381			20 21 8 5							
			4		SPT	508			5 5 7 9							
		15	5		MC	457			6 8 7 7							
	Sandy SILT - medium stiff to stiff, wet, olive-brown, occasional gravel				SPT	51	ML	A-4	5 5 7 7							
		20	6		SH	102				29	15.7	26	25	1		C SG
			7													
		25	8		MC	813			2 5 6 7							
1290					SPT	610			3 3 5 6							
		30	9		SH	610										
	- very stiff		10		SPT	762			2 2 3 5	38						
		35	11		MC	610			4 5 4 7							
					SPT	610			3 6 8 9							
		40	12		SH	762										
1285			13		SPT	610			5 5 7 9	57						
		45	14		MC	610			3 6 7 10							
					SPT	610			5 9 11 14							
		50	15													
			16													
		55	17													
1280		60	18													
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 3-242**

Sheet 1 of 1

Logged by:	R. Yates
Date Start:	1/12/00
Date Finish:	1/13/00
Station:	59+706.550 29.93 LT
Line:	I-15
Coordinates (m):	N 124,488.338 E 18,651.781
Elevation (m):	1298.223
Total Depth Drilled (m):	14.9
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB- 4-239
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL; Silty Lean CLAY - moist, brown, roots				MC	457			2 8 16 17							
	Silty SAND - medium dense, moist to wet, brown - with occasional gravel		1		SPT	356	SM	A-2-5	10 12 10 5							
1295	Lean CLAY - very stiff, wet, dark brown	5			MC	0	CL	A-6	7 7 7 7							
			2		SPT	457	SM	A-2-5	5 3 4 3							
	Silty SAND - medium dense, wet, gray mottled rust	10	3		SH	254										
			4		SPT	559			4 7 7 9							
		15			MC	610			5 8 8 6			20			18	SV
	Sandy SILT- stiff, wet, gray to brown, fine-grained, with occasional silty sand layers and gravel		5		SPT	610	ML	A-4	3 3 3 4							
1290	Poorly Graded SAND with silt - dense, wet, gray	20	6		MC	610	SP-SM	A-3	3 5 9 10							
			7		SPT	610			5 6 9 11							
		25	8		MC	559			2 4 9 11							
					SPT	457			12 12 9 9							
	SILT - very stiff, wet, brown - hard, with occasional sand and gravel	30	9		MC	229		A-4	12 17 16 15							
	Poorly Graded SAND - dense, wet, gray, contains frequent layers of light brown silt. - very dense - occasional fine to coarse-grained gravels		10		SPT	610	SP-SM	A-3	6 12 18 17							
		35	11		MC	381			20 24 25 29							
1285					SPT	305			20 24 25 29							
		40	12		MC	254			13 15 16 18			23	31	12		
	Lean CLAY - hard, wet, light brown to brown, contains frequent silt seams and layers		13		SPT	305	CL	A-6	8 8 12 8							
	Poorly Graded SAND with gravel - very dense, wet, gray - fine to coarse-grained gravels - dense - organic layer (peat) with roots	45	14		MC	457		A-3	10 18 15 15							
					SPT	457			30 30 19 5							
		50	15													
1280			16													
		55	17													
		60	18													
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 4-239**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	1/11/00
Date Finish:	1/12/00
Station:	59+480.935 39.09 LT
Line:	I-15
Coordinates (m):	N 124,353.674 E 18,833.082
Elevation (m):	1296.335
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB- 9-226
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - medium dense, moist, brown				MC	610			6 12 12 10							
	SILT - soft, moist, black		1		SPT	457	ML	A-4	2 3 3 3							
		5			MC	0			3 3 2 4							
			2		SPT	610			5 3 3 3							
1295	Lean CLAY - soft, moist, blue-gray, with frequent sand lenses	10	3		SH	610	CL	A-7-6		26	14.2	32	47	21	92	
			4		SPT	356			2 2 1 2							
		15			MC	127			5 7 9 12							
			5													
	Silty GRAVEL with sand - medium, dense, wet, blue-gray				SPT	305	GM	A-2-4	12 14 16 14							
		20	6		MC	254			12 16 12 18		22.0	9				SV
			7		SPT	0			11 14 16 14							
	- dense	25	8		MC	330			8 16 33 19							
1290	- medium dense				SPT	559			8 7 9 8							
		30	9		MC	508			11 11 8 10							
			10		SPT	457			7 3 5 5							
	SILT - medium stiff, wet, gray mottled black						ML	A-4								
	Poorly Graded SAND with silt - gray, wet, loose	35	11		MC	610	SP-SM	A-3	7 3 5 5							SV
	- medium dense				SPT	610			3 4 9 24							
		40	12		MC	610			12 14 14 8							
	- dense - with gravel		13		SPT	610			4 8 25 16							
1285		45														
	- medium dense		14		MC	610			5 10 18 13							
					SPT	559			7 6 10 12							
			15													
		50														
			16													
		55	17													
			18													
1280		60														
			19													
		65														

Legend: ● SPT $(N_1)_{60}$; ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 9-226**

Sheet 1 of 1

Logged by:	G. Hales
Date Start:	1/10/00
Date Finish:	1/10/00
Station:	1+406.133 1.01 RT
Line:	I-15 NB to US 89 NB
Coordinates (m):	N 423,822.721 E 19,430.441
Elevation (m):	1298.210
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

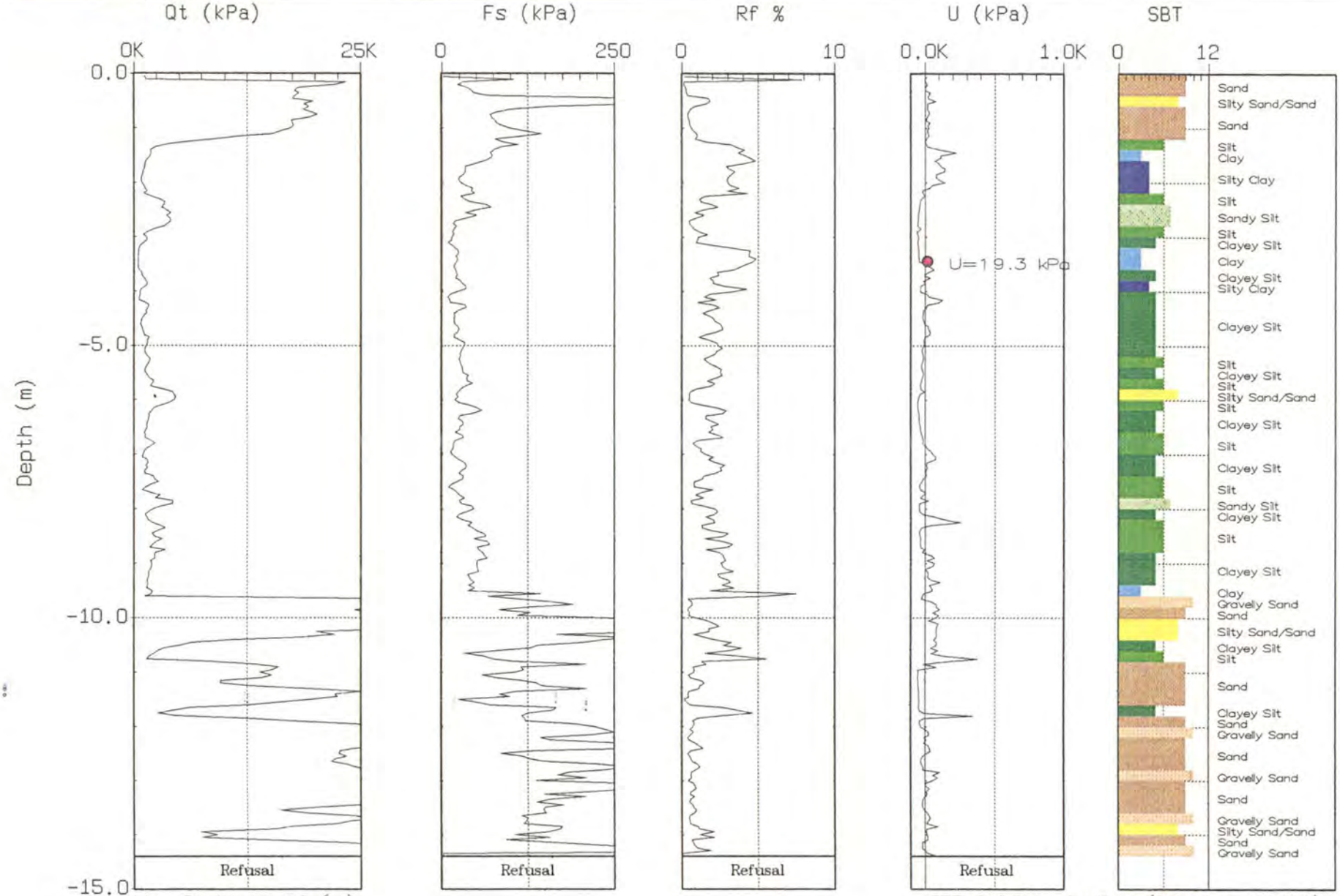
BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway

Site: WC-9-227
Station: 1+500.557 8.10 RT
Elevation: 1301.460

Cone: 20 TON A 058
Date: 01:07:00 11:34



Max. Depth: 14.40 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-6

Boring: WB- 9-228
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL; Silty SAND and GRAVEL, slightly moist, brown																
	ASPHALT				MC	508			14 12 13 12	25							
	FILL: Silty SAND with gravel - medium dense, moist, brown		1		SPT	559	ML	A-4	4 3 4 4	7							
	SILT with sand - medium stiff, very moist to wet, brown, with fine to medium-grained sand, with frequent small-sized gravel	5			MC	0			4 3 2 1	5							
			2		SPT	610			2 2 2 1	4							
	- with frequent layers of sandy lean clay 12 to 100 mm thick	10	3		MC	610			1 2 2 1	4		14.1	31	33	9	30	
1295	Lean CLAY - medium stiff, wet, brown, with frequent layers of silt 6 to 50 mm thick		4		SPT	610	CL	A-6	1 2 1 2	3							
	- gray with numerous roots	15															
	SILT - medium stiff, wet, brown, with frequent layers of silty sand 12 to 75 mm thick		5	P	P	0	ML	A-4									
					SPT	610			2 3 2 3	5							
		20	6	P	P	0											
	Silty SAND - loose to medium dense, wet, gray, with frequent layers of silt 13 to 25 mm thick		7		SPT	610	SM	A-2-5	2 4 4 5	8							SV
		25			MC	559			10 11 9 7	20							
			8		SPT	508			3 4 5 5	9							
1290	- medium dense, brown and gray, with silt layers																
		30	9		MC	610	SC	A-2-6	2 2 1 1	3							
	Clayey SAND - loose, wet, brown, with occasional gravel																
			10		SPT	610	CL	A-6	13 11 11 14	22							SV
	Sandy Lean CLAY - stiff, wet, brown, with occasional gravel																
	Silty SAND with gravel - dense, wet, gray						SM	A-2-5									
		35	11		MC	559			18 22 24 21	48							
					SPT	508			16 18 22 21	38							
		40	12		MC	508			18 18 20 29	38							
	Poorly Graded SAND with gravel - dense, wet, olive-gray		13		SPT	559	SP	A-3	8 9 12 14	19							
1285	- medium dense	45	14		MC	457			8 9 12 14	19							
	Silty SAND with gravel - medium dense, wet, olive-gray				SPT	559	SM	A-2-5	8 14 12 10	24							
		50	15														
			16														
		55	17														
			18														
1280		60	19														
		65															

Test Results *

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 9-228**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	1/7/00
Date Finish:	1/7/00
Station:	1+608.843 8.56 RT
Line:	I-15 NB to US 89 NB
Coordinates (m):	N 124,005.160 E 19,340.414
Elevation (m):	1298.795
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: WB- 9-229
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Sandy SILT with gravel, medium dense, moist, yellowish brown				MC	508			1 8 13 12							
			1		SPT	203			5 50							
	FILL: Silty GRAVEL with silt and sand, medium dense to dense, moist to very moist, frequent small roots	5			MC	457	ML	A-4	4 2 2 2							
	Sandy SILT - medium stiff, wet, dark brown		2		SPT	610			2 2 1 2							
	Sandy Lean CLAY - very soft, wet, brown, with frequent layers of sandy silt 25 to 75 mm thick	10	3		P	610	CL	A-6							62	DS
1295			4		SPT	610			1 0 1 1							
	Silty SAND - loose to medium dense, wet, greenish-gray, fine to medium-grained	15	5		MC	533	SM	A-2-5	3 3 4 5		15.8	24				SV
					SPT	457			4 6 11 15							
	Poorly Graded GRAVEL with silt - loose to medium dense, wet, greenish gray	20	6				GP-GM	A-2-4								
					MC	203			4 8 12 14		21.1	7				SV
			7		SPT	457			3 3 4 5							
		25	8		MC	0			12 11 12 14							
					SPT	457			8 7 6 8							
1290	SILT - very stiff, wet, gray-brown, approximately 900 mm thick	30	9				ML	A-4								
					MC	457			5 8 9 6		17.6	17			35	
	Silty SAND with gravel - medium dense, wet, green-gray - loose		10		SPT	305	SM	A-2-5	3 2 3 4							
	- medium to very dense	35	11		MC	356			11 26 34 42							
					SPT	508			6 8 4 18							
		40	12		MC	508			12 21 36 35							
			13		SPT	610			12 21 24 18							
1285	- dense	45	14		MC	457			16 18 21 16		20.0	10				SV
	- very loose				SPT	406			2 1 2 3							
		50	15													
			16													
		55	17													
			18													
		60														
1280			19													
		65														

Graphic Log legend: ● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 9-229**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	1/7/00
Date Finish:	1/10/00
Station:	1+719.031 12.69 RT
Line:	I-15 NB to US 89 NB
Coordinates (m):	N 124,098.389 E 19,282.261
Elevation (m):	1298.981
Total Depth Drilled (m):	7.3
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

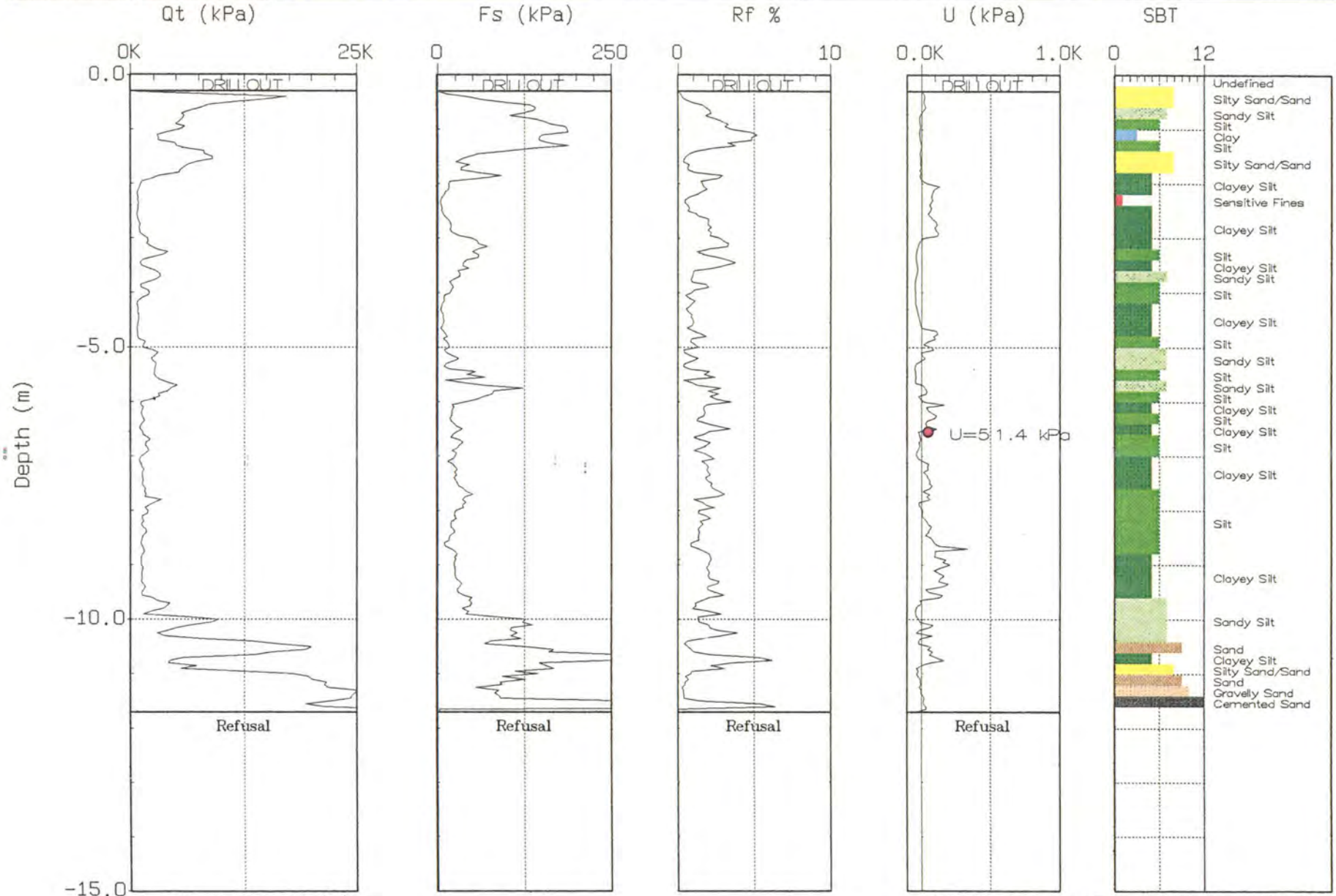
BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Legacy Parkway

Site: WC-9-230
Station: 1+822.003 19.87 RT
Elevation: 1299.148

Cone: 20 TON A 070
Date: 03:02:00 08:50



Max. Depth: 11.70 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-9

Boring: WB- 9-231
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Pooly Graded GRAVEL, slightly moist, gray, fine-grained, little fines																
	Lean CLAY - medium stiff to stiff, moist, dark brown, with trace sand and fine-grained gravel		1		MC	356	CL	A-6	8 10 7 7	27							
		5	2		SPT	457			4 3 3 3	10							
1300																	
		10	3		MC	457			4 4 3 2	9							
	- becomes soft, wet, light brown, thinly interbedded with frequent silt seams and silty sand layers up to 300 mm thick, occasional organic material		4		SPT	610			2 1 2 3	4							
	- medium stiff, occasional organics	15	5		SH	508					24					17	
					SPT	610			4 3 3 4	8							
	-frequent silty sand layers up to 100 mm thick	20	6		MC	457			3 4 3 3	10							
			7		SPT	610			3 4 5 3	10							
1295		25	8		SH	610					37 43	14.4	33	35	15		C SG
	Silty SAND - dense to very dense, wet, gray, with fine to medium-grained sand				SPT	610	SM	A-2-5	3 3 6 9	10							
	- Lean CLAY layer,stiff, wet, light brown	30	9		MC	0			50/ 75mm								
	- with trace gravel																
	- no recovery, heaving sand		10		SPT	305			15 31 19 9								
	Silty GRAVEL - very dense, wet, gray, with sand	35	11		MC	127	GM	A-2-4	50/145mm								
			12														
1290	Silty SAND - very dense, wet, greenish gray, with frequent silt layers and some gravel	40			SPT	152	SM	A-2-5	40 50/150mm								
			13		SPT	254			35 45 21 10								
		45	14		MC	305			18 13 26 12	42							
	- very loose				SPT	610			2 1 1 2	2							
		50	15														
			16														
		55	17														
1285																	
		60	18														
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB- 9-231**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	3/28/00
Date Finish:	3/28/00
Station:	1+9203.608 44.42 RT
Line:	I-15 NB to US 89 NB
Coordinates (m):	N 127,295.100 E 19,198.787
Elevation (m):	1302.344
Total Depth Drilled (m):	15.2
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

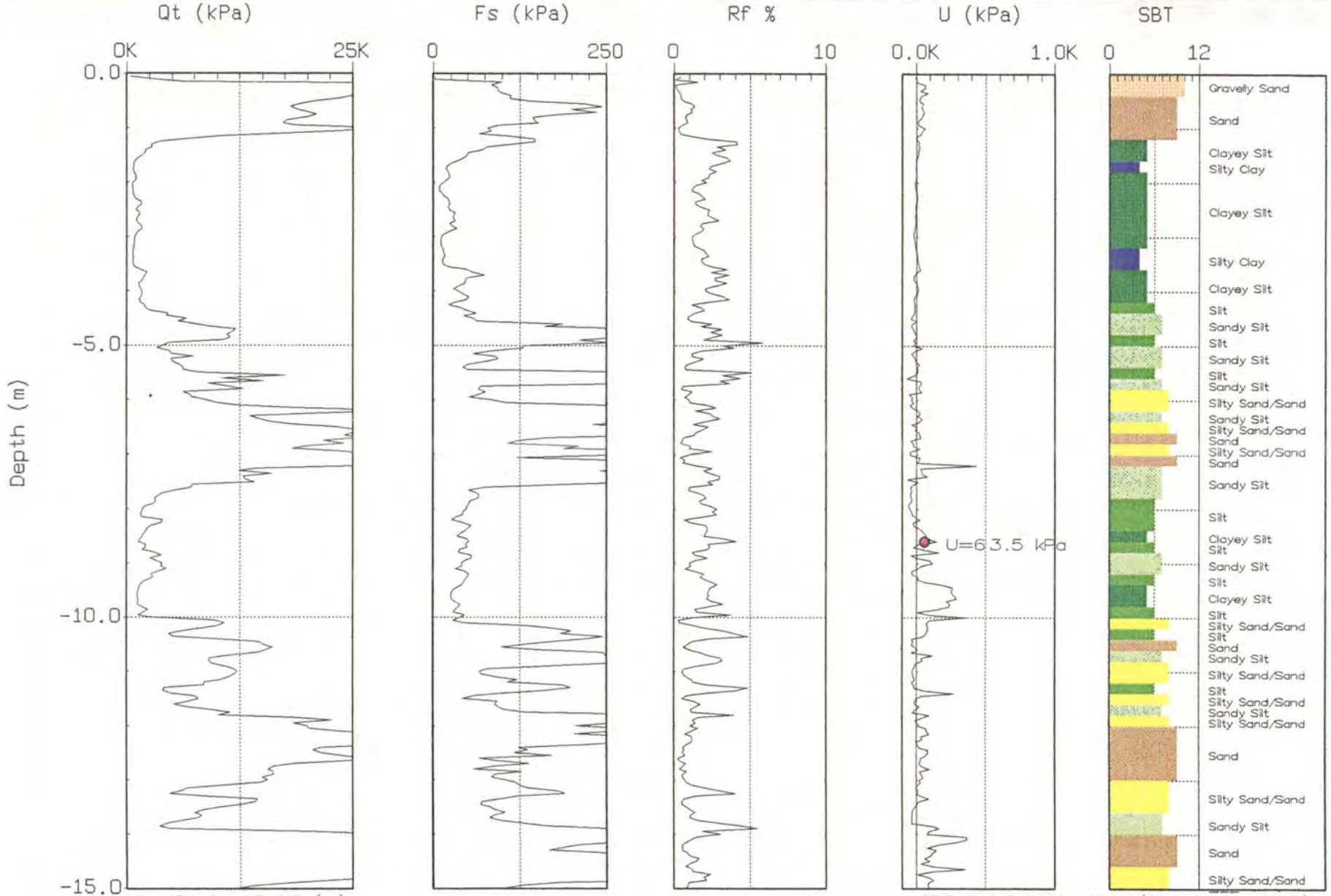
BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Legacy Parkway

Site: WC-10-232
Station: 58+734.533 23.51 RT
Elevation: 1301.210

Cone: 20 TON A 058
Date: 01:07:00 10:17



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

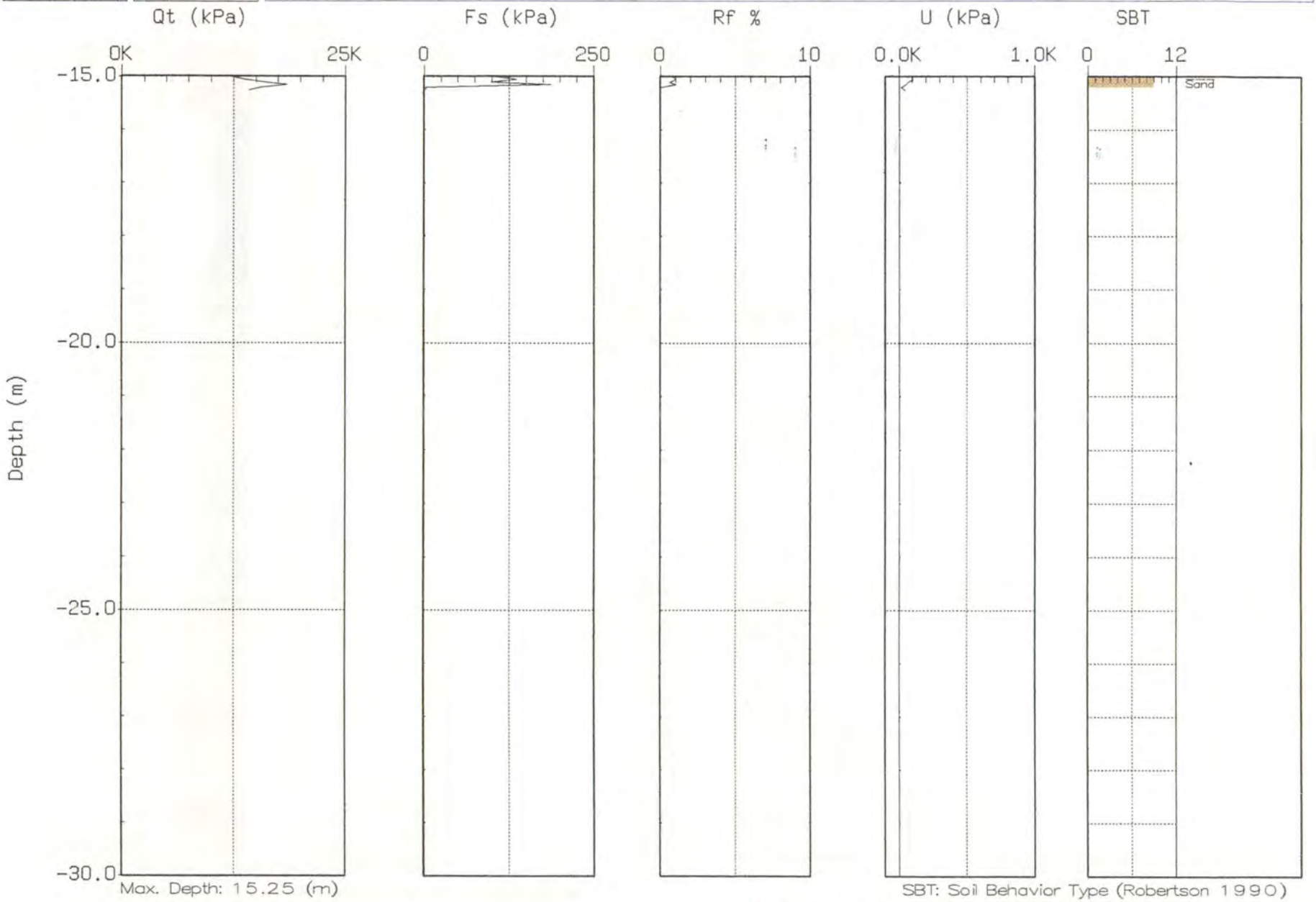
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-11

Legacy Parkway

Site: WC-10-232
Station: 58+734.533 23.51 RT
Elevation: 1301.210

Cone: 20 TON A 058
Date: 01:07:00 10:17



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-12

Boring: WB-10-233
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - medium dense, moist to wet, tan				MC	610			12 4 3 4	12							
1300			1		SPT	305			11 10 12 14	49							
		5	2		MC	102			4 8 11 9	28							
	Elastic SILT - soft, moist, brown to black				SPT	508	MH	A-5	4 3 3 3	10							
		10	3		SH	610					35 *48*	13.9	36	50	21		C SG
	Lean CLAY - soft, moist to wet, gray to green, with sand lenses		4		SPT	305	CL	A-6	5 4 4 3	12							
		15	5		MC	0			1 3 3 4	8							
	SILT - soft, moist to wet, brown, with thin sand lenses				SPT	508	ML	A-4	3 4 4 5	12							
1295		20	6		SH	559					*34*	15.2	28				C SG SV
	Silty SAND - loose to medium dense, wet, blue-gray		7		SPT	610	SM	A-2-5	4 5 4 6	12							
	Sandy SILT - soft, wet, grayish brown	25	8		MC	610	ML	A-4	6 7 6 5	13							
	Silty SAND - loose, wet, grayish brown				SPT	610	SM	A-2-5	2 3 2 2	7							
		30	9		MC	610	ML	A-4	3 4 8 17	12							
	SILT - soft, wet, brown, with sand lenses		10		SPT	610	SW	A-1-b	3 6 2 6	9							SV
	Well Graded SAND - loose to medium dense, wet, blue-gray, slightly silty	35	11		MC	152			3 6 2 6	9							
1290	- with some gravels, dense				SPT	610			7 11 11 12	26							
		40	12		MC	508			9 13 17 16	28							
			13		SPT	610	SM	A-2-5	12 17 23 23	45							
	Silty SAND with gravel - dense, wet, blue-gray	45	14		MC	457			11 19 33 35	47							
					SPT	610			6 8 17 16	28							
		50	15														
1285			16														
		55	17														
		60	18														
			19														
		65															

UTDOT Z003WB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-10-233**

Sheet 1 of 1

Logged by:	G. Hales
Date Start:	1/7/00
Date Finish:	1/7/00
Station:	85+881.649 1.16 RT
Line:	I-15
Coordinates (m):	N 123,990.684 E 19,299,166.000
Elevation (m):	1301.036
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: WB-10-234
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 / SPT (N1)60 (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - dense, moist, olive-brown				MC	610			8 16 21 24								
	SILT - soft, wet, black		1		SPT	610	ML	A-4	6 6 3 4	18						22	
		5			MC	610			3 1 2 5	5							
	Poorly Graded SAND with gravel - medium dense, olive-brown, coarse-grained gravel, organics		2		SPT	610	SP	A-3	6 8 4 7	25						5	
		10	3	P	P	0											
1295			4		MC	610			1 2 1 3	4	43						
	Lean CLAY - soft, wet, gray	15	5	P	P	610	CL	A-6									
	Silty SAND - medium dense, wet, gray				SPT	610	SM	A-2-5	1 2 5 8	11							
		20	6		MC	610			4 6 5 7	14							
	Lean CLAY - very stiff, wet, gray, frequent silt and sand seams and layers		7		SPT	610	CL	A-6	4 5 6 6	16							
		25	8	P	P	610											
1290					SPT	610			4 6 6 4	18							
		30	9		MC	610			6 14 18 10	36							
	Silty SAND- medium dense to dense, wet, gray, occasional gravel layers		10		SPT	610	SM	A-2-5	2 2 9 12	15	34						
		35	11		MC	51			45 48 12 13								
					SPT	610			5 1 11 30	15							
		40	12		MC	610			15 16 34 45	50							
1285			13		SPT	610			8 12 14 13	30							
		45	14		MC	610			25 27 27 38	50							
					SPT	457			38 38 29 50								SV
		50	15														
			16														
		55	17														
			18														
1280		60															
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-10-234**

Sheet 1 of 1

Logged by:	R. Yates
Date Start:	1/10/00
Date Finish:	1/11/00
Station:	59+019.306 27.99 RT
Line:	I-15
Coordinates (m):	N 124,117.524 E 19,235.458
Elevation (m):	1298.520
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

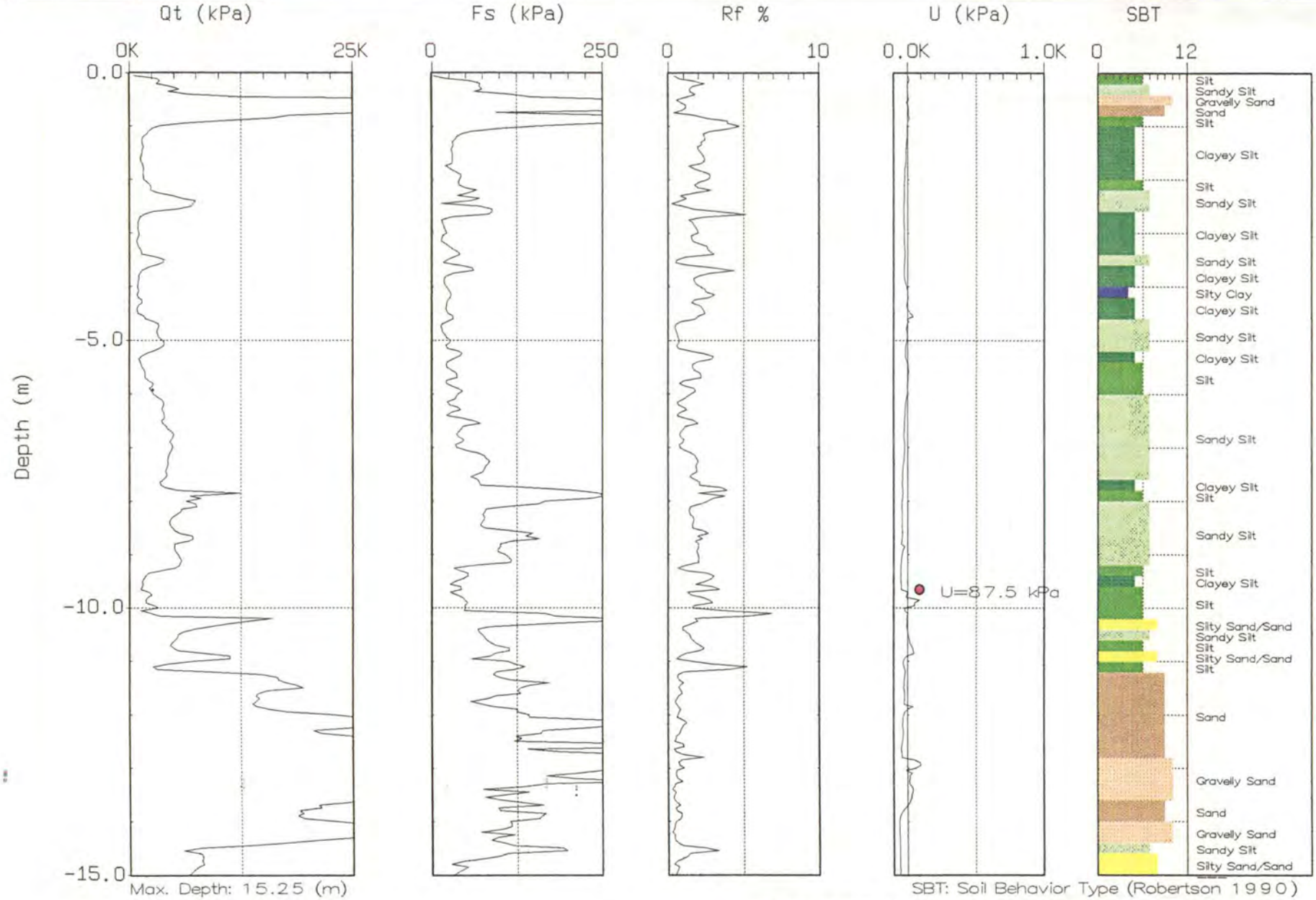
BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Legacy Parkway

Site: WC-10-234
Station: 59+019.196 27.36 RT
Elevation: 1298.457

Cone: 20 TON A 058
Date: 01:12:00 10:40



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-15

Legacy Parkway

Site: WC-10-234
Station: 59+019.196 27.36 RT
Elevation: 1298.457

Cone: 20 TON A 058
Date: 01:12:00 10:40

Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

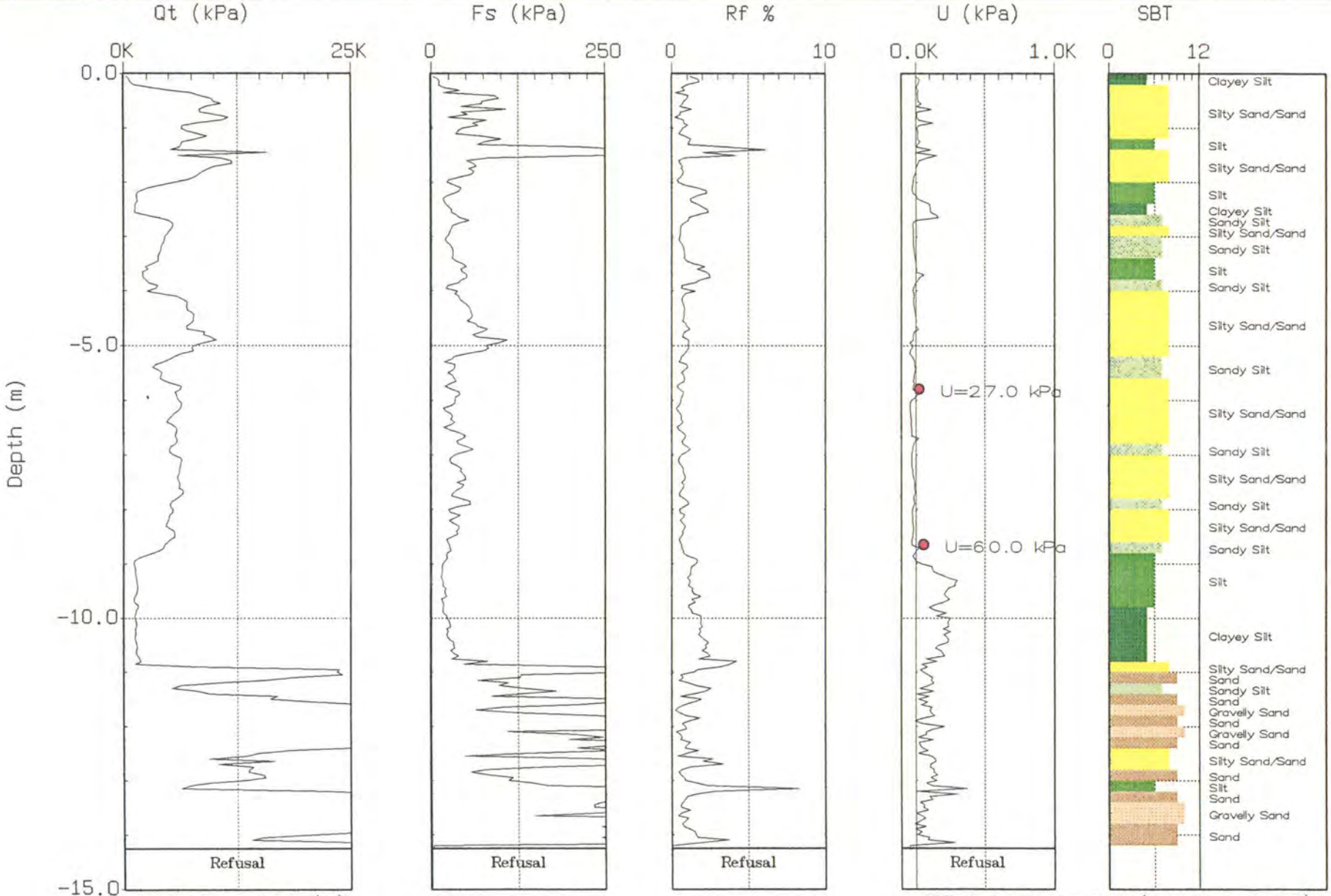
SBT: Soil Behavior Type (Robertson 1990)
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-16

Legacy Parkway

Site: WC-13-235
Station: 71+619.643 18.65 LT
Elevation: 1298.069

Cone: 20 TON A 058
Date: 01:07:00 09:11



Max. Depth: 14.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-17

Boring: WB-10-236
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Poorly Graded SAND with Silt and Gravel - medium dense to dense, wet, light brown				MC	457	SP-SM	A-1-b	10 11 11 9						9	
			1		SPT	51			5 5 3 1							
		5			MC	0			8 9 9 7							
			2		SPT	508			6 7 7 7							
1295		10	3		SH	610				19	9.6	108	NP	NP		C SG
	- Lean CLAY layer, medium stiff to stiff, moist															
	Silty SAND - medium dense, wet, gray, occasional layers of fine-graded gravel		4		SPT	559	SM	A-2-5	3 5 8 5						20	
		15			MC	457			5 6 4 4		20.8	6				SV
			5		SPT	610	ML	A-4	3 4 4 4							
	SILT - stiff, wet, gray	20	6		MC	127			5 11 16 22							
	Silty SAND - dense, wet, gray		7		SPT	508	SM	A-2-5	11 6 7 7						9	
	SILT - very stiff, wet, gray	25					ML	A-4								
1290			8		MC	457			4 4 5 6							
					SPT	610			3 3 6 8							
		30	9		SH	610				29	9.9	100	NP	NP		C SG
	- with frequent Silty SAND layers		10		SPT	0			7 5 11 13							
		35	11		MC	610			4 6 9 9							
					SPT	457			5 6 10 13							
		40	12		SPT	457			3 4 4 6							
1285			13		SPT	533			4 7 8 20							
	Lean CLAY layer, very stiff, wet, gray	45	14		MC	533			49 30 42 40							
	SILT with sand, light brown				SPT	305	GM	A-2-4	14 14 27 24							
	Silty GRAVEL with sand - dense to very dense, wet, black, coarse-grained		15													
		50														
			16													
		55	17													
1280			18													
		60	19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-10-236**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	1/10/00
Date Finish:	1/11/00
Station:	71+721.381 20.11 LT
Line:	US 89 SB to LP SB
Coordinates (m):	N 124,834.150 E 18,932.579
Elevation (m):	1297.739
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

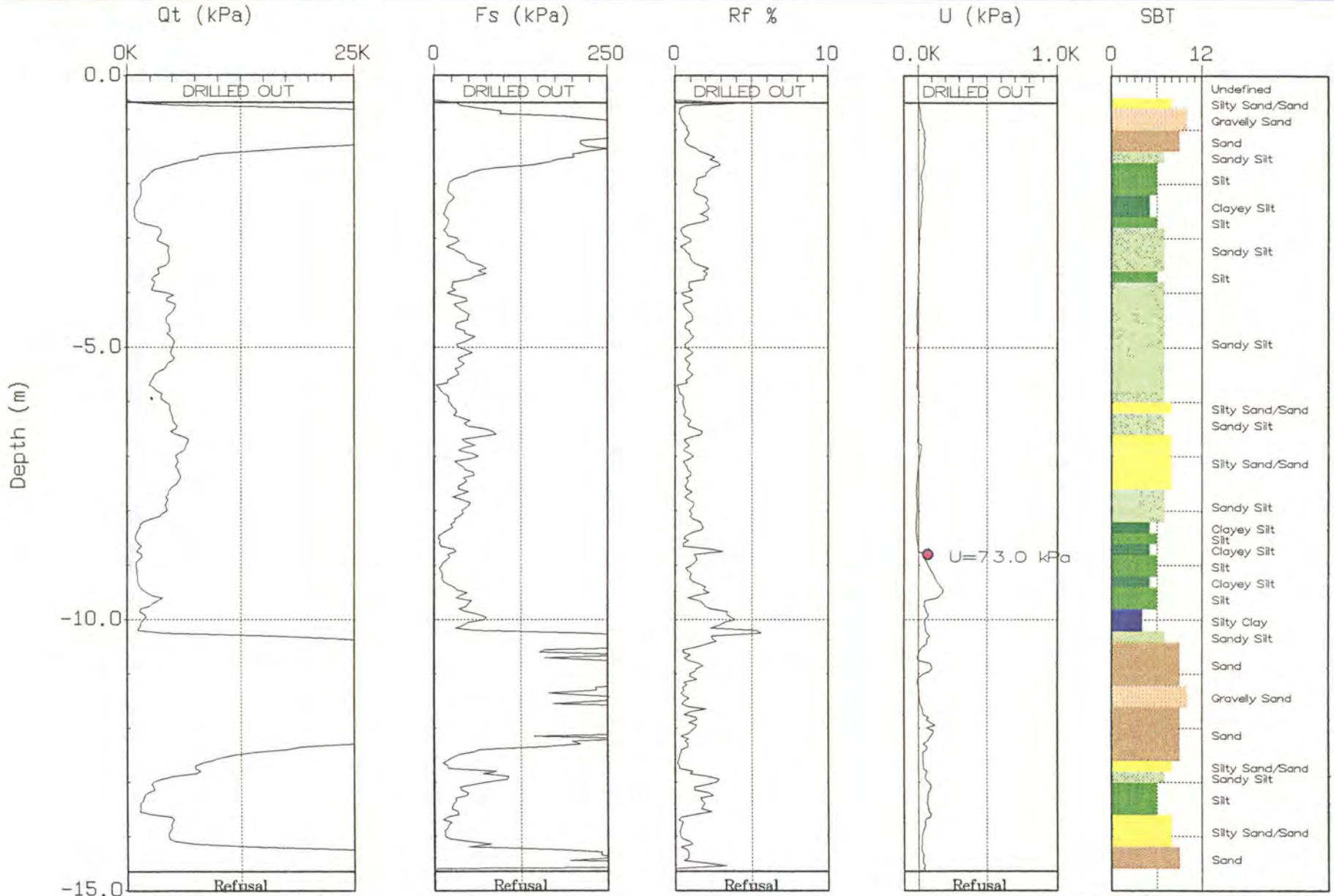
BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Legacy Parkway

Site: WC-14-237
Station: 71+606.215 18.72 RT
Elevation: 1301.664

Cone: 20 TON A 058
Date: 01:12:00 12:46



Max. Depth: 14.65 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-19

Boring: WB-14-238
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - hard, moist, olive-brown, organics, occasional gravel				MC	610	CL	A-6	8 11 12 18							
	- stiff, moist, dark brown		1		SPT	610			6 3 2 2							
		5			MC	610			5 3 3 2							SV
	SILT - medium to very stiff, wet, light brown, frequent sand layers		2		SPT	610	ML	A-4	4 9 4 7						23	
		10	3		SH	610										
1295	Clayey SAND, medium dense, wet, light to olive brown		4		SPT	610	SC	A-2-6	5 2 2 6							SV
		15			SH	610				60	16.0	25	25	4	89	C
			5		SPT	610			5 6 8 9	43						SG
		20	6		MC	610			5 8 6 6							
			7		SPT	610			7 6 5 8							
		25			SH	610					16.8	22				C
			8		SPT	610			10 11 8 12	57						SG
1290	- hard	30	9		MC	610			11 13 18 12							
			10		SPT	610			8 12 18 12							
		35	11		SH	610				120	17.6	22				C
	- very stiff				SPT	610			5 8 7 8	81						SG
		40	12		MC	610			5 7 8 12							
			13		SPT	610			7 10 18 28							
1285	Silty SAND - dense, wet, gray, fine-grained - heaving sands - medium dense	45	14		MC	559	SM	A-2-5	7 10 18 28							
			15		SPT	305			7 8 13 15							
		50	16													
		55	17													
		60	18													
1280			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-14-238**

Sheet 1 of 1

Logged by:	R. Yates
Date Start:	1/11/00
Date Finish:	1/11/00
Station:	71+998.327 23.07 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 125,107.784 E 18,871.845
Elevation (m):	1298.629
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB-15-219b
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Sandy SILT -stiff to hard, moist, light brown, trace fine-grained gravel				MC	279			5 8 5 13							
			1		SPT	279			20 12 14 10							
1285		5			MC	254			5 6 2 3							
			2		SPT	356	CL-ML	A-6	1 1 1 1							
	Lean CLAY - soft, wet, dark brown															
	- stiff	10	3		MC	381			3 3 4 6							
			4		SPT	559			4 5 7 8							
		15			P	559										
			5													
	- very stiff with sand lenses				SPT	508			4 6 6 28							
		20	6		MC	457			4 5 5 5							
1280										62						
			7		SPT	508			3 3 4 5							
	- medium stiff	25	8		P	559				64	12.3	42			98	SG
										24						
					SPT	610			2 2 2 3							
		30	9		MC	559			1 1 2 1							
			10		SPT	610			2 1 2 2	38						
	- medium stiff	35	11		P	610					12.3	43	40	19		C SG
1275					SPT	610			3 4 4 7	29						
		40	12		MC	559			5 4 4 3							
			13		SPT	559			0 2 2 2							
		45	14		P	559					9.6	63				C SG
					SPT	610			2 4 4 5	77						
		50	15		MC	610			0 2 4 3							
			16							41						
1270																
	- soft	55	17		P	610										
			18													
	- very soft	60			SPT	559			0 0 1 0							
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-15-219b**

Sheet 1 of 2

Logged by:	M. Bostrom
Date Start:	12/29/99
Date Finish:	1/3/00
Station:	6013+879.882 34.51 RT
Line:	D MAINLINE
Coordinates (m):	N 117,103.822 E 19,343.493
Elevation (m):	1286.306
Total Depth Drilled (m):	35.1
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-15-219b
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY, continued				P	610	CL-ML	A-6									
	Silty SAND - dense, wet, gray		21				SM	A-2-5									
1265		70	22														
		75	23		MC	406			18 30 32 50/150 mm	50							
			24														
	Fat CLAY - medium stiff, wet, olive-green, with traces of medium-grained sand	80	25		SPT	610	CH	A-7-6	4 6 7 8	13							
1260		85	26		P	610					65	11.3	49	60	34		C SG
			27														
	Sandy SILT - stiff, wet, gray	90	28		MC	559	ML	A-4	5 5 7 8	9							
	Silty SAND - dense, wet, greenish gray, with frequent clay layers	95	29		SPT	356	SM	A-2-5	8 14 24 23	33							
		100	30														
			31		MC	152			24 28 28 27	40							
1255	Lean CLAY - medium stiff to hard, wet, grayish brown to greenish gray						CL	A-6									
		105	32														
			33														
		110	34														
	- stiff	115	35		P	610						14.2	31	46	24		C SG
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-15-219b**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	12/29/99
Date Finish:	1/3/00
Station:	6013+879.882 34.51 RT
Line:	D MAINLINE
Coordinates (m):	N 117,103.822 E 19,343.493
Elevation (m):	1286.306
Total Depth Drilled (m):	35.1
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

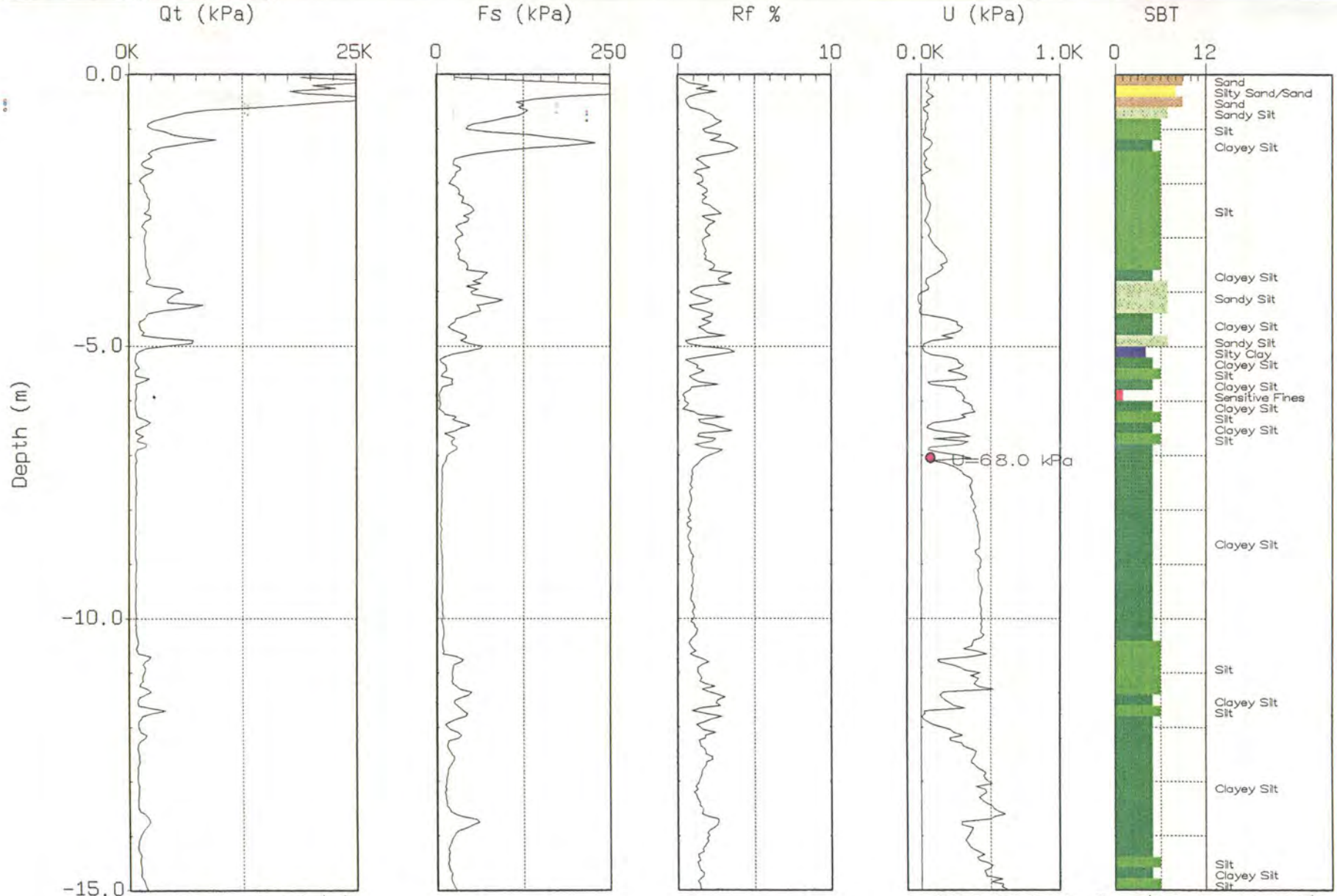
BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Legacy Parkway

Site: WC-15-220B
Station: 6013+953.596 26.94 RT
Elevation: 1285.408

Cone: 20 TON A 058
Date: 01:06:00 08:32



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

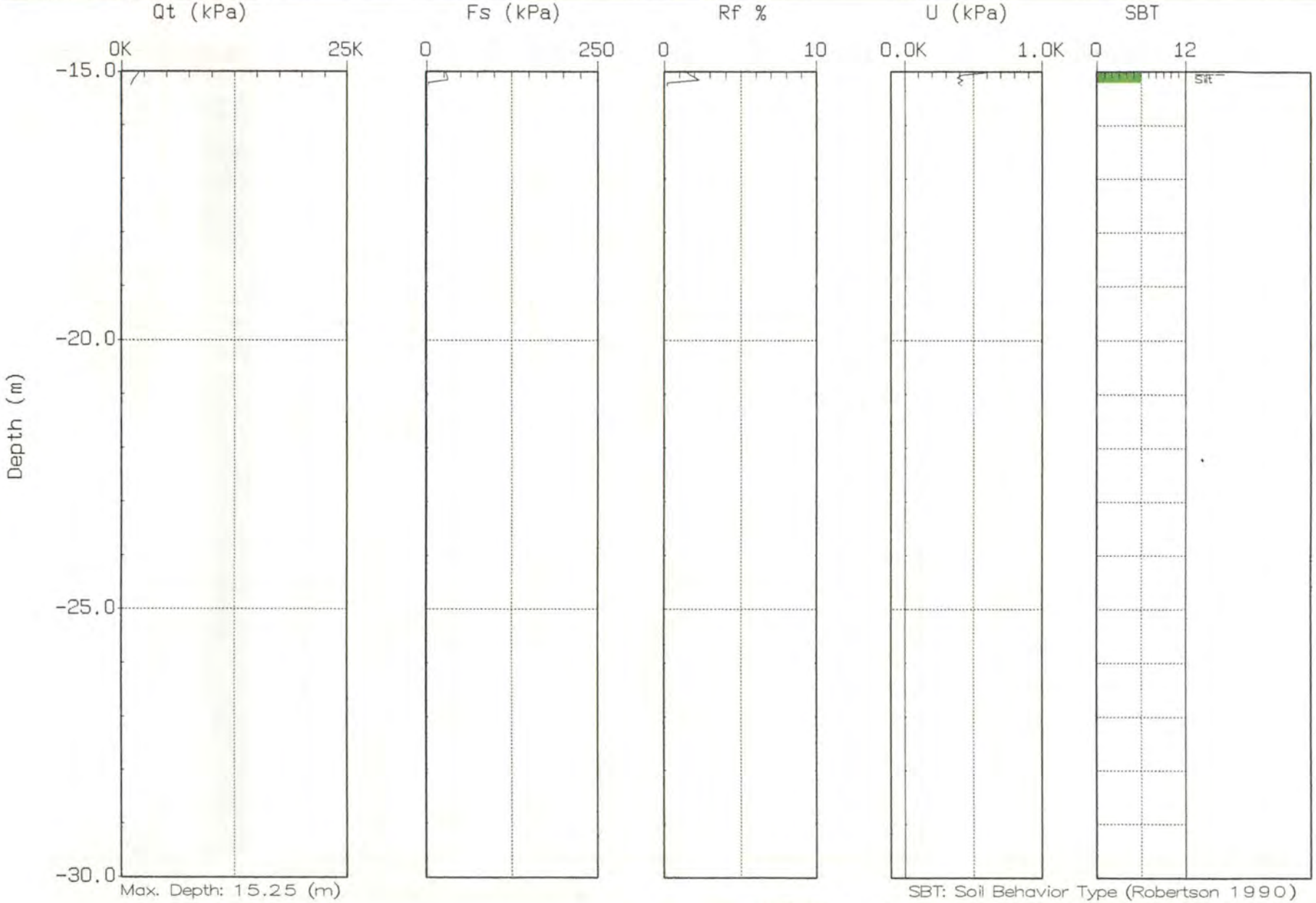
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-23

Legacy Parkway

Site: WC-15-220B
Station: 6013+953.596 26.94 RT
Elevation: 1285.408

Cone: 20 TON A 058
Date: 01:06:00 08:32



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

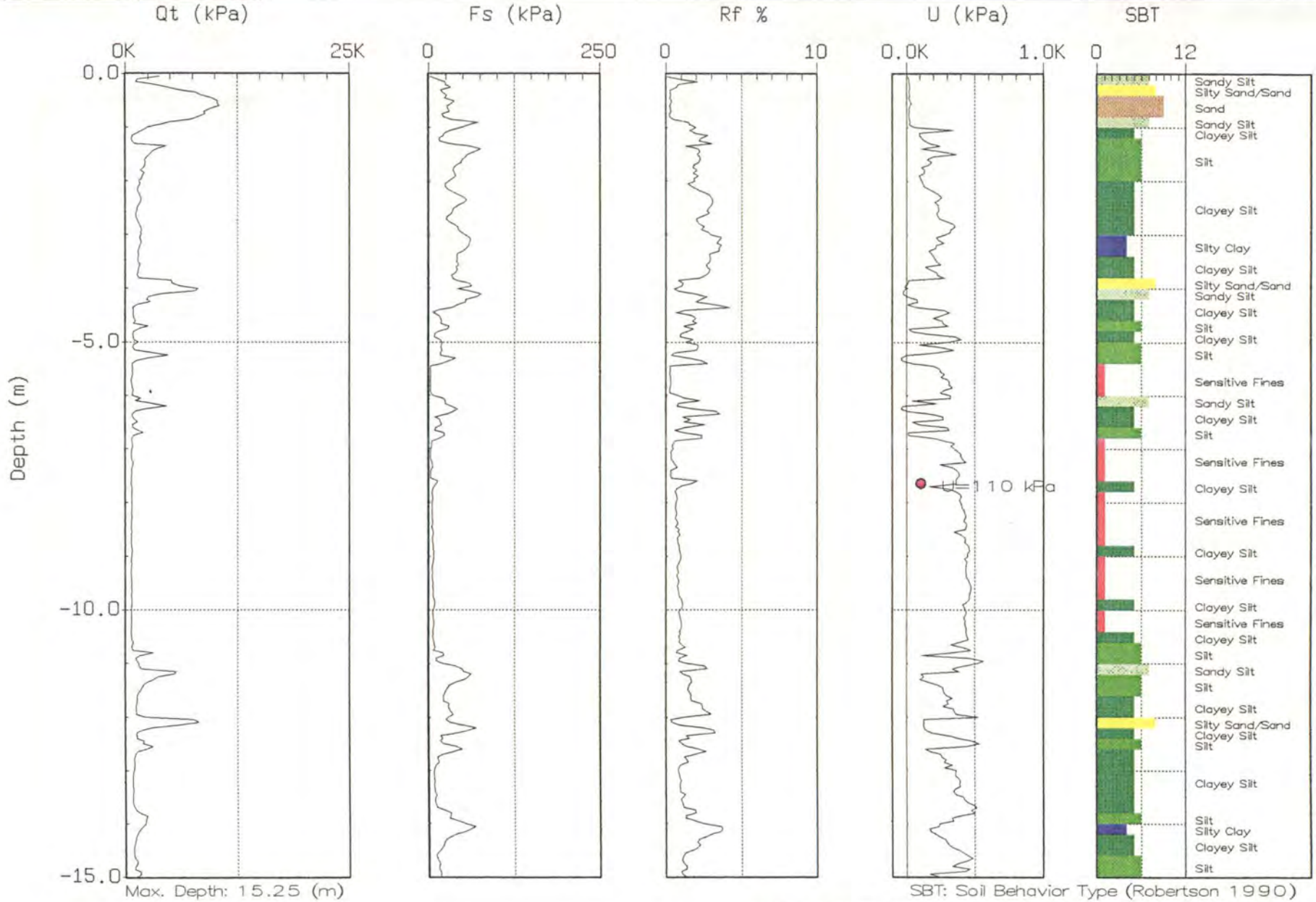
SBT: Soil Behavior Type (Robertson 1990)
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-24

Legacy Parkway

Site: WC-15-221
Station: 6013+962.670 51.01 RT
Elevation: 1285.745

Cone: 20 TON A 058
Date: 12:21:99 09:52



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

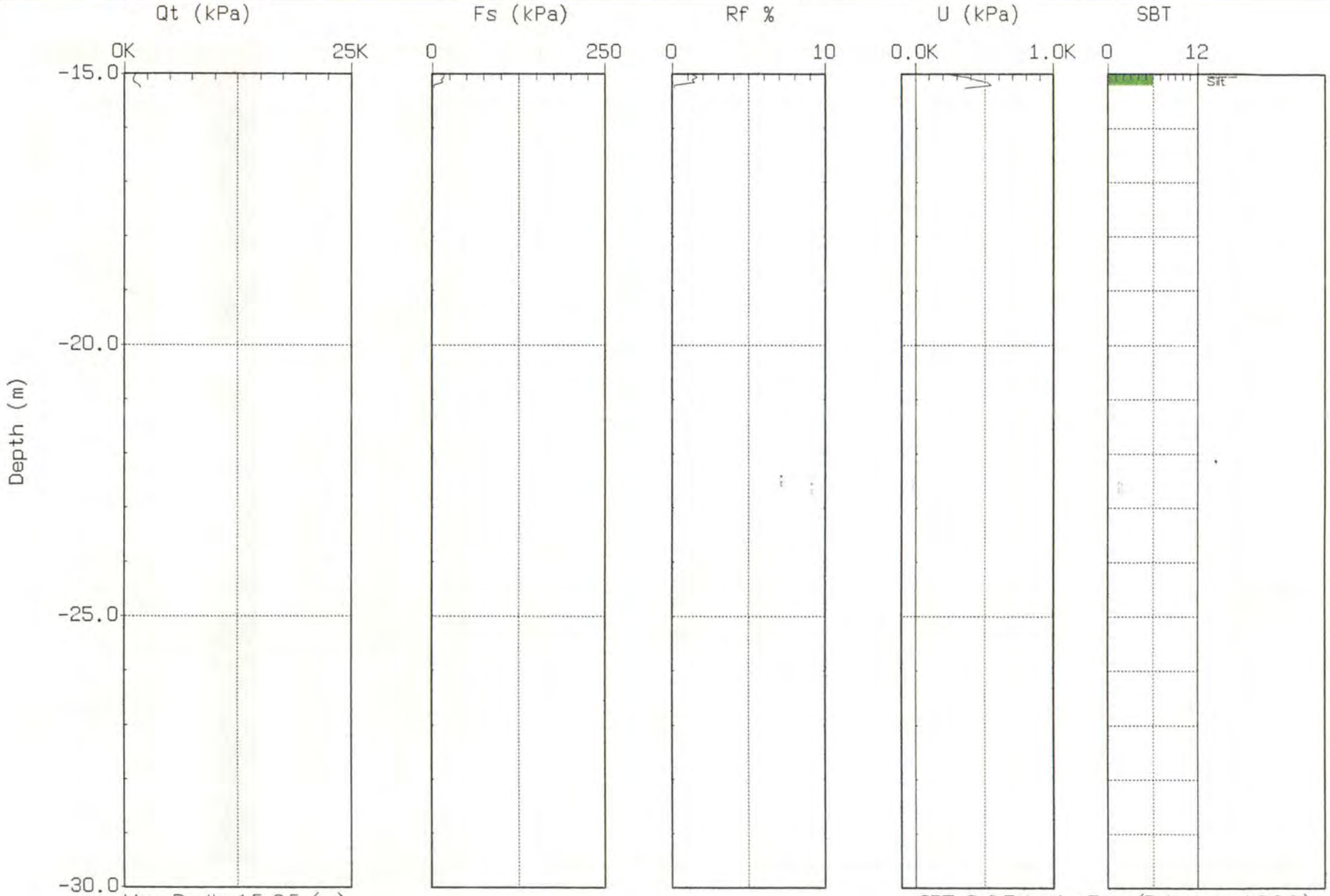
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-25

Legacy Parkway

Site: WC-15-221
Station: 6013+962.670 51.01 RT
Elevation: 1285.745

Cone: 20 TON A 058
Date: 12:21:99 09:52



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

Boring: WB-16-222b
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: SILT with sand and gravel - medium stiff, moist to wet, brown				MC	457			2 3 3 4	10							
			1		SPT	610			3 4 3 2	16							
1285	SILT - brown, very moist to wet, medium stiff, roots	5					ML	A-4									
	Lean CLAY - soft, wet, tan		2		MC	533	CL	A-6	2 2 2 3	8							
					SPT	610			4 4 4 5	18							
		10	3		SH	610					105	16.6	24	34	16		C SG SV
	- with frequent sand lenses		4		SPT	610			3 3 7 7	19							
		15			MC	610			3 3 3 4	10							
			5		SPT	610			1 1 2 4	6							
	- soft																
1280	- gray mottled light brown	20	6		SH	610						11.8	46	34	11		C SG SV
			7		SPT	610			1 1 1 1	4							
		25			P	508					19 5	13.0	42			98	
			8		SPT	610			1 2 1 1	5							
		30	9		MC	610	MH	A-5	0 1 0 0	1							
	Elastic SILT - black, wet, very soft		10		SPT	610			0 1 0 0	1							
		35	11		P	508						12.9	40	62	28		C SG
1275	Lean CLAY - very soft, wet, greenish-gray, frequent sandy clay layers 450 mm thick				SPT	610	CL	A-6	2 5 6 9	16							
		40	12		MC	610			6 7 5 5	14							
	- frequent silt lenses 3 to 6 mm thick		13		SPT	305			1 1 1 1	2							
	- stiff	45	14		MC	254			4 6 8 7	15							
	- medium stiff				SPT	610			2 3 2 4	7							
		50	15														
1270			16														
		55	17														
			18														
		60															
			19														
		65															

UTDOT Z003WB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-16-222b**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	12/21/99
Date Finish:	12/21/99
Station:	6014+082.036 62.01 RT
Line:	D MAINLINE
Coordinates (m):	N 117,299.012 E 19,402.848
Elevation (m):	1286.110
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

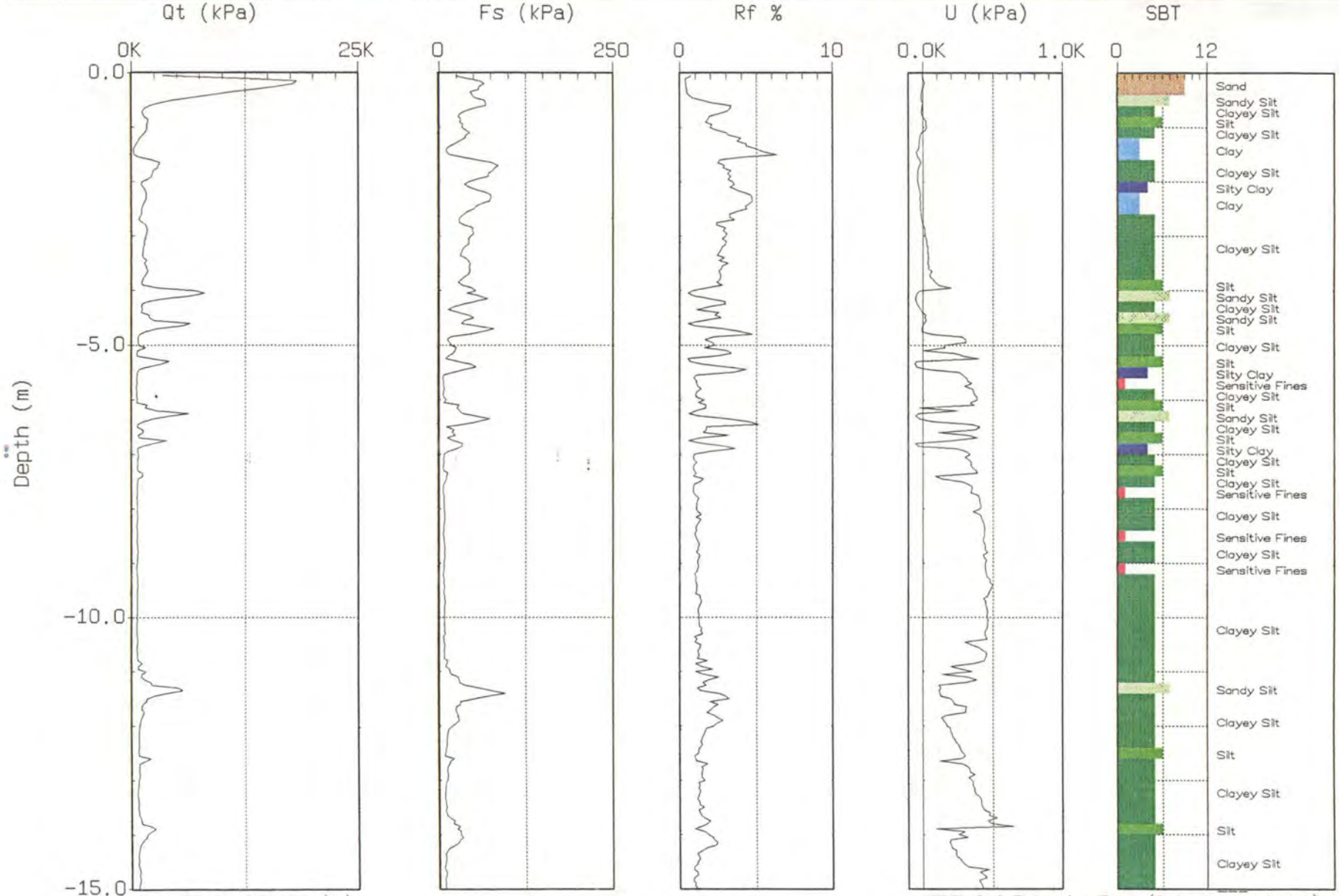
SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Legacy Parkway

Site: WC-16-223B
Station: 6014+200.115 48.11 RT
Elevation: 1285.147

Cone: 20 TON A 058
Date: 01:06:00 12:46



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

PLATE C-28

Legacy Parkway

Site: WC-16-223B
Station: 6014+200.115 48.11 RT
Elevation: 1285.147

Cone: 20 TON A 058
Date: 01:06:00 12:46

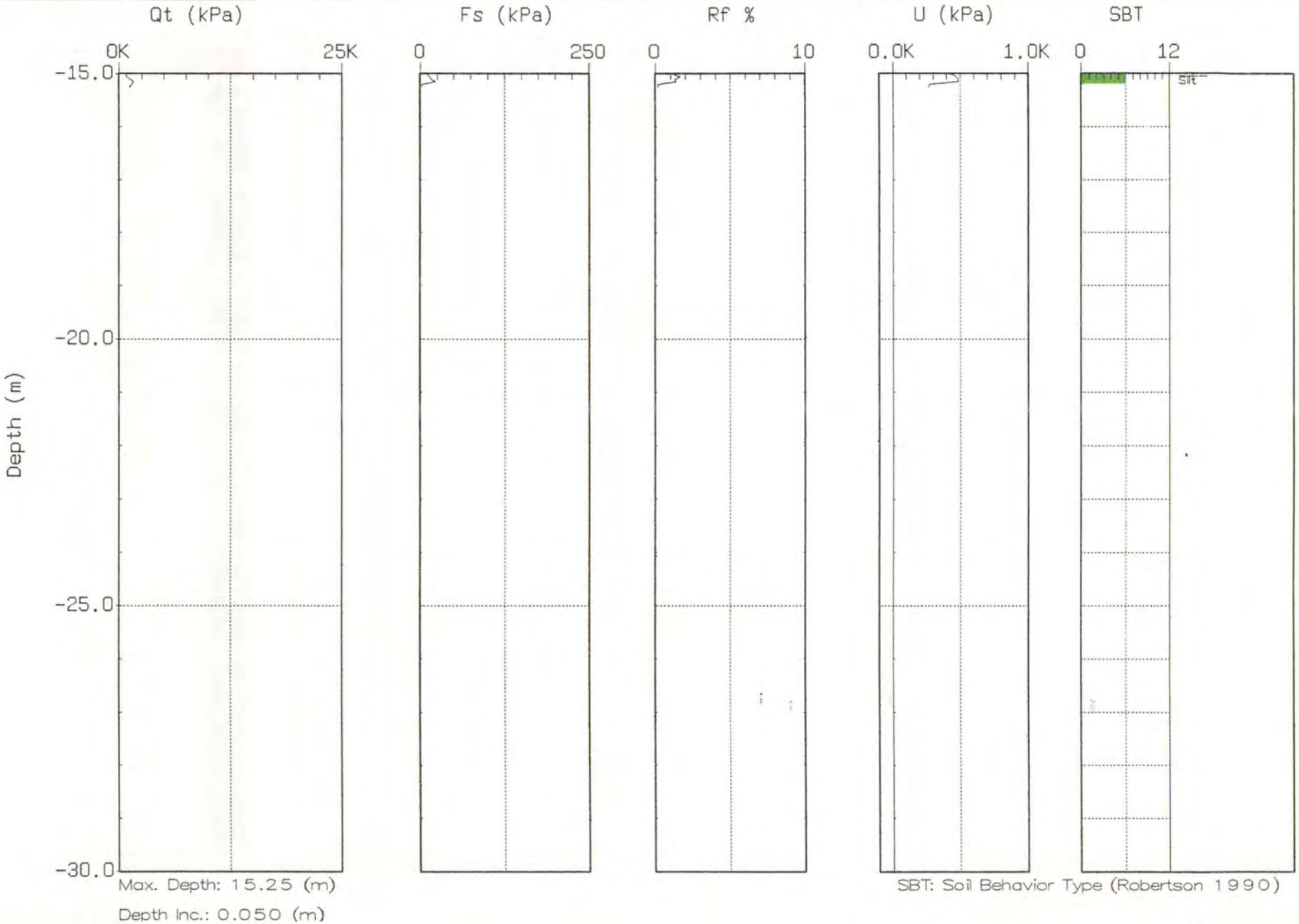


PLATE C-29

Boring: WB-16-224
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Poorly Graded GRAVEL with sand - light to reddish brown, coarse-grained, some cobble-sized gravel				MC	457			100 100 50/125mm							
			1		SPT	152										
1285		5			SPT	508			12 12 10 24							
▽			2		SPT	381			13 40 50/ 25mm							
	Lean CLAY - medium stiff to stiff, wet, olive to gray-brown, frequent gravel	10	3		SPT	330	CL	A-6	8 5 4 4							
	- stiff, light to reddish brown, occasional seams of very fine sands		4		MC	330			4 4 6 8							
		15			SPT	2997			2 2 2 7							
	Clayey SAND layer, dense		5		SPT	610			2 3 3 3							
1280		20	6													
			7													
	- with sand	25	8		SH	610				14	12.4	44			98	C SG
					SPT	610			1 1 1 1							
	SILT - very soft to soft, wet, gray mottled black	30	9		MC	559	ML	A-4	0 0 2 2							
			10		SPT	610			0 0 1 0							
1275		35	11		SH	610				30						
					SPT	610			0 1 1 2							
		40	12		SH	660				29	12.3	44	40	11		C SG
	- with fine sands - gas pocket		13													
	Clayey SAND layer - very loose	45	14		MC	279			0 0 4 5							
					SPT	610			2 2 1 1							
		50	15													
1270			16													
		55	17													
			18													
		60	19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-16-224**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	12/28/00
Date Finish:	12/29/99
Station:	6014+367.880 32.77 RT
Line:	D MAINLINE
Coordinates (m):	N 117,562.965 E 19,455.986
Elevation (m):	1286.108
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Boring: WB-16-225
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: Lean CLAY and SILT, moist, dark brown, roots and organics				MC	610	ML	A-4	1 1 3 6								
	SILT - stiff, moist, brown				SPT	457			4 3 4 4	14							
	- becomes gray mottled brown		1														
1285	Lean CLAY - medium stiff to soft, moist, gray	5			SPT	610	CL	A-6	1 1 2 3	5							
	- becomes reddish gray		2														
	- frequent sand lenses 13 mm thick, dark gray, fine-grained																
		10	3		MC	508			2 2 2 2		48						
			4		SPT	610			2 1 1 2	4							
		15			MC	457			2 1 1 1	2							
	- sand layers up to 25 mm thick		5								38						
	Fat CLAY - soft, wet, gray, frequent dark gray to black sand layers				SPT	610	CH	A-7-6	2 1 1 1	4							
		20	6		SH	0											
1280			7		SPT	610			0 1 1 1	2							
		25			SH	0											
			8		P	559					29	13.0	42			92	C SG
		30	9		MC	508			0 2 2 2	4							
			10		SPT	610			0 1 1 1	2	10						
		35			SH	457							54				
			11		SPT	610			2 9 12 11	25				66	37		
1275	- sand layer 150 mm thick	40	12														
			13		P	559											
	Silty CLAY - soft, wet, dark gray, with occasional sand lenses	45															
			14		SH	508											
	SILT - stiff, wet, gray to brown, occasional organics				SPT	610	ML	A-4	5 5 5 5	10	24						
		50	15														
			16														
1270		55	17														
			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-16-225**

Sheet 1 of 1

Logged by:	G. Hales
Date Start:	12/22/99
Date Finish:	12/23/99
Station:	6014+509.641 35.7 RT
Line:	D MAINLINE
Coordinates (m):	N 117,671.162 E 19,538.430
Elevation (m):	1286.660
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB-17-213b
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○	S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - stiff, moist, dark brown, coarse-grained gravels	MC	305			6 7 7 12	26							
1285		SPT	381			10 8 7 5	34							
	TOPSOIL: Silty clay, stiff, moist, dark gray to greenish gray, some roots	MC	457			1 1 2 2	4							
	Lean CLAY - medium stiff to stiff, very moist to wet, dark brown, inorganics, some roots	SPT	356	CL	A-6	1 1 2 2	6							
	- occasional sand seams	SH	127											
	- dark brown with thick roots	SPT	305			7 3 4 4	12							
	- mottled white	MC	0			4 2 4 6	9							
		P	0											
1280		SH	508											
		SPT	610			2 1 2 1	5	24						
		MC	610			0 2 1 1	3							
	Elastic SILT - very soft, wet, gray mottled black	SPT	610	MH	A-7-5	0 2 1 1	5							
		MC	610			1 1 1 2	2							
		SPT	610			0 1 1 1	2							
1275	- soil gas pocket encountered; LEL 15 - 43%	P	559					14		39	58	20	99	
	Silty SAND - very dense, wet, gray, medium-grained	P	102	SM	A-2-5									
		SPT	508			12 22 24 21	○							
	Fat CLAY - very soft, wet, gray	MC	76	CH	A-7-6	0 1 0 0	1							
	Silty SAND - very dense, wet, gray	SPT	559	SM	A-2-5	5 11 19 27	36							
		MC	610			15 17 27 59	42							
1270														
	Lean CLAY - very soft, wet, gray, occasional seams of very fine-grained sands	SPT	610	CL	A-6	0 0 1 3	1							
		P	229					65	13.3	37			98	C SG

Depth: ft / m

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-17-213b**

Sheet 1 of 2

Logged by:	M. Bostrom
Date Start:	12/21/00
Date Finish:	12/23/99
Station:	6013+894.559 22.53 LT
Line:	D MAINLINE
Coordinates (m):	N 117,127.401 E 19,289.552
Elevation (m):	1286.034
Total Depth Drilled (m):	34.7
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB-17-213b
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY, continued - hard, occasional sand seams and layers				MC	457	CL	A-6	9 19 29 46							
1265		70	21		SPT	457			11 12 12 16							
	SILT - very stiff to hard, wet, gray, frequent sand layers		22				ML	A-4								
		75	23		MC	457			12 20 40 52							
			24													
		80	25		SPT	305			6 7 14 21							
1260	Lean CLAY - stiff to hard, wet, gray	85	26		MC	559	CL	A-6	4 5 7 7							
		90	27		P	610				19		31	37	10		
			28													
	SAND - very dense, wet, gray, medium to coarse-grained	95	29		MC	610	SP-SM	A-1-b	6 23 47 50/140 mm							
		100	30													
1255			31													
	Lean CLAY - stiff, wet, gray-brown to gray, frequent silt and sand layers	105	32		SPT	610			5 10 17 15							
		110	33													
			34		MC	305			4 7 10 10							
1250		115	35													
		120	36													
			37													
		125	38													
			39													
		130														

Legend: ● SPT $(N_1)_{60}$; ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-17-213b**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	12/21/00
Date Finish:	12/23/99
Station:	6013+894.559 22.53 LT
Line:	D MAINLINE
Coordinates (m):	N 117,127.401 E 19,289.552
Elevation (m):	1286.034
Total Depth Drilled (m):	34.7
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

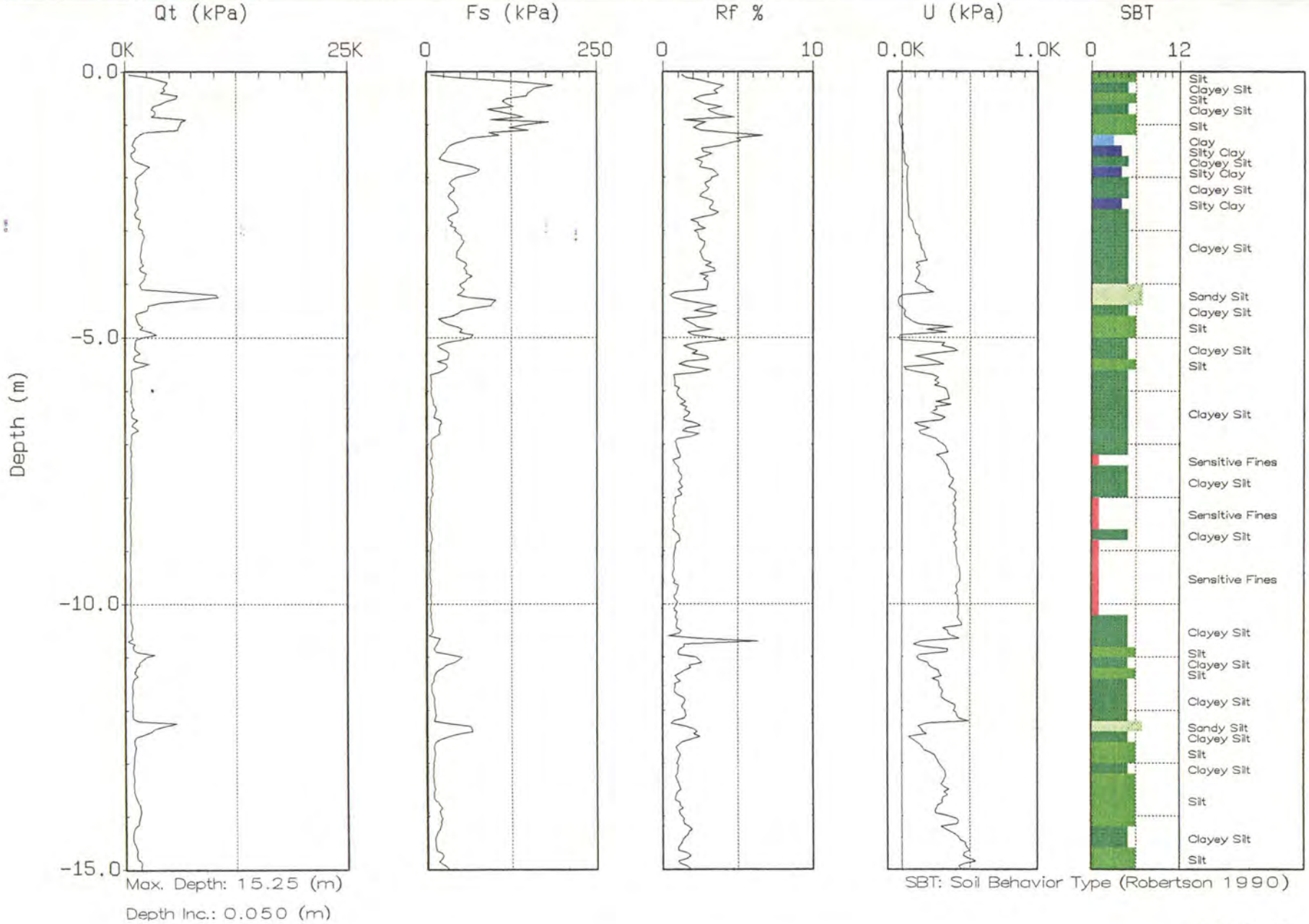
BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway

Site: WC-17-214B
Station: 6014+006.532 20.20 LT
Elevation: 1285.490

Cone: 20 TON A 058
Date: 01:06:00 09:56



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

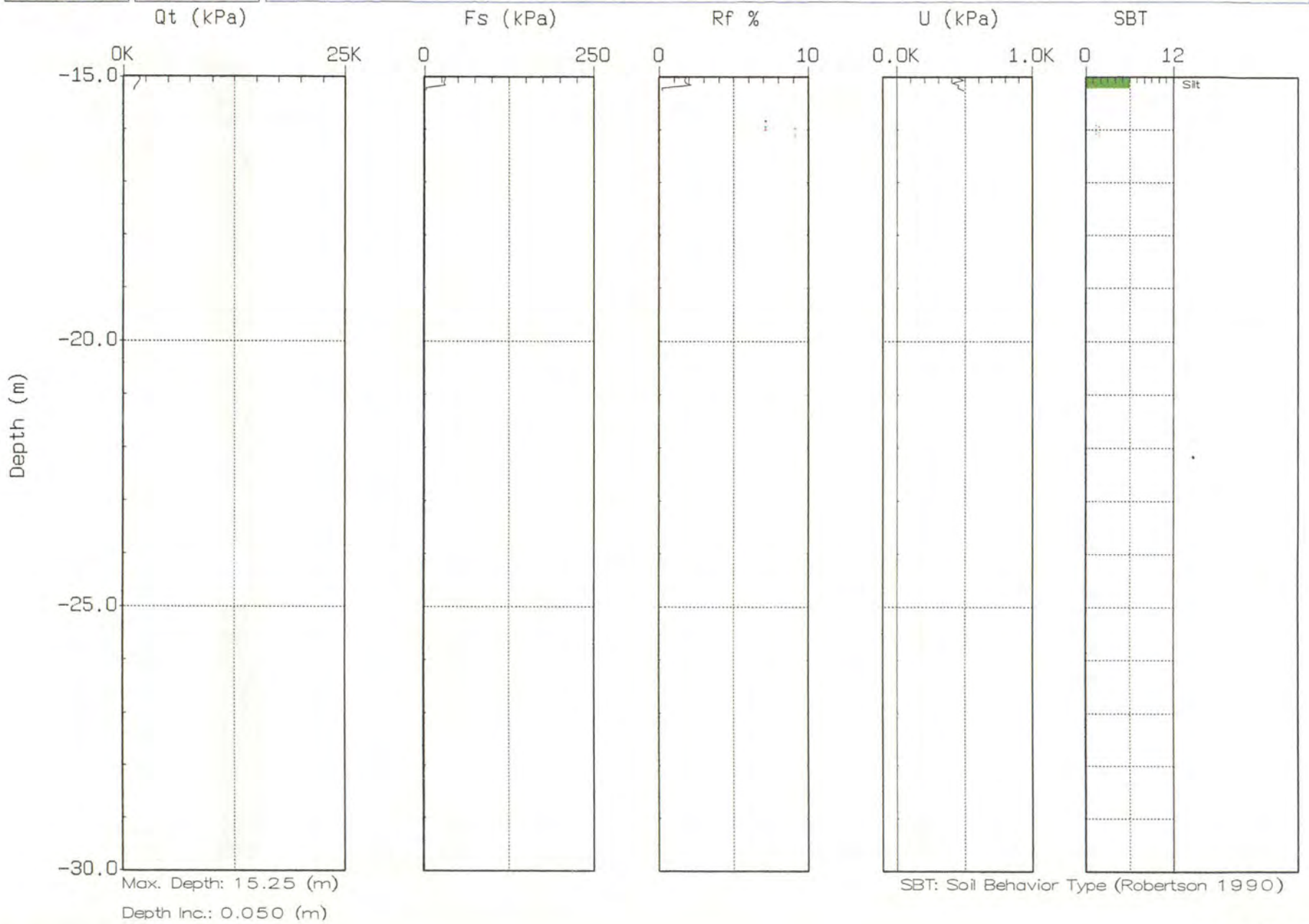
SBT: Soil Behavior Type (Robertson 1990)

PLATE C-34

Legacy Parkway

Site: WC-17-214B
Station: 6014+006.532 20.20 LT
Elevation: 1285.490

Cone: 20 TON A 058
Date: 01:06:00 09:56



Boring: WB-17-215
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / (Greater than 50 Blows) ○ (0 25 50)	Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Lean CLAY with gravel - very soft, very moist, brown				MC	254			0 1 0 2	2							
	Lean CLAY - medium stiff, very moist, olive-gray, with frequent layers of silt 3 to 6 mm thick		1		SPT	610	CL	A-6	4 5 3 5	16							
	- gray mottled orange	5	2		SH	610					116 38	16.0	25	46	23	99	
	- wet, brown mottled gray				SPT	610			3 3 5 7	15							
	- stiff, gray mottled brown, with frequent layers of sand	10	3		MC	610			3 5 6 9	15	86						
	- dark gray		4		SPT	610			3 2 4 6	9							
1280		15	5		SH	610					50	14.2	32				C SG
	- soft				SPT	610			1 1 1 2	4							
		20	6		MC	610			1 1 1 2	2	29						
	Fat CLAY - very soft, wet, gray		7		SPT	610	CH	A-7-6	0 1 0 0	0							
		25	8		SH	51					37	10.6	52	56	31		C SG
					SPT	610			0 1 0 0	0							
1275		30	9		MC	610			0 1 0 0	0	19						
	Clayey SAND - medium dense, wet, green-gray, fine-grained		10		SPT	610	SC	A-2-6	1 5 9 10	19							
	- Lean CLAY layer, soft - loose	35	11		MC	457			1 5 9 10	19							
	Lean CLAY - medium stiff, wet, green-gray	40	12				CL	A-6									
			13	P	P	0											
	- stiff	45	14		SH	610					56	11.2	48				C SG
					SPT	610			3 5 7 6	14							
1270	- medium stiff		15		MC	610			0 3 3 4	6	33						
		50			SPT	610			3 4 3 3	7							
			16														
		55	17														
		60	18														
1265		65	19														

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-17-215**

Sheet **1** of **1**

Logged by:	T. Thompson
Date Start:	12/28/99
Date Finish:	12/28/99
Station:	6014+082.307 18.03 LT
Line:	D MAINLINE
Coordinates (m):	N 117,312.033 E 19,323.878
Elevation (m):	1284.421
Total Depth Drilled (m):	15.5
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB-18-216
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: wet, dark brown SILT with numerous roots, organics	SH	381										
	SILT - stiff, wet, brown	SPT	508	ML	A-4	5 7 6 5							
	- light gray-brown	MC	559			7 5 6 8							
	Lean CLAY - very stiff, wet, light gray mottled reddish to yellowish brown	SPT	6198	CL	A-6	3 4 5 7							
	- light brown mottled gray	SH	610				56	16.5	23			97	C SG
	- Clayey SAND layer, loose, greenish brown	SPT	610			2 2 4 7							
	- medium stiff, brown, with frequent sand lenses												
1280	- frequent clayey sand layers 6 to 250 mm thick	MC	508			3 1 5 3	96						
		SPT	610			3 2 2 1							
	- grayish brown	SH	610				36	11.5	43				C SG
		SPT	610			0 0 2 2							
	- soft, dark brown												
	- very soft, gray	MC	610			0 0 2 1							
		SPT	610			0 1 1 1							
1275		SH	610				31	9.8	58	41	20	95	C SG
	- medium stiff	SPT	610			0 2 4 4							
	Silty SAND - medium dense, wet, gray	MC	356	SM	A-2-5	4 6 6 4							
	Lean CLAY - stiff, wet, greenish gray	SPT	610	CL	A-6	1 2 1 2							
	- soft with frequent clayey sand layers 3 mm to 25 mm thick												
	- medium stiff	SH	559										
		SPT	610			2 3 3 4							
	- soft	MC	610			2 1 2 2							
1270		SPT	610			2 2 5 5							
1265													

Depth: ft / m

Graphic Log

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

UTDOT Z003WB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-18-216**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	12/29/99
Date Finish:	12/29/99
Station:	6014+224.874 27.78 LT
Line:	D MAINLINE
Coordinates (m):	N 117,457.132 E 19,342.953
Elevation (m):	1284.497
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

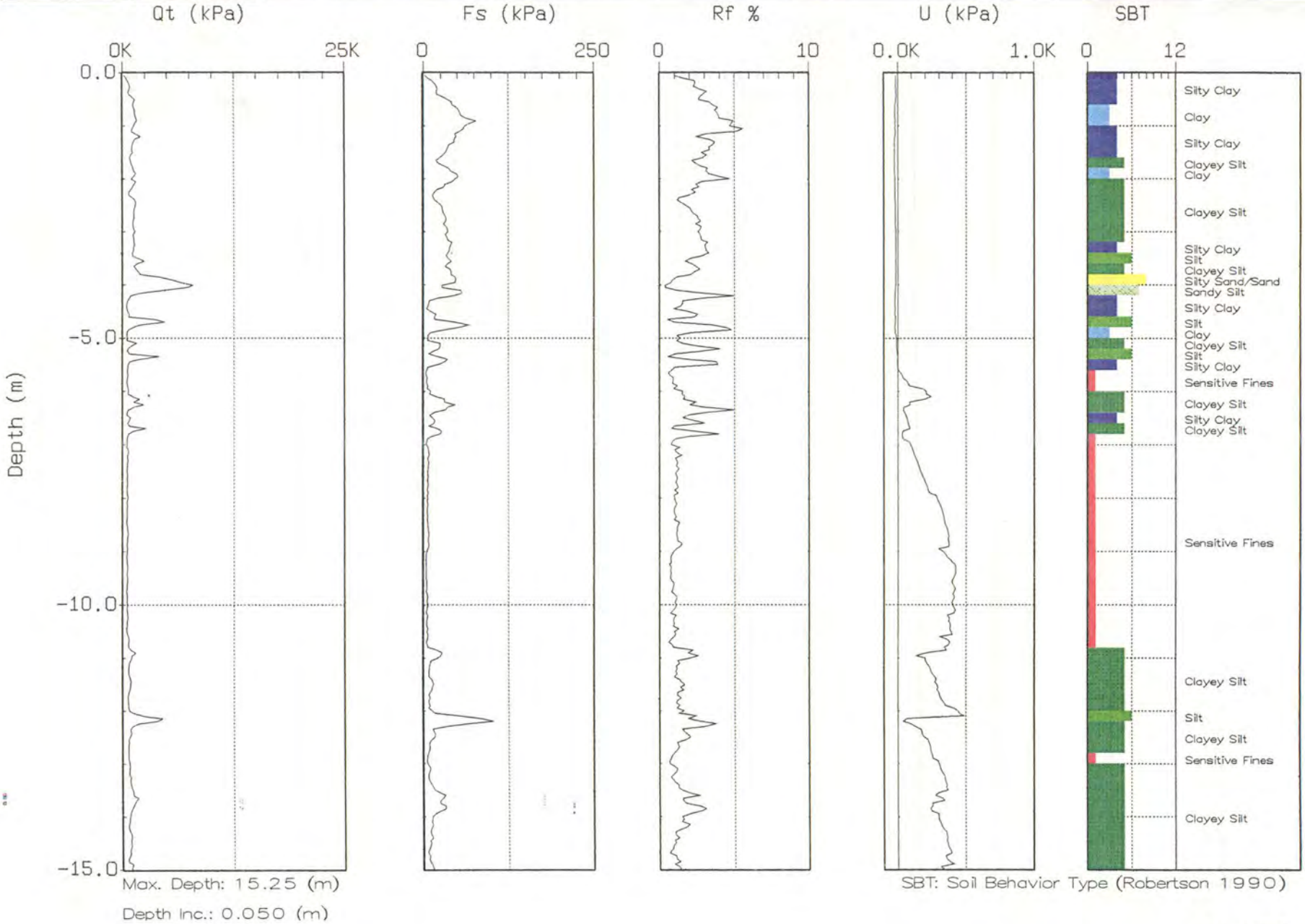
SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Legacy Parkway

Site: WC-18-217
Station: 6014+334.481 53.46 LT
Elevation: 1284.011

Cone: 20 TON A 058
Date: 01:19:00 13:44



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

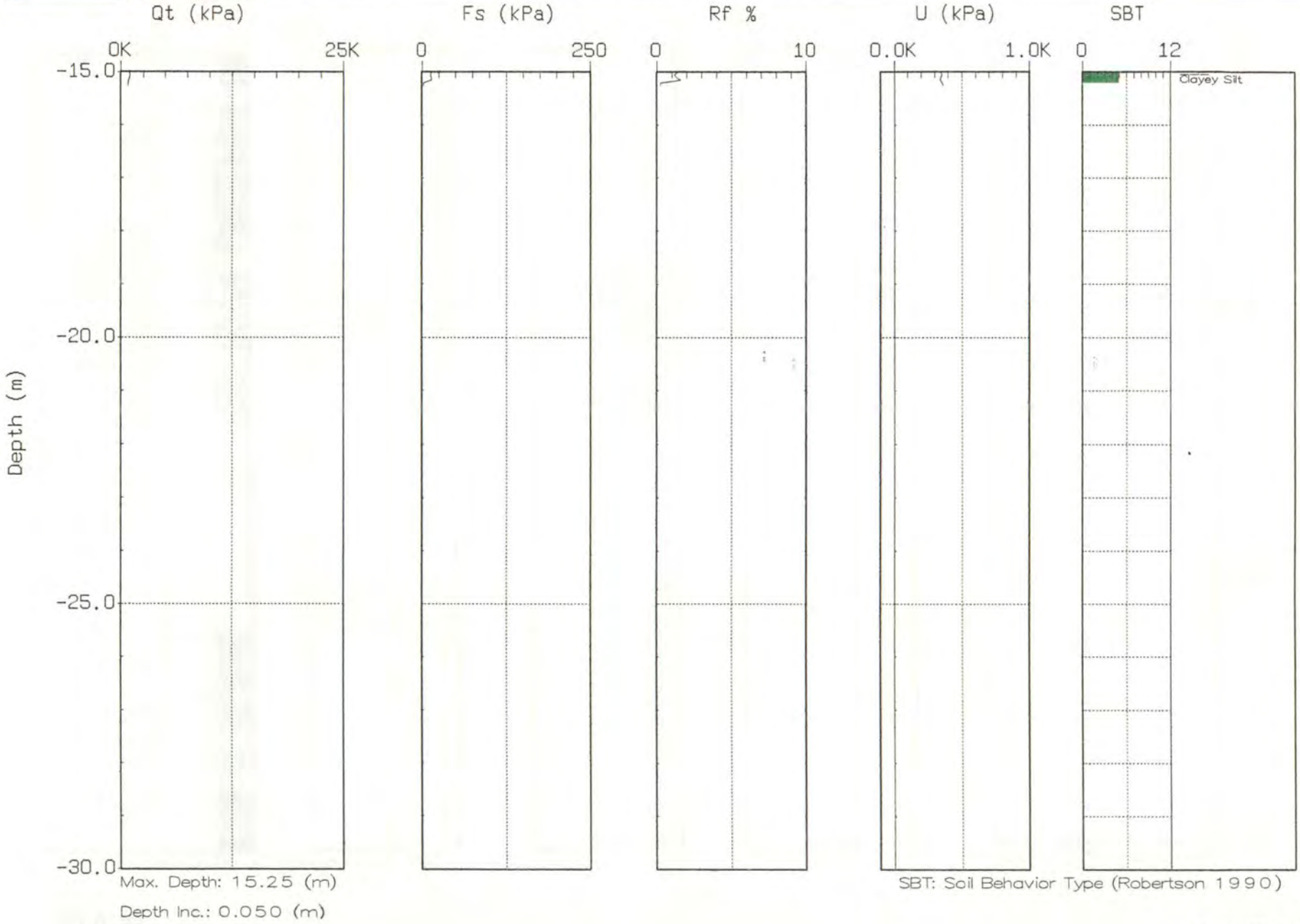
SBT: Soil Behavior Type (Robertson 1990)

PLATE C-38

Legacy Parkway

Site: WC-18-217
Station: 6014+334.481 53.46 LT
Elevation: 1284.011

Cone: 20 TON A 058
Date: 01:19:00 13:44



Boring: WB-18-218
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: Clayey SILT, brown, moist, roots and organics				MC	457			1 2 2 2							
	SILT - soft, moist, brown		1		SPT	610	ML	A-4	3 2 3 3							
▽	Lean CLAY - medium stiff to stiff, wet, gray	5			MC	533	CL	A-6	2 2 3 5							
			2		SPT	610			2 3 4 5	*48*						
										48						
	- with sand lenses	10	3		MC	610			3 4 5 7							
			4		SPT	610			2 3 6 6	*72*						
1280		15	5		SH	559				*57*	12.2	39	42	21	97	C SG DS
	Fat CLAY - very soft, wet, dark gray, occasional sand lenses				SPT	610	CH	A-7-6	1 2 1 1							
		20	6		MC	457			1 1 1 1							
			7		SPT	610			2 1 1 2	*29*						
		25	8		SH	610				*19* 8	12.2	43	47	21	96	
					SPT	610			2 1 1 1							
		30	9													
1275			10		MC	457			0 1 0 0							
					SPT	610			0 1 0 0	*10*						
		35	11	P	P	305					12.0	44			98	C SG
	- stiff, with sand, blue-gray to greenish gray				SPT	610			3 4 3 2							
		40	12		MC	559			3 1 2 4							
	- soft		13		SPT	610			2 2 2 2	*29*						
		45	14	P	P	254				*38*	12.9	39	59	33		C SG
1270	- medium stiff				SPT	610			4 3 2 2							
		50	15													
			16													
		55	17													
			18													
		60	19													
1265		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-18-218**

Sheet **1** of **1**

Logged by:	G. Hales
Date Start:	12/22/00
Date Finish:	12/22/99
Station:	6014+451.631 52.3 LT
Line:	D MAINLINE
Coordinates (m):	N 117,680.820 E 19,432.828
Elevation (m):	1284.888
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: WB-19-212
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0–25–50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Lean CLAY with gravel - very moist, greenish brown				MC	254			2 50/100 mm								
1285	Lean CLAY - stiff, very moist, grayish brown				MC	457	CL	A-6	4 3 5 6	●13							
			1		SPT	610			3 3 4 4	●14							
		5			MC	305			4 4 5 7	●12							
▽			2		SPT	457			2 2 3 7	●8	77						
	- medium stiff																
	SILT - stiff, wet, gray	10	3		MC	610	ML	A-4	4 3 4 7	●9							
	Lean CLAY - medium stiff, wet, reddish brown, with lenses of silty sand		4		SPT	457	CL	A-6	2 2 4 5	●9							
		15			MC	4775			3 3 7 4	●13							
			5		SPT	610			3 3 4 5	●10	81						
1280																	
		20	6		SH	559						13.8	34	43	20	97	C SG
	- becomes very soft		7		SPT	559			1 1 1 1	●2	41						
		25			MC	610			1 1 0 0	●1							
			8		SPT	610			0 1 1 1	●2	34						
		30	9		SH	457						12.3	47	39	17		C SG
	- stiff		10		SPT	610			5 6 4 3	●13	19						
1275	Silty SAND - medium dense, wet, gray, fine to medium-grained	35	11		MC	305	SM	A-2-5	4 5 8 8	●13	86						
	Lean CLAY - medium stiff, wet, gray				SPT	508	CL	A-6	6 4 2 3	●7							
		40	12		SH	559					36						
			13		SPT	559			4 3 2 3	●5							
	- soft	45	14		MC	508			3 1 2 3	●3							
					SPT	610			4 5 7 14	●13							
	Silty SAND - medium dense, wet, gray, fine to medium-grained		15				SM	A-2-5									
1270		50															
			16														
		55	17														
			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-19-212**

Sheet 1 of 1

Logged by:	R. Cole
Date Start:	12/23/00
Date Finish:	12/27/99
Station:	6013+678.755 21.98 RT
Line:	D MAINLINE
Coordinates (m):	N 116,907.262 E 19,299.075
Elevation (m):	1285.518
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-20-209
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: SILT with gravel - medium dense, very moist, brown				MC	508			4 8 14 11							
	SILT - stiff, moist, brown		1		SPT	610	ML	A-4	6 8 10 10							
		5	2		MC	457			6 4 6 10	57						
1285	- dark brown with numerous small roots - light gray				SPT	610			2 3 3 4							
▽	- brown mottled gray, wet	10	3		SH	610				98			36	15		
			4		SPT	610			4 4 7 9							
		15	5		MC	610			4 4 4 5							
	- gray mottled orange				SPT	610			5 4 4 4	101						
		20	6		SH	508				82	15.3	28			98	C
	- medium stiff		7		SPT	610			2 3 2 4	67						SG
1280		25	8		MC	610			2 3 3 3	57						
					SPT	610			1 2 1 2							
		30	9		SH	457				37	11.6	48			99	C SG
	Clayey SAND - loose, wet, gray - greenish gray		10		SPT	254	SC	A-2-7	2 4 4 2							
	Lean CLAY - medium stiff to stiff, wet, greenish gray	35	11		MC	381	CL	A-6	3 3 2 2							
					SPT	610			3 3 2 3							
1275		40	12		SH	610				42	14.8	30			97	C SG
			13		SPT	610			4 4 5 6							
		45	14		MC	610			4 4 4 5							
					SPT	610			2 3 4 4							
			15													
		50	16													
		55	17													
1270			18													
		60	19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-20-209**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	12/28/00
Date Finish:	12/29/99
Station:	6013+371.756 52.2 RT
Line:	D MAINLINE
Coordinates (m):	N 116,593.090 E 19,234.256
Elevation (m):	1287.155
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 8/30/00

Boring: WB-20-210
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - medium dense, very moist, brown				MC	457			12 9 7 7							
1285			1		SPT	610			7 9 11 11							
	Lean CLAY - very stiff, wet, olive-brown mottled white	5			MC	457	CL	A-6	5 8 9 13							
			2		SPT	305			5 4 5 6							
	- reddish brown, with occasional sand seams	10	3		P	305				57	15.2	29	39	16	87	C SG
	- medium stiff		4		SPT	559			2 2 4 5							
	- stiff, some coarse-grained gravels	15			MC	356			3 3 5 7							
			5		SPT	610			3 2 5 5							
1280	- grayish to olive brown - grades into gray mottled black	20	6		MC	0			2 2 2 2							
	- medium stiff, grayish brown		7		SPT	610			2 2 2 2							
		25	8		P	559				47 53	11.2	51				UC
					SPT	610			2 3 5 6							
	- stiff, with frequent silty sand layers	30	9		P	559				57						
	- medium stiff		10		SPT	610			2 2 3 5							
1275		35	11		MC	457			3 5 3 3							
	- Poorly Graded SAND layer, 300 mm thick - stiff				SPT	610			3 4 4 8							
	- medium stiff, occasional layers of very fine-grained sands up to 150 mm thick	40	12		MC	610			3 5 5 7							
			13		SPT	610			3 3 3 3							
		45	14		SH	610				48						
					SPT	610										
1270		50	15													
			16													
		55	17													
			18													
		60	19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

UTDOT Z003WB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-20-210**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	12/27/99
Date Finish:	12/27/99
Station:	6013+468.564 40.59 RT
Line:	D MAINLINE
Coordinates (m):	N 116,691.774 E 19,268.400
Elevation (m):	1285.552
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: WB-20-211
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / SPT (N1)60 (Greater than 50 Blows) ○ (0 – 25 – 50)	Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - very stiff, very moist, dark brown				MC	559	ML	A-4	2 7 7 7	26							
1285	- brown		1		SPT	508			3 3 5 4	18	24						
	- wet																
	Lean CLAY - very stiff, wet, brown mottled gray, with frequent lenses of silty sand 3 to 51 mm thick	5			P	508	CL	A-6				15.3	26			98	C SG
			2		SPT	610			4 5 7 9	26	63						
	- medium stiff, with silty sand lense	10	3		MC	559			3 3 3 4	8							
			4		SPT	432			3 2 2 3	4	48						
	- gray	15			P	610						12.5	42				C SG
			5		SPT	610			2 2 1 2	6	79						
1280	- occasional silty sand lenses 2 to 3 mm thick - dark gray, soft																
	Fat CLAY - very soft, wet, black	20	6		MC	610	CH	A-7-6	1 1 1 1	2							
			7		SPT	610			0 0 1 1	2	31						
		25			P	610						10.1	61				C SG
			8		SPT	610			4 5 8 5	20	38						
	- very stiff, gray, with frequent layers of silt 3 to 6 mm thick																
	Clayey SAND - loose, wet, black	30	9		MC	0	SC	A-2-6	4 3 3 2	6							
	Lean CLAY - medium stiff, wet, olive-gray		10		SPT	356	CL	A-6	2 2 4 5	5							
1275		35	11		P	0											
					MC	457			2 2 4 5	7	67						
		40	12		P	508					53						
	- soft		13		SPT	610			3 1 2 3	4							
	- medium stiff with frequent lenses of clayey sand 3 to 6 mm thick	45	14		MC	508			3 2 3 3	5	48						
					SPT	610			4 3 2 2	5							
	- olive-brown		15														
1270		50			P	610					38	14.1	36	55	28		C SG SV
	Poorly Graded SAND with silt - medium dense, wet, gray		16				SP	A-3									
	Lean CLAY - soft, wet, dark gray, with frequent lenses of silty sand 3 to 102 mm thick	55	17		SPT	305	CL	A-7-6	2 1 3 3	4							
			18														
		60			P	610					127	14.6	31	46	24		C SG
	Silty SAND - dense, wet, greenish gray		19				SM	A-2-4									
		65															

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-20-211**

Sheet 1 of 2

Logged by:	T. Thompson
Date Start:	12/29/99
Date Finish:	1/3/00
Station:	6013+568.805 46.61 RT
Line:	D MAINLINE
Coordinates (m):	N 116,792.638 E 19,304.653
Elevation (m):	1285.738
Total Depth Drilled (m):	35.7
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

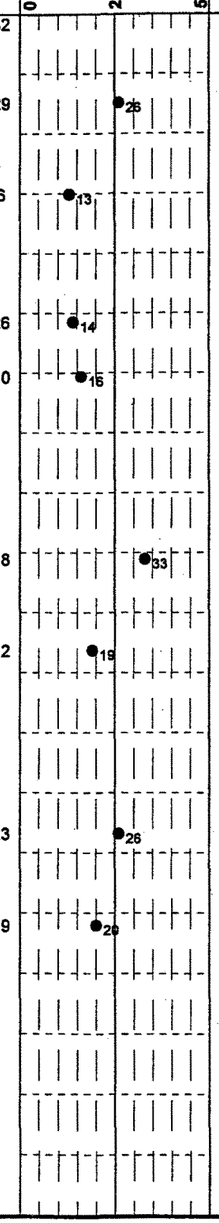
BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Boring: WB-20-211
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Su kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Silty SAND - very dense, wet, green (continued)				MC	559	SM	A-2-4	12 30 34 32	*34*						
		70	21		SPT	508			11 7 18 29							
			22													
	Lean CLAY - stiff, wet, green-gray	75	23		MC	254	CL	A-6	9 9 7 6							
			24													
		80			P	0										
	Clayey SAND - medium dense, wet, green-gray, with frequent lenses of lean clay 25 to 102 mm thick		25		MC	508	SC	A-2-6	4 7 10 26	*48*						
1260	Lean CLAY - very stiff, wet, green-gray	85	26		SPT	457	CL	A-6	6 7 10 10							
			27													
		90			P	0										
	Clayey SAND - dense, wet, green		28		P	0	SC	A-2-6								
		95	29		MC	406			8 20 24 18							
			30													
1255	Lean CLAY - very stiff, wet, greenish brown, with frequent lenses of silt and silty sand 3 to 13 mm thick	100	31		SPT	457	CL	A-6	9 10 11 12							
		105	32													
			33													
	SILT with sand - very stiff, wet, greenish gray	110	34		MC	203	ML	A-4	10 18 19 23							
		115	35		SPT	508			9 10 14 19							
1250			36													
		120	37													
		125	38													
			39													
		130														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)



Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-20-211**

Sheet **2** of **2**

Logged by:	T. Thompson
Date Start:	12/29/99
Date Finish:	1/3/00
Station:	6013+568.805 46.61 RT
Line:	D MAINLINE
Coordinates (m):	N 116,792.638 E 19,304.653
Elevation (m):	1285.738
Total Depth Drilled (m):	35.7
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-21-205
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	FILL: Silty SAND and GRAVEL - wet, light brown				MC	229			20 20 14 10							
					SPT	559			5 7 8 11							
	SILT - stiff, wet, gray-brown	5	1				ML	A-4								
					MC	0			5 9 12 14							
			2		SPT	610			4 5 8 10							
	- hard, brown to reddish brown with frequent sand layers															
	Lean CLAY - stiff, wet, brown mottled black, reddish and light brown, tan, frequent seams of very fine-grained sands	10	3				CL	A-6								
					SH	610										
			4		SPT	457			3 5 6 7	84						
▽	- gray to grayish brown, no noticable sand seams	15	5		MC	559			3 4 4 6							
1280					SPT	406			3 4 4 5							
		20	6		SH	610					13.5	37	40	18	100	C SG
	- gray with frequent sand seams and layers		7		SPT	610			1 2 2 3	38						
		25	8													
		30	9													
			10													
1275		35	11													
		40	12													
			13													
		45	14													
		50	15													
1270			16													
		55	17													
		60	18													
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-21-205**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	1/3/00
Date Finish:	1/4/00
Station:	6013+102.889 57.21
Line:	D MAINLINE
Coordinates (m):	N 116,374.242 E 19,044.139
Elevation (m):	1285.423
Total Depth Drilled (m):	7.3
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-22-206
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Sandy GRAVEL - slightly moist, brown				BAG												
			1														
		5			MC	254			6 6 6 8	18							
	Lean CLAY - stiff, wet, gray, with frequent silt and silty sand seams and layers between approximately 6 and 13 mm thick		2		SPT	457	CL	A-6	4 4 4 6	14							
	- brown, frequent Silty SAND layers 6 mm thick																
		10	3		P	610						16.9	19			98	C SG
	- wet, redish brown, frequent Silty SAND layers up to 12 mm thick		4		SPT	610			3 4 5 6	14	144						
		15			MC	559			3 4 4 6	10							
1280	- stiff to medium stiff		5		SPT	610			2 2 3 4	7	96						
		20	6		P	610											
	- dark brown to black, SILT and Silty SAND layers 6 mm thick		7		SPT	610			2 2 3 4	7	67						
	- gray mottled black, frequent SILT layers	25	8		MC	559			1 2 2 3	4							
					SPT	610			2 2 2 2	6	96						
		30	9		P	508						13.6	35				C SG
1275			10		SPT	610			2 2 3 3	7	35					97	
		35	11		MC	559			2 2 2 3	4							
					SPT	610			3 2 3 2	6	48						
		40	12		P	508						10.6	53	40	21		C SG
	- frequent Silty SAND layers 6 mm thick		13		SPT	610			3 2 2 2	4	29						
		45	14		MC	610			4 3 4 3	7							
	- frequent SILT and organic layers 6 mm thick				SPT	610			3 2 1 2	3	53						
1270	- SAND layer 12 mm thick		15														
		50	16														
		55	17														
			18														
		60	19														
		65															

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-22-206**

Sheet **1** of **1**

Logged by:	R. Cole
Date Start:	12/27/99
Date Finish:	12/27/99
Station:	6013+740.032 27.2 LT
Line:	D MAINLINE
Coordinates (m):	N 116,975.593 E 19,260.281
Elevation (m):	1284.967
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

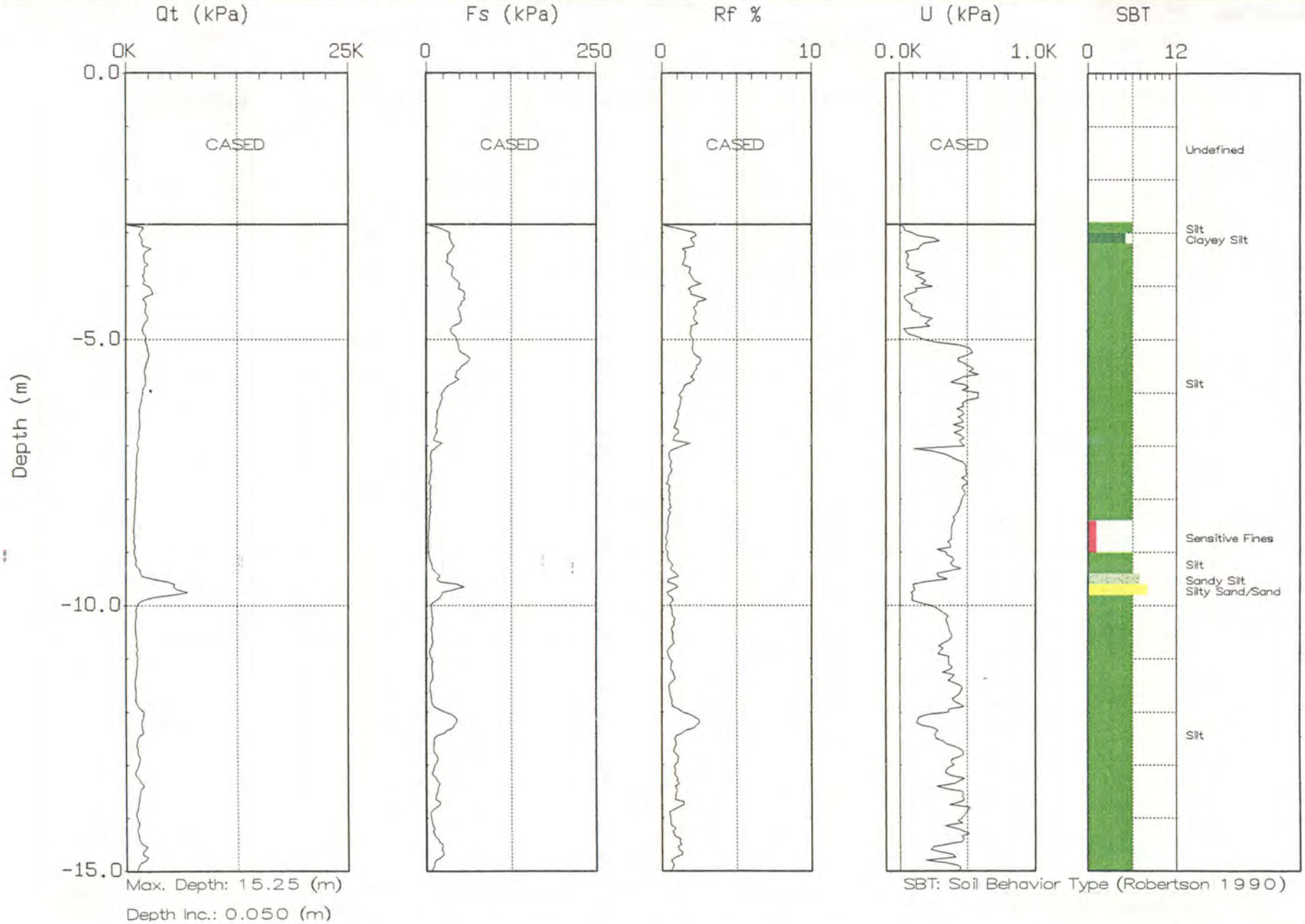
SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Legacy Parkway

Site: WC-22-207
Station: 6013+675.376 27.61 LT
Elevation: 1285.313

Cone: 20 TON A 058
Date: 01:10:00 08:19



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

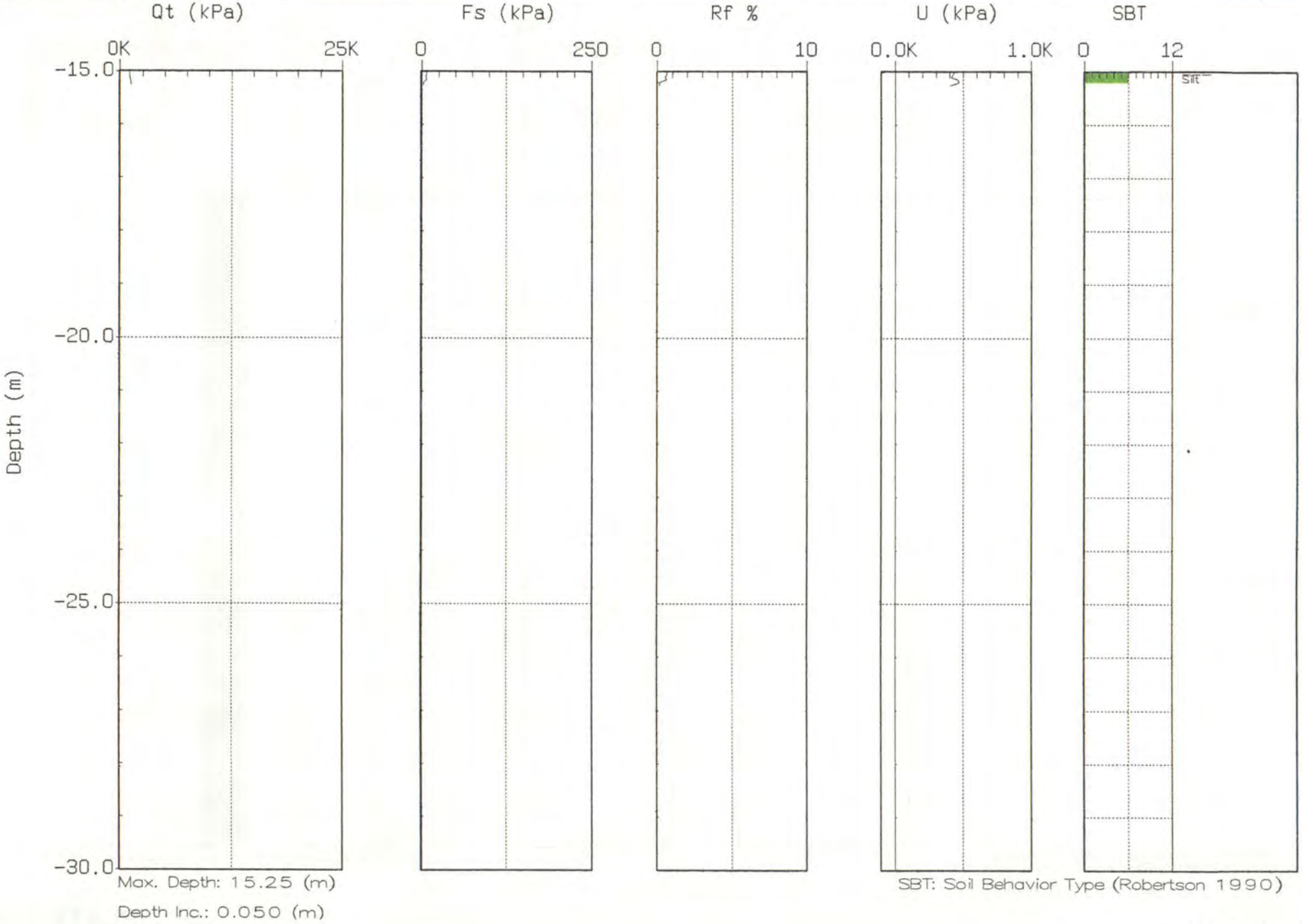
SBT: Soil Behavior Type (Robertson 1990)

PLATE C-48

Legacy Parkway

Site: WC-22-207
Station: 6013+675.376 27.61 LT
Elevation: 1285.313

Cone: 20 TON A 058
Date: 01:10:00 08:19



Boring: WB-22-208
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: GRAVEL with silty sand																
	Lean CLAY - very stiff, moist to wet, brown, interbedded with silt and silty sand seams and layers - olive green				MC	406			2 3 2 2	6							
			1		SPT	610			3 6 7 14	20							
		5			MC	610			3 6 10 14	17							
			2		SPT	610			6 7 7 11	20	86						
		10	3														
					MC	610			5 6 7 10	13							
	- stiff		4								57						
1280		15			ST	305											
			5														
					SPT	305			6 6 7 6	15							
	- soft, grayish brown to gray	20	6		P	610											
			7		SPT	457			2 2 2 2	4							
		25			MC	508			3 2 2 2	4							
			8		SPT	610			2 2 2 2	4	29						
		30	9		MC	203			4 3 4 4	6							
1275					SPT	457			4 3 12 11	15							
	Silty SAND - medium dense wet, gray		10				SM	A-2-5									
	Lean CLAY - wet, gray, medium stiff	35	11		P	305	CL	A-6									
					SPT	508			5 5 3 2	8							
	- very stiff	40	12		MC	127			7 15 17 7	24							
	- medium stiff				SPT	610			5 4 5 5	8							
			13														
		45															
			14		P	508						12.7	41	45	21	94	C SG
1270	- soft				MC				3 2 3 3	3	19						
		50	15														
			16														
		55	17														
			18														
		60	19														
1265		65															

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-22-208**

Sheet **1** of **1**

Logged by:	M. Bostrom
Date Start:	1/4/00
Date Finish:	1/5/00
Station:	6013+563.430 26.77 LT
Line:	D MAINLINE
Coordinates (m):	N 116,802.911 E 19,234.797
Elevation (m):	1284.640
Total Depth Drilled (m):	14.9
Drill Contractor:	Layne Christensen
Driller:	S. Church
Rig Type:	Mobile B-80
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

Boring: WB-24-202
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: dark brown SILT, very moist, roots, organics	MC	457			3 3 4 6							
	SILT - stiff, very moist, dark brown	SPT	559	ML	A-4	3 5 6 8	72						
	Lean CLAY - very stiff, very moist to wet, brown mottled white	SH	559	CL	A-6								
		SPT	610			5 5 5 7							
	- stiff, brown	MC	610			4 4 4 5							
	- soft	SPT	610			2 3 3 4	86						
1280	- gray-brown	SH	610				45	14.1	35			99	C SG
	- medium stiff, with frequent layers of silty sand 1 to 5 mm thick - dark gray to black	SPT	610			2 1 2 1							
		MC	610			1 0 2 1							
	Silty SAND - medium dense, wet, greenish gray, with frequent layers of clayey sand and lean clay 13 to 100 thick	SPT	610	SM	A-2-5	2 7 8 7	34						
		MC	356			3 3 3 2							
	Fat CLAY - medium stiff, wet, green-gray - with frequent lenses of silty sand	SPT	610	CH	A-7-6	3 3 2 2	62						
1275	- dark gray to black - soft	SH	508				30	11.3	54	65	37	100	SV
	- green-gray	SPT	610			2 2 2 2							
	- stiff	MC	457			6 11 7 4							
		SPT	508			1 2 1 2	24						
		MC	508			3 2 2 4							
	- olive mottled black	SPT	610			2 2 5 7	57						
	Well-graded SAND with silt - loose, wet, green-gray	SH	203	SW-SM									
1270		SPT	508			1 2 6 4							
1265													

Depth: ft / m

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-24-202**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	1/4/00
Date Finish:	1/4/00
Station:	6012+874.145 36.01 LT
Line:	D MAINLINE
Coordinates (m):	N 116,344.116 E 18,793.895
Elevation (m):	1284.371
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

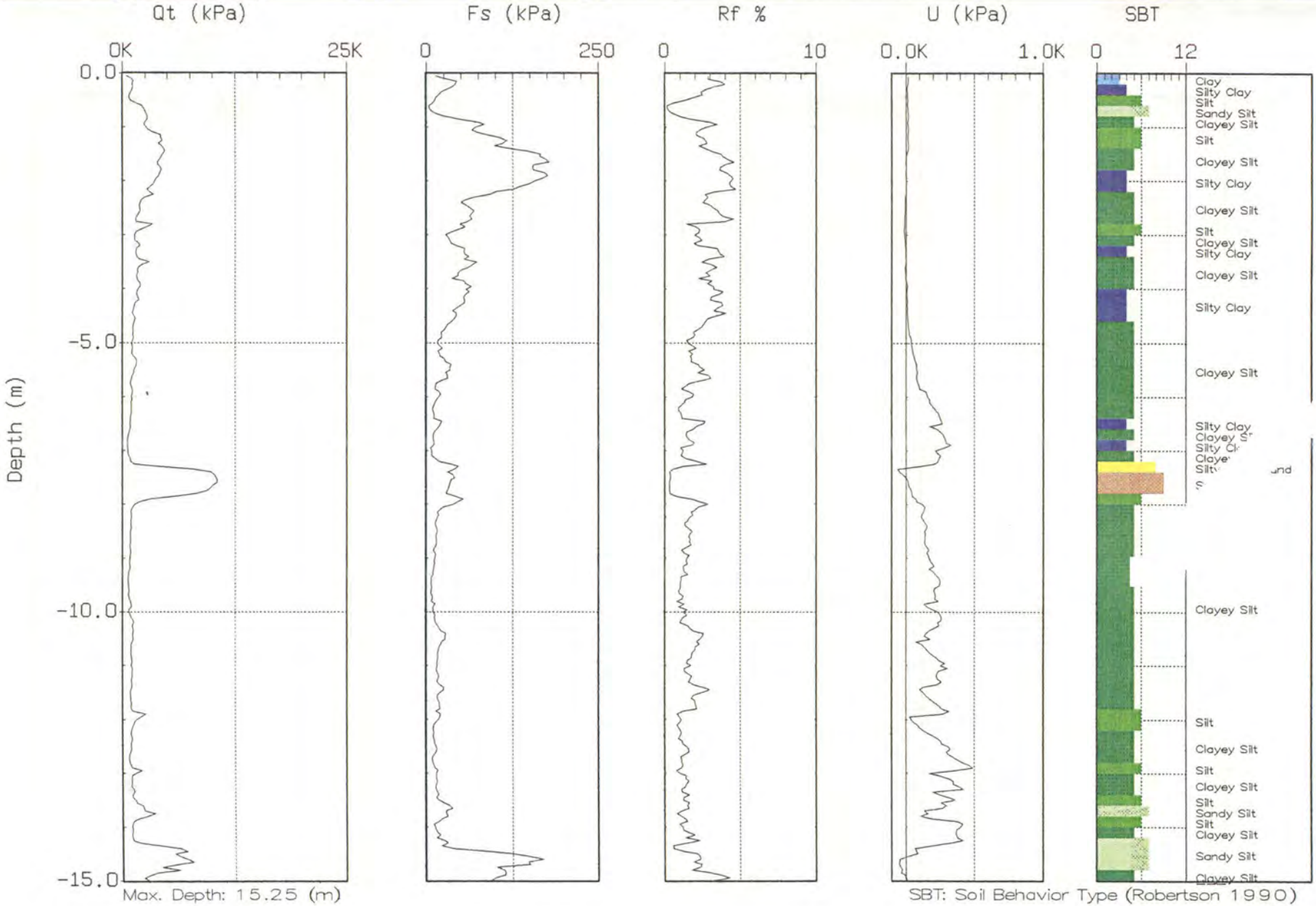
BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Legacy Parkway

Site: WC-24-203B
Station: 6013+015.976 23.12 LT
Elevation: 1284.468

Cone: 20 TON A 058
Date: 01:19:00 09:04



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

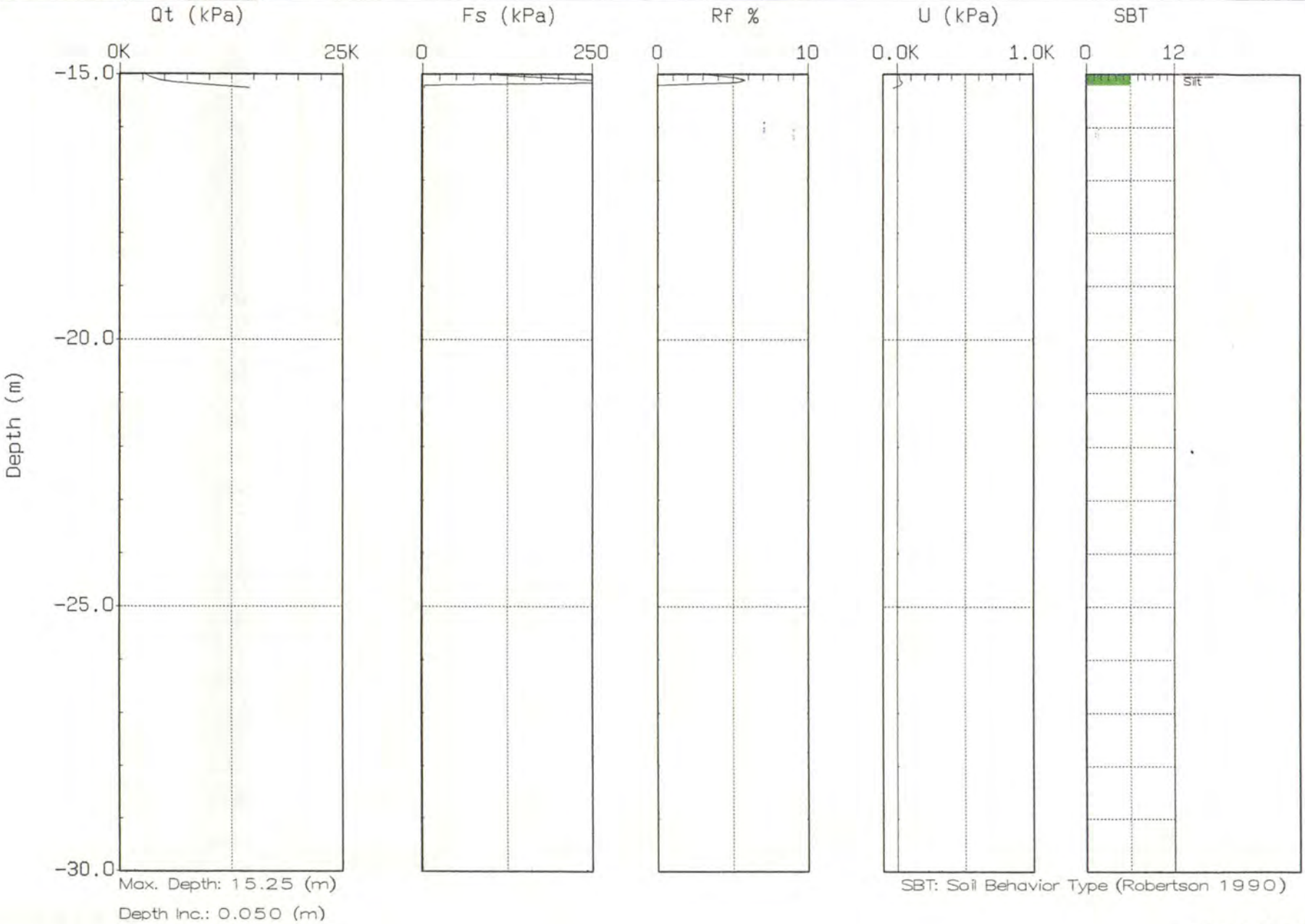
SBT: Soil Behavior Type (Robertson 1990)

PLATE C-52

Legacy Parkway

Site: WC-24-203B
Station: 6013+015.976 23.12 LT
Elevation: 1284.468

Cone: 20 TON A 058
Date: 01:19:00 09:04



Boring: WB-24-204
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND - very dense, moist, brown, with gravel				MC	381			29 43 43 49							
1285			1		SPT	533			20 21 23 7							
		5			MC	381			5 7 7 8							
	Lean CLAY - very stiff, moist to wet, dark brown, with roots		2		SPT	533	CL	A-6	3 5 6 8							
	- grayish brown to greenish brown, with some roots															
	- mottled white	10	3		MC	559			7 7 10 12							
	- with gravel															
			4		SPT	610			5 7 10 10							
		15			MC	533			7 7 7 13							
			5							86						
1280	- stiff				SPT	610			3 4 5 6							
		20	6													
	- very stiff				MC	305			5 7 8 10							
	- stiff, grayish brown mottled green and black		7		SPT	610			4 5 5 7							
		25														
			8		SH	483					10.8	54	68	37	98	C SG
					SPT	610			3 5 10 11							
	Silty SAND - medium dense, wet, gray, freqent lean clay layers up to 350 mm	30	9				SM	A-2-5								
					MC	457			2 3 2 3	62						
	- very loose		10		SPT	610			2 1 2 2							
1275	- clayey SAND layer	35														
			11													
		40	12													
			13													
		45	14													
			15													
1270		50														
			16													
		55	17													
			18													
		60														
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-24-204**

Sheet 1 of 1

Logged by:	M. Bostrom
Date Start:	12/28/99
Date Finish:	12/28/99
Station:	6013+186.647 42.51 LT
Line:	D MAINLINE
Coordinates (m):	N 116,504.878 E 19,045.723
Elevation (m):	1285.573
Total Depth Drilled (m):	10.4
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Boring: WB-25-200
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, moist, brown				MC	457	CL	A-6	2 3 4 5	10							
	- with frequent silt layers 6 to 25 mm thick		1		SPT	610			2 4 4 4	14							
		5			SH	610						12.4	43	32	12		C SG
▽	- very soft, wet		2		SPT	508			0 1 0 0	1							
	- very soft, with frequent silty SAND layers 13 to 150 mm thick	10	3		MC	203			1 1 1 4	2							
	- gray		4		SPT	610			1 1 0 0	1							
		15			SH	0											
1280	- soft and wet		5		SH	305								36	14	96	
	- medium stiff	20	6		MC	610			4 2 3 2	5							
			7		SPT	610			1 3 2 3	6							
		25			SH	0											
	- very soft		8		SPT	610			3 2 2 3	4							
1275		30	9														
		35	10														
		40	11														
		45	12														
1270		50	13														
		55	14														
		60	15														
		65	16														
			17														
			18														
			19														

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-25-200**

Sheet 1 of 1

Logged by:	T. Thompson
Date Start:	1/19/00
Date Finish:	1/19/00
Station:	50+774.766 9.87 LT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,241.666 E 16,421.958
Elevation (m):	1285.096
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	BK-66
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-25-201
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / (N1)60 (Greater than 50 Blows) ○ (0–25–50)	Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	TOPSOIL: SILT, moist, dark brown, roots and organics				MC	457			3 5 9 10	20							
	Lean CLAY - medium stiff, moist, light brown, with frequent layers of silt 6 to 12 mm thick		1		SPT	610	CL	A-6	3 3 2 3	8							
		5			SH	508					43						
▽	- very soft, wet, gray-brown, with frequent layers of silty sand 6 to 150 mm thick		2		SPT	610			2 1 0 1	1							
	- soft - dark gray	10	3		MC	508			1 3 1 2	4							
			4		SPT	610			4 7 3 2	13							
	Silty SAND - loose, wet, gray						SM	A-2-5									
	Lean CLAY - very soft, wet, gray	15	5		MC	203	CL	A-6	1 1 0 1	1							
1280	- with frequent layers of silt and silty sand 6 to 50 mm thick				SPT	610			2 1 0 1	1							
		20	6		SH	610					24	11.5	48	36	12		C SG
			7		SPT	533			2 0 1 1	1							
	Silty SAND - medium dense, wet, gray	25	8		MC	305	SM	A-2-5	14 9 7 6	16							
	SILT - stiff, wet, gray, with frequent layers of lean clay 25 to 150 mm thick				SPT	610	ML	A-4	1 2 7 5	10							
		30	9		SH	610					25	13.7	39			99	
	- very stiff		10		SPT	610			0 6 28 18	30	38						
1275	- stiff	35	11		MC	356			3 1 0 1	1							
	Lean CLAY - very soft, wet, gray				SPT	610	CL	A-6	3 1 0 1	1							
		40	12		SH	610											
	SILT - medium stiff, wet, gray, with frequent layers of lean clay 12 to 150 mm thick		13		SPT	610	ML	A-4	4 3 4 5	7	29						
	Silty SAND - very dense, wet, gray	45	14		SH	0	SM	A-2-5									
					SPT	610			15 28 35 37	○							
1270		50	15														
			16														
		55	17														
			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-25-201**

Sheet **1** of **1**

Logged by:	T. Thompson
Date Start:	1/19/00
Date Finish:	1/19/00
Station:	50+871420 29.02 LT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,256.072 E 16,322.823
Elevation (m):	1285.272
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	BK-66
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 6/30/00

Boring: WB-26-314
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND and GRAVEL- very dense, moist, light brown to brown				MC	508			10 12 21 50		21.5	4				
			1		SPT	457			40 28 21 10							
		5			MC	457			8 22 22 27		19.2	10				SV
1285	- yellowish to reddish brown		2		SPT	610			15 27 22 25							
		10	3		MC	508	CL	A-6	9 5 7 7							
	Lean CLAY - very stiff, wet, dark brown, some fine-grained sand - stiff, wet, olive-gray to gray mottled white - very stiff, wet, frequent seams of very fine-grained sands		4		SPT	610			3 3 4 3							
		15			MC	0			4 6 7 5							
			5		SPT	610			3 1 1 1							
	- soft, some fine-grained gravel - with occasional fine to medium-grained sand seams	20	6		P	610				24 *34*	10.2	62	51	22		C SG
1280	- gray transitions to black		7		SPT	457			1 1 1 0							
		25			MC	610			2 2 1 2							
	- soft, wet, with frequent seams of very fine sands, trace fine to coarse-grained gravel		8		SPT	610			1 2 1 2							
	frequent seams of very fine-grained sands - Silty SAND layer - loose to medium dense - with frequent silty sand and gravel layers	30	9		MC	457			5 5 4 7							
			10		SPT	457	SM	A-2-5	14 14 9 3							
	Silty SAND - dense to medium dense, wet, gray	35	11		MC	610			4 9 4 4							
					SPT	610	CL	A-6	3 4 4 6							
1275	Lean CLAY - stiff, wet, black to gray, frequent silty sand layers 25 to 50 mm thick	40	12		P	152				*34*	14.7	29	28	6		C SG
			13		SPT	610			1 7 4 5							
	Clayey SAND - loose, wet, brownish gray to gray, frequent silt and clay layers	45	14		MC	610	SC	A-2-6	5 3 3 4							
					SPT	610			5 3 3 4							
		50	15													
			16													
1270		55	17													
		60	18													
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-26-314**

Sheet **1** of **1**

Logged by:	M. Bostrom
Date Start:	1/21/00
Date Finish:	12/21/99
Station:	6002+387.809 1.33 RT
Line:	D MAINLINE
Coordinates (m):	N 107,026.080 E 15,626.314
Elevation (m):	1287.204
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Boring: WB-27-315
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)				SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, wet, light brown				MC	508	CL	A-6	2	2	4	5	10							
	- medium stiff, occasional sand layers 25 mm thick		1		SPT	610			1	2	1	2	6			34	41	20		
		5	2																	
					SH	457														
		10	3		SPT	610			0	0	4	0	6							
	- olive gray		4		MC	406			2	2	6	8	8							
1280	- very soft, frequent sand layers up to 50 mm thick, organic odor	15	5		SPT	610			0	1	0	0	1							
					SH	0														
	- frequent sand layers 3 mm thick	20	6		SPT	610			0	1	0	0	1			37	38	16		
	- hard		7		MC	305			9	20	11	8	31							
	- very soft, sand layers 100 to 150 mm thick	25	8		SPT	610			0	0	1	1	1							
	- very stiff, frequent sand layers 200 mm thick				MC	330			10	20	6	7	26							
1275	- stiff	30	9		SPT	610			3	3	7	8	12							
			10		SH	406														
	- frequent sand layers 100 mm thick	35			SPT	610			3	6	4	3	12							
	- medium stiff		11		MC	508			0	1	4	2	5							
	- soft, occasional organics	40	12		SPT	457			0	1	4	2	5							
	- frequent sand layers up to 100 mm thick		13		MC	559			1	4	1	3	4							
	-very stiff	45			MC	610			7	10	9	9	17							
1270	- frequent sand layers up to 150 mm thick		14		SPT	610			3	6	12	13	18							
		50	15																	
			16																	
		55	17																	
			18																	
		60	19																	
1265		65																		

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-27-315**

Sheet **1** of **1**

Logged by:	M. Hislop
Date Start:	1/19/00
Date Finish:	1/19/00
Station:	55+318.567 6.64 LT
Line:	Redwood to I-15 SB
Coordinates (m):	N 107,081.167 E 16,484.057
Elevation (m):	1284.488
Total Depth Drilled (m):	14.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

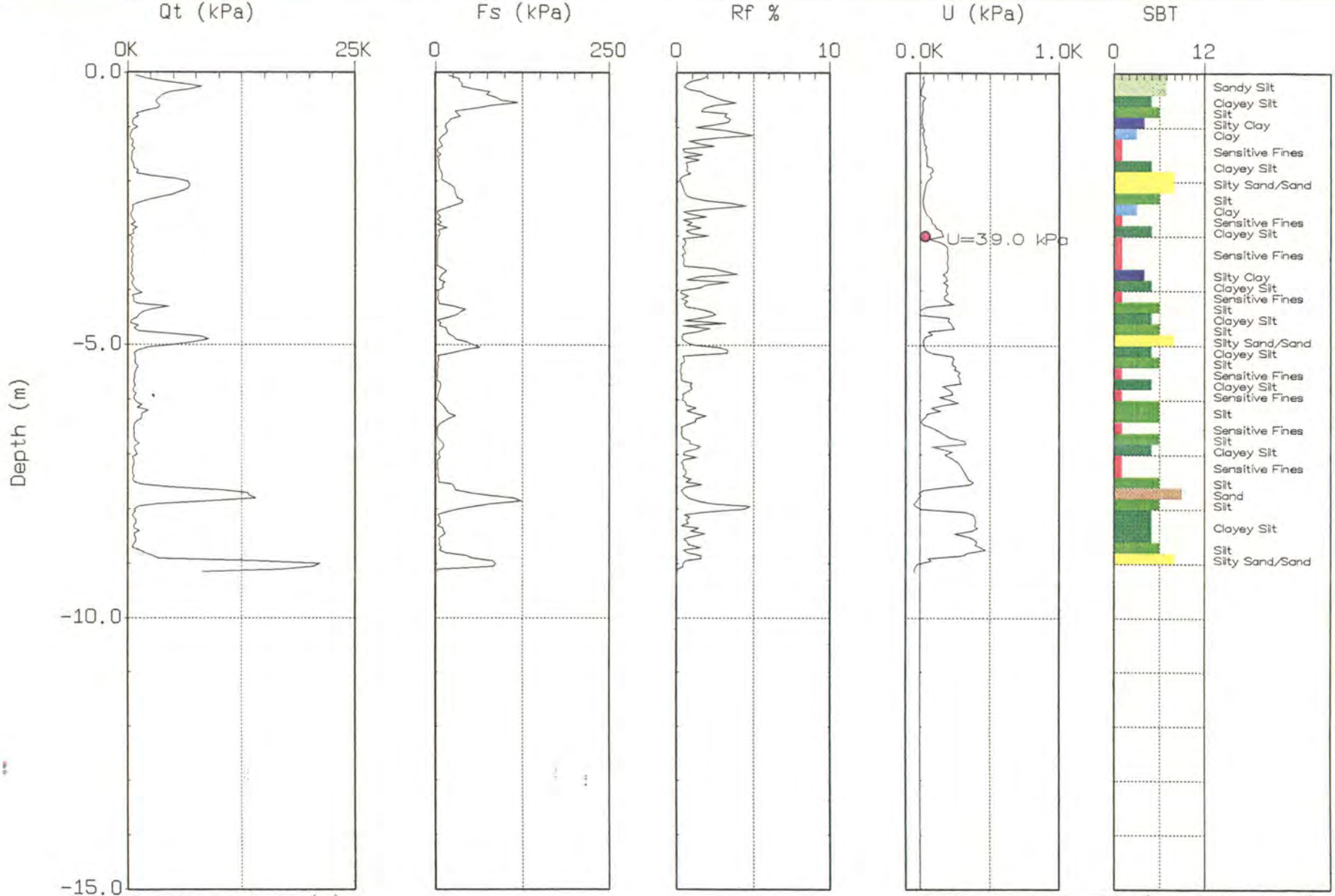
BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway

Site: WC-27-316
Station: 55+455.720 1.02 RT
Elevation: 1285.246

Cone: 20 TON A 058
Date: 01:27:00 09:11



Max. Depth: 9.15 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-59

Boring: WB-27-317
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: moist, light brown SILT, with roots and organics				MC	406			2 3 5 6	13							
1285	SILT - very stiff, moist, greenish brown, with sand layers 40 mm thick		1		SPT	457	ML	A-4	4 4 4 4	16							
		5			SH	559					35 *48*	14.3	32				
			2														
	SILT - very soft, moist to wet, greenish brown, with frequent sand layers				SPT	610	CL	A-6	0 0 1 1	2							
	- frequent sand layers 50 mm thick	10	3		MC	559			0 0 1 1	1							
	- soft		4		SPT	610			0 2 1 1	4							
		15			SH	559					16 *24*	11.7	47	40	16		C SG
			5														
	- stiff, wet, blue-gray to black, with occasional sand layers up to 200 mm thick				SPT	610			0 3 4 4	10							
1280	- very soft	20	6		MC	610			0 1 1 1	2							
	- stiff		7		SPT	610			9 4 3 3	9							
		25			SH	0											
			8														
					SPT	610			0 5 6 6	15							
			9														
	- very soft	30			MC	610			1 2 0 0	2							
	- becomes interlayered with SILT and Silty SAND layers, 200 to 300 mm thick		10		SPT	610			3 1 2 2	4							
	- soft	35			MC	610			1 1 2 1	3							
1275	- stiff		11		SPT	610			2 4 6 4	12							
		40	12		SH	559					*43*	14.1	34				C SG
			13		SPT	610			4 4 5 5	11							
	- very stiff, blue-gray	45	14		MC	406			3 7 12 18	17							
	- medium stiff, gray				SPT	610			3 2 4 7	6							
			15														
		50															
1270			16														
		55	17														
			18														
		60															
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-27-317**

Sheet 1 of 1

Logged by:	M. Hislop
Date Start:	1/18/00
Date Finish:	1/18/00
Station:	55+591.440 4.18 LT
Line:	Redwood to I-15 SB
Coordinates (m):	N 107,129.202 E 16,753.452
Elevation (m):	1285.917
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

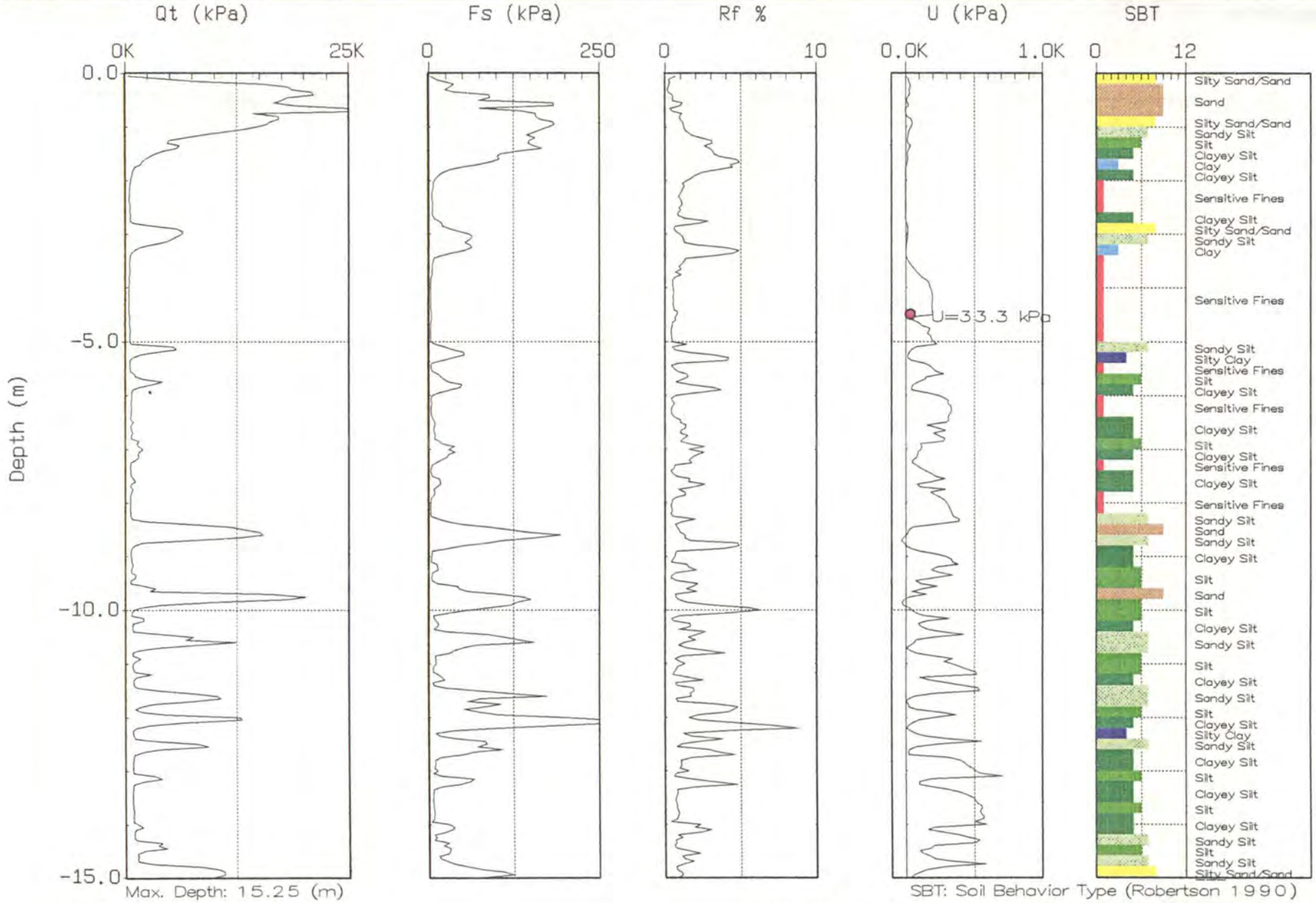
BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway

Site: WC-28-318
Station: 55+502.496 25.27 LT
Elevation: 1286.456

Cone: 20 TON A 058
Date: 01:21:00 11:36



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

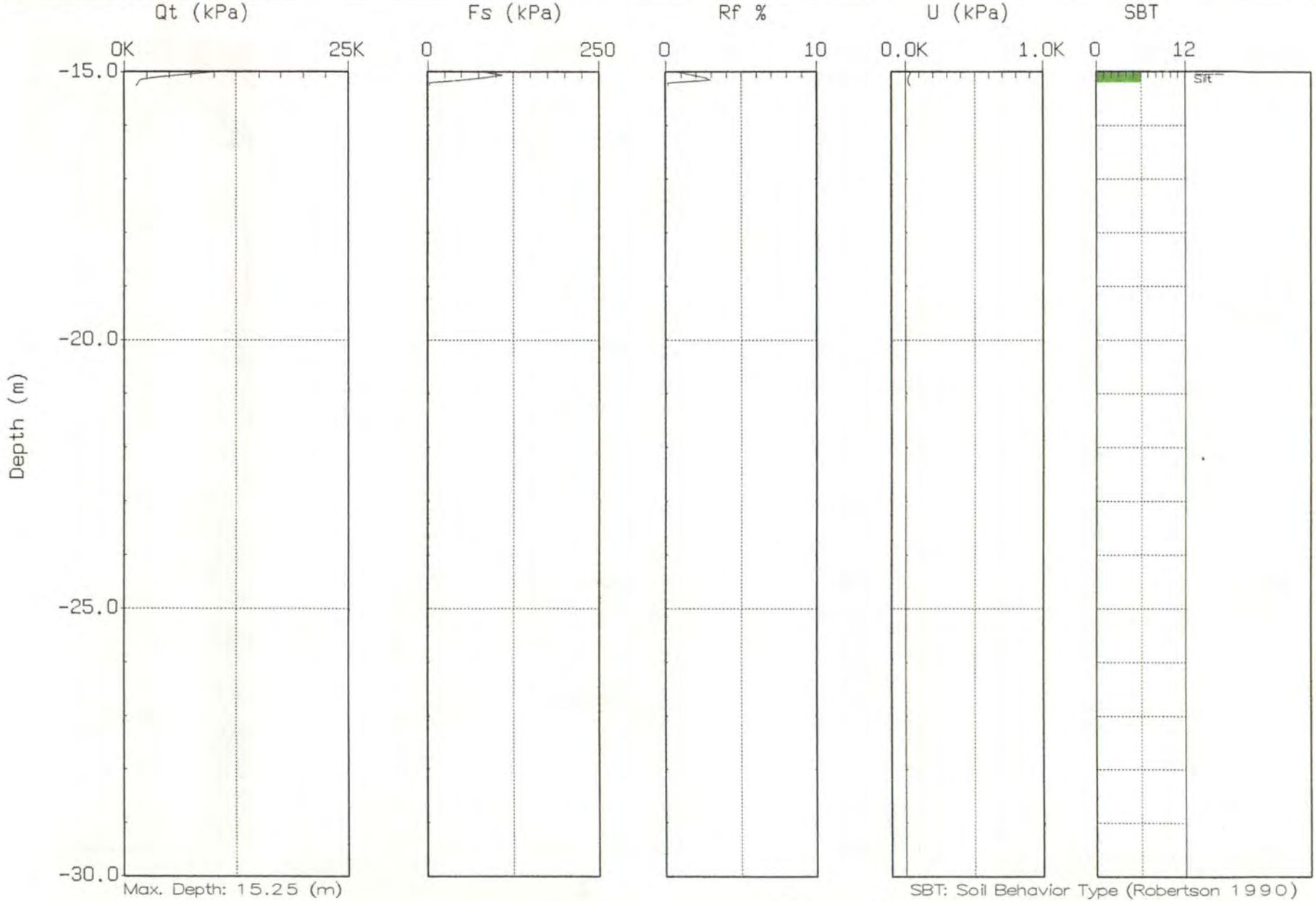
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-61

Legacy Parkway

Site: WC-28-318
Station: 55+502.496 25.27 LT
Elevation: 1286.456

Cone: 20 TON A 058
Date: 01:21:00 11:36



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)
● Equilibrium (or near) Pore Pressure from Dissipation

Boring: WB-28-319
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	TOPSOIL: moist, dark brown silt with roots and organics	MC	406			4 4 5 5							
	Lean CLAY - soft, moist, light green, with sand layers 50 mm thick	SPT	406	ML	A-4	1 1 1 1							
		P	406				16 *29*	14.0	34	31	7		C SG
	- medium stiff, wet	SPT	610			5 3 2 1							
	Lean CLAY - medium stiff, wet, gray			CL	A-6								
	- very soft, gray	MC	559			0 0 1 1							
	- medium stiff	SPT	610			0 0 3 2							
		P	508										
1280	- soft, frequent sand layers up to 50 mm thick, black, organic odor	SPT	610			1 1 1 1	*6*						
	- silt layers up to 150 mm thick	MC	508			0 2 2 1							
	- very soft, gray	SPT	610			0 1 0 0							
		P	0										
	- medium stiff, interbedded with SILT and Silty SAND layers 150 mm thick; heaving sands	SPT	610			1 0 6 18							
		MC	559			4 2 5 3							
1275	- stiff	SPT	610			7 7 2 2							
		P	0										
	- very stiff	SPT	610			12 8 12 12							
	- medium stiff	MC	559			0 0 5 4							
		SPT	610			0 2 5 4							
		P	0										
	- stiff, occasional sand layers	SPT	610			4 5 3 2							
1270													

Depth: ft / m

Graphic Log

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-28-319**

Sheet **1** of **1**

Logged by:	M. Hislop
Date Start:	1/18/00
Date Finish:	1/18/00
Station:	55+406.081 33.38 LT
Line:	Redwood to I-15 SB
Coordinates (m):	N 107,126.439 E 16,565.826
Elevation (m):	1285.207
Total Depth Drilled (m):	14.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: WB-29-320
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: Sod - poor recovery				SPT	152	CL	A-6	3 3 7 9	16							
1285	Lean CLAY - very stiff, moist, dark brown		1		MC	610			6 8 9 8	22							
	- olive-brown mottled reddish brown	5															
	- soft, wet		2		SPT	457			1 1 2 1	4							
					SH	610					13						C SG
	- silty SAND layer, 200 to 300 mm thick	10	3														
	- medium stiff, gray mottled black				SPT	457			4 3 1 2	5							
	- with frequent sand layers, 3 mm thick																
	- very soft, frequent silt layers 12 mm thick		4		MC				3 1 1 5	2				39	15	92	
		15															
			5		SH	610					12						
1280					SPT	356			3 1 1 5	2							
		20	6		P	305											
	- medium stiff		7		SPT	457			4 3 2 2	5	29						
	- stiff	25	8		MC	203			8 5 8 12	11							
					SPT	610			2 3 4 4	7							
	- medium stiff	30	9		P	508					40 53	14.5	32	37	19	99	
	- soft		10		SPT				4 2 2 2	4							
1275		35	11		MC	610			2 2 3 6	4							
	- medium stiff				SPT	610			2 3 5 5	8							
		40	12		P	610					57 48	14.0	35	41	18	100	C SG
			13		SPT	610			2 3 3 3	6							
		45	14		MC	610			2 3 4 6	5							
					SPT	610			2 3 3 3	6							
		50	15														
1270			16														
		55	17														
		60	18														
			19														
		65															

UTDOT Z003WB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-29-320**

Sheet **1** of **1**

Logged by:	M. Hislop
Date Start:	2/15/00
Date Finish:	2/15/00
Station:	6002+849.932 22.67 LT
Line:	D MAINLINE
Coordinates (m):	N 107,454.442 E 15,746.727
Elevation (m):	1285.677
Total Depth Drilled (m):	14.9
Drill Contractor:	Layne Christensen
Driller:	M. Labenski
Rig Type:	Terra 1000
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

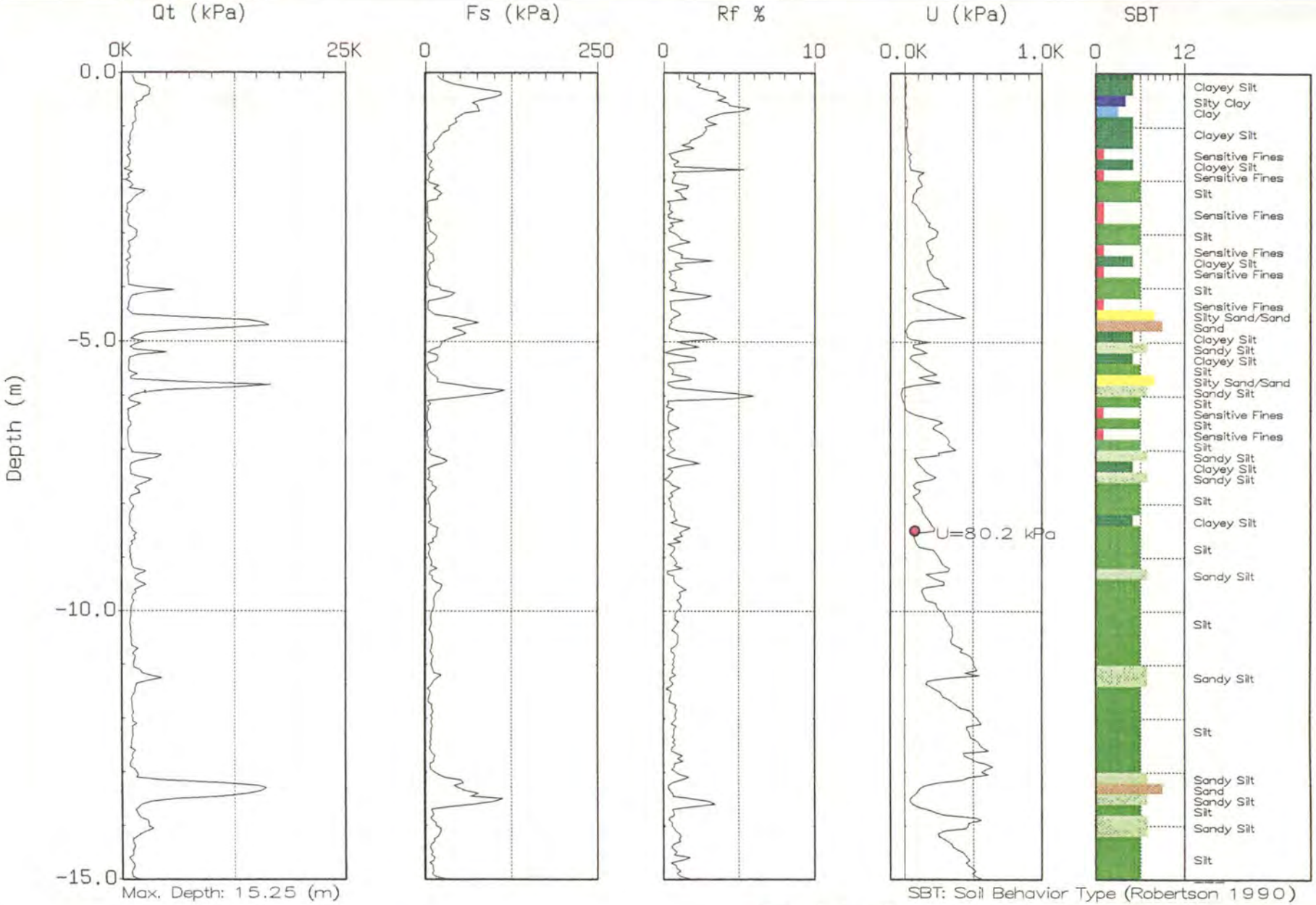
SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Legacy Parkway

Site: WC-29-321
Station: 6003+003.280 20.95 LT
Elevation: 1285.298

Cone: 20 TON A 092
Date: 02:01:00 09:39



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

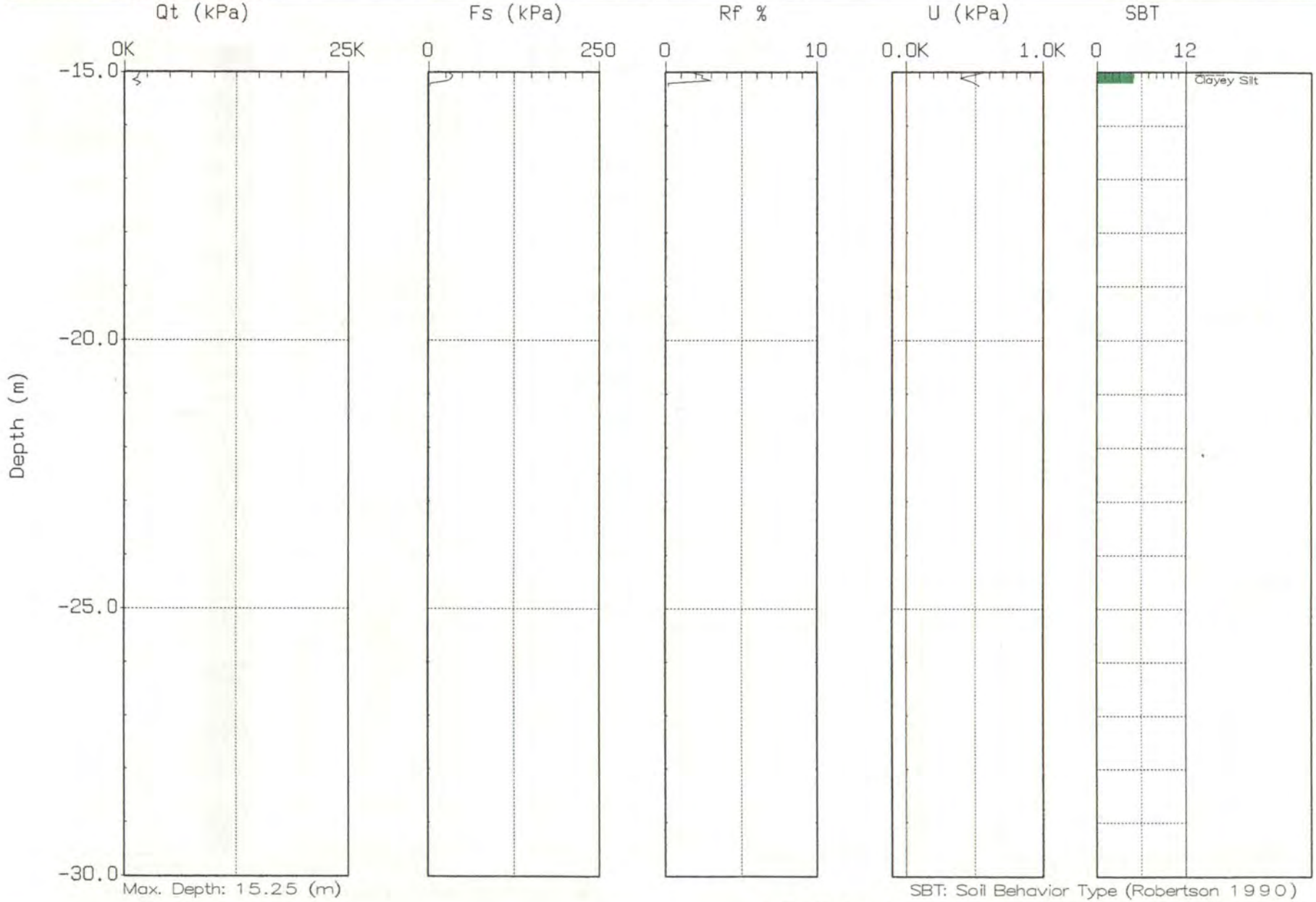
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE C-65

Legacy Parkway

Site: WC-29-321
Station: 6003+003.280 20.95 LT
Elevation: 1285.298

Cone: 20 TON A 092
Date: 02:01:00 09:39



Max. Depth: 15.25 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)
● Equilibrium (or near) Pore Pressure from Dissipation

Boring: WB-29-322
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	TOPSOIL: clayey SILT, moist, light to dark brown				MC	610	CL	A-6	3 2 4 6							
1285	Lean CLAY - stiff, moist, olive gray mottled reddish brown, frequent sand layers 6 mm thick				SPT	610			2 2 2 2							
	- medium stiff	5	1		SH	610										
	- Silty SAND layer, 25 mm thick, becomes wet		2		SPT	610			0 1 2 3	*34*			37	15	94	
	- soft	10	3		MC	610			2 2 1 1							
	- medium stiff - Silty SAND layer 75 mm thick		4		SPT				5 3 2 4							
		15	5		SH					*29*	13.3	36	39	19	84	C SG
1280	- very stiff				SPT				3 5 9 9							
	- soft	20	6		MC				2 2 1 1				39	13	85	
	- medium stiff, gray with mottled black		7		SPT	610			3 2 2 2							
	- frequent silt layers to 12 mm thick	25	8		SH	305				*55*						
					SPT	610			3 3 2 3				34	14		
	- stiff, light brown, with frequent silt layers to 50 mm thick - gray	30	9		MC	610			4 5 7 7							
1275			10		SPT	610			4 4 5 6							
		35	11		SH	610				46 *36*	16.9	24	30	12	94	C SG
					SPT				0 2 2 3							
		40	12													
			13													
		45	14													
			15													
1270		50														
			16													
		55	17													
			18													
		60														
			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **WB-29-322**

Sheet **1** of **1**

Logged by:	M. Hislop
Date Start:	2/16/00
Date Finish:	2/16/00
Station:	6003+168.988 20.61 LT
Line:	D MAINLINE
Coordinates (m):	N 107,765.625 E 15,695.549
Elevation (m):	1285.402
Total Depth Drilled (m):	11.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003WB.GPJ 5/30/00

FIELD SOIL CLASSIFICATION

PENETRATION RESISTENCE

STANDARD PENETRATION TEST (ASTMD-1586)
NUMBERS OF BLOWS REQUIRED TO DRIVE A STANDARD 50.8 mm OUTSIDE DIAMETER SPLIT BARREL SAMPLER 304.8 mm USING A 63.5 kg WEIGHT

COHESIONLESS SOIL

RELATIVE DENSITY	$SPT(N_1)_{60}$ - VALUE BLOWS PER 0.3m	RELATIVE DENSITY, %
VERY LOOSE	<4	0 - 15
LOOSE	4 - 10	15 - 35
MEDIUM DENSE	10 - 30	35 - 65
DENSE	30 - 50	65 - 85
VERY DENSE	>50	85 - 100

COHESIVE SOILS

CONSISTENCY	$SPT(N_1)_{60}$ - VALUE BLOWS PER 0.3m	THUMB PENETRATION
VERY SOFT	<2	EASILY PENETRATED MORE THAN 25 mm
SOFT	2 - 4	EASILY PENETRATED 25 mm
MEDIUM STIFF	4 - 8	CAN BE PENETRATED OVER 6 mm WITH MODERATE EFFORT
STIFF	8 - 15	INDENTED ABOUT 6 mm, PENETRATED WITH GREAT EFFORT
VERY STIFF	15 - 30	READILY INDENTED BY THUMBNAIL
HARD	30 - 60	INDENTED WITH DIFFICULTY BY THUMBNAIL
VERY HARD	>60	THUMBNAIL WILL NOT INDENT SOIL

GRADATION

MATERIAL	FRACTION	SEIVE SIZE	GRAIN SIZE
BOULDERS		>304.8 mm	>304.8 mm
COBBLES		75 mm to 304.8 mm	75 mm to 304.8 mm
GRAVEL	COARSE	19 mm to 75 mm	19 mm to 75 mm
	FINE	No. 4 to 19 mm	2 mm to 4.74 mm
SAND	COARSE	No. 10 to No. 4	85 - 100
	MEDIUM	No. 40 to No. 10	430µm to 2 mm
	FINE	No. 200 to No. 40	75µm to 430µm
FINES	(SILT AND CLAY)	PASSING No. 200	<75µm

CRITERIA FOR DESCRIBING MOISTURE CONTENT

SLIGHTLY MOIST	ABSENCE OF MOISTURE, DUSTY, DRY TO TOUCH
MOIST	MOIST BUT NOT VISIBLE WATER
WET	VISIBLE FREE WATER, USUALLY SOIL IS BELOW WATER TABLE

VARIATIONS IN SOIL STRATIGRAPHY

TRACE	<5%
FEW	5 to 10%
LITTLE	15 to 25%
SOME	30 to 45%
MOSTLY	50 to 100%

CRITERIA FOR CLAY PLATICITY AND DRY STRENGTH

PLASTICITY	PLASTICITY INDEX	DRY STRENGTH
NON-PLASTIC	0 - 3	VERY LOW
LOW	3 - 15	LOW
MEDIUM	15 - 30	MEDIUM
HIGH	>30	HIGH

THE TORVANE IS AN INDICATOR OF THE UNCONFINED COMPRESSIVE STRENGTH OF FINE-GRAINED SOILS. THE TORVANE IS MANUALLY ROTATED UNTIL THE SOIL SHEARS. THE TEST IS A VERY CRUDE ESTIMATE OF THE COMPRESSIVE STRENGTH. HENCE, IT SHOULD BE COMPARED WITH OTHERS FOR A RELIABLE ESTIMATE OF THE UNCONFINED COMPRESSIVE STRENGTH. RESULTS SHOWN ON PLOTS IN GDR.

UNIFIED SOIL CLASSIFICATION (USCS) IDENTIFICATION AND DESCRIPTION

MAJOR DIVISIONS				SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS, MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS, MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS	(LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
					GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES	(APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS, MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS	(LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
					SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES	(APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
					SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS, MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
		LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
					CH	INORGANIC CLAYS OF HIGH PLASTICITY
					OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS					PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL LABORATORY TEST DESCRIPTIONS

Water Content and Unit Weight

Measures water (moisture) content of soils by drying with direct heat.
Results reported in percent on field test boring logs.
Dry density determines dry unit weight of soils.
Results reported in kN/m^3 on field test boring logs.

Liquid Limit, Plastic Limit, and Plasticity Index - ASTM D 4318

Measures liquid limit, plastic limit, and plasticity index of soils.
Results reported in liquid limit (LL) and plasticity index (PI) or non plastic (NP) on field test boring logs.

Grain Size Distribution Tests - ASTM D 422

Quantitatively measures distribution of particle sizes in soils.
Results shown on a plot in the geotechnical data report (GDR)
SV = Grain size distribution test was run
% Passing No. 200 = Amount of fines passing No. 200 sieve in percent.

Specific Gravity - ASTM D 854

Measures specific gravity of soils by means of a pycnometer.
Results reported in specific gravity (SG) on field test boring log.
SG = Specific gravity test was run.

Consolidation Test - ASTM D 2435

Measures rate and magnitude of consolidation of soil when it is restrained laterally and loaded and drained axially.
Results shown on plot in GRD.
C = Consolidation test was run.

Direct Shear Test - ASTM D 3080

Measures the shear strength of a soil in direct shear.
DS = Direct shear test was run for multi-point test.

Unconfined Compressive Strength - ASTM D 2166

Measures unconfined compressive strength, q_u, of cohesive soil in undisturbed condition using a strain-controlled application of the axial load.
Results shown as undrained shear strength, $s_u = (q_u/2)$, kPa on field boring log and summary of laboratory test data.

Corrosion Resistence Tests

Measures key parameters including pH, electrical resistivity (ohm-cm) and water soluble sulfates (ppm) for use in the evaluation of the corrosion potential of the existing soils.

3510d192

ABBREVIATIONS

NA - NOT APPLICABLE
GDR - GEOTECHNICAL DATA REPORT

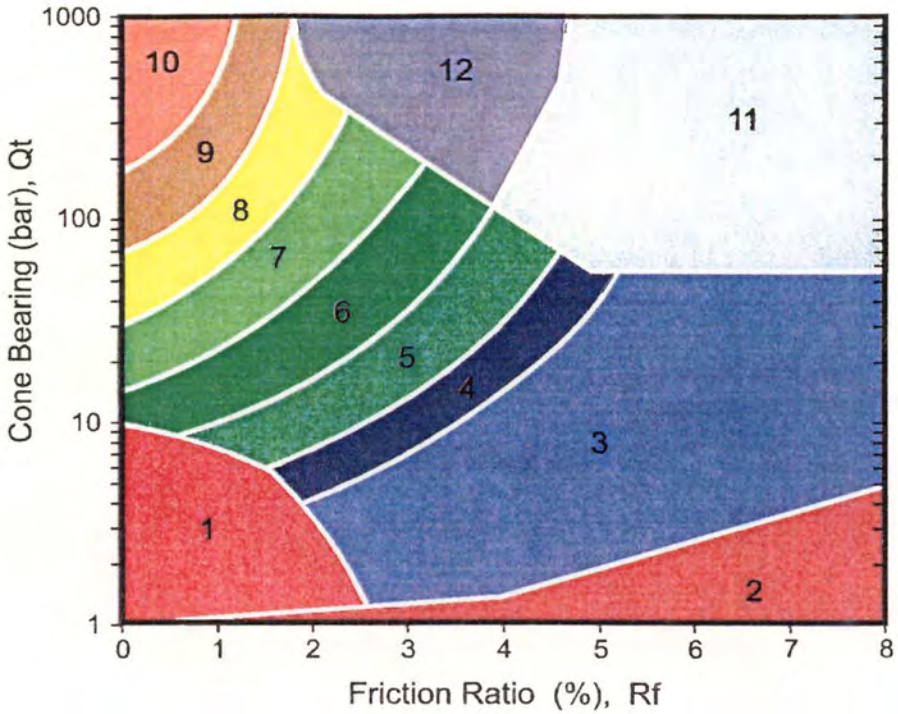
KLEINFELDER

Project Number 35-8163-05

Legacy Parkway - Preferred Alternative
I-215 to I-15 / US 89 Interchange

KEY TO BORING LOG
SOIL SYMBOLS AND TERMS

PLATE
C-68



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

CPT Classification Chart
(After Robertson & Campanella, 1990)

CONETEC

Appendix D

Boring: RB-357
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Poorly Graded GRAVEL with sand - very dense, gray, moist				MC	457			41 52 34 29							
			1		SPT	305			16 26 29 41							
1285		5			MC	305			67 57 85 74							
			2		SPT	356			46 28 9 11							
	Lean CLAY - stiff, wet, black						CL	A-7-6								
		10	3		MC	305			16 7 10 12							
	SILT - soft, wet, gray, with silty sand lenses		4		SPT	305	ML	A-4	1 1 1 1							
	- medium stiff	15	5	P	P	610				29						
	Poorly Graded SAND - medium dense, gray, wet				SPT	610	SP	A-3	4 8 14 15							
1280		20	6		MC	305			5 17 12 17							
	Sandy SILT - medium stiff, wet, gray		7		SPT	356	ML	A-4	6 5 4 5							
		25	8	P	P	610				38						
					SPT	457			3 5 13 17							
	Poorly Graded SAND - medium dense, wet, gray, fine to medium-grained						SP	A-3								
	Lean CLAY - medium stiff, wet, gray	30	9		MC	457	CL	A-7-6	4 5 4 2							
	- soft		10		SPT	610			2 2 1 1							
	- frequent seams of fine-grained clayey sand															
	- medium stiff	35	11	P	P	559				21 38	15.5	26	41	16		C SG
1275	Silty SAND - medium dense, wet, gray, fine-grained				SPT	610	SM	A-2-4	2 6 11 14							
			12													
	Sandy SILT - medium stiff, wet, gray, with fine-grained sand lenses	40			MC	356	ML	A-4	4 5 4 3							
	Lean CLAY - soft, wet, gray		13		SPT	610	CL	A-7-6	6 3 3 3							
		45	14	P	P	610				38						
					SPT	610			2 2 10 38							
	- medium stiff, with silty sand lense		15				CH	A-7-6								
	Fat CLAY - medium stiff, wet, gray	50			MC	305			1 2 6 12							
			16		SPT	381			4 5 4 5							
1270	- silty sand lenses															
	- stiff	55	17	P	P	610				53	13.6	36				C TR SG
			18													
	- occasional silty sand seams	60			SPT	610			2 2 3 3							
	- soft		19													
	SILT - very stiff, wet, gray	65					ML	A-4								

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-357**

Sheet 1 of 2

Logged by:	A. Waldman
Date Start:	2/18/00
Date Finish:	2/20/00
Station:	58+000.295 0.61 LT
Line:	I-215 to LP SB
Coordinates (m):	N 106,750.145 E 15,374.077
Elevation (m):	1286.398
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B = BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-357
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, wet, gray				P	610	CL	A-7-6			*24*						
1265		70	21		SPT	559			6 12 40 52	●29							
	Poorly Graded SAND - medium dense, wet, gray		22				SP	A-3									
	Lean CLAY - very stiff, gray	75	23		P	610	CL	A-7-6			74 *48*	11.3	43			98	
			24														
	- soft, fine-grained sand lenses	80	25		SPT	203			1 2 5 6	●4							
	Sandy SILT - stiff, wet, gray	85	26		P	610	ML	A-4			*43*						
1260	Lean CLAY - stiff, wet, gray, with silty sand lenses up to 75 mm thick		27				CL	A-7-6									
		90	28		SPT	610			4 10 7 11	●9							
		95	29		P	483											
		100	30														
1255			31		SPT	610			3 7 9 18	●9							
		105	32														
		110	33														
		115	34														
1250		120	35														
		125	36														
		130	37														
			38														
			39														

UTDOT Z003RB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-357**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	2/18/00
Date Finish:	2/20/00
Station:	58+000.295 0.61 LT
Line:	I-215 to LP SB
Coordinates (m):	N 106,750.145 E 15,374.077
Elevation (m):	1286.398
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-358
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, black, with trace of organics						ML	A-4									
		5	1		MC	152			4 4 5 6	11							
	- very soft		2		SPT	0			0 0 1 1	1							
		10	3		P	610					34	15.1	29	33	9	56	C SG
▽	Silty SAND - medium dense, wet, gray, fine-grained		4		SPT	610	SM	A-2-4	5 5 9 11	18							
1280		15	5		MC	610			7 10 13 13	24							
	Lean CLAY - soft, wet, gray	20	6		MC	610	CL	A-6	0 2 2 1	4							
			7		SPT	610			0 3 3 2	6							
	- very soft	25	8		P	0											
					SPT	610			0 0 0 0	0							
	Silty SAND - medium dense, wet, gray	30	9		MC	610	SM	A-2-4	14 16 21 8	30							
1275	Silty CLAY - stiff, wet, gray		10		SPT	457	CL-ML	A-6	2 4 6 21	10							
		35	11		P	0											
	- soft				SPT	305			0 1 2 1	3							
		40	12		P	305					48	17.1	27				
			13		SPT	610			0 9 5 4	10							
	Silty SAND - medium dense, wet, gray						SM	A-2-4									
	Lean CLAY - stiff, wet, gray	45	14		MC	610	CL	A-6	0 3 2 3	3							
					SPT	610			0 2 4 2	4							
1270	- soft		15														
		50			P	610					51 67	14.2	32	48	21	99	C SG
			16														
		55	17		SPT	610			0 1 4 3	4							
			18														
		60			P	610					77						
			19														
		65															

UTDOT Z003RB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-358**

Sheet 1 of 2

Logged by:	R. Yates
Date Start:	2/18/00
Date Finish:	2/22/00
Station:	58+149.095 3.41 RT
Line:	I-215 to LP SB
Coordinates (m):	N 106,875.602 E 15,454.189
Elevation (m):	1284.952
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

Boring: RB-358
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / (N1)60 (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - soft, wet, gray (continued)				SPT	610			0 0 5 6								
		70	21		P	508					24						
			22														
	Silty SAND - medium dense, moist, gray, fine-grained	75	23		SPT	508	SM	A-2-4	1 4 12 14	●11							
			24														
	Silty CLAY - medium stiff, moist, gray, little to no fine-grained sand	80	25		SPT	508	CL-ML	A-6	4 3 3 7	●4							
1260		85	26		P	0											
	Silty SAND - medium dense, wet, gray		27		SPT	508	SM	A-2-4	0 0 3 2	●2							
	- dense, moist, gray	90	28		SPT	406			11 23 26 33	●32							
	- very dense, moist, gray	95	29		SPT	610			20 26 36 29	●41							
1255			30														
	- medium dense	100	31		SPT	406			0 4 6 5	●7							
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
		130															

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-358**

Sheet **2** of **2**

Logged by:	R. Yates
Date Start:	2/18/00
Date Finish:	2/22/00
Station:	58+149.095 3.41 RT
Line:	I-215 to LP SB
Coordinates (m):	N 106,875.602 E 15,454.189
Elevation (m):	1284.952
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-359
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 25 50)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, brown, some roots				MC	610	ML	A-4	3 3 5 7	11							
	- sand seams		1		SPT	610			4 4 10 8	22							
		5			P	610											
			2								19						
	Silty SAND - very loose, wet, light brown				SPT	610	SM	A-2-4	2 1 1 4	2							
	Sandy SILT - soft, wet, reddish-brown						ML	A-4									
		10	3		MC	610	CH	A-7-6	1 1 1 1	2							
	Fat CLAY - very soft, wet, gray																
			4		SPT	610			0 1 0 0	1							
		15															
	- dark gray		5		P	610					20	11.1	54	55	29		C
1280											24						TR
					SPT	610			1 0 1 1	1							SG
		20	6														
					MC	610			1 0 0 12	0							
	- silty sand lense		7		SPT	610			7 2 2 1	4							
	Silty SAND - loose, wet, gray	25					SM	A-2-4									
			8		P	305											
											34						
					SPT	305			13 5 4 3	9							
		30	9														
					MC	483			6 30 13 8	36							
	- dense																
1275	Sandy SILT- stiff, wet, gray		10		SPT	610	ML	A-4	13 8 6 7	14							
	Silty SAND - medium dense, wet, gray						SM	A-2-4									
	Fat CLAY - medium stiff, wet, gray	35	11		P	610	CH	A-7-6									
											34						
	- soft with sand lenses				SPT	610			2 2 2 3	4							
			12														
		40			MC	610			2 2 3 6	4							
	Silty SAND - medium dense, wet, gray		13		SPT	610	SM	A-2-4	4 7 11 16	16							
		45															
	Fat CLAY - medium stiff, wet, gray		14		P	610	CH	A-7-6									
											53						
					SPT	610			2 1 2 3	3							
1270			15														
	Sandy SILT - stiff, wet, gray	50			SPT	610	ML	A-4	2 9 9 11	16							
			16														
		55															
	Fat CLAY - stiff, wet, gray		17		P	610	CH	A-7-6			52	12.3	42			99	
											67						
			18														
		60			SPT	610			2 2 3 4	4							
	- medium stiff, fine sand lenses		19														
		65															

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-359**

Sheet 1 of 2

Logged by:	N. Miller
Date Start:	2/23/00
Date Finish:	2/24/00
Station:	58+390.722 2.56 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,076.516 E 15,587.237
Elevation (m):	1284.960
Total Depth Drilled (m):	30.2
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-359
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Fat CLAY - medium stiff, wet, gray (continued)				P	610				*43*	11.4	50	57	29		C SG
		70	21		SPT	610			7 9 9 10							
			22													
	- silty sand lense	75	23		SPT	559			19 27 9 9							
			24													
	- very stiff	80	25		SPT	457			8 10 13 16							
1260																
	- stiff	85	26		P	610				*48*						
			27													
		90	28		SPT	610			4 4 5 6							
		95	29		P	457				*34*						
1255	Silty SAND - very dense, wet, brownish-gray		30		SPT	610	SM	A-4	12 15 35 55							
		100	31													
		105	32													
			33													
		110	34													
1250		115	35													
			36													
		120	37													
		125	38													
			39													
		130														

Legend: ● SPT $(N_1)_{60}$; ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-359**

Sheet **2** of **2**

Logged by:	N. Miller
Date Start:	2/23/00
Date Finish:	2/24/00
Station:	58+390.722 2.56 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,076.516 E 15,587.237
Elevation (m):	1284.960
Total Depth Drilled (m):	30.2
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-360
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	Lean CLAY - soft, moist, brown				MC	457	ML	A-6	3 3 4 6	9							
	- becomes gray		1		SPT	305			4 8 10 11	29							
		5			P	584					14						
			2														
	- wet, with occasional sand seams				SPT	610			1 1 2 1	4							
		10	3		MC	610			1 1 3 1	4							
			4		SPT	610			1 2 1 1	4							
		15			P	305					12	12.7	42	37	14	99	
			5								14						
1280					SPT	254			2 2 3 7	7							
		20	6														
	Silty SAND - medium dense, wet, gray, fine-grained				MC	76	SM	A-2-4	6 3 4 4	7							
	Lean CLAY - soft, wet, gray		7		SPT	610	CL	A-7-6	6 8 3 4	14							
	Silty SAND - loose, wet, gray, fine-grained						SM	A-2-4									
	Lean CLAY - soft to medium stiff, wet, gray	25	8		P	610	CL	A-7-6			17	12.0	41	49	28		
					SPT	610			2 5 2 4	8							
	- with occasional silty sand lenses																
		30	9		MC	457			6 5 3 4	7							
			10		SPT	610			3 2 3 5	5	38						
1275		35			P	610						15.1	28				C
			11								72						SG
					SPT	508			3 3 1 4	4							
		40	12		MC	457			5 6 5 5	9							
			13		SPT	610			2 2 3 6	5	29						
		45			P	610											
			14								53						
					SPT	610			4 3 2 4	5							
1270			15														
		50			SPT	610			3 2 2 4	4							
			16														
		55	17		P	457					53						
			18														
	Poorly graded SAND - very dense, wet, gray, fine-grained	60			SPT	305	SP	A-3	17 38 50/125mm								
			19														
		65			P												

Test Results *

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-360**

Sheet 1 of 2

Logged by:	G. Hales
Date Start:	2/18/00
Date Finish:	2/22/00
Station:	58+649.195 2.48 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,170.518 E 15,824.180
Elevation (m):	1285.213
Total Depth Drilled (m):	28.0
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-360
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Poorly graded SAND - very dense, wet, gray, fine-grained (continued)				P	0										
	Lean CLAY - stiff, wet, gray	70	21		SPT	610	CL	A-7-6	4 3 6 7							
		75	22													
			23		P	610				62	13.1	39				C SG
			24													
	Silty SAND - very dense, wet, gray	80	25		SPT	610	SM	A-2-4	15 30 33 36							
1260		85	26		SPT	457			21 39 50/ 125mm							
		90	27		SPT	406			7 33 50/ 100mm							
		95	28													
1255		100	29													
		105	30													
		110	31													
		115	32													
1250		120	33													
		125	34													
		130	35													
			36													
			37													
			38													
			39													

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-360**

Sheet **2** of **2**

Logged by:	G. Hales
Date Start:	2/18/00
Date Finish:	2/22/00
Station:	58+649.195 2.48 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,170.518 E 15,824.180
Elevation (m):	1285.213
Total Depth Drilled (m):	28.0
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-361
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - very dense, moist, yellowish brown, fine-grained, with trace of gravel				MC	152			15 25 30 27								
			1		SPT	457			16 22 27 22								
		5			P	152											
			2				CL	A-7-6									
	Lean CLAY - very stiff, wet, gray				SPT	356			6 9 11 17	18							
370	- grayish brown	10	3		MC	356			15 4 5 5	5							
	- very soft																
	- wet		4		SPT	152			2 1 2 3	2							
		15			P	610											
			5								43						
					SPT	610			1 1 1 1	2							
		20	6														
					MC	610			1 2 21 17	14							
	Silty SAND - medium dense, wet, gray, fine-grained						SM	A-2-4			43						
			7		SPT	610			2 2 4 5	4							
		25															
			8		P	508											
365	Lean CLAY - soft, wet, dark gray, with trace fine-grained sand seams				SPT	610	CL	A-7-6	1 3 3 1	4							
		30	9														
					MC	610			1 3 4 4	4							
			10		SPT	610			3 2 1 2	2							
	- olive gray																
	- very soft	35															
			11		P	610					42	15.8	24	43	22		C
											53						SG
					SPT	610			1 1 1 1	2							
		40	12														
					MC	610			1 2 3 3	2							
360			13		SPT	610			1 3 8 4	6							
	Silty SAND - medium dense, wet, olive gray						SM	A-2-4									
	Lean CLAY - very soft, wet, olive gray	45					CL	A-6									
			14		P	610											
											48						
					SPT	610			1 1 1 2	2							
		50	15														
					MC	610			1 1 3 2	1							
	- medium stiff		16		SPT	610			4 4 3 4	2							
		55															
			17		P	610											
											62						
355	Poorly Graded SAND - medium dense, wet, gray, fine to medium-grained		18				SP	A-2-3									
		60			SPT	406			16 25 28 44	23							
			19														
	Lean CLAY - medium stiff to stiff, wet, olive gray	65					CL	A-6		5							

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-361**

Sheet 1 of 2

Logged by:	A. Waldman
Date Start:	2/15/00
Date Finish:	2/17/00
Station:	58+794.720 7.25 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,177.594 E 15,969.637
Elevation (m):	372.864
Total Depth Drilled (m):	31.7
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-361
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - hard, wet, mottled green and grayish-brown				SPT	610	ML	A-4	2 3 5 19							
	Lean CLAY - medium stiff, wet, gray	70	21		P	406	CL	A-6		58 57	15.1	29	36	15		C TR SG
	Sandy Lean CLAY - very stiff, wet, gray		22				CL	A-6								
350		75	23		SPT	559			6 7 9 15							
		80	24		P	279				38						
			25													
	Silty SAND - medium dense, wet, brown, fine-grained	85	26		SPT	229	SM	A-2-4	5 16 38 49							
		90	27		MC	0			4 44 50/100mm							
345			28													
	Sandy Lean CLAY - medium stiff, wet, grayish-brown,	95	29		SPT	457	CL	A-6	6 13 9 13							
		100	30		P	25										
			31		MC	356			2 5 12 23							
		105	32													
340		110	33													
			34													
		115	35													
		120	36													
335			37													
		125	38													
		130	39													

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

UTDOT Z003RB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-361**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	2/15/00
Date Finish:	2/17/00
Station:	58+794.720 7.25 LT
Line:	I-215 to LP SB
Coordinates (m):	N 107,177.594 E 15,969.637
Elevation (m):	372.864
Total Depth Drilled (m):	31.7
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-362
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / SPT (N1)60 ○ (Greater than 50 Blows)	Test Results * Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - soft, wet, brown						CL	A-6									
		5	1		P	610											
	Silty SAND - loose, wet, tan, fine-grained		2		SPT	457	SM	A-2-4	2 2 1	6	29						
	Lean CLAY - very soft, wet, gray	10	3		MC	457	CL	A-6	0 0 0	0							
	- stiff				SPT	406			4 4 2	12							
	Silty SAND - loose, wet, gray	15	4				SM	A-2-4									
1280			5		P	610											
	Lean CLAY - very soft, wet, dark gray				SPT	457	CL	A-6	0 1 0	2	14						
	- light gray	20	6		MC	457			0 0 0	0							
			7		SPT	457			0 0 0	0							
		25	8		P	610					16 19	13.1	43	34	12		C TR SG
					SPT	457			4 4 12	24							
	Silty SAND - medium dense, wet, gray, fine-grained, with silt		9				SM	A-2-4									
	Lean CLAY - soft, wet, gray	30			MC	457	CL	A-6	0 1 2	3							
	SILT - stiff, wet, gray		10		SPT	457	ML	A-4	5 6 3	13							
1275	Lean CLAY - very soft, wet, gray						CL	A-6									
		35	11		MC	457			0 1 9	11							
	SILT - very stiff, wet, gray, some fine-grained sand layers				SPT	457	ML	A-4	2 3 14	23							
		40	12		MC	457			0 0 0	0							
	- very soft		13		SPT	457			1 1 1	2							
		45	14		P	457					43						
					SPT	0			1 2 3	5							
1270	- medium stiff		15														
		50			MC	381			0 0 2	2							
			16		SPT	457			2 3 6	10							
		55	17		P	610					34						
	Lean CLAY - stiff to medium stiff, wet, gray		18				CL	A-7-6									
		60			SPT	457			2 4 5	9							
			19														
		65															

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-362**

Sheet 1 of 2

Logged by:	C. Wieden
Date Start:	2/21/00
Date Finish:	2/22/00
Station:	56+279.804 6.27 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,124.513 E 16,536.945
Elevation (m):	1284.979
Total Depth Drilled (m):	23.5
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-362
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff to medium stiff, wet, gray (continued)				P	203					70 *57*	13.1	39	45	21		C SG
		70	21		SPT	457			0 2 3	●5							
		75	22		P	254											
		80	23														
1260		85	24														
		90	25														
		95	26														
1255		100	27														
		105	28														
		110	29														
1250		115	30														
		120	31														
		125	32														
		130	33														
			34														
			35														
			36														
			37														
			38														
			39														

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-362**

Sheet **2** of **2**

Logged by:	C. Wieden
Date Start:	2/21/00
Date Finish:	2/22/00
Station:	56+279.804 6.27 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,124.513 E 16,536.945
Elevation (m):	1284.979
Total Depth Drilled (m):	23.5
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-363
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very soft, wet, tan						CL	A-6									
▽			1														
		5			MC	457			0 0 1	●2							
			2		SPT	457			0 0 1	●2							
		10	3	P	P	610											
	Poorly graded SAND with silt - loose, wet, gray, - soft lean clay layer				SPT	457	SP-SM	A-3	0 3 7	●20	24						
			4														
	Lean CLAY - very soft, wet, dark gray	15					CL	A-6									
			5		MC	457			0 0 0	●0							
1280	- medium stiff, occasional silt seams up to 20 mm				SPT	457			0 2 1	●6							
		20	6														
				P	P	508					11	11.9	48	40	17		C
			7		SPT	127			6 2 1	●5	19						SG
	Poorly graded SAND - medium dense, wet, light gray, fine-grained sand	25	8		MC	457	SP	A-3	6 14 15	●37							
	Lean CLAY - soft, wet, light gray, with some silt seams				SPT	152	CL	A-6	4 2 2	●6							
		30	9														
				P	P	610											
1275	SILT - medium stiff, wet, light gray, with occasional sand lenses		10		SPT	457	ML	A-4	7 3 11	●20	29						
	Lean CLAY - medium stiff to stiff, wet, gray	35	11		MC	0	CL	A-6	6 9 5	●16							
					SPT	457			5 5 3	●11							
	SILT - medium stiff, wet, gray	40	12				ML	A-4									
				P	P	610											
			13		SPT	457			2 2 3	●7	48						
	Silty SAND - medium dense to dense, wet, gray,	45	14		MC	457	SM	A-2-4	4 4 10	●14							
	- very dense				SPT	457			8 17 24	●50							
1270		50	15							○							
					MC	457			16 29 30								
			16		SPT	457			9 7 9	●18							
	Fat CLAY - medium stiff to stiff, wet, gray, with occasional silt lenses	55	17				CH	A-7-6									
			18														
		60		P	P	610					52	11.4	51	64	38		C
			19								34						TR
		65															SG

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-363**

Sheet 1 of 2

Logged by:	C. Wieden
Date Start:	2/18/00
Date Finish:	2/19/00
Station:	56+518.546 7.08 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,105.185 E 16,298.985
Elevation (m):	1285.023
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-363
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / SPT (N1)60 ○ (Greater than 50 Blows) 0 25 50	Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Fat CLAY - soft, wet, gray (continued)																
	- very soft, with silt lenses	70	21		SPT	610			0 0 1	●1							
		75	22														
			23														
		80	24		P	457											
1260			25														
		85	26														
			27														
	- stiff	90	28		SPT	457			7 6 5	●9							
		95	29														
1255	-medium stiff	100	30		P	610					34						
			31														
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-363**

Sheet **2** of **2**

Logged by:	C. Wieden
Date Start:	2/18/00
Date Finish:	2/19/00
Station:	56+518.546 7.08 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,105.185 E 16,298.985
Elevation (m):	1285.023
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-364
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, wet, olive-gray				MC	610	ML	A-4	1 8 8 8	26							
			1		SPT	610			4 8 7 7	30							
		5			P	610					19						
			2														
	Lean CLAY - soft, wet, black						CL	A-7-6									
		10	3		MC	610			1 1 2 3	4							
			4														
1280		15	5		P	610					9 24	12.8	39	43	24	100	C TR SG DS
		20	6														
	Poorly Graded SAND - loose, wet, dark gray, fine-grained				MC	0	SP	A-3	5 3 3 2	8							
	Lean CLAY - medium stiff, wet, black		7		SPT	610	CL	A-7-6	4 4 6 4	15							
		25	8		P	610											
		30	9		MC	610			4 4 6 4	10							
1275			10														
		35	11		P	610											
		40	12		MC	610			0 2 3 2	5							
	- with frequent sandy lean clay layers		13														
		45	14		P	610											
1270	Clayey SAND - loose, wet, dark gray						SC	A-2-6									
		50	15		MC	610			0 2 2 3	4							
	Silty CLAY - stiff, wet, gray		16				CL	A-6									
		55	17														
		60	18		P	610					81	16.1	24			86	C SG
			19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-364**

Sheet 1 of 2

Logged by:	G.P. Whittman
Date Start:	2/18/00
Date Finish:	2/21/00
Station:	56+698.883 0.85 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,083.755 E 16,119.817
Elevation (m):	1284.715
Total Depth Drilled (m):	37.0
Drill Contractor:	Haztech Drilling
Driller:	C. Peterson
Rig Type:	CME-75
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-364
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) 0–25–50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty CLAY - stiff, wet, gray (continued)		21														
	Lean CLAY - stiff, wet, olive-gray	70	22		MC	457	CL	A-7-6	7 8 7 6	11							
		75	23														
			24														
1260	- dark gray	80	25		MC	610			0 6 10 11	11							
		85	26														
			27														
	Poorly graded SAND with silt - loose, wet, gray, fine-grained	90	28		MC	102	SP-SM	A-3	4 4 7	8							
		95	29														
1255	SILT - very stiff, wet, gray	100	30		SPT	457	ML	A-4	8 14 20	27							
			31														
	Lean CLAY - medium stiff to stiff, wet, gray, with occasional silt layers	105	32				CL	A-7-6									
			33														
		110	34		MC	457			6 11 11	14							
1250	Silty SAND - dense, wet, gray , fine-grained	115	35				SM	A-2-4									
			36														
		120	37		SPT	457			4 10 23	26							
		125	38														
			39														
1245		130															

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-364**

Sheet 2 of 2

Logged by:	G.P. Whittman
Date Start:	2/18/00
Date Finish:	2/21/00
Station:	56+698.883 0.85 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,083.755 E 16,119.817
Elevation (m):	1284.715
Total Depth Drilled (m):	37.0
Drill Contractor:	Haztech Drilling
Driller:	C. Peterson
Rig Type:	CME-75
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-365
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT with gravel - stiff, moist to wet, brown, with micaceous silts				MC	305	ML	A-4	4 5 5 6	16							
			1		SPT	305			3 5 3 2	15							
		5			SH	305					60 / 62	14.2	32			94	C TR SG
			2		SPT	457			4 4 7 8	19							
		10	3		SH	457											
	Silty GRAVEL with sand - medium dense, wet, gray		4		SPT	508	GM	A-2-4	3 6 9 10	25							
		15			MC	457			7 14 13 17	33							
1290			5		SPT	559			11 14 14 15	44							
		20	6		MC	457			13 41 22 9								
	Silty SAND with gravel - very dense, wet, gray		7		SPT	610	SM	A-2-4	2 3 4 4	10							
	SILT - stiff, wet, brown	25			SH	432	ML	A-4			27 / 38	15.4	28			88	C SG
	Silty SAND - dense, wet, gray		8		SPT	610	SM	A-2-4	9 15 14 18	37							
		30	9		MC	356			14 23 31 27								
1285			10		SPT	610			7 10 7 6	22							
		35	11		MC	406			3 4 5 12	9							
	- with gravel				SPT	356			23 13 15 7	33							
		40	12		MC	356			10 10 9 15	17							
			13		SPT	610			16 30 34 20								
		45	14		MC	305			15 31 29 21								
					SPT	457			6 9 13 21	23							
1280		50	15		MC	356			17 34 50								
			16														
		55	17		SPT	330			8 10 8 13	18							
			18														
	Silty GRAVEL with sand - very dense, wet, gray	60			MC	330	GM	A-2-4	51 53 53 33								
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-365**

Sheet 1 of 2

Logged by:	M. Hislop
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	60+408.284 1.91 RT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,949.836 E 19,120.112
Elevation (m):	1295.070
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-365
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty GRAVEL with sand - very dense, wet, gray (continued)				SPT	356			22 25 36 34								
		70	21		MC	508			14 21 38 42	●45							
			22		SPT	356			15 31 40 54	○							
		75	23														
			24														
		80															
1270			25														
		85	26														
			27														
		90															
			28														
		95	29														
1265			30														
		100															
			31														
		105	32														
			33														
		110															
			34														
1260		115	35														
			36														
		120															
			37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-365**

Sheet 2 of 2

Logged by:	M. Hislop
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	60+408.284 1.91 RT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,949.836 E 19,120.112
Elevation (m):	1295.070
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-366
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - medium stiff, moist, dark brown, trace of mica				MC	457	ML	A-4	3 3 4 4							
			1		SPT	610			2 2 4 5							
	Fat CLAY - stiff, wet, brown mottled orange, with trace mica	5					CH	A-7-6								
			2		SH	457				30 *48*	13.4	38	59	31		C TR SG SV
	Silty SAND - medium dense, wet, brown, micaceous - trace gravel				SPT	610	SM	A-2-4	2 4 5 6							
		10	3		MC	305			4 4 15 16							
	Silty CLAY - very stiff, moist, brown mottled orange and gray, with mica						CL-ML	A-6								
	Silty GRAVEL with sand - dense, wet, gray		4		SPT	610	GM	A-2-4	8 8 11 22							
1290		15	5		MC	305			4 14 21 31							
					SPT	610			7 6 22 31							
		20	6		MC	305			6 8 24 31							
			7		SPT	610			8 6 12 20							
		25	8		MC	737			18 15 14 1							
					SPT	457			6 21 7 10							
	SILT - stiff, wet, brown		9				ML	A-2-4								
		30			SH	610										
1285			10													
		35	11		MC	305			6 7 13 19							
					SPT	610			4 5 26 27							
	Silty GRAVEL with sand - dense, wet, gray		12				GM	A-2-4								
		40			MC	356			24 28 49 50							
	SILT - hard, wet, brown		13		SPT	356	ML	A-4	16 29 35 32							
	Silty GRAVEL with sand - very dense, wet, gray						GM	A-2-4								
		45	14		MC	203			26 50/100mm							
					SPT	356			37 40 50/125mm							
1280		50	15		MC	457			10 25 69							
			16													
		55	17		SPT	406			29 29 30 30							
			18													
		60			MC	330			12 21 21 20							
			19													
1275	Silty SAND with gravel- dense, wet, gray	65					SM	A-2-4								

Legend: ● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003RB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-366**

Sheet **1** of **2**

Logged by:	M. Hislop
Date Start:	3/2/00
Date Finish:	3/3/00
Station:	60+267.794 3.08 LT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,811.316 E 19,143.614
Elevation (m):	1294.723
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-366
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND with gravel- very dense, wet, gray (continued)				SPT	457			11 15 18 17								
		70	21		MC	508			10 27 46 51								
	- very dense		22		SPT	610			13 50 17 9								
		75	23														
			24														
		80															
1270			25														
		85	26														
			27														
		90															
			28														
		95	29														
1265			30														
		100															
			31														
		105	32														
			33														
		110															
			34														
1260		115	35														
			36														
		120															
			37														
		125	38														
			39														
1255		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-366**

Sheet **2** of **2**

Logged by:	M. Hislop
Date Start:	3/2/00
Date Finish:	3/3/00
Station:	60+267.794 3.08 LT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,811.316 E 19,143.614
Elevation (m):	1294.723
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-367
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, wet, black						CL	A-6								
		5	1		MC	559			3 4 3 3							
			2		SPT	610			0 2 4 6							
		10	3	P	P	635				*19*						
					SPT	483			7 8 6 8							
	Silty SAND - medium dense, wet, gray to black		4				SM	A-2-4								
1290		15	5		SPT	305			10 12 10 12							
		20	6		MC	305			16 15 14 19							
	- dense		7		SPT	356			14 22 24 28							
		25	8		SPT	203			12 18 24							
	Silty CLAY - soft, wet, brown to black	30	9		MC	559	CL	A-6	1 3 4 5							
1285			10													
	Sandy Lean CLAY - soft, wet, brown to black	35			P	406	CL	A-6		36 *43*	15.2	29			88	C TR SG
			11		SPT	508			1 1 3 4							
		40	12		MC	406			19 26 35 32							
	Silty SAND with gravel - dense, wet, gray to black		13				SM	A-2-4								
		45	14		MC	0			14 14 18 18							
1280	- medium dense	50	15		SPT	203			21 32 35 41							
	- very dense		16													
		55	17		SPT	279			29 33 46 32							
		60	18		SPT	178			10 30 35 33							
	- dense		19													
1275		65														

Graphic Log scale: 0 25 50

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003RIB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-367**

Sheet 1 of 2

Logged by:	J. Criss
Date Start:	3/7/00
Date Finish:	3/9/00
Station:	60+110.925 19.11 RT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,676.840 E 19,226.605
Elevation (m):	1294.645
Total Depth Drilled (m):	23.2
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

Boring: RB-367
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND with gravel - dense, wet, gray to black (continued)				SPT	127			36 50/ 100mm								
		70	21		SPT	305			18 24 31 38	●43							
			22														
		75	23		SPT	254			39 42 50/ 100mm	●31							
			24														
1270		80	25														
		85	26														
			27														
		90	28														
		95	29														
1265			30														
		100	31														
		105	32														
			33														
		110	34														
1260		115	35														
			36														
		120	37														
		125	38														
			39														
1255		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-367**

Sheet **2** of **2**

Logged by:	J. Criss
Date Start:	3/7/00
Date Finish:	3/9/00
Station:	60+110.925 19.11 RT
Line:	I-15 SB to LP SB
Coordinates (m):	N 123,676.840 E 19,226.605
Elevation (m):	1294.645
Total Depth Drilled (m):	23.2
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-368
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	Silty SAND - medium stiff, moist, light gray-brown				MC	508	SM	A-2-4	3 3 4 5	9							
	Lean CLAY - soft to medium stiff, wet, light gray, with minor light brown mottling		1		SPT	483	CL	A-7-6	2 1 2 2	5							
		5	2		P	584					14						
	- with silt lenses				SPT	610			1 1 1 2	2							
		10	3		MC	584			2 3 2 3	5							
			4		SPT	610			3 2 3 6	7							
		15	5		P	559					14 29	13.3	38	43	18		C TR SG
1280	Silty SAND - loose, wet, gray, fine-grained						SM	A-2-4									
	Sandy SILT - soft to medium stiff, wet, gray				SPT	356	ML	A-4	1 1 1 1	2							
		20	6		MC	152			1 3 2 3	5							
			7		SPT	457			1 2 2 3	4							
		25	8		P	610					38						
	Silty SAND - loose, wet, light brown, with trace clay, fine-grained with mica flakes				SPT	356	SM	A-2-4	1 3 5 5	8							
	Silty CLAY - soft, wet, gray, with occasional fine-grained sand	30	9		MC	508	CL-ML	A-6	1 1 2 4	3							
			10		SPT	508			2 5 12 15	17							
1275	Silty SAND - medium dense, wet, gray , fine-grained, with mica flakes						SM	A-2-4									
		35	11		P	610					24						
					SPT	356			2 1 3 6	4							
		40	12														
	SILT - soft, wet, dark gray, with occasional fine-sand				MC	610	ML	A-4	2 2 2 4	4							
	- medium stiff		13		SPT	610			2 3 2 3	5							
		45	14		P	610					43	13.0	39				C SG
					SPT	610			1 2 5 7	8							
1270	Silty SAND - medium dense, wet, gray, fine-grained	50	15		SPT	457	SM	A-2-4	1 12 15 16	30							
			16														
	SILT with sand - very stiff, wet, dark gray	55	17		P	508	ML	A-2-4			36 29	17.1	24			76	
			18														
		60	19		SPT	508			3 6 16 15	25							
		65															

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-368**

Sheet **1** of **2**

Logged by:	W. Lewis
Date Start:	2/6/00
Date Finish:	2/7/00
Station:	5+309.965 0.06 LT
Line:	Center Street
Coordinates (m):	N 107,994.964 E 15,553.859
Elevation (m):	1285.236
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-59
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-368
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Silty SAND - dense, wet, gray				P	0											
					P	305	SM	A-2-4									
		70	21		SPT	559			8 20 21 30	45							
			22														
	- medium dense	75	23		SPT	584			6 12 15 27	29							
			24														
		80	25														
1260		85	26														
			27														
		90	28														
		95	29														
1255		100	30														
			31														
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-368**

Sheet 2 of 2

Logged by:	W. Lewis
Date Start:	2/6/00
Date Finish:	2/7/00
Station:	5+309.965 0.06 LT
Line:	Center Street
Coordinates (m):	N 107,994.964 E 15,553.859
Elevation (m):	1285.236
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-59
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-369
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, moist, light gray-brown				MC	508	CL	A-7-6	3 3 4 5							
	- wet		1		SPT	559			3 1 3 2							
1285	medium stiff	5			P	254				34	11.5	48	48	25	99	C TR SG
	Silty SAND - loose, wet, light grayish-brown, fine to medium-grained		2				SM	A-2-4								
	Lean CLAY - soft, wet, light brown with yellow-brown mottling				SPT	610	CL	A-7-6	1 1 2 4							
		10	3		MC	610			1 1 2 1							
			4		SPT	457			1 1 1 1							
	- gray, with organics	15			P	610				14						
			5		SPT	610	ML	A-4	1 1 2 4							
	SILT - soft, wet, dark gray						SM	A-2-4								
	Silty SAND - loose, wet, gray	20	6		MC	610	ML	A-4	1 1 1 1							
1280	SILT - soft, wet, dary gray, with organics and seams of fine-grained sand		7		SPT	610			1 2 1 6							
	Silty SAND - loose, wet, gray						SM	A-2-4								
	SILT - soft, wet, dark gray, with organics	25	8		P	559	ML	A-4		57						
					SPT	610			1 1 1 1							
		30	9		MC	610			1 1 2 2							
			10		SPT	610			2 2 3 4							
	- medium stiff, green-gray	35	11		P	508				34						
1275	- soft, wet, mottled green-gray and dark gray, with fine-grained sand, mica flakes with trace clay				SPT	610			1 1 2 2							
		40	12		MC	610			1 1 1 2							
			13		SPT	610			3 6 3 3							
	Silty SAND - loose, wet, gray, fine-grained						SM	A-2-4								
	Lean CLAY - soft, wet, dark gray	45	14		P	610	ML	A-7-6		60 53	15.3	28	45	25	86	
	- medium stiff		15		SPT	559			2 3 4 5							
	- soft	50			SPT	533			2 2 2 3							
1270			16													
		55	17		P	305				57	15.3	28			97	C SG
			18													
	- medium stiff	60			SPT	559			4 5 4 6							
			19													
		65			P											

Legend: ● SPT $(N_1)_{60}$; ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-369**

Sheet 1 of 2

Logged by:	W. Lewis
Date Start:	2/8/00
Date Finish:	2/8/00
Station:	5+569.100 3.99 LT
Line:	Center Street
Coordinates (m):	N 108,005.988 E 15,811.167
Elevation (m):	1286.162
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-59
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-369
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, wet, dark gray (continued)				P	305											
1265	Silty SAND - medium dense, wet, light brownish-gray, fine-grained	70	21														
			22		SPT	533	SM	A-2-4	5 10 17 20	●24							
		75	23		SPT	330			5 7 14 20	●21							
			24														
		80	25														
1260		85	26														
			27														
		90	28														
		95	29														
			30														
		100	31														
1255		105	32														
			33														
		110	34														
		115	35														
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-369**

Sheet **2** of **2**

Logged by:	W. Lewis
Date Start:	2/8/00
Date Finish:	2/8/00
Station:	5+569.100 3.99 LT
Line:	Center Street
Coordinates (m):	N 108,005.988 E 15,811.167
Elevation (m):	1286.162
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-59
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-370
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)				SPT (N1)60 ● / (N1)60 (Greater than 50 Blows) ○ (0 25 50)	Su kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND - medium dense to dense, moist, brown to dark brown, trace gravel				MC	381			10	9	10	12	34							
			1		SPT	203			9	8	5	4	29							
		5			MC	152			5	4	3	3	10							
			2		SPT	432			4	7	10	10	27							
		10	3		MC	610			4	3	4	5	9							
	Sandy Lean CLAY - stiff to very stiff, wet, gray		4		SPT	152	CL	A-6	5	6	5	4	17							
		15			MC	457			4	4	5	6	11							
1290			5		SPT	0			3	7	5	3	19							
	- gravel lense	20	6		SH	610								43						
			7		SPT	508	SM	A-2-4	7	4	2	3	9							
	Silty SAND - loose, wet, gray, fine to medium-grained																			
	Clayey SILT - medium stiff, wet, gray	25					CL-ML	A-4												
	- silty sand lenses		8		MC	229			3	2	4	3	7							
					SPT	610			2	2	3	3	7							
	Lean CLAY - medium stiff, wet, brown, with occasional layers fine-grained sand		9				CL	A-6												
	SILT - medium stiff to stiff, wet, gray, with clay seams	30			MC	305	ML	A-4	2	3	5	7	8							
1285	Lean CLAY - stiff, wet, brown		10		SPT	610	CL	A-6	5	6	9	6	20							
	Poorly graded SAND with silt - medium dense to dense, wet, brownish-gray, with lean clay lenses	35	11		MC	610	SP	A-2-4	4	4	6	8	11							SV
					SPT	610			10	10	15	10	35							
		40	12		MC	610			7	4	4	4	8							
			13		SPT	610			4	3	4	2	7							
		45	14		MC	559			2	3	3	3	6							
	Sandy SILT - medium stiff, wet, gray, with lean clay lenses				SPT	610	ML	A-7-6	2	2	3	6	5							
1280			15																	
		50			MC	610			3	3	3	6	6							
			16																	
		55	17		SPT	610			6	4	6	5	12							
	- stiff		18																	
		60			SH	610								64 / 53	12.7	43	44	16		C TR SG
			19																	
		65											9							

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-370**

Sheet **1** of **2**

Logged by:	M. Bostrom
Date Start:	3/14/00
Date Finish:	3/14/00
Station:	50+571.674 7.54 RT
Line:	Glovers Lane
Coordinates (m):	N 121,721.642 E 19,772.521
Elevation (m):	1295.032
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-370
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - stiff, wet, gray, with lean clay lenses (continued)				SPT	610			3 4 3 8								
		70	21														
					SH	610					57						
			22		SPT	610			2 3 2 3	●6							
		75	23														
			24														
		80															
1270			25														
		85	26														
			27														
		90															
			28														
		95	29														
1265			30														
		100															
			31														
		105	32														
			33														
		110															
			34														
1260		115	35														
			36														
		120															
			37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-370**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	3/14/00
Date Finish:	3/14/00
Station:	50+571.674 7.54 RT
Line:	Glovers Lane
Coordinates (m):	N 121,721.642 E 19,772.521
Elevation (m):	1295.032
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-371
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, wet, dark brown				P	610	CL	A-7-6								
			1		SPT	305			4 5 8 10	29						
	- light reddish-brown	5														
1285			2		MC	508			1 2 2 2							
					SPT	610			1 2 3 3							
		10	3		P	533				22	14.3	34	42	22	97	C
	SILT - medium stiff, gray						ML	A-4		38						SG
	Silty SAND - dense, wet, gray, fine-grained		4		SPT	610	SM	A-2-4	0 2 6 5							DS
		15														
			5		MC	356			5 19 20 20							
					SPT	305	CH	A-7-6	4 3 4 3							
	Fat CLAY - medium stiff, wet, olive, frequent fine-grained sand and silt lenses	20	6		P	610										
1280			7		SPT	432			2 3 5 6	62						
	- very stiff	25	8		MC	610			9 7 15 23							
	Silty SAND - medium dense, wet, gray, with trace gravel				SPT	305	SM	A-2-4	3 4 10 17							
		30	9		P	610										
	Lean CLAY - very stiff, wet, reddish-brown						CL	A-6		86						
			10		SPT	508			3 7 9 13							
		35	11		MC	508			4 6 11 16							
	Sandy Lean CLAY - stiff, wet, reddish-brown				SPT	508	CL	A-6	7 8 9 11							
1275		40	12		P	610										
			13		SPT	610			2 1 4 5	38						
	Silty SAND - dense, wet, gray	45	14		MC	406	SM	A-2-4	5 15 38 40							
					SPT	508	CL	A-6	5 7 10 14							
	Lean CLAY - very stiff, wet, olive-gray	50	15		P	610										
			16		SPT	508			6 9 12 18	48						
1270		55	17		P	102				96						
	Sandy Lean CLAY - stiff, wet, grayish-brown				P	610	CL	A-6		96						
	Lean CLAY - very stiff, olive-gray, caliche rich	60	18		SPT	457	CL	A-6	4 8 10 15							
		65	19													

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Test Results *

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-371**

Sheet 1 of 2

Logged by:	A. Waldman
Date Start:	2/28/00
Date Finish:	2/29/00
Station:	70+338.171 0.29 RT
Line:	500 South
Coordinates (m):	N 112,710.357 E 16,229.692
Elevation (m):	1286.826
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

Boring: RB-371
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very stiff, olive-gray, caliche rich (continued)				P	330					32 *86*	18.5	17	29	13	86	C TR SG
	Sandy CLAY - medium stiff to stiff, wet, grayish-brown	70	21				CL	A-6									
1265			22		SPT	610			2 4 4 7	●6							
		75	23		P	610											
			24														
	- olive gray	80	25		SPT	508			7 9 12 20	●15							
		85	26		P	406					*86*						
1260			27														
		90	28		SPT	610			3 5 8 10	●8							
		95	29		P	483											
	Clayey SAND - medium dense, wet, olive, fine-grained						SC	A-2-6									
	Lean CLAY - stiff, wet, olive		30				CL	A-6									
		100	31		SPT	508			3 8 11 15	●12							
1255		105	32														
			33														
		110	34														
		115	35														
			36														
1250		120	37														
		125	38														
			39														
		130															

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-371**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	2/28/00
Date Finish:	2/29/00
Station:	70+338.171 0.29 RT
Line:	500 South
Coordinates (m):	N 112,710.357 E 16,229.692
Elevation (m):	1286.826
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-372
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty CLAY - soft, wet, grayish-brown		1				CL-ML	A-6									
		5			MC	457			3 1 2 3	4							
			2		SPT	457			2 1 2 3	5							
	- mottled gray and rust-colored, occasional lenses of medium to coarse-grained sands	10	3		SH	508					53						
			4		SPT	457			2 2 5 5	9							
	- stiff	15			MC	305			4 7 12 17	19							
1290	Silty SAND with gravel - medium dense, wet, gray, with fine-grained gravel		5		SPT	406	SM	A-2-4	9 10 12 9	29							
		20	6		MC	305			21 17 18 15	37							
	- dense		7		SPT	356			11 12 4 3	29							
	SILT - soft to medium stiff, wet, reddish-brown, with frequent seams of gray very fine-grained sand	25					CL-ML	A-6									
	- medium dense		8		SH	508					28 43	15.7	30	33	7	93	C TR SG
					SPT	610			3 2 4 4	7							
	- stiff	30	9		MC	229			6 6 5 5	11							
1285	- medium stiff		10		SPT	610			3 3 2 3	6							
		35			SH	610											
			11		SPT	610			3 3 5 5	9	38	15.1	28				C SG
	- stiff, with frequent seams of fine to medium-grained sands	40	12		MC	457	SM	A-2-4	14 23 15 13	35							
	Silty SAND - dense, wet, gray		13		SPT	610	CL-ML	A-6	4 5 5 3	12							
	Silty CLAY - stiff, wet, gray, with frequent seams of medium to coarse-grained sand 25 mm thick	45															
	- very stiff		14		MC	457			8 16 11 15	24							
	Silty SAND - medium dense to dense, wet, gray, with medium-grained sand				SPT	610	SM	A-2-4	7 7 13 18	22							
1280		50	15		MC	457			11 22 17 20	35							
			16														
		55	17		SPT	305			20 14 14 15	30							
			18														
		60			MC	508			14 10 28 50/125mm	34							
	SILT - very stiff, wet, gray, with some coarse-grained sand		19				ML	A-4									
		65								24							

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-372**

Sheet 1 of 2

Logged by:	M. Bostrom
Date Start:	3/23/00
Date Finish:	3/23/00
Station:	70+447.152 11.43 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 123,619.606 E 19,255.658
Elevation (m):	1295.022
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-372
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - very stiff, wet, gray, with some coarse-grained sand (continued)				SPT	457			13 10 12 22								
		70	21		MC	457			14 14 11 11	26							
	Silty SAND - very dense, wet, gray, with medium to coarse-grained sand		22		SPT	508	SM	A-2-4	6 17 50/ 125mm								
		75	23														
			24														
		80															
1270			25														
		85	26														
			27														
		90															
			28														
		95	29														
1265			30														
		100															
			31														
		105	32														
			33														
		110															
			34														
1260		115	35														
			36														
		120															
			37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-372**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	3/23/00
Date Finish:	3/23/00
Station:	70+447.152 11.43 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 123,619.606 E 19,255.658
Elevation (m):	1295.022
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-373
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 / SPT (N1)60 (Greater than 50 Blows)	Su, kPa (torvane in italics)	Dry Density, kN/m3	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1295	FILL: Poorly Graded GRAVEL with sand - loose, moist, gray																
	Lean CLAY - medium stiff, wet, mottled gray, dark brown and reddish brown	5	1				CL	A-6									
			2		MC	51			6 7 10 8	17							
	Silty SAND - loose, gray, fine-grained				SPT	406	SM	A-2-4	9 3 4 3	8						40	
	- some gravel	10	3		MC	203			4 3 5 8	7							
			4		SPT	152			4 3 5 7	8							
	Well graded GRAVEL with silt and sand - dense, wet, gray	15	5		MC	305	GW-GM	A-1	16 26 30 27	45							SV
1290					SPT	76			6 13 17 15	28							
		20	6		MC	152			17 19 20 19	31							
	Silty SAND - loose, wet, brownish-gray		7		SPT	152	SM	A-2-4	9 9 7 3	15							
		25	8		MC	305			2 3 2 5	6						38	
					SPT	356			2 3 8 9	10							
	Lean CLAY - medium stiff, wet, gray, frequent silty sand seams	30	9		MC	305	CL	A-6	1 3 6 7	6							
			10		SPT	483			3 4 5 6	7							
1285		35	11	P	P	610					36 *51*	16.6	25	32	12	91	C TR SG DS
					SPT	356			2 3 16 11	15							
	Poorly Graded GRAVEL with sand - medium dense, wet, gray, fine-grained	40	12				GP	A-1									
	Clayey SAND - medium dense, wet, olive gray, fine to medium-grained				MC	305	SC	A-2-6	3 6 7 16	8							
	Well graded GRAVEL with silt and sand - dense, wet, gray		13		SPT	356	GW-GM	A-1	16 33 15 25	37							SV
		45	14		MC	152			3 17 23 30	26							
	Silty SAND - medium dense, wet, gray, fine to coarse-grained, occasional clay seams				SPT	203	SM	A-2-4	7 15 12 9	21							
		50	15		MC	457	GP	A-1	4 8 29 49	24							
1280	Poorly Graded GRAVEL with sand - medium dense, wet, gray		16		SPT	305			12 25 28 30	42							
	Silty GRAVEL - very dense, wet, olive gray	55					GM	A-1									
			17		MC	305			15 33 47 41								
		60	18														
	- medium dense				SPT	305			7 18 17 31	27							
		65	19							40							

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-373**

Sheet **1** of **2**

Logged by:	A. Waldman
Date Start:	3/2/00
Date Finish:	3/3/00
Station:	70+604.650 4.71 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 123,766.960 E 19,220.257
Elevation (m):	1295.507
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/1/00

Boring: RB-373
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1275	Silty GRAVEL - dense, wet, olive gray (continued)				MC	203			16 31 32								
	Fat CLAY - medium stiff to stiff, olive gray	70	21		SPT	178	CH	A-7-6	1 6 8 7	11							
	Silty GRAVEL - dense to medium dense, wet, gray	75	22		MC	1295	GM	A-2-4	26 50/ 125mm								
		80	23		SPT	254			1 2 32 50	31							
1270	Lean CLAY - very stiff, wet, olive gray	85	24		MC	483	CL	A-6	2 13 21 50	25							
	Clayey SAND with gravel - medium dense, wet, olive gray	90	25		SPT	305	SC	A-2-6	4 11 17 20	21							
1265		95	26		MC	152			21 18 22 25	20							
		100	27		SPT	406			8 5 21 50	17							
1260		105	28														
		110	29														
		115	30														
		120	31														
		125	32														
		130	33														
			34														
			35														
			36														
			37														
			38														
			39														

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-373**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	3/2/00
Date Finish:	3/3/00
Station:	70+604.650 4.71 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 123,766.960 E 19,220.257
Elevation (m):	1295.507
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

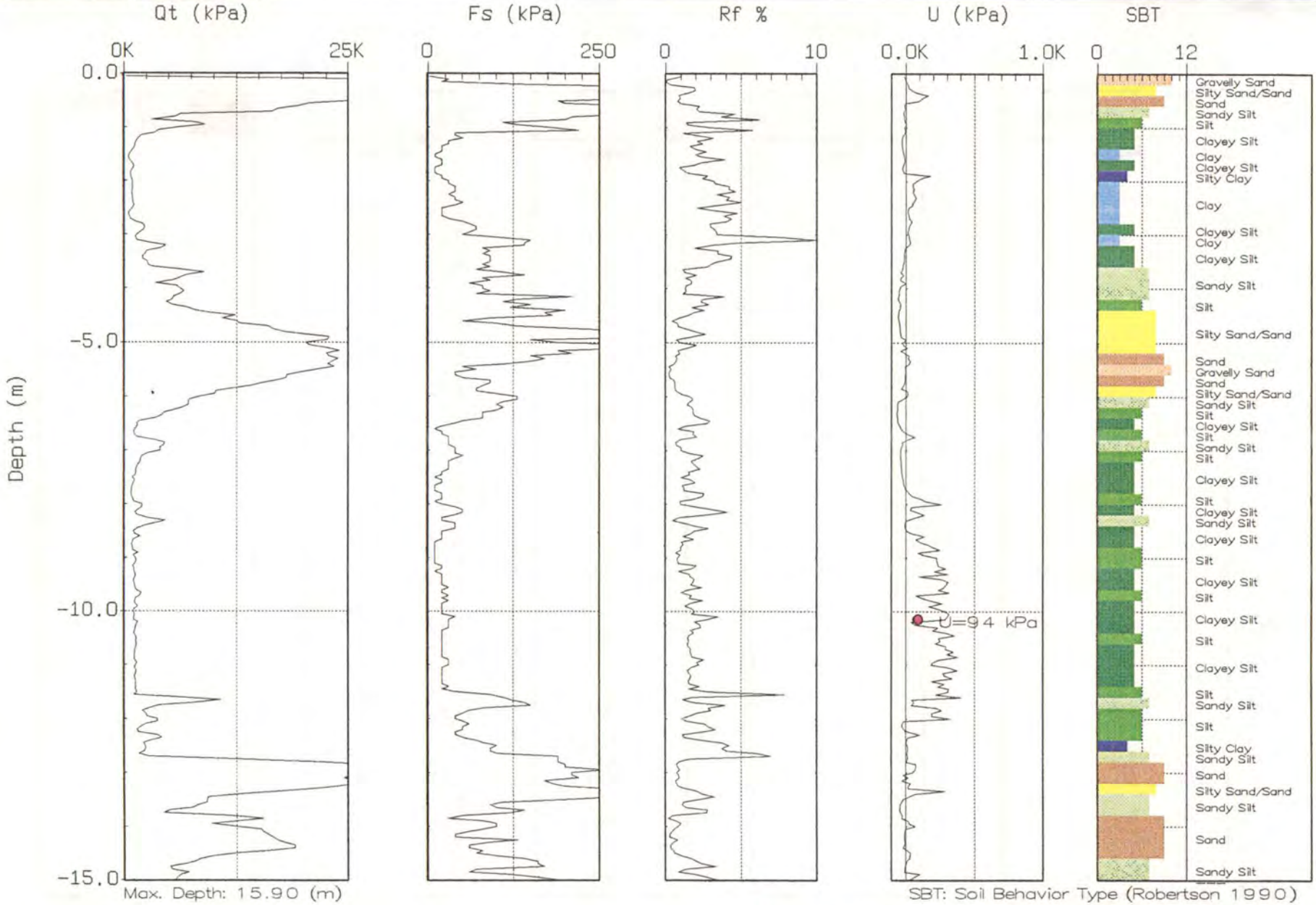
BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/1/00

Legacy Parkway

Site: RC-373
Station: 70+601.725 2.71 RT
Elevation: 1295.444

Cone: 20 TON A 070
Date: 05:09:00 09:14



Max. Depth: 15.90 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

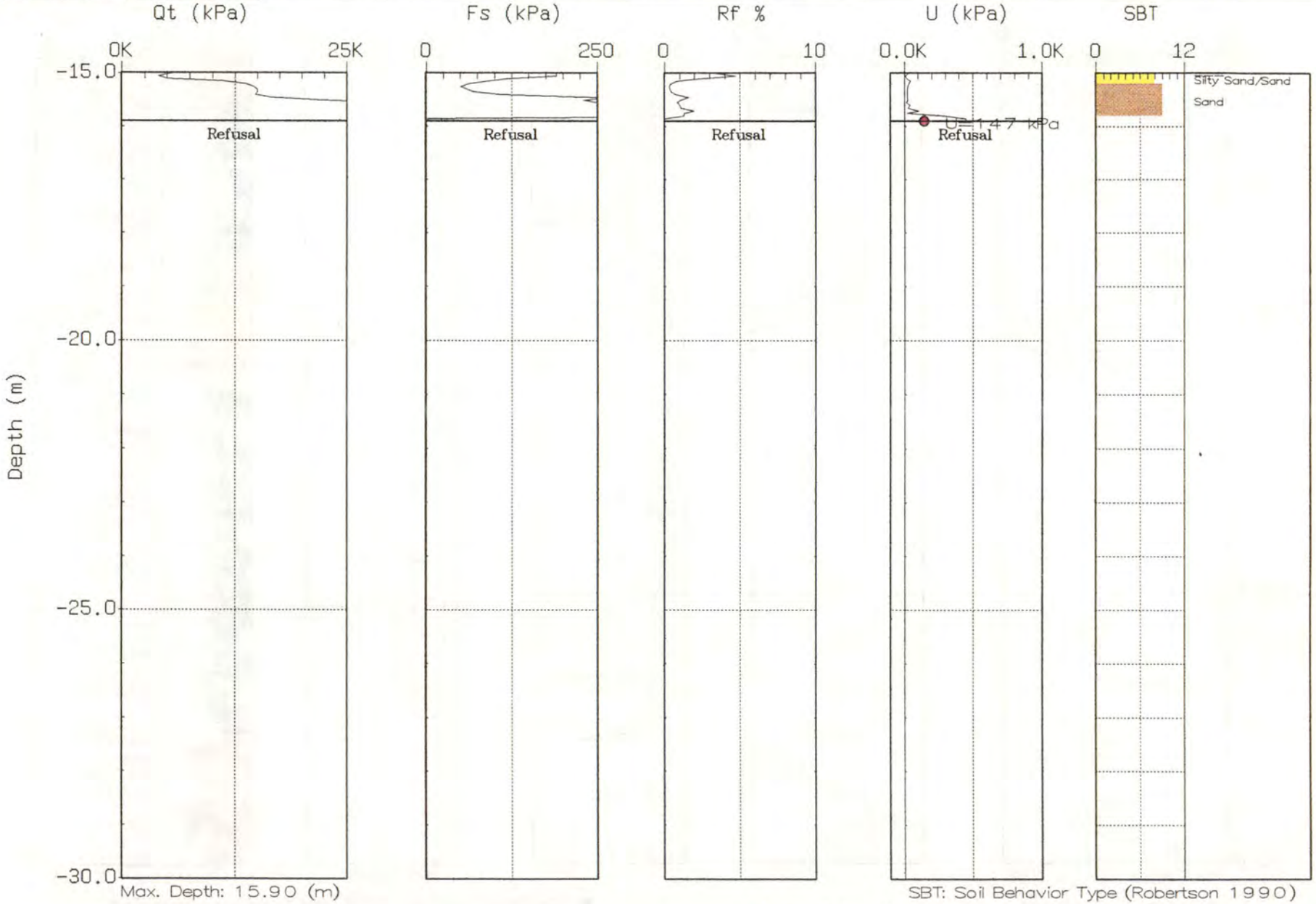
● Equilibrium (or near) Pore Pressure from Dissipation

PLATE D-35

Legacy Parkway

Site: RC-373
Station: 70+601.725 2.71 RT
Elevation: 1295.444

Cone: 20 TON A 070
Date: 05:09:00 09:14



Max. Depth: 15.90 (m)
Depth Inc.: 0.050 (m)

SBT: Soil Behavior Type (Robertson 1990)

● Equilibrium (or near) Pore Pressure from Dissipation

PLATE D-36

Boring: RB-374
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - dense, moist, light brown				MC	457			2 14 18 20	44							
			1		SPT	406			7 14 15 15	48							
		5			MC	0			7 5 6 5	13							
			2		SPT	406			1 2 1 2	3							
	Sandy Lean CLAY - soft, wet, dark gray						CL	A-6									
		10	3		P	559											
1295											34						
	Lean CLAY - soft, wet, dark brown		4		SPT	432	CL	A-6	0 2 2 3	6							
		15			MC	330			0 2 2 3	4							
			5		SPT	610			0 1 2 3	3							
		20	6		P	584					36 34	15.7	27	36	17	90	C SG
			7		SPT	508			1 2 3 2	5							
		25			MC	584			0 1 3 4	4							
			8		SPT	610			0 0 7 7	7							
1290	- medium stiff																
		30	9		P	508					38 57	14.2	25	35	14	94	C SG
			10		SPT	457			0 1 32 30	35							
	Poorly Graded SAND with gravel - very dense, wet, gray, angular gravel	35					SP	A-3									
			11		MC	76			34 50 48 22								
					SPT	203			9 13 20 45	33							
		40	12		MC	178			24 14 10 29	19							
			13		SPT	127			5 5 5 13	10							
1285		45															
			14		MC	305			32 43 34 25								
					SPT	178			5 10 23 50	29							
		50	15														
					MC	25			13 3 2 2	3							
	Sandy SILT - medium stiff, wet, gray, some clay, medium to fine-grained sand		16		SPT	610	ML	A-4	4 5 8 9	11							
	Silty SAND - loose, wet, gray, fine to medium-grained	55					SM	A-2-4									
			17		SPT	610			4 6 5 9	9							
	- with gravel, very dense		18														
1280		60			SPT	203			17 31 36 50/130 mm								
			19														
		65								38							

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-374**

Sheet **1** of **2**

Logged by:	G. Burgess
Date Start:	3/6/00
Date Finish:	3/8/00
Station:	71+086.495 1.40 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 124,248.802 E 19,178.835
Elevation (m):	1298.436
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-374
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND with gravel - very dense, wet, gray (continued)		21		SPT	178			8 34 18 24								
	Sandy SILT - stiff, wet, gray	70	22		SPT	330	ML	A-4	19 10 10 12	14							
1275	- medium dense	75	23		SPT	610			4 10 18 50/125 mm	20							
		80	24 25		SPT	610			3 11 6 5	11							
		85	26 27		SPT	457			2 5 9 10	10							
1270		90	28		SPT	559			4 5 9 10	9							
	Silty SAND with gravel - dense, wet, gray, brown, trace of clay	95	29 30		SPT	305	SM	A-2-4	3 7 10 14	12							
1265		100 105 110	31 32 33 34		SPT	305			9 25 25 28	35							
1260		115 120 125 130	35 36 37 38 39														

UTDOT Z003RB.GPJ 8/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-374**

Sheet **2** of **2**

Logged by:	G. Burgess
Date Start:	3/6/00
Date Finish:	3/8/00
Station:	71+086.495 1.40 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 124,248.802 E 19,178.835
Elevation (m):	1298.436
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-375
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - very dense, moist, brown				MC	457			2 9 34 39							
			1		SPT	508			20 23 29 38							
		5			MC	152			9 3 8 10							
	SILT - soft, wet, dark brown		2		SPT	152	ML	A-4	2 3 3 3							
	Silty SAND - loose, wet, dark brown	10	3		P	305	SM	A-2-4								
1295			4		SPT	356			2 4 4 2							
		15			MC	76			5 11 3 2							
			5		SPT	203			2 1 2 2							
	Sandy SILT - very soft, wet, brown	20	6		P	203	ML	A-4								
	Silty CLAY - medium stiff, wet, brown to gray, with sand lenses		7		SPT	356	CL-ML	A-6	5 5 4 4							
		25			MC	457			3 5 6 8							
			8		SPT	406			2 4 4 6							
1290	SILT - very soft, wet, dark gray, with fine to medium-grained sand lenses	30	9		P	457	ML	A-4		49 *48*	15.7	27			97	C TR SG
			10		SPT	610			2 1 2 3							
	- medium stiff	35	11		MC	356			4 4 5 6							
					SPT	356			15 12 4 5							
	Silty SAND with gravel - very dense, wet, gray, angular gravel	40	12		P		SM	A-2-4								
			13		SPT	152			11 33 49 51							
		45	14		MC	102			3 45 63 39							
1285					SPT	127			5 7 12 16							
	- medium dense		15													
		50			MC	0			11 20 26 33							
			16		SPT	483			14 18 38 21							
	- dense	55	17		SPT	178			8 11 14 20							
	-medium dense		18													
		60			SPT	0			5 8 9 6							
	- loose		19													
1280		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-375**

Sheet 1 of 1

Logged by:	G. Burgess
Date Start:	3/8/00
Date Finish:	3/9/00
Station:	71+238.091 0.81 RT
Line:	US 89 SB to LP SB
Coordinates (m):	N 124,391.737 E 19,128.227
Elevation (m):	1299.085
Total Depth Drilled (m):	18.9
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-376
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty GRAVEL - dense, moist, dark brown, fine to coarse-grained				MC	152			6 26 27 19							
1285					SPT	432			6 10 12 9							
	Lean CLAY - very stiff, wet, gray		1				CL	A-6								
		5			MC	0			8 9 11 9							
	Fat CLAY - stiff, wet, dark gray		2		SPT	152	CH	A-7-6	9 4 3 3							
		10	3		P	305				48						
	Lean CLAY - very soft to soft, wet, gray, occasional silt lenses		4		SPT	610	CL	A-6	0 0 0 0							
	Poorly Graded SAND - medium dense, wet, gray	15			MC	356	SP	A-3	12 19 20 17							
			5		SPT	610			11 11 14 18							
1280																
	Lean CLAY - medium stiff, wet, brown	20	6		P	610	CL	A-6		65 48	15.7	27	36	13	94	C TR SG DS
	Silty SAND - loose, fine-grained, some clay seams		7		SPT	457	SM	A-2-4	1 2 4 4							
	Poorly Graded SAND - loose, wet, gray	25					SP	A-3								
			8		MC	610			2 1 3 1							
	SILT - soft, wet, brownish-gray						ML	A-4								
					SPT	305			1 2 2 2							
	Fat CLAY - very soft, wet, gray		9				CH	A-7-6								
		30			P	584										
			10		SPT	610			0 0 0 2							
1275	- silty sand lenses	35			MC	305			1 0 1 5							
	SILT - medium stiff, wet, gray		11				ML	A-4								
					SPT	457			1 1 3 8							
	Lean CLAY with sand - very soft, gray, with fine-grained sand	40	12				CL	A-6								
					P	610				24	13.4	31	35	13		C SG
			13		SPT	457			2 3 9 6							
	Silty SAND - medium dense, gray, fine-grained, occasional clay seams						SM	A-2-4								
		45	14		MC	305			25 55 14 4							
					SPT	457			2 2 9 7							
			15													
	Fat CLAY - very soft, wet, black	50			P	610	CH	A-7-6		48						
1270			16		SPT	610			1 2 3 3							
	- medium stiff - soft, olive gray															
	- occasional silty sand seams	55	17		P	610				67						
	Lean CLAY - medium stiff to stiff, olive gray						CL	A-6								
			18													
		60			SPT	610			7 6 7 10							
			19													
		65			P											

Test Results *

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-376**

Sheet 1 of 2

Logged by:	A. Waldman
Date Start:	2/20/00
Date Finish:	2/21/00
Station:	6002+008.023 0.84 LT
Line:	D Mainline
Coordinates (m):	N 106,731.773 E 15,387.081
Elevation (m):	1285.629
Total Depth Drilled (m):	30.9
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-376
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Lean CLAY - very stiff, wet, olive gray (continued)				P	610										
		70	21													
	Fat CLAY - soft to medium stiff, wet, olive gray, very fine-grained, laminae		22		SPT	610	CH	A-7-6	1 1 0 3							
		75	23		P	610										
	Silty SAND - medium dense, wet, gray						SM	A-2-4		38						
			24													
		80			SPT	406			4 12 24 28							
			25													
1260	- lean clay seams, olive-gray	85	26		P	610				48						
			27													
		90			SPT	381			6 26 33 28							
			28													
	Fat CLAY - stiff, wet, olive gray						CH	A-7-6								
		95	29		P	610				53						
			30													
1255		100			SPT	457			12 24 34							
			31													
		105	32													
			33													
		110														
			34													
		115	35													
1250			36													
		120														
			37													
		125	38													
			39													
		130														

Graphic Log legend: P = Piston; SPT = Standard Penetration Test

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-376**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	2/20/00
Date Finish:	2/21/00
Station:	6002+008.023 0.84 LT
Line:	D Mainline
Coordinates (m):	N 106,731.773 E 15,387.081
Elevation (m):	1285.629
Total Depth Drilled (m):	30.9
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-377
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND - medium dense, moist, reddish tan																
		5	1		MC	381			12 16 17								
1285			2		SPT	457			10 10 14	45							
	Fat CLAY - very stiff to stiff, wet, olive-gray to dark gray	10	3		MC	381	CH	A-7-6	4 7 9	20							
					SPT	457			2 3 5	13							
			4														
		15			MC	305			5 12 16	35							
			5		SPT	0			3 3 3	10							
	soft to very soft	20	6		P	610					26 *53*	11.3	51	50	25	99	C SG
1280			7		SPT	457			0 1 1	2							
		25			MC	0			2 1 0	1							
			8		SPT	457			1 1 1	2							
		30	9		P	610					*19*						
			10		SPT	254			8 7 3	13							
	Silty SAND - dense, wet, gray, fine-grained	35	11		MC	254	SM	A-2-4	7 21 23	48							
	SILT - stiff, wet, gray				SPT	305	ML	A-4	7 4 6	12							
1275			12														
	Lean CLAY - medium stiff, wet, gray	40			P	610	CL	A-7-6			*38*	14.2	34	40	16	99	C SG TR
			13		SPT	457			4 8 13	26							
		45	14		MC	229	SP-SM	A-2-4	2 10 7	17							
	Poorly graded SAND with silt - medium dense, wet, gray				SPT	381			4 7 10	21							
	Lean CLAY - soft, wet, gray, with silt seams		15				CL	A-7-6									
		50			MC	457			0 0 0	0							
			16		SPT	457			2 4 3	9							
1270	- stiff to medium stiff	55	17		P	610					51 *53*	14.1	31			99	
			18														
		60			SPT	457			2 2 3	6							
			19														
	SILT - medium stiff to stiff, wet, gray	65			P		ML	A-4									

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-377**

Sheet 1 of 2

Logged by:	C. Wieden
Date Start:	2/23/00
Date Finish:	2/24/00
Station:	6002+159.558 5.75 RT
Line:	D Mainline
Coordinates (m):	N 106,850.936 E 15,479.920
Elevation (m):	1286.644
Total Depth Drilled (m):	24.8
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

Boring: RB-377
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 25 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - medium stiff to stiff, wet, gray (continued)				P	102											
	Lean CLAY - very soft, wet, gray	70	21				CL	A-7-6									
1265			22		SPT	457			0 0 0	●0							
		75	23		P	508					38						
			24														
		80	25		SPT	457			0 0 0	●0							
		85	26														
1260			27														
		90	28														
		95	29														
			30														
		100	31														
1255		105	32														
			33														
		110	34														
		115	35														
			36														
1250		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-377**

Sheet **2** of **2**

Logged by:	C. Wieden
Date Start:	2/23/00
Date Finish:	2/24/00
Station:	6002+159.558 5.75 RT
Line:	D Mainline
Coordinates (m):	N 106,850.936 E 15,479.920
Elevation (m):	1286.644
Total Depth Drilled (m):	24.8
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-378
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	FILL: Silty SAND - very dense, moist, brown				MC	356			9 19 39 24								
			1		SPT	305			18 11 11 13	48							
		5			MC	610			10 17 19 20								
			2		SPT	457			9 18 22 39								
		10	3		MC	0			25 21 10 9	44							
	Fat CLAY - stiff to very stiff, wet, gray to gray-brown mottled tan/white		4		SPT	457			10 9 6 7	28							
	- medium stiff - mottled rust-colored	15	5		MC	559			2 3 3 4	6							
1280	- frequent seams of very fine to fine-grained sands				SPT	305			3 4 4 4	14							
		20	6		SH	660					19 *24*	11.5	50	62	32		C SG
			7		SPT	610			3 0 0 0	0							
	- very soft	25	8		MC	610			0 2 2 3	3							
					SPT	610			3 0 0 0	0							
		30	9		SH	0											
			10		SH	76											
1275	Silty SAND - wet, gray, very fine-grained, maximum grain size fine-grained sand	35	11		MC	457			3 4 9 6	16							
	Lean CLAY - medium stiff, wet, gray				SPT	457			0 4 2 6	9							
		40	12		SH	305											
			13		SPT	559			18 7 6 7	17							
		45	14		MC	610			0 4 3 4	7							
	- medium stiff				SPT	610			4 3 3 3	8							
1270		50	15		SH	203					*43*	13.8	33	42	22	89	C TR SG
			16														
		55	17		SPT	610			1 3 5 4	9							
			18														
		60			SH	254											
			19														
		65															

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-378**

Sheet **1** of **2**

Logged by:	M. Bostrom
Date Start:	2/22/00
Date Finish:	2/23/00
Station:	6002+389.999 0.02 RT
Line:	D Mainline
Coordinates (m):	N 107,028.622 E 15,626.672
Elevation (m):	1285.294
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-378
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Lean CLAY - soft, wet, gray (continued)				SPT	610			3 1 2 3								
		70	21		SH	254					43						
			22		SPT	610			4 6 8 8	●14							
		75	23														
			24														
		80	25														
1260		85	26														
			27														
		90	28														
		95	29														
1255		100	30														
			31														
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-378**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	2/22/00
Date Finish:	2/23/00
Station:	6002+389.999 0.02 RT
Line:	D Mainline
Coordinates (m):	N 107,028.622 E 15,626.672
Elevation (m):	1285.294
Total Depth Drilled (m):	22.6
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-379
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - very stiff, moist, grayish-brown				MC	610	ML	A-4	6 12 12 6							
			1		SPT	610			5 6 7 8							
		5			SH	610										
			2							144						
	- wet, reddish brown				SPT	610			4 6 8 8							
	Lean CLAY - stiff, wet, reddish-brown						CL	A-7-6								
	- with sand seams	10	3		MC	610			4 4 8 9							
			4		SPT	610			2 3 4 5							
		15			SH	610				46	15.6	26	41	20		C
1280			5							62						TR
	- no sand lenses, gray				SPT	610			2 1 3 4							SG
		20	6													DS
	- with sand				MC	610			2 3 2 3							
	Fat CLAY - soft, wet, dark gray						CH	A-7-6								
			7		SPT	610			2 4 5 5				50	22	80	
		25			SH	610										
			8							77						
					SPT	610			1 2 2 3							
		30	9		MC	610			3 2 2 3							
1275			10		SPT	610			1 2 3 3							
	Lean CLAY - medium stiff, wet, gray	35	11		SH	610	CL	A-7-6		55	14.5	35	48	25		C
										77						TR
	- with sand lenses				SPT	610			2 3 3 3							
		40	12		MC	610			3 2 4 3							
			13		SPT	610			0 2 2 3							
	Silty SAND - medium dense, wet, gray	45	14		SH	0	SM	A-2-4								
1270			15													
		50			SPT	610			5 8 13 14						39	
			16													
	Lean CLAY with sand - very stiff, wet, gray	55	17		SPT	610	CL	A-7-6	6 9 10 8							
			18													
	Clayey SAND - medium dense, wet, gray	60			SH	610	SC	A-2-6								
			19							57						
		65														

Legend: ● SPT $(N_1)_{60}$; ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-379**

Sheet **1** of **2**

Logged by:	N. Miller
Date Start:	4/21/00
Date Finish:	4/21/00
Station:	6012+954.442 2.22 RT
Line:	D Mainline
Coordinates (m):	N 116,345.140 E 18,882.819
Elevation (m):	1284.988
Total Depth Drilled (m):	21.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-379
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, wet, gray				SPT	610	CL	A-7-6	5 7 8 10								
		70	21														
					SPT	610			3 2 4 9	●6							
			22														
		75	23														
			24														
		80															
1260			25														
		85	26														
			27														
		90															
			28														
		95	29														
1255			30														
		100															
			31														
		105	32														
			33														
		110															
			34														
1250		115	35														
			36														
		120															
			37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-379**

Sheet **2** of **2**

Logged by:	N. Miller
Date Start:	4/21/00
Date Finish:	4/21/00
Station:	6012+954.442 2.22 RT
Line:	D Mainline
Coordinates (m):	N 116,345.140 E 18,882.819
Elevation (m):	1284.988
Total Depth Drilled (m):	21.9
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-380
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - soft to medium stiff, wet, olive-gray, trace of sand						ML	A-4									
		5	1		MC	584			2 6 6 9	16							
			2		SPT	559			1 3 3 3	8							
	Lean CLAY - soft, wet, green with orange, some sand	10	3		P	559	CL	A-6			53 *57*	14.9	27	39	19	97	C SG
			4		SPT	610			1 2 3 3	7							
1280		15	5		MC	610			2 3 5 6	9							
					SPT	610			2 2 2 4	6							
		20	6		P	559					*53*						
			7		SPT	508			1 1 1 0	2							
	- very soft	25	8		MC	406			0 1 1 2	2							
					SPT	610			0 1 2 2	3							
	Fat CLAY - soft, wet, blue-green	30	9		P	559	CH	A-7-6			23 *48*	11.4	50	73	43		
1275			10		SPT	610			0 1 2 3	3							
		35	11		MC	610			1 2 3 4	5							
	- medium stiff				SPT	610			2 3 3 4	6							
		40	12		P	584					*14*						
	Clayey SAND - loose to medium dense, wet, dark blue		13		SPT	610	SC	A-2-6	0 4 5 6	9							
		45	14		MC	508			1 2 2 3	4							
					SPT	610			1 2 8 7	10							
1270		50	15		P	0											
	Silty SAND - medium dense, wet , blue, medium plasticity index, medium to coarse-grained		16		SPT	610	SM	A-2-4	2 6 21 29	26							
		55	17		SPT	610			17 19 25 29	41							
			18		P	0											
	Fat CLAY - soft, wet, blue	65	19				CH	A-7-6		3							

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-380**

Sheet **1** of **2**

Logged by:	G. Burgess
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	6013+100.373 4.61 RT
Line:	D Mainline
Coordinates (m):	N 116,415.350 E 19,011.228
Elevation (m):	1285.027
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	S. Church
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-380
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Fat CLAY - soft, wet, blue (continued)				SPT	610			0 1 2 3								
		70	21		P	559											
			22														
	Sandy SILT - medium stiff, wet, gray	75	23		SPT	610	ML	A-4	1 2 4 5	●5							
			24														
		80			P	457											
1260			25														
		85	26		SPT	610			4 7 10 10	●12							
			27														
		90			P	406					81	15.2	28				C TR SG
			28														
		95	29		SPT	610			2 3 9 6	●5							
1255			30														
		100			P	0											
			31														
		105	32														
			33														
		110															
			34														
1250		115	35														
			36														
		120															
			37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-380**

Sheet **2** of **2**

Logged by:	G. Burgess
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	6013+100.373 4.61 RT
Line:	D Mainline
Coordinates (m):	N 116,415.350 E 19,011.228
Elevation (m):	1285.027
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	S. Church
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-381
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows) (0–25–50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT with sand - stiff, moist, light brown, some trace clay						ML	A-4									
		5	1		MC	457			2 5 8 8	18							
			2		SPT	610			2 3 4 4	10							
	Fat CLAY - soft, wet, greenish blue, some silt	10	3		P	457	CH	A-7-6			*24*						
			4		SPT	610			2 2 2 4	6							
		15	5		MC	610			1 1 2 3	3							
1280					SPT	610			1 1 1 1	2							
		20	6		P	508					3 *14*	13.5	42	52	28		C TR SG
	- silt lenses		7		SPT	610			0 1 0 1	1							
		25	8		MC	610			0 1 1 1	2							
					SPT	610			0 1 1 2	2							
	Poorly graded SAND - loose, wet, gray	30	9		P	508	SP	S-3									
			10		SPT	610			1 1 1 2	2							
1275	Lean CLAY- soft, wet, blue-gray						CL	A-6									
		35	11		MC	483			0 1 1 2	2							
	SILT - medium stiff, wet, blue-gray, low plasticity index, some sand seams - very soft				SPT	610	ML	A-4	0 2 6 8	8							
		40	12		P	508					*43*						
			13		SPT	610			0 1 1 1	2							
		45	14		MC	508			0 1 1 2	2							
					SPT	610			0 0 1 1	1							
1270		50	15		P	406					39 *29*	19.6	22			61	
			16		SPT	610			3 3 4 5	7							
		55	17		SPT	610			4 5 4 7	7							
	Silty SAND - medium dense, wet, gray, fine to medium-grained	60	18		P	610	SM	A-2-4									
		65	19							10							

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: RB-381

Sheet 1 of 2

Logged by:	G. Burgess
Date Start:	3/3/00
Date Finish:	3/4/00
Station:	6013+583.830 0.67 RT
Line:	D Mainline
Coordinates (m):	N 116,816.965 E 19,262.688
Elevation (m):	1285.064
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	S. Church
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-381
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND - medium dense, wet, gray, fine to medium-grained (continued)				SPT	533			4 11 9 11								
		70	21		P	203											
			22														
	Lean CLAY - very soft, wet, blue-gray	75	23		SPT	610	CL	A-6	0 1 2 2	●2							
			24														
		80			P	533						14.4	33	34	14		C SG
1260			25								43						
	Silty SAND - loose, wet, gray, fine to medium-grained	85	26		SPT	584	SM	A-2-4	1 1 2 1	●2							
			27														
		90			P	508											
			28														
	Lean CLAY - medium stiff, wet, blue-gray	95	29		SPT	610	CL	A-6	4 5 5 6	●6							
1255			30														
		100			P	610											
			31								57						
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-381**

Sheet **2** of **2**

Logged by:	G. Burgess
Date Start:	3/3/00
Date Finish:	3/4/00
Station:	6013+583.830 0.67 RT
Line:	D Mainline
Coordinates (m):	N 116,816.965 E 19,262.688
Elevation (m):	1285.064
Total Depth Drilled (m):	31.1
Drill Contractor:	Layne Christensen
Driller:	S. Church
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-382
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty GRAVEL with sand - medium dense, moist, reddish-brown				MC	610			11 32 21 12								
1285			1		SPT	457			6 6 7 8	26							
	Lean CLAY - medium stiff, wet, light brown	5			P	610	CL	A-6			40 *38*	15.1	29	39	19	97	C TR DS SG
			2		SPT	610			3 3 3 4	10							
		10	3		MC	457			3 5 5 7	12							
	Silty SAND - loose, wet, gray		4		SPT	610	SM	A-2-4	4 6 5 6	18							
	Lean CLAY - soft, wet, gray	15					CL	A-6									
			5		P	0											
	- medium stiff, frequent layers of fine-grained sand				SPT	610			1 1 2 1	5							
1280		20	6		MC	152			3 3 3 2	8							
			7		SPT	610			0 0 1 1	1				33	15	83	
	- very soft	25															
			8		SPT	610			0 0 1 1	1							
		30	9		MC	610			0 0 1 0	1							
			10		SPT	610			0 0 1 1	1							
1275		35	11		P	610					27 *34*	13.0	41	37	19	97	C SG
					SPT	610			0 0 1 0	1							
		40	12		MC	610			0 0 1 0	1							
			13		SPT	610			0 0 1 3	1							
	Fat CLAY - very soft, wet, black	45	14		P	610	CH	A-7-6			*46*			52	30		
					SPT	610			0 1 3 3	4							
		50	15		MC	610			0 0 0 1	0							
1270			16		SPT	610			1 4 5 5	9							
		55	17		P	559					*48*						
			18														
	Lean CLAY - soft, wet, gray	60			SPT	610	CL	A-6	0 0 0 0	0							
			19														
		65															

UTDOT Z003RB.GPJ 6/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-382**

Sheet 1 of 2

Logged by: J. Rajek
Date Start: 2/5/00
Date Finish: 2/6/00
Station: 6014+004.123 7.46 RT
Line: D Mainline
Coordinates (m): N 117,230.789 E 19,336.585
Elevation (m): 1285.819
Total Depth Drilled (m): 31.1
Drill Contractor: Haztech Drilling
Driller: C. Peterson
Rig Type: CME-75
Drilling Method: Mud Rotary
Hammer Type: Automatic
Rod Type: NW
Boring Diameter: 121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-382
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very soft, wet, gray (continued)				P	559					50						
1265			21														
	Silty SAND - loose, wet, gray	70			SPT	610	SM	A-2-4	0 0 9 3	●8							SV
			22														
		75	23		P	381					62						
			24														
		80			SPT	610			10 7 7 10	●12							
	Lean CLAY - stiff to very stiff, wet, gray		25				CL	A-6									
1260		85	26		P	610											
			27														
		90			SPT	610			1 2 2 2	●4							
	- soft		28								67						
		95	29		P	610											
			30														
1255	- stiff	100	31		SPT	610			2 8 10 13	●14							
		105	32														
			33														
		110	34														
		115	35														
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05 .

FIELD TEST BORING LOG

Boring: **RB-382**

Sheet **2** of **2**

Logged by:	J. Rajek
Date Start:	2/5/00
Date Finish:	2/6/00
Station:	6014+004.123 7.46 RT
Line:	D Mainline
Coordinates (m):	N 117,230.789 E 19,336.585
Elevation (m):	1285.819
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	C. Peterson
Rig Type:	CME-75
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-383
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, moist, brownish gray						CL	A-6									
		5	1		MC	610			3 6 7 8	13							
			2		SPT	457			3 5 9 9	15							
		10	3		P	610					81						
	Silty SAND - loose, wet, gray, fine-grained		4		SPT	610	SM	A-2-4	3 4 4 4	8							
1280	Fat CLAY - very soft, wet, gray	15					CH	A-7-6									
			5		MC	457			0 0 0 4	0							
					SPT	457			0 2 3 4	5							
	- medium stiff	20	6		P	610					23 34	11.4	47	51	29		C TR SG DS
	- very soft, wet, gray		7		SPT	610			0 0 0 2	0							
		25	8		MC	610			0 0 0 0	0							
					SPT	610			0 0 0 0	0							
		30	9		P	0											
1275	Silty SAND- medium dense, wet, gray		10		SPT	610	SM	A-2-4	0 4 9 9	12	38						
	Lean CLAY - soft, wet, gray	35	11		MC	610	CL	A-6	0 1 2 3	2							
	Silty SAND - loose, wet, gray				SPT	610	SM	A-2-4	0 2 4 4	6							
	Lean CLAY - medium stiff, wet, gray	40	12		P	0	CL	A-6									
			13		SPT	610			2 2 6 5	7							
		45	14		MC	610			0 0 1 2	1							
1270					SPT	610			0 0 1 1	1							
			15														
	- very soft	50			SPT	610			0 1 3 2	3							
			16														
		55	17		P	610					29	11.5	49			98	C SG
			18														
		60			SPT	610			0 0 0 0	0							
			19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-383**

Sheet 1 of 2

Logged by:	R. Yates
Date Start:	2/15/00
Date Finish:	2/17/00
Station:	6014+195.674 1.25 RT
Line:	D Mainline
Coordinates (m):	N 117,420.236 E 19,363.684
Elevation (m):	1284.431
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-383
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND - medium dense, wet, gray				P	457	SM	A-2-4									
		70	21		SPT	305			0 8 12 8	14							
		75	22														
			23		SPT	610			3 3 8 8	5							
			24														
1260	Lean CLAY - medium stiff, moist, olive (green-gray)	80	25		SPT	610	CL	A-6	0 3 6 10	6							
		85	26		P	610					86						
			27														
	- very soft	90	28		SPT	508			0 0 4 5	2							
1255	Sandy Lean CLAY - stiff, wet, gray	95	29		P	457	CL	A-6			86						
		100	30														
	Lean CLAY - very stiff, wet, grayish-brown		31		SPT	610	CL	A-6	5 9 14 18	13							
		105	32														
			33														
		110	34														
1250		115	35														
			36														
		120	37														
		125	38														
			39														
1245		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-383**

Sheet **2** of **2**

Logged by:	R. Yates
Date Start:	2/15/00
Date Finish:	2/17/00
Station:	6014+195.674 1.25 RT
Line:	D Mainline
Coordinates (m):	N 117,420.236 E 19,363.684
Elevation (m):	1284.431
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-384
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, moist, gray						CL	A-7-6								
			1													
		5			MC	457			2 4 5 6							
			2		SPT	610			2 4 5 3							
		10	3		P	610										
	SILT - soft, wet, gray, with sand seams		4		SPT	610	ML	A-4	1 3 5 7	72						
1280	Lean CLAY - very soft, wet, gray	15			MC	610	CL	A-7-6	0 2 2 5							
	Silty SAND - loose, wet, gray		5		SPT	610	SM	A-2-4	0 0 0 0							
		20	6		MC	610	CH	A-7-6	0 0 3 2							
	Fat CLAY - soft, wet, gray		7		SPT	610			2 2 2 2							
		25	8		P	610				34	12.4	48	58	31	91	C SG DS
					SPT	610			0 0 1 1							
		30	9		MC	610			0 0 0 2							
1275	- very soft		10		SPT	610			0 0 0 0	48						
		35	11		P	508										
	Silty SAND - very loose, wet, gray		12		SPT	610	SM	A-2-4	0 0 0 0							
		40			MC	610			0 1 5 6							
	Lean CLAY - medium stiff, wet, gray		13		SPT	610	CL	A-7-6	0 0 3 3							
		45	14		P	610				34						
1270					SPT	610			0 0 2 2							
		50	15		P	610				43 34	12.7	40	46	20	98	C TR SG
	Silty CLAY - soft, wet, gray		16		SPT	610	CL	A-7-6	0 0 3 2							
	Lean CLAY - very soft, wet, gray	55					CL	A-7-6								
			17		SPT	610			0 0 0 0							
			18													
		60			P	610										
			19													
1265		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-384**

Sheet 1 of 2

Logged by:	R. Yates
Date Start:	2/13/00
Date Finish:	2/13/00
Station:	6014+384.292 0.97 RT
Line:	D Mainline
Coordinates (m):	N 117,592.969 E 19,436.867
Elevation (m):	1284.604
Total Depth Drilled (m):	23.5
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-384
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (*torvane in italics*)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very soft, wet, gray (continued)				SPT	610			0 0 2 2							
		70	21													
	Silty SAND - medium dense, wet, gray			P	P	457	SM	A-2-4								
		75	22													
			23		SPT	457			6 6 8 9							
			24													
1260		80														
			25													
		85	26													
			27													
		90														
			28													
		95	29													
1255																
			30													
		100														
			31													
		105	32													
			33													
		110														
			34													
1250																
		115	35													
			36													
		120														
			37													
		125	38													
			39													
1245		130														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-384**

Sheet 2 of 2

Logged by:	R. Yates
Date Start:	2/13/00
Date Finish:	2/13/00
Station:	6014+384.292 0.97 RT
Line:	D Mainline
Coordinates (m):	N 117,592.969 E 19,436.867
Elevation (m):	1284.604
Total Depth Drilled (m):	23.5
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

B BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-385
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / SPT (N1)60 (Greater than 50 Blows) ○ (0 25 50)	Su, kPa (torvane in italics)	Dry Density, kN/m3	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - medium dense, moist, with concrete and asphalt rubble		1														
		5			SPT	457			4 14 7	43							
1295			2														
	Lean CLAY - soft to medium stiff, wet, mottled gray and reddish-brown						CL	A-6									
		10	3		P	610					38 72	14.5	31			94	
					SPT	457			2 1 2	6							
			4														
	Poorly graded SAND with silt - medium dense, wet, brown, fine to coarse-grained	15					SP-SM	A-3									
			5		MC	457			4 7 15	28							
					SPT	457			8 12 14	41							SV
		20	6														
					MC	457			14 11 2	16							
					SPT	457			4 5 6	15							
1290			7														
	Sandy SILT - medium stiff, wet, gray to brown, fine-grained	25					ML	A-2-4									
			8		MC	457			3 3 4	8							
					SPT	457			3 5 9	19						63	
			9														
	Poorly graded SAND with silt - medium dense, wet, brown, fine to coarse-grained	30			MC	457	SP-SM	A-3	12 14 8	23							SV
			10		SPT	457	CL	A-6	3 4 4	10							
	Lean CLAY - medium stiff to stiff, wet, brown, with occasional fine-grained sand seams	35															
			11		P	559					62	16.2	24			88	C SG
					SPT	457			4 6 7	15							
1285			12														
	Silty SAND with gravel - dense to very dense, wet, gray	40			MC	457	SM	A-2-4	10 19 19	38							
			13		SPT	457			17 24 26								
		45															
			14		MC	457			30 33 25								
					SPT	457			11 16 15	37							
			15														
		50			MC	457			22 29 41								
			16		SPT	203			13 13 13	39							
	- medium dense to dense, olive-green	55															
1280			17		SPT	457			7 4 3	9							
			18														
		60			SPT	457			29 24 24								
			19														
		65															

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-385**

Sheet **1** of **2**

Logged by:	C. Wieden
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	20+438.886 16.47 RT
Line:	LP NB to I-15 NB (US 89)
Coordinates (m):	N 123,894.805 E 19,211.113
Elevation (m):	1297.058
Total Depth Drilled (m):	23.3
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-385
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND with gravel - dense to very dense, wet, gray (continued)				SPT	229			34 50/ 130mm							
	Fat CLAY - stiff, wet, gray	70	21		P	610	CH	A-7-6		93 72	13.4	39	59	32		C TR SG
1275		75	22													
			23		SPT	457			5 4 5							
		80	24													
			25													
		85	26													
1270			27													
		90	28													
		95	29													
			30													
		100	31													
1265		105	32													
			33													
		110	34													
		115	35													
			36													
		120	37													
1260																
		125	38													
			39													
		130														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-385**

Sheet **2** of **2**

Logged by:	C. Wieden
Date Start:	3/1/00
Date Finish:	3/2/00
Station:	20+438.886 16.47 RT
Line:	LP NB to I-15 NB (US 89)
Coordinates (m):	N 123,894.805 E 19,211.113
Elevation (m):	1297.058
Total Depth Drilled (m):	23.3
Drill Contractor:	Haztech Drilling
Driller:	M. Corn
Rig Type:	Longyear BK-81
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-386
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	SILT - very stiff, moist, dark brown to light brown				MC	610	ML	A-4	4 5 6 8	18							
	Lean CLAY - stiff, wet, olive gray, with mottled orange		1		SPT	610	CL	A-6	3 4 4 4	18							
		5			SH	559											
			2								29						
	- stiff, with sand lenses up to 100 mm				SPT	356			0 0 5 3	9							
		10	3		MC	610			3 3 2 3	7							
	- medium stiff				SPT	356			2 2 3 4	8							
		15	4		SH	356											
			5								29	17.7	20	NP	NP		C SG
1280	Silty SAND - loose, wet, gray				SPT	610	SM	A-2-4	3 3 2 7	8							
		20	6		MC	610	CL	A-6	4 3 3 2	8							
	Lean CLAY - medium stiff, wet, gray, frequent silty sand layers to 100 mm				SPT	610			10 6 6 6	18							
		25	7		SH	610											
			8								29						
					SPT	610			3 3 2 2	7							
		30	9		MC	610			3 3 4 5	8							
			10		SPT	610			3 3 2 2	7							
1275		35															
			11		SH	610					56 29	17.1	22	31	13		DS
	Sandy Lean CLAY - medium stiff, wet, gray				SPT	610	CL	A-6	2 2 3 3	6							
		40	12		MC	610			3 3 4 2	7							
			13		SPT	610			0 4 4 3	10							
	- stiff, occasional silt seams	45															
			14		SH	610						13.1	39				C SG
					SPT	610			3 3 5 4	9	34						
			15														
1270		50			MC	610			4 4 7 9	10							
			16														
		55	17		SPT	457			7 2 7 9	9							
			18														
	Sandy SILT - hard, wet, gray	60			SPT	610	ML	A-4	5 13 18 19	31							
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-386**

Sheet **1** of **2**

Logged by:	M. Hislop
Date Start:	2/15/00
Date Finish:	2/15/00
Station:	57+559.728 1.00 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,671.397 E 15,969.993
Elevation (m):	1285.351
Total Depth Drilled (m):	23.2
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-386
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Sandy SILT - hard, wet, gray (continued)				SH	559											
		70	21		SH	0											
			22		MC	610			3 9 21 28	●23							
	Silty SAND - dense, moist, gray	75	23		SPT	610	SM	A-2-4	7 15 22 29	●34							
			24														
		80	25														
1260																	
		85	26														
			27														
		90	28														
		95	29														
			30														
1255		100	31														
		105	32														
			33														
		110	34														
		115	35														
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-386**

Sheet **2** of **2**

Logged by:	M. Hislop
Date Start:	2/15/00
Date Finish:	2/15/00
Station:	57+559.728 1.00 RT
Line:	LP SB to I-15 SB
Coordinates (m):	N 107,671.397 E 15,969.993
Elevation (m):	1285.351
Total Depth Drilled (m):	23.2
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-388
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)				Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	Lean CLAY - soft, moist, tan-brown				MC	457	CL	A-6	2	2	2	3							
			1		SPT	305			3	2	3	4							
		5			P	610													
			2		SPT	610			0	0	2	0							
	Silty SAND - medium dense, wet, gray, fine-grained sand	10	3		MC	406	SM	A-2-4	7	10	3	2							
	Lean CLAY - soft, wet, black		4		SPT	610	CL	A-6	1	2	2	3							
		15			P	610													
1280	- very soft		5		MC	0			0	0	0	0	19						
					SPT	0			12	4	1	1							
		20	6		SPT	610			4	10	14	10							
			7		P	610							10						
		25			SPT	0			0	2	2	3							
	Poorly Graded SAND - medium dense, wet, dark gray, fine-grained sand		8		MC	381	SP	A-3	6	1	13	4							
					SPT	508			7	6	3	8							
	Lean CLAY - soft, wet, gray	30	9		P	610	CL	A-6					32 29	12.0	45	36	13		C TR SG
1275			10																
		35	11		SPT	610			2	1	3	4							
			12		MC	610			0	2	2	4							
		40																	
			13		SPT	610			17	21	12	4							
		45			P	610													
			14		SPT	610			5	5	10	12	10						
			15																
1270	Poorly Graded SAND - medium dense, gray to white, fine to medium-grained sand	50			MC	610	SP	A-3	1	5	4	6							
			16		SPT	457			0	3	5	6							
		55	17		P														
			18																
	Lean CLAY - soft, wet, gray	60			SPT	610	CL	A-6	0	0	0	0							
			19																
		65																	

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange
KLEINFELDER
Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-388**

Sheet **1** of **2**

Logged by:	G.P. Whittman
Date Start:	2/16/00
Date Finish:	2/16/00
Station:	50+829.497 0.07 RT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,268.266 E 16,372.839
Elevation (m):	1285.237
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	C. Peterson
Rig Type:	CME-75
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-388
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1265	Lean CLAY - soft, wet, gray (continued)																
		70	21														
			22														
	- stiff	75	23		P	610					66 *57*	16.0	26	27	8	99	C SG
			24														
		80	25		SPT	610			0 5 5 6	●10							
1260																	
		85	26														
			27														
		90	28		P	0											
		95	29		SPT	610			1 6 7 7	●13							
			30														
1255		100	31		P	0											
		105	32														
			33														
		110	34														
		115	35														
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-388**

Sheet **2** of **2**

Logged by:	G.P. Whittman
Date Start:	2/16/00
Date Finish:	2/16/00
Station:	50+829.497 0.07 RT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,268.266 E 16,372.839
Elevation (m):	1285.237
Total Depth Drilled (m):	31.1
Drill Contractor:	Haztech Drilling
Driller:	C. Peterson
Rig Type:	CME-75
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 8/30/00

Boring: RB-389
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * Su kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, dark to light brown, with common roots				MC	305	ML	A-4	3 5 7 7							
			1		SPT	305			4 4 3 5							
1285	CLAY - medium stiff, wet, gray-brown	5					CL	A-7-6								
			2		SH	457				53	15.3	27	45	21	94	C TR SG
▽		10	3		MC	457			2 12 5 2							
	Silty SAND - medium dense, wet, light brown to gray				SPT	610	SM	A-2-4	1 1 1 2							
	Lean CLAY - soft, wet, gray mottled black		4				CL	A-7-6								
		15			SH	610				14 24	12.3	45	45	20	97	C SG
			5		SPT	610			0 0 8 6							
1280		20	6		MC	610			4 5 3 5							
			7		SPT	610			2 4 3 4							
		25			SH	610				28 19	15.4	29				
			8		SPT	305	SM	A-2-4	7 4 4 3							
	Silty SAND - loose, wet, gray															
	Sandy Lean CLAY - stiff, wet, gray	30	9		MC	610	CL	A-6	2 5 5 12				37	14	56	
			10													
1275	Silty SAND - dense, wet, grayish-brown	35	11		SH	0	SM	A-2-4								
					SPT	610			5 7 21 27							
	- coarse sand	40	12		MC	508			5 8 10 12						76	
	Lean CLAY - very stiff, wet, gray-brown				SPT	610	CL	A-7-6	9 8 7 8							
	Sandy SILT - stiff, wet, light brown		13				ML	A-4								
		45			SH	0										
			14		SPT	457	CL	A-7-6	4 3 3 4							
	Lean CLAY - medium stiff, wet, gray		15													
		50			SH	0										
1270	SILT - very stiff, wet, gray , with frequent silty lean clay throughout		16				ML	A-4								
		55	17		MC	610			8 7 19 18							
			18													
		60			SPT	610			7 8 10 20							
			19													
	Sandy SILT - hard, wet, light brown mottled gray-brown, with frequent	65					ML	A-4								

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-389**

Sheet 1 of 2

Logged by:	M. Hislop
Date Start:	2/16/00
Date Finish:	2/17/00
Station:	51+019.953 0.01 RT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,347.322 E 16,199.835
Elevation (m):	1286.013
Total Depth Drilled (m):	30.2
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-389
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	lean clay and silty sand throughout Sandy SILT - hard, wet, light brown mottled gray-brown, with frequent lean clay and silty sand throughout (continued)				MC	457			20 35 40 27								
1265		70	21														
	Lean CLAY - very stiff, wet, gray-brown				SPT	610	CL	A-7-6	4 5 11 12	● 16							
			22														
	Clayey SAND - medium dense, wet, gray-brown	75	23		MC	457	SC	A-2-6	4 5 12 10	● 14				NP	NP	58	
			24														
	Silty SAND - very dense, wet to wet, gray	80			SH	0	SM	A-2-4									
			25		MC	457			12 24 55 50		○						
1260		85	26		SPT	457			25 44 48 50		○						
			27														
		90			MC	305			29 50/ 125mm		○						
			28														
	Lean CLAY - very stiff, wet, gray	95	29		MC	559	CL	A-7-6	7 12 34 54	● 35							
			30		SPT	610			10 10 12 21	● 20							
1255		100	31														
		105	32														
			33														
		110	34														
		115	35														
1250			36														
		120	37														
		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-389**

Sheet **2** of **2**

Logged by:	M. Hislop
Date Start:	2/16/00
Date Finish:	2/17/00
Station:	51+019.953 0.01 RT
Line:	I-15 NB to LP NB
Coordinates (m):	N 107,347.322 E 16,199.835
Elevation (m):	1286.013
Total Depth Drilled (m):	30.2
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-390
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - stiff, moist, with trace of fine-grained sand				MC	559	ML	A-4	5 5 5 6							
			1		SPT	533			2 6 6 6							
1295		5	2													
		10	3		P	610				14						
					SPT	508			3 3 5 5							
	-medium stiff		4													
	Clayey SAND - loose, wet, gray to black	15			MC	457	SC	A-2-6	4 5 7 9							
			5		SPT	559			1 3 5 7							
	Lean CLAY - medium stiff, wet, gray, some silt and and seams	20	6		P	610	CL	A-6		37 38	16.3	27			90	C SG
1290					SPT	406			3 5 5 5							
			7													
		25			MC	457			3 6 6 8							
			8		SPT	584			2 4 4 8							
		30	9		P	610				62 38	15.5	29	31	9	97	C SG TR
					SPT	406			1 3 5 5							
			10													
		35			MC	533			4 5 8 9							
			11		SPT	432			0 3 4 8							
1285		40	12		P	610				38						
					SPT	584			3 4 7 7							
			13		SPT	305	SP	A-3	1 2 12 20							
	Poorly graded SAND - loose, wet, gray to black	45														
			14													
		50	15		SPT	508			8 20 21 18							
			16													
1280	-dense	55	17		SPT	508			14 28 41 37							
		60	18		SPT	432			39 45 43							
			19													
		65			SPT	203			4 11 11 10							

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-390**

Sheet 1 of 2

Logged by:	J. Criss
Date Start:	3/4/00
Date Finish:	3/6/00
Station:	4+804.884 0.88 LT
Line:	Burke Lane
Coordinates (m):	N 124,285.160 E 18,659.148
Elevation (m):	1296.707
Total Depth Drilled (m):	30.8
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-390
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy Lean CLAY - soft, wet, brown	70	21		SPT	356	CL	A-6	0 11 18 8	13							
1275	Poorly graded SAND - medium dense, wet, gray to black	75	22, 23		SPT	330	SP	A-3	30 33 25 17	26							
		80	24, 25		SPT	254			24 37 50 46	39							
	Sandy SILT - medium stiff, wet, black, trace of fine-grained gravel	85	26		SPT	406	ML	A-4	4 7 16 24	10							
1270	Silty SAND - black, fine to medium-grained	90	27, 28		SPT	203	SM	A-2-4	12 9 43	23							
	Sandy SILT - medium stiff, wet, black	95	29		SPT	356	ML	A-4	13 12 30	19							
		100	30, 31		SH	457											
1265		105	32														
		110	33, 34														
		115	35														
1260		120	36, 37														
		125	38														
		130	39														

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-390**

Sheet **2** of **2**

Logged by:	J. Criss
Date Start:	3/4/00
Date Finish:	3/6/00
Station:	4+804.884 0.88 LT
Line:	Burke Lane
Coordinates (m):	N 124,285.160 E 18,659.148
Elevation (m):	1296.707
Total Depth Drilled (m):	30.8
Drill Contractor:	Haztech Drilling
Driller:	R. Knott
Rig Type:	CME-850
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	NW
Boring Diameter:	121 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-391
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Clayey SAND - dense, dark grayish brown				MC	356	SC	A-2-6	14 17 23 15	45							
	- with gravel		1		SPT	305			7 12 23 19	45							
		5			MC	457			3 32 56 50	○							
			2		SPT	305			4 26 24 23	39							
1300																	
	Silty GRAVEL - very dense, wet, gray	10	3		MC	0	GM	A-2-4	50/ 75mm	○							
			4		SPT	0			50/ 50mm	○							
		15			MC	0			50/100mm	○							
			5		SPT	0			50/ 50mm	○							
		20	6		MC	0			50/ 75mm	○							
			7														
1295		25			MC	102			7 7 9 10	9							
	Silty SAND - medium dense, wet, gray, fine-grained		8		SPT	406	SM	A-2-4	5 7 8 8	9			27			31	
		30	9		MC	305			7 8 10 10	9							
			10		SPT	406			4 7 8 14	9							
		35			MC	356			5 7 8 8	7							
			11		SPT	559			5 8 10 15	10							
	- some clayey sand layers		12														
		40			MC	406			4 13 19 21	15							
1290			13		SPT	356			5 10 11 17	12							
	- frequent clay seams																
		45	14		MC	356			5 10 14 16	12							
					SPT	356			7 8 8 16	8							
			15														
		50			MC	406	ML	A-4	2 4 9 24	6							
	Sandy SILT - medium stiff, wet, brown		16		SPT	406			5 9 10 13	9							
		55	17		MC	457			5 8 11 13	7							
1285																	
			18														
		60			SPT	457	SM	A-2-4	2 12 35 25	21							
	Silty SAND with gravel - very dense, fine to coarse-grained sand , with fine-grained gravel		19														
	Poorly graded SAND with gravel- medium dense, wet, gray	65					SP	A-3		0							

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-391**

Sheet 1 of 2

Logged by:	A. Waldman
Date Start:	3/4/00
Date Finish:	3/5/00
Station:	5+171.955 0.76 LT
Line:	Burke Lane
Coordinates (m):	N 124,557.265 E 18,904.272
Elevation (m):	1302.534
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-391
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Poorly graded SAND with gravel- medium dense, wet, gray (continued)				MC	25			18 9 8 2								
		70	21														
					SPT	25			16 50/ 100mm								
			22														
1280		75	23		MC	229			23 27 23 50	● 17							
			24														
		80	25														
		85	26														
			27														
1275		90	28														
		95	29														
			30														
		100	31														
		105	32														
1270			33														
		110	34														
		115	35														
			36														
		120	37														
1265		125	38														
			39														
		130															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-391**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	3/4/00
Date Finish:	3/5/00
Station:	5+171.955 0.76 LT
Line:	Burke Lane
Coordinates (m):	N 124,557.265 E 18,904.272
Elevation (m):	1302.534
Total Depth Drilled (m):	23.5
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-392
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0–25–50	Test Results * S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty GRAVEL - very dense, moist to wet, brown, fine-grained				SPT	152			14 19 12 9	● 49							
			1		MC	0			26 36 27 25	○							
1285		5			MC	152			5 4 4 5	● 8							
			2		SPT	0			6 5 3 5	● 8							
	- loose	10	3		P	610											
	Lean CLAY - medium stiff, wet, brownish-gray, mottled rust-colored						CL	A-7-6			29						
			4		SPT	305			1 3 2 2	● 5							
	- frequent seams of fine to medium-grained sand	15															
			5		MC	610			1 1 1 1	● 2							
	- very soft				SPT	610											
1280		20	6		P	610					14 24	11.3	51	41	17		C
			7		SPT	610			1 2 1 0	● 3							
	- soft, with frequent seams of silt to very fine-grained sands	25															
			8		MC	610			0 0 17 11	● 15							
					SPT	610			1 2 1 2	● 3							
		30	9		P	0											
			10		SPT	305			5 9 3 3	● 12							
	Silty SAND - medium dense, wet, gray, fine-grained						SM	A-2-4									
1275	SILT - stiff, wet, grayish -brown	35	11		MC	381	ML	A-4	6 6 7 5	● 11							
					SPT	305			11 17 5 6	● 22							
	- occasional seams of fine-grained sand		12														
	Lean CLAY - medium stiff, wet, olive gray, interlayered with seams of silt	40			P	610	CL	A-7-6			48						
			13		SPT	610			4 2 3 3	● 5							
	Clayey SILT - medium stiff, wet, dark gray						CL-ML	A-4									
		45	14		MC	610			2 3 4 4	● 5							
					SPT	610			2 3 4 3	● 7							
			15														
	Lean CLAY - medium stiff, wet, blue	50			P	610	CL	A-7-6			34						
1270			16														
		55	17		SPT	610			4 7 5 4	● 12							
			18														
		60			SPT	610			4 2 2 2	● 4							
	- soft, gray		19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-392**

Sheet 1 of 2

Logged by:	M. Bostrom
Date Start:	2/29/00
Date Finish:	3/2/00
Station:	54+787.955 1.05 LT
Line:	LP NB to I-15 (I-215)
Coordinates (m):	N 106,971.375 E 15,638.881
Elevation (m):	1286.010
Total Depth Drilled (m):	30.2
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

UTDOT Z003RB.GPJ 6/30/00

Boring: RB-392
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, wet, gray to gray-brown				P	610	ML	A-4		*48*						
1265		70	21		SPT	610			1 2 2 2							
	- soft to medium stiff, black	75	22													
			23		P	610				*48*						
		80	24													
	- medium stiff, wet, gray, interbedded with clay		25		SPT	610			3 3 3 3							
1260	Lean CLAY - stiff, wet, gray	85	26		P	610	CL	A-7-6		79 *48*	18.3	7	45	22		C TR SG
			27													
	Silty SAND - dense to very dense, wet, gray-brown, fine-grained	90	28		SPT	508	SM	A-2-4	10 17 19 36							
	Lean CLAY - stiff, wet, green-gray, mottled tan	95	29		P	508	CL	A-7-6								
			30		SPT	203			5 5 7 7							
1255		100	31													
		105	32													
			33													
		110	34													
		115	35													
1250			36													
		120	37													
		125	38													
			39													
		130														

Test Results *

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-392**

Sheet **2** of **2**

Logged by:	M. Bostrom
Date Start:	2/29/00
Date Finish:	3/2/00
Station:	54+787.955 1.05 LT
Line:	LP NB to I-15 (I-215)
Coordinates (m):	N 106,971.375 E 15,638.881
Elevation (m):	1286.010
Total Depth Drilled (m):	30.2
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	Terramac
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-393
Sheet 1 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty SAND with gravel - dense, moist, reddish-brown				MC	356			13 15 16 16	35							
1285			1		SPT	406			7 21 25 14								
	Lean CLAY - very stiff, wet, mottled pale brown and olive	5			MC	76	CL	A-7-6	25 22 10 14	23							
	- medium stiff		2		SPT	0			6 6 4 3	7							
		10	3		P	610					14 *34*	11.9	55	41	20		C SG DS
	- very soft, mottled black and olive		4		SPT	610			0 0 0 0	0							
		15			MC	610			0 0 1 1	1							
			5		SPT	610			2 0 0 0	0							
1280		20	6		P	610								39	17		
			7		SPT	610			0 0 2 11	1	*29*						
	Silty SAND - medium dense, gray, fine-grained						SM	A-2-4									
	Lean CLAY - soft, gray	25			MC	610	CL	A-6	0 1 29 26	16							
	Fat CLAY - very soft		8		SPT	610	CH	A-7-6	4 3 3 3	4							
	- silty sand lenses	30	9		P	0											
			10		P	610										34	
1275		35	11		MC	610			0 2 1 3	1							
					SPT	610			5 3 3 6	4							
		40	12		P	610					*67*						
			13		SPT	457			0 7 13 11	9							
	Silty SAND - medium dense, fine-grained						SM	A-2-4									
	Lean CLAY - very soft, wet, grayish-brown, some silt lenses	45	14		MC	610	CL	A-7-6	3 2 2 4	2							
	- green mottling				SPT	610			2 1 3 2	1							
		50	15		P	610						12.2	44	44	21	99	C SG DS
1270			16		SPT	610			3 2 2 4	2	*77*						
		55	17		SPT	610			1 0 0 2	0							
			18														
		60			P	610											
			19														
		65								0							

UTDOT Z003RB.GPJ 5/30/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-393**

Sheet **1** of **2**

Logged by:	A. Waldman
Date Start:	2/22/00
Date Finish:	2/23/00
Station:	54+938.150 4.05 LT
Line:	LP NB to I-15 (I-215)
Coordinates (m):	N 107,053.676 E 15,764.860
Elevation (m):	1285.694
Total Depth Drilled (m):	23.2
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-393
Sheet 2 of 2

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Fat CLAY - very soft, wet, grayish-brown, some silt lenses (continued)				SPT	610			1 0 0 2								
1265			21														
	Silty SAND - medium dense, wet, gray	70					SM	A-2-4									
			22		P	610											
		75	23		SPT	508			10 33 31 17	●27							
			24														
		80															
			25														
1260		85	26														
			27														
		90															
			28														
		95	29														
			30														
1255		100															
			31														
		105	32														
			33														
		110															
			34														
		115	35														
1250			36														
		120															
			37														
		125	38														
			39														
		130															

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-393**

Sheet **2** of **2**

Logged by:	A. Waldman
Date Start:	2/22/00
Date Finish:	2/23/00
Station:	54+938.150 4.05 LT
Line:	LP NB to I-15 (I-215)
Coordinates (m):	N 107,053.676 E 15,764.860
Elevation (m):	1285.694
Total Depth Drilled (m):	23.2
Drill Contractor:	Layne Christensen
Driller:	C. Davis
Rig Type:	Mobile B-53
Drilling Method:	Mud Rotary
Hammer Type:	Safety
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003RB.GPJ 5/30/00

Boring: RB-394
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Poorly graded GRAVEL with silt and sand - very dense, moist, gray-yellow, fine to coarse-grained gravel				MC	305			16 26 36 24								SV
			1		SPT	178			9 7 5 3	● 24							
1285		5	2		SH	0											
	Lean CLAY - medium stiff, wet, gray				SH	610	CL	A-6			42 32	15.7	30	29	10		UC
		10	3		MC	610			1 2 2 3	● 6							
	- silty sand lense		4		SPT	483			0 0 4 3	● 7							
		15	5		SH	559					38						
	Silty SAND - loose, wet, gray, fine-grained				SPT	406	SM	A-2-4	2 2 3 4	● 8							
	Lean CLAY - medium stiff, wet, gray	20	6		MC	559	CL	A-6	4 1 2 1	● 3							
1280	- soft		7		SPT	508			3 3 3 5	● 8							
	Silty SAND - loose, wet, gray, very fine-grained						SM	A-2-4									
	Lean CLAY - medium stiff, wet, gray	25	8		SH	381	CL	A-6			38	14.6	30	30	11		C SG
	Fat CLAY - medium stiff, wet, olive-gray				SPT	559	CH	A-7-6	3 2 3 4	● 7							
		30	9														
			10														
		35	11														
1275		40	12														
			13														
		45	14														
		50	15														
			16														
1270		55	17														
		60	18														
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-394**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/10/00
Date Finish:	5/10/00
Station:	51+250.000 0.00 RT
Line:	I-15 WD NB
Coordinates (m):	N 107,480.746 E 16,012.949
Elevation (m):	1286.613
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-395
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / (N1)60 (Greater than 50 Blows) ○ (0 25 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very stiff, moist, brown, grass roots				MC	457	CL	A-6	7 7 6 5	18							
	- medium stiff, frequent silt seams, reddish-brown		1		SPT	610			2 2 1 1	5							
1285		5			SH	610					34	12.8	41	40	19		C SG
	- with fine sand lenses		2		SPT	610			0 0 3 2	5							
	SILT- soft, wet, gray						ML	A-4									
	Lean CLAY - very soft, wet, brown, with frequent seams of silt	10	3		MC	559	CL	A-6	0 0 2 4	2							
	Sandy SILT - medium stiff to stiff, wet, gray to black		4		SPT	610	ML	A-4	8 6 2 4	11						55	
	Lean CLAY - very soft, wet, gray	15					CL	A-6									
			5		SH	610					16 24	16.7	22	40	17		C SG
					SPT	610			1 1 1	2							
1280		20	6		MC	406			4 3 2 3	5							
	SILT - medium stiff, wet, gray		7		SPT	610	ML	A-4	0 3 7 12	12							
	- becomes stiff	25			SH	559											
			8								48						
	Silty CLAY - medium stiff, wet, gray						CL-ML	A-6									
			9		SPT	610			3 5 5 4	12							
		30															
			10														
		35															
1275			11														
			12														
		40															
			13														
		45															
			14														
			15														
		50															
			16														
1270		55															
			17														
			18														
		60															
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-395**

Sheet **1** of **1**

Logged by:	M. Bostrom
Date Start:	5/10/00
Date Finish:	5/10/00
Station:	6003+950.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 108,545.276 E 15,635.838
Elevation (m):	1286.262
Total Depth Drilled (m):	9.1
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	133 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-396
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - soft, wet, brown				SH	584	CL	A-6									
			1		SPT	610			1 1 1 3	4							
	- frequent silt seams	5					CL-ML	A-6									
1285	Silty CLAY - soft, wet, olive, mottled rust-colored																
	CLAY - soft, wet, light reddish-brown		2		MC	457	CL	A-6	3 2 1 3	4							
					SPT	457			2 1 1	4							
	- occasional silt seams	10	3		SH	457					38	13.9	42	39	19	92	C SG
			4		SPT	457			0 0 0 0	0							
	- light gray, very soft	15															
			5		MC	610			0 0 3 2	4							
					SPT	610			2 1 1 2	2							
		20	6														
	SILT - medium stiff, wet, gray				SH	610	ML				29					50	
1280			7		SPT	610			2 2 2 2	6							
		25															
	- lean clay layer		8		MC	610			5 5 17 20	22							
	- very stiff				SPT	610			4 5 16 20	25							
		30	9														
			10														
		35	11														
1275			12														
		40															
			13														
		45	14														
			15														
		50															
			16														
		55															
1270			17														
			18														
		60															
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-396**

Sheet **1** of **1**

Logged by:	M. Bostrom
Date Start:	5/11/00
Date Finish:	5/11/00
Station:	6004+534.815 93.86 RT
Line:	D Mainline
Coordinates (m):	N 109,134.378 E 15,697.296
Elevation (m):	1286.986
Total Depth Drilled (m):	8.8
Drill Contractor:	Layne Christensen
Driller:	J. Hulse
Rig Type:	CME-750
Drilling Method:	Mud Rotary
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	135255 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-397
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - very stiff, moist, gray				MC	559	ML	A-4	14 10 6 6	29							
	- medium stiff, wet, olive-gray		1		SPT	432			2 1 2	6							
	Lean CLAY - medium stiff, wet, gray						CL	A-6									
	SILT - medium stiff, light yellow-brown, wet	5			SH	610	ML	A-4									
1285			2								53						
	Lean CLAY - soft, wet, gray				SPT	279	CL	A-6	1 1 2	7							
		10	3		MC	508			1 2 4 2	10							
	Silty SAND - loose, wet, gray to light yellow, very fine-grained						ML	A-2-4									
	Lean CLAY - soft, wet, gray		4		SPT	305	CL	A-6	1 1 1	4							
	- becomes grayish-blue	15			SH	610											
			5								43						
	- stiff				SPT	457			2 3 2	10							
		20	6		MC	610			3 3 5 5	11							
1280			7		SPT	457			3 4 5	15							
	Sandy SILT - stiff, wet, gray						ML	A-4									
		25			SH	610					12	16.7	23	NP	NP	60	C
	Silty SAND - loose to medium dense, wet, gray, with very fine to fine-grained sand		8				SM	A-2-4			53						SG
					SPT	457			6 3 7	16							
		30	9														
			10														
		35	11														
1275			12														
		40															
			13														
		45	14														
			15														
		50															
			16														
1270		55	17														
			18														
		60															
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-397**

Sheet 1 of 1

Logged by:	R. Khandokar
Date Start:	5/17/00
Date Finish:	5/17/00
Station:	6005+180.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 109,773.404 E 15,567.997
Elevation (m):	1286.896
Total Depth Drilled (m):	8.7
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-398
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, moist, gray, some organics				MC	152	CL	A-7-6	6 8 5 5	21							
	- medium stiff		1		SPT	51			3 2 2 2	8							
1285		5	2		SH	508					38	13.4	35				
	SILT - medium stiff, wet, gray to tan				SPT	254	ML	A-4	1 2 1 3	6							
	Lean CLAY - very soft, wet, dark gray	10	3		MC	584	CL	A-7-6	0 0 1 1	2							
			4		SPT	610			1 2 1 1	5							
		15	5		SH	610					24 48	14.8	28	44	26		C TR SG
	- olive-gray				SPT	457			3 3 5	13							
		20	6		MC	610	ML	A-4	2 5 7 7	15		15.1	26				
1280	SILT - stiff, wet, gray		7		SPT	457			4 4 4	12						99	
	Silty SAND - medium dense, wet, gray, fine-grained	25	8		SH		SM	A-2-4									
					MC	610			0 6 12 16	21							SV
	- dense	30	9		SPT	457			4 9 16	36							
			10														
		35	11														
1275			12														
		40	13														
		45	14														
		50	15														
			16														
1270		55	17														
		60	18														
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-398**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/10/00
Date Finish:	5/10/00
Station:	6005+650.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 110,242.756 E 15,546.896
Elevation (m):	1286.528
Total Depth Drilled (m):	9.3
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-399
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	FILL: Silty GRAVEL - medium dense, moist, gray to tan				MC	508			6 8 7 7	28							
	Lean CLAY - stiff, wet, tan		1		SPT	356	CL	A-7-6	7 3 2	11							
1285	SILT - stiff, wet, gray to tan	5	2		SH	406	ML	A-4			57					95	
					SPT	254			2 2 2	10							
	Lean CLAY - stiff, wet, gray	10	3				CL	A-7-6									
	SILT - medium stiff, wet, gray to tan				MC	559	ML	A-4	4 2 2 6	6		14.4	31			96	
			4		SPT	457			2 1 2	6							
	Lean CLAY - medium stiff, wet, gray	15	5		SH	610	CL	A-7-6			16	14.2	38	46	26	100	C
	SILT - very stiff, wet, gray, low to medium plasticity				SPT	457	ML	A-4	2 6 8	26	67						SG
		20	6		MC	610			4 7 8 8	22							
1280	- occasional sandy silt lenses		7		SPT	457			4 5 7	20							
		25	8		SH	610										63	
	Silty SAND - dense, wet, gray				SPT	610	SM	A-2-4	5 9 12 18	33						39	
		30	9														
			10														
		35	11														
1275			12														
		40	13														
		45	14														
			15														
		50	16														
1270		55	17														
			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-399**

Sheet 1 of 1

Logged by:	R. Khandokar
Date Start:	5/15/00
Date Finish:	5/15/00
Station:	6005+940.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 110,517.894 E 15,630.526
Elevation (m):	1286.467
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-400
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, slightly moist, yellow-gray, with a trace of fine sand and organics				MC	305	CL	A-7-6	4 5 2 9	13							
	- very stiff, wet, with silt		1		SPT	203			3 4 4	18							
		5	2		SH	610					38	13.1	38				C SG
1285	- soft, with occasional silt layers				SPT	457			1 1 1	4				41	16		
	- medium stiff, gray, with fine sand layers	10	3		MC	610			2 3 1 1	7							
	- soft		4		SPT	457			0 1 1	4							
		15			SH	610		A-6			32 67	15.6	27	35	16		
	Fat CLAY - stiff, wet, grayish-green		5		SPT	457	CH	A-7-6	3 2 3	10							
	SILT - medium stiff, wet, gray, with organics	20	6		MC	610	ML	A-4	6 9 11 14	29							
	Poorly Graded SAND with silt - medium dense, wet, gray		7		SPT	457	SP-SM	A-3	6 8 8	26						10	
1280	Lean CLAY - medium stiff, wet, olive-gray, with sand seams	25					CL	A-6									
			8		SH	610					57						
					SPT	610			1 2 2 2	6							
		30	9														
			10														
		35	11														
1275		40	12														
			13														
		45	14														
		50	15														
			16														
		55	17														
1270			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-400**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/15/00
Date Finish:	5/15/00
Station:	6006+800.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 111,281.939 E 16,023.839
Elevation (m):	1287.243
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-401
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Sandy SILT - hard, slightly moist, dark brown, with roots				MC	305	ML	A-4	4 8 22 13	49							
			1		SPT	457			3 3 3 4	12							
		5															
	Poorly Graded SAND - medium dense, moist, olive-brown, with some silt		2		SH	610	SP	A-3			67	15.0	27			94	
1285	Lean CLAY - medium stiff, wet, reddish-brown				SPT	610	CH	A-7-6	1 1 2 1	6							
		10	3														
	SILT - soft, wet, gray, with occasional clay layers				MC	457	ML	A-4	2 2 1 2	4							
			4		SPT	610			2 2 3 4	8							
	- medium stiff																
		15															
	Lean CLAY with sand - medium stiff, wet, reddish-brown		5		SH	610					37 / 38	14.3	27			79	C / SG
					SPT	610			2 1 2 3	5							
		20	6														
					MC	610			4 5 6 7	14							
	- stiff																
1280			7		SPT	610			3 4 5 5	13							
		25															
			8		SH	610											
	Silty SAND - medium dense, wet, olive-brown						SM	A-2-4			77						
	Poorly Graded SAND - medium dense, wet, gray				SPT	610	SP	A-3	0 4 8 6	17							
			9														
		30															
			10														
		35															
			11														
1275																	
		40	12														
			13														
		45															
			14														
		50	15														
			16														
		55															
1270			17														
			18														
		60															
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-401**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/18/00
Date Finish:	5/18/00
Station:	6007+400.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 111,878.170 E 16,076.232
Elevation (m):	1287.074
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-402
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - very stiff, slightly moist, light brown, with roots				MC	457	ML	A-4	5 6 7 8	21							
	Lean CLAY - very stiff, wet, reddish-brown, with occasional silt lenses		1		SPT	457	CL	A-7-6	5 6 5 8	22							
		5			SH	457								47	23	98	
1285	Fat CLAY - stiff, wet, gray		2								*81*						
					SPT	457	CH	A-7-6	2 2 3 3	10							
		10	3		MC	356			0 0 2 3	3							
	SILT - very stiff, wet, brown, with clay lenses		4		SPT	610	ML	A-4	5 5 6 8	20							
		15															
	Lean CLAY - medium stiff, moist, gray				SH	610	CL	A-6			12	12.6	40			99	C
	SILT - soft, wet, dark gray, with frequent layers of clay		5				ML	A-4			*45*						TR
					SPT	610			1 1 1 4	4							SG
		20	6		MC	610			2 3 5 5	10			27	40	18		
	- stiff, wet																
1280	Fat CLAY - very stiff, wet, gray, with occasional silt lenses		7		SPT	610	CH	A-7-6	4 5 5 6	16							
		25															
			8		SH	610					*67*						
	Silty SAND - medium dense, wet, dark gray, with occasional clay seams				SPT	610	SM	A-2-4	3 4 6 7	15							
		30	9														
			10														
		35															
			11														
1275		40	12														
			13														
		45															
			14														
		50	15														
			16														
		55															
1270			17														
			18														
		60															
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-402**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/15/00
Date Finish:	5/15/00
Station:	6007+800.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 112,277.663 E 16,096.364
Elevation (m):	1287.013
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-403
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1285	SILT - stiff, moist, dark brown, low plasticity, roots	MC	508	ML	A-4	3 3 5 6							
	Silty CLAY - medium stiff, wet, light gray to white, low to medium plasticity, trace and fine-grained sand	SPT	610	CL-ML	A-6	3 5 6 6							
	Lean CLAY - stiff, wet, light reddish-brown	SH	406	CL	A-7-6		147 *81*	16.7	22	42	21	99	C SG
		SPT	610			2 3 4 6							
		MC	559			3 3 3 4							
		SPT	610			2 3 4 5				36	12		
	- with sand seams	SH	610				72					96	
1280	SILT - stiff, wet, gray	SPT	457	ML	A-4	5 5 9 8							
	Lean CLAY - soft, wet, gray	MC	406	CL	A-6	2 2 1 2							
	- medium stiff to stiff	SPT	406			2 2 3 6							
		SH	610				67	13.7	32			91	
	SILT - medium stiff to stiff, wet, gray	SPT	610	ML	A-4	3 4 6 8							
1275													
1270													

Graphic Log

SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)

Depth ft / m

UTDOT Z003SUP.GPJ 8/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-403**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/15/00
Date Finish:	5/15/00
Station:	6008+885.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 113,346.442 E 16,240.119
Elevation (m):	1285.340
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-404
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	● SPT $(N_1)_{60}$ ○ SPT $(N_1)_{60}$ (Greater than 50 Blows) 0 25 50	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - medium stiff, moist, dark gray, contains organics				MC	610	CL	A-7-6	2 2 5 11	11							
	SILT - stiff, wet, light gray		1		SPT	457	ML	A-4	3 3 4	14							
	- occasional silty sand lense																
	Lean CLAY - stiff, wet, gray-brown	5			SH	610	CL	A-7-6			72			41	18		
			2		SPT	406			8 13 21	45							
	- hard	10	3		MC	610			4 6 6 7	18							
	SILT - very stiff, wet, gray						ML	A-4									
	Lean CLAY - stiff, moist, gray		4		SPT	457	CL	A-7-6	3 3 4	12							
1280		15	5		SH	559					67			45 38	23 16	96	C SG
					SPT	432			3 4 3	12							
	- medium stiff, grayish-blue	20	6		MC	610			3 2 4 5	8							
			7		SPT	457			3 3 4	11							
	- stiff	25															
			8		SH	559					51 53	11.9	47				
					SPT	457			2 3 5	11							
1275		30	9		MC	610			2 2 2 4	4							
			10														
		35	11														
			12														
		40															
			13														
		45	14														
1270																	
		50	15														
			16														
		55	17														
			18														
		60															
			19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-404**

Sheet 1 of 1

Logged by:	R. Khandokar
Date Start:	5/12/00
Date Finish:	5/12/00
Station:	6009+670.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 114,028.968 E 16,606.006
Elevation (m):	1284.611
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-405
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, brown, roots				MC	305	ML	A-4	3 4 4 6	●10							
	Lean CLAY - very stiff, wet, gray				SPT	610	CL	A-7-6	6 6 7 7	●20						56	
	- with occasional silty sand lenses	5	1		SH	152											
	SILT - medium stiff, wet, olive-brown		2		SPT	610	ML	A-4	2 1 3 2	●7	72						
	Lean CLAY - stiff, wet, dark gray to black	10	3		MC	406	CL	A-7-6	1 3 3 4	●6							
			4		SPT	610			2 3 4 5	●9							
1280		15	5		SH	559											
					SPT	610			3 4 4 6	●10	*124*						
	- brown	20	6		MC	610			2 3 3 4	●6							
	- occasional silt lenses		7		SPT	610			3 2 3 3	●5							
		25	8		SH	610					33 *29*	11.9	47			99	C SG
			9		SPT	610			2 2 3 4	●5							
1275		30	10														
		35	11														
		40	12														
			13														
		45	14														
1270		50	15														
			16														
		55	17														
		60	18														
1265		65	19														

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-405**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/16/00
Date Finish:	5/16/00
Station:	6010+290.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 114,500.642 E 17,008.403
Elevation (m):	1284.345
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-406
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - very stiff, moist, dark gray				MC	254	CL	A-6	6 12 11 6	●29							
1285			1		SPT	610			3 3 5 7	●13							
	Silty SAND - medium dense, wet, tan	5	2		SH	508	SM	A-2-4			57						
	SILT with sand - stiff, wet, gray				SPT	457	ML	A-4	3 4 5	●14						79	
	Lean CLAY - very stiff, wet, gray to tan	10	3		MC	584	CL	A-6	6 10 12 14	●26							
	- grades to stiff, occasional very thin lenses of fine-grained sand		4		SPT	406			4 4 7	●14							
		15	5		SH	610					64	14.5	31	38	19		C
					SPT	457			2 2 2	●6	77						SG
1280	SILT - medium stiff, wet, gray						ML	A-4									
	Lean CLAY - medium stiff, wet, gray	20	6		MC	610	CL	A-6	4 3 3 3	●6							
	Silty SAND - medium dense, wet, gray						SM	A-2-4									
	Lean CLAY - medium stiff, wet, gray,		7		SPT	457	CL	A-6	0 2 2	●4							
	- grades to soft	25															
			8		SH	584					43						
	- grades to medium stiff				SPT	457			4 3 3	●6							
		30	9		MC	610			1 3 3 3	●6							
			10														
1275		35	11														
		40	12														
			13														
		45	14														
			15														
1270		50	16														
		55	17														
			18														
		60	19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-406**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/11/00
Date Finish:	5/11/00
Station:	6011+725.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 115,503.490 E 18,027.912
Elevation (m):	1285.770
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-407
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N₁)₆₀ ● / (N₁)₆₀ (Greater than 50 Blows) ○	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff, moist, gray to dark gray				MC	279	CL	A-7-6	2 3 3 3	10							
	SILT - very stiff, wet, gray and tan		1		SPT	483	ML	A-4	4 4 5 5	18							
	Lean CLAY - very stiff, wet, gray and tan	5			SH	610	CL	A-7-6			59						
			2		SPT	406			2 4 5 5	19						98	
	Silty SAND - loose, wet, tan						SM	A-2-4									
	Lean CLAY - stiff, wet, tan and gray	10	3		MC	559	CL	A-7-6	3 4 5 3	14							
	- medium stiff		4		SPT	457			0 2 1	5							
1280		15			SH	610											
			5		SPT	457			0 2 1	5	29						
		20	6		MC	610			3 4 5 3	11							
	- stiff		7		SPT	457			3 4 3	11							
	- silty sand lense	25			SH	610					36	12.7	41	46	21		C
			8		SPT	457			3 4 4	12	43						SG
		30	9														
1275			10														
		35	11														
		40	12														
			13														
		45	14														
1270		50	15														
			16														
		55	17														
		60	18														
			19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-407**

Sheet 1 of 1

Logged by:	R. Khandokar
Date Start:	5/11/00
Date Finish:	5/11/00
Station:	6012+320.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 115,989.980 E 18,370.089
Elevation (m):	1284.700
Total Depth Drilled (m):	8.7
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-408
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT with sand - stiff, moist, dark brown grading to gray				MC	305	ML	A-4	6 7 13	32							
	- organics - light brown		1		SPT	406			5 2 3 3	10							
		5			SH	508					29 *38*	14.4	31	30	5	73	C SG
			2		SPT	610			2 3 3 4	12							
		10	3		MC	610			2 2 3 6	8							
	Lean CLAY - medium stiff, wet, gray						CL	A-6									
			4		SPT	610			2 2 3 4	8							
		15			SH	406										94	
1280			5		SPT	610			1 1 2 5	5	*38*						
	Silty SAND - loose, wet, dark gray to black, fine-grained	20	6		MC	610	SM	A-2-4	2 1 1 3	2							
			7		SPT	559			7 2 2 5	6							
	Lean CLAY - soft, wet, gray to black, fine to medium-grained sand lenses	25	8		SH	610	CL	A-6									
	Silty SAND - medium dense, wet, dark gray		9		SPT	610	SM	A-2-4	7 6 5 4	16							
1275		30	10														
		35	11														
		40	12														
			13														
		45	14														
1270		50	15														
			16														
		55	17														
		60	18														
			19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-408**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/16/00
Date Finish:	5/16/00
Station:	6015+000.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 118,084.056 E 19,805.674
Elevation (m):	1284.904
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-409
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, dark gray and tan				MC	305	ML	A-4	4 4 5 4							
			1		SPT	457			2 2 4							
		5			SH	610					12.5	31	39	13		
			2							57						
	- wet				SPT	0			2 2 3							
		10	3													
	SILT with sand - stiff, wet, reddish-brown mottled gray				MC	610	ML	A-4	3 3 3 4						81	
	Silty SAND - saturated, gray, micaceous, fine to very fine-grained sand				SPT	457	SM	A-2-4	2 1 1							
1280	Lean CLAY - stiff, wet, gray		4				CL	A-6								
		15			SH	610				14	16.2	31				C
			5							24						SG
	Sandy SILT - stiff, wet, gray, fine-grained				SPT	457	ML	A-4	3 6 4							
		20	6													
	- soft				MC	610			1 1 2 1							
	- stiff		7		SPT	457			2 3 4							
		25			SH	610										
			8							34						
					SPT	610			5 4 3 3							
1275		30	9													
			10													
		35	11													
			12													
		40														
			13													
1270		45	14													
			15													
		50														
			16													
		55	17													
			18													
		60														
1265			19													
		65														

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)
0 25 50

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-409**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/19/00
Date Finish:	5/19/00
Station:	6015+300.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 118,375.510 E 19,864.557
Elevation (m):	1284.118
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-410
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, dark gray				MC	152	ML	A-4	5 4 3 5	12							
	- mottled gray and tan, very stiff		1		SPT	457			3 3 5	16							
	Lean CLAY - stiff, wet, gray to tan, micaceous, with very fine-grained sand	5	2		SH	610	CL	A-6			66 72	16.4	23	36	15	91	C TR SG
▽					SPT	457			5 4 3	14							
	- grades to very stiff	10	3		MC	610			4 6 6 8	18							
	Silty SAND - saturated, gray, very fine to fine-grained, micaceous		4		SPT	457	SM	A-2-4	3 2 3	8							
1280	Lean CLAY - medium stiff, wet, gray, with layers of fine-grained sand	15					CL	A-6									
			5		SH	610					29						
	Silty SAND - loose, wet, gray, fine-grained				SPT	457	SM	A-2-4	2 1 2	5							
	Lean CLAY - medium stiff, wet, gray, with sand lenses	20	6				CL	A-6									
					MC	0			4 3 3 2	8							
	SILT with sand - medium stiff, wet, very fine-grained sand, micaceous		7		SPT	457	ML	A-4	2 1 4	8							
		25			SH	508						11.0	34				C SG
	Silty SAND - wet, gray, fine-grained		8		SPT	610	SM	A-2-4	2 10 6 5	24							
	Lean CLAY - medium stiff, wet, gray, with layers of silty sand						CL	A-6									
1275	Silty SAND - gray, saturated, fine-grained	30	9				SM	A-2-4									
		35	10														
			11														
		40	12														
			13														
1270		45	14														
		50	15														
			16														
		55	17														
		60	18														
1265			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-410**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/19/00
Date Finish:	5/19/00
Station:	6015+600.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 118,675.507 E 19,866.014
Elevation (m):	1284.151
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-411
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Lean CLAY - stiff to very stiff, wet, dark gray, low to medium plasticity, contains decomposed and fresh organics				MC	152	CL	A-6	3 3 5 6	13							
	- light brown		1		SPT	406			2 2 3	10							
		5			SH	610					107 *124*	16.5	23	38	17	92	C SG
▽	- very thin layers of silt		2		SPT	457			3 5 6	24							
		10	3		MC	610			6 7 6 7	20							
	Silty SAND - medium dense, wet, dark gray, fine-grained		4		SPT	457	SM	A-2-4	3 4 3	12							
		15			SH	610					*29*	14.0	34			80	
1280	- grades to loose, saturated		5		SPT	457			3 2 1	5							
	- medium dense	20	6		MC	610			3 5 4 4	11							
	Lean CLAY - stiff, wet, brown		7		SPT	457	CL	A-6	6 5 7	19							
	Silty SAND - wet, gray, fine-grained sand						SM	A-2-4									
	- grades to very loose	25	8		MC	610			1 2 1 2	3		14.9	30				
	Fat CLAY - stiff to very stiff, wet, gray, with occasional very thin layers of fine-grained sand				SPT	457	CH	A-7-6	2 1 1 1	2				52	28	95	
		30	9														
1275			10														
		35	11														
		40	12														
			13														
		45	14														
1270			15														
		50	16														
		55	17														
		60	18														
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-411**

Sheet 1 of 1

Logged by:	R. Khandokar
Date Start:	5/18/00
Date Finish:	5/18/00
Station:	6015+900.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 118,975.503 E 19,867.472
Elevation (m):	1284.986
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-412
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, gray				MC	356	ML	A-4	4 4 4 5	14							
▽					SPT	457			1 1 1	4							
1285	SILT with sand - wet, gray, medium plasticity	5	1				ML	A-4									
			2		SH	610					57	15.3	28			85	
	- mottled gray and brown and reddish-brown				SPT	457			2 2 3	10							
	Lean CLAY - stiff, wet, gray and tan	10	3		MC	610	CL	A-6	4 4 6 3	15							
	- occasional silty sand lenses		4		SPT	457			2 3 4	12							
		15	5		SH	610					29	14.3	34	33	14	87	C SG
	Silty SAND - loose, wet, gray, fine-grained sand				SPT	432	SM	A-2-4	3 4 3	12							
		20	6		MC	457			2 2 1 3	4							
1280	Lean CLAY - soft, wet, gray						CL	A-6									
			7		SPT	457			3 1 5	10							
	Poorly Graded SAND - loose, wet, dark gray, fine-grained						SP	A-3									
	Sandy SILT - soft, wet, gray	25	8		MC	610	ML	A-4	3 2 2 2	4						73	
	Lean CLAY - medium stiff, wet, gray to dark gray				SPT	457	CL	A-6	3 1 4	7							
		30	9														
			10														
		35	11														
1275			12														
		40	13														
		45	14														
		50	15														
			16														
1270		55	17														
		60	18														
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-412**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/18/00
Date Finish:	5/18/00
Station:	6016+150.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 119,225.500 E 19,868.686
Elevation (m):	1286.314
Total Depth Drilled (m):	8.7
Drill Contractor:	RC Exploration
Driller:	M. Labenski
Rig Type:	Diedrich D-120 ATV
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-413
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, dark brown				MC	508	ML	A-4	3 4 9 13	16							
			1		SPT	457			4 5 5 6	17							
1285	Lean CLAY - very stiff, wet, light reddish-brown - fine-grained sand lense 25 mm thick	5					CL	A-6									
			2		SH	610					72						
					SPT	610			3 5 6 6	18							
		10	3		MC	610			2 2 4 3	7		14.9	29				
	Sandy SILT - medium stiff, wet, dark gray		4		SPT	610	ML	A-4	3 3 3 4	8							
		15			SH	457											
			5								19						
					SPT	610			2 2 2 2	6							
		20	6		MC	610	CH	A-7-6	1 1 2 2	3							
1280	Fat CLAY - soft, wet, dark gray		7		SPT	610			1 0 0 0	0							
	- very soft	25															
			8		SH	610					9 34	12.8	44	55	28		C TR SG
					SPT	610			0 0 0 2	0							
		30	9														
			10														
		35															
			11														
1275																	
		40	12														
			13														
		45															
			14														
		50	15														
			16														
1270		55															
			17														
			18														
		60															
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-413**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/12/00
Date Finish:	5/12/00
Station:	6016+500.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 119,575.496 E 19,870.387
Elevation (m):	1286.452
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 8/31/00

Boring: RB-414
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Sample Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows) 0–25–50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff, moist, olive gray with light brown mottling, with trace sand				MC		ML	A-4	3 4 8 9	12							
			1		SPT				3 5 4 7	9							
	Lean CLAY - stiff, wet, gray	5			SH		CL	A-6			18	16.5	23	35	13	97	C
1285			2								*81*						SG
					SPT				2 3 5 7	8							
	SILT - medium stiff, wet, dark gray	10	3				ML	A-4									
					MC				2 2 1 3	3							
	Lean CLAY - soft, wet, dark gray						CL	A-6									
			4		SPT		SM	A-2-4	2 2 3 3	5							
	Silty SAND - loose, wet, dark gray to black, with interbedded clay, clay is light reddish-brown	15															
			5		SH												
					SPT				2 2 1 4	3	*34*						
	SILT - soft, wet, olive-gray, with sand seams	20	6				ML	A-7-6									
					MC				2 1 1 3	2							
	- very soft		7		SPT				1 2 1 1	3							
1280	- soft	25															
			8		SH						*34*	11.2	54	45	18	97	
					SPT				0 0 1 1	1							
		30	9														
			10														
		35	11														
1275		40	12														
			13														
		45	14														
		50	15														
			16														
		55	17														
1270			18														
		60	19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-414**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/11/00
Date Finish:	5/12/00
Station:	6016+800.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 119,875.493 E 19,871.844
Elevation (m):	1287.094
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-415
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - stiff to very stiff, moist, dark brown				MC		ML	A-4	4 10 8 7	18							
	Lean CLAY - stiff, moist, light gray, medium plasticity		1		SPT		CL	A-6	3 4 3 5	7							
	SILT - medium stiff, moist, olive-brown, no to low plasticity, with medium to coarse-grained sand	5	2		SH		ML	A-4			*67*					92	C SG TV
1285	Sandy Lean CLAY - medium stiff, wet, brown to gray to dark gray				SPT		CL	A-6	2 2 2 3	4							
		10	3		MC				2 1 1 1	2							
	- sand lense		4		SPT				3 2 1 2	3		12.9	37				
		15	5		SH				1 2 2 2	4							
		20	6		MC				2 1 1 2	2							
	- very soft		7		SPT				5 4 3 4	7							
1280	- medium stiff	25	8		SH						17 *34*	13.2	38			90	UC TV
			9		SPT				2 1 2 3	3							
		30	10														
		35	11														
1275		40	12														
			13														
		45	14														
		50	15														
			16														
		55	17														
1270		60	18														
			19														
		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-415**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/19/00
Date Finish:	5/19/00
Station:	6017+100.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 120,175.489 E 19,873.302
Elevation (m):	1287.505
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-417
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - very stiff to hard, moist, dark brown				MC	457	ML	A-4	8 14 20 17	42							
			1		SPT	610			3 2 3 4	8							
		5			SH	406										78	
			2								*53*						
					SPT	610			2 4 4 5	12							
		10	3		MC	610			1 3 3 4	6							
	Lean CLAY - medium stiff, wet, gray						CL	A-6									
	- grades to soft		4		SPT	610			2 2 1 2	4							
		15			SH	457								33	12		
	- with sand seams																
1280	SILT - medium stiff, moist to wet, gray, dilatant		5				ML	A-4			*24*						
					SPT	610			2 2 4 3	8							
	Poorly Graded SAND - loose, wet, dark gray to black, with few clay interbeds	20	6		MC	610	SP	A-3	2 3 2 4	5						70	
			7		SPT	610			2 1 1 2	2							
	Lean CLAY - soft, wet, olive-gray						CL	A-6									
	Poorly Graded SAND - loose, wet, dark gray to black, fine-grained	25	8		SH	457	SP	A-3			17 *24*	13.3	38			97	C SG
					SPT	610			0 0 0 0	0							
	Lean CLAY - very soft, wet, gray		9				CL	A-6									
1275		30	10														
		35	11														
		40	12														
			13														
		45	14														
1270		50	15														
			16														
		55	17														
			18														
		60	19														
1265		65															

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-417**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/19/00
Date Finish:	5/19/00
Station:	6017+700.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 120,775.482 E 19,876.216
Elevation (m):	1284.895
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 5/31/00

Boring: RB-418
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○ (0 – 25 – 50)	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT with sand - soft, moist, dark gray				MC	457	ML	A-4	1 2 2 1	●4							
	Silty SAND - soft, moist, light gray, micaceous		1		SPT	457	SM	A-2-4	1 1 2 3	●5							
▽	Sandy SILT - soft to medium stiff, moist, dark gray						ML	A-4									
	Lean CLAY - soft, moist to wet, light gray, plastic	5			SH	457	CL	A-7-6			42	14.7	29	43	21		C
			2								77						SG
	Sandy Lean CLAY - medium stiff, moist, gray, plastic, sand is fragment				MC	457	CL	A-6	2 2 3 4	●8							
	- black organics fragments	10	3		SPT	457			2 1 0 1	●1							
	Silty CLAY - soft, moist, gray, plastic						CL-ML	A-6									
	Silty SAND - very loose, wet, olive-brown clayey silt, gray fine-grained sand, black organics		4		SPT	457	SM	A-2-4	0 0 1 2	●1							
	Poorly Graded SAND - soft, wet, gray, fine to medium-grained	15			SH	610	SP	A-3				13.5	36			93	C
1280			5								19						SG
	- grades to interbedded silt, olive-brown, very soft, moist				SPT	610			2 1 1 2	●2							
		20	6		MC	610	CL-ML	A-6	0 0 1 4	●1							
	Silty CLAY - very soft, wet, light gray, plastic																
	- grades to interbeds of sandy silt, very soft, moist, black sand, gray silty clay, plastic		7		SPT	610			0 0 1 2	●1							
	Poorly Graded SAND - soft, wet, black to gray	25			SH	610	SP	A-3									
			8		MC	610			0 1 1 2	●2							
	Lean CLAY - very soft, wet, light gray						CL	A-6									
	SILT - medium stiff, wet, black	30	9		SPT	610	ML	A-4	3 5 7 9	●12							
	Silty SAND - medium dense, wet, gray to black						SM	A-2-4									
1275			10														
		35	11														
			12														
		40	13														
		45	14														
1270			15														
		50	16														
		55	17														
			18														
		60	19														
1265		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-418**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/10/00
Date Finish:	5/10/00
Station:	6017+960.001 0.19 RT
Line:	D Mainline
Coordinates (m):	N 121,035.479 E 19,877.674
Elevation (m):	1284.895
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-419
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ ○ (Greater than 50 Blows) 0 25 50	Test Results * S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND - medium stiff, dry to moist, brown to light brown, fine-grained				MC	610	SM	A-2-4	4 4 3 6	9							
	SILT with sand - soft, wet, olive-brown with reddish-brown mottles, fine-grained sand	5	1		SPT	457	ML	A-4	1 2 2 1	6							
▽			2		SH	0											
	Silty CLAY - soft, moist, olive-gray, plastic				SPT	457	CL-ML	A-6	1 1 2 4	5							
1285	Sandy SILT - medium stiff, wet, dark gray to black	10	3		SH	0	A-4	A-4									
			4		SPT	203			3 3 4 4	10						53	
	- stiff	15	5		MC	610			4 5 5 6	10		12.7	42				
					SPT	610			0 1 2 1	4							
	- soft	20	6		MC	610			7 8 10 12	18							
	Lean CLAY - stiff, wet, olive-gray silt, with black fine-grained sand		7		SPT	610	CL	A-6	7 5 7 10	14				35	13		
		25			MC	457			0 1 2 1	3		13.3	37				
1280			8		SPT	457			1 1 1 2	3							
		30	9		SPT	457			4 2 2 8	4							
			10														
		35	11														
			12														
		40															
1275			13														
		45	14														
			15														
		50															
			16														
		55	17														
1270		60	18														
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-419**

Sheet 1 of 1

Logged by:	R. Davis
Date Start:	5/10/00
Date Finish:	5/10/00
Station:	6018+299.985 3.00 LT
Line:	D Mainline
Coordinates (m):	N 121,375.475 E 19,876.131
Elevation (m):	1288.083
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

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BAG = Bulk Sample

Boring: RB-420
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT (N1)60 ● / (N1)60 (Greater than 50 Blows) ○ (0 – 25 – 50)	Su, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - medium stiff, moist, brown, with trace sand				MC	457	ML	A-4	2 3 5 4	10							
			1		SPT	610			2 3 4 5	11							
	Silty CLAY - medium stiff, moist, light olive-brown, plastic	5			SH	432	CL-ML	A-6			41						
			2														
1295					SPT	610			1 2 3 3	8							
	Lean CLAY - medium stiff to stiff, wet, light reddish-brown	10	3		MC	0	CL	A-6	3 4 5 5	11							
			4		SPT	610			2 2 2 3	6							
		15			SH	508					25	16.6	28	39	18	84	C
	- grades gray		5								43						SG
					SPT	610			2 3 6 4	12							
		20	6														
	- grades to medium stiff				MC	457			2 3 3 4	6							
	Silty SAND - medium dense, wet, gray to black, fine to medium grained sand		7		SPT	610	SM	A-2-4	2 2 3 2	5							
1290	SILT - medium stiff, moist, gray, slightly dilatant	25					ML	A-4									
			8		SH	356					43						
	- grades to gray silt				SPT	610	CL	A-6	2 2 4 3	6				39	18		
	Lean CLAY - medium stiff, wet, gray	30	9		SPT	610			2 2 2 2	4							
			10														
		35	11														
1285		40	12														
			13														
		45	14														
		50	15														
			16														
		55	17														
1280																	
		60	18														
			19														
		65															

UTDOT Z003SUP.GPJ 5/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-420**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/11/00
Date Finish:	5/11/00
Station:	6019+470.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 122,513.204 E 19,644.905
Elevation (m):	1297.285
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

USCS = Unified Soil Classification System

AASHTO = American Association of State Highway and Transportation Officials

* = See Key to Soil Logs for list of abbreviations and descriptions of tests

SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

Boring: RB-421
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / SPT $(N_1)_{60}$ (Greater than 50 Blows) ○	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	Silty SAND with gravel - medium dense, moist, gray to brown	MC	508	SM	A-2-4	5 6 9 7	24							
		SPT	330			3 3 3	14							
		SH	457					51	16.9	20	36	14	75	C
								62						SG
		SPT	457			2 4 3	16							
	Lean CLAY with sand - very stiff, wet, tan			CL	A-6									
1295		MC	127			4 5 6 10	19							
	Silty SAND with gravel - loose, wet, dark gray to brown and tan, fine-grained	SPT	406	SM	A-2-4	3 5 5	20				34	13		
	Lean CLAY - stiff, wet, brown, medium plasticity			CL	A-6									
		SH	610											
								53						
		SPT	457			3 4 4	16							
		MC	483			4 11 7 7	26							
		SPT	457			1 2 2	6			23			18	
	- loose silty sand layer													
		SH	610											
1290								*48*						
		SPT	610			2 3 2 2	8							
1285														
1280														

Depth: ft / m

Graphic Log

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-421**

Sheet **1** of **1**

Logged by:	R. Khandokar
Date Start:	5/17/00
Date Finish:	5/17/00
Station:	6019+900.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 122,925.217 E 19,521.837
Elevation (m):	1297.915
Total Depth Drilled (m):	8.8
Drill Contractor:	RC Exploration
Driller:	N. Young
Rig Type:	Diedrich D-120 Truck
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	203 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

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SAMPLE TYPE

SPT = Standard Penetration Test, 34.9mm ID and 50.8mm OD split spoon sampler

MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 6/31/00

Boring: RB-422
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ ● / $(N_1)_{60}$ ○ (Greater than 50 Blows)	S_u kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
1295	FILL: Silty GRAVEL - medium dense, moist, dark brown to gray, some grass and roots	MC	508			11 12 14 11	●32							
	Sandy SILT - very stiff, moist, brown to light brown, fine roots	SPT	610	ML	A-4	3 3 5 6	●13							
	- grades to gray	SH	457					*34*						
	Silty SAND - loose, wet, brown fine to coarse-grained sand	SPT	610	SM	A-2-4	1 1 1 1	●4							
		MC	0			2 2 2 3	●13							
		SPT	457			2 2 2 2	●6						21	
	- grades to dark brown	MC	406	ML	A-4	2 2 4 5	●6							
	SILT - medium stiff, wet, gray silt, light reddish-brown clay, highly plastic clay	SPT	610			3 4 3 5	●9							
1290	Lean CLAY - medium stiff, wet, gray			CL-ML	A-6									
		SH	610					75 *57*	14.8	27	36	16		C SG
		SPT	610			2 4 4 5	●10							
		SH	610					*48*						
		SPT	610			2 2 2 3	●4							
		SPT	610			2 2 3 4	●5							
1285														
1280														

Depth: ft / m

Graphic Log

Test Results *

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-422**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/11/00
Date Finish:	5/11/00
Station:	6020+210.000 0.00 RT
Line:	D Mainline
Coordinates (m):	N 123,221.186 E 19,429.774
Elevation (m):	1295.398
Total Depth Drilled (m):	9.4
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

UTDOT Z003SUP.GPJ 6/31/00

Boring: RB-423
Sheet 1 of 1

Elevation (m)	SAMPLE DESCRIPTION (ASTM D 2488/D 2487)	Depth ft	Depth m	Graphic Log	Type	Recovery (mm)	Soil Classification USCS	Soil Classification AASHTO	N, Blows per 0.15 m (or interval shown)	SPT $(N_1)_{60}$ (Greater than 50 Blows)	S_u, kPa (torvane in italics)	Dry Density, kN/m³	Moisture, %	Liquid Limit	Plasticity Index	% Passing No. 200	Other Tests
	SILT - medium stiff to stiff, dry to moist, brown, fine roots				MC	457	ML	A-4	4 4 4 3	10							
			1		SPT	610	ML	A-4	2 3 4 5	11							
	Sandy SILT - medium stiff, moist, light brown	5															
1290			2		SH	0											
					SPT	203			3 4 4 3	12						70	
		10	3		MC	0			2 3 4 4	8							
	- very soft		4		SPT	0			0 0 0 0	0							
		15			SH	610					30	16.3	27				C SG
			5		SPT	610			5 7 8 10	19							
	- silt lenses, very stiff	20	6		MC	610			7 10 10 10	20							
1285	Silty SAND - medium dense, wet, dark gray, fine-grained sand		7		SPT	610	SM	A-2-4	9 9 9 12	20							
		25	8		SH	0											
	SILT - stiff, wet, dark gray				SPT	610	ML	A-4	4 5 5 5	10						92	
		30	9														
			10														
		35	11														
1280			12														
		40															
			13														
		45	14														
			15														
		50															
			16														
1275		55	17														
			18														
		60															
			19														
		65															

● SPT $(N_1)_{60}$
○ SPT $(N_1)_{60}$ (Greater than 50 Blows)

UTDOT Z003SUP.GPJ 8/31/00

Legacy Parkway - Preferred Alternative
I-215 to I-15/US 89 Interchange

KLEINFELDER

Project No. 35-8163-05

FIELD TEST BORING LOG

Boring: **RB-423**

Sheet **1** of **1**

Logged by:	R. Davis
Date Start:	5/12/00
Date Finish:	5/12/00
Station:	4+220.000 0.00 RT
Line:	Burke Lane
Coordinates (m):	N 123,819.432 E 18,320.892
Elevation (m):	1291.574
Total Depth Drilled (m):	9.1
Drill Contractor:	RC Exploration
Driller:	M. Burns
Rig Type:	CME-750 Track
Drilling Method:	Hollow-Stem Auger
Hammer Type:	Automatic
Rod Type:	AW
Boring Diameter:	152 mm

LEGEND/NOTES

Elevations based upon North American Vertical Datum of 1988 (NAVD '88)

Coordinates are NAD '83

▽ = Observed Groundwater depth at time of drilling

Blows = Number of blows required to drive split spoon sampler 150 mm or interval shown

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SAMPLE TYPE

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MC = Modified California Sampler, 50.8mm ID and 63.5mm OD split spoon sampler

P = Piston Sampler, 76.2 mm OD

SH = Shelby Tube, 76.2mm OD, pushed

BAG = Bulk Sample

FIELD SOIL CLASSIFICATION

PENETRATION RESISTENCE

STANDARD PENETRATION TEST (ASTMD-1586)
NUMBERS OF BLOWS REQUIRED TO DRIVE A STANDARD 50.8 mm OUTSIDE DIAMETER SPLIT BARREL SAMPLER 304.8 mm USING A 63.5 kg WEIGHT

COHESIONLESS SOIL

RELATIVE DENSITY	$SPT(N_1)_{60}$ - VALUE BLOWS PER 0.3m	RELATIVE DENSITY, %
VERY LOOSE	<4	0 - 15
LOOSE	4 - 10	15 - 35
MEDIUM DENSE	10 - 30	35 - 65
DENSE	30 - 50	65 - 85
VERY DENSE	>50	85 - 100

COHESIVE SOILS

CONSISTENCY	$SPT(N_1)_{60}$ - VALUE BLOWS PER 0.3m	THUMB PENETRATION
VERY SOFT	<2	EASILY PENETRATED MORE THAN 25 mm
SOFT	2 - 4	EASILY PENETRATED 25 mm
MEDIUM STIFF	4 - 8	CAN BE PENETRATED OVER 6 mm WITH MODERATE EFFORT
STIFF	8 - 15	INDENTED ABOUT 6 mm, PENETRATED WITH GREAT EFFORT
VERY STIFF	15 - 30	READILY INDENTED BY THUMBNAIL
HARD	30 - 60	INDENTED WITH DIFFICULTY BY THUMBNAIL
VERY HARD	>60	THUMBNAIL WILL NOT INDENT SOIL

GRADATION

MATERIAL	FRACTION	SEIVE SIZE	GRAIN SIZE
BOULDERS		>304.8 mm	>304.8 mm
COBBLES		75 mm to 304.8 mm	75 mm to 304.8 mm
GRAVEL	COARSE	19 mm to 75 mm	19 mm to 75 mm
	FINE	No. 4 to 19 mm	2 mm to 4.74 mm
SAND	COARSE	No. 10 to No. 4	85 - 100
	MEDIUM	No. 40 to No. 10	430μm to 2 mm
	FINE	No. 200 to No. 40	75μm to 430μm
FINES	(SILT AND CLAY)	PASSING No. 200	<75μm

CRITERIA FOR DESCRIBING MOISTURE CONTENT

SLIGHTLY MOIST	ABSENCE OF MOISTURE, DUSTY, DRY TO TOUCH
MOIST	MOIST BUT NOT VISIBLE WATER
WET	VISIBLE FREE WATER, USUALLY SOIL IS BELOW WATER TABLE

VARIATIONS IN SOIL STRATIGRAPHY

TRACE	<5%
FEW	5 to 10%
LITTLE	15 to 25%
SOME	30 to 45%
MOSTLY	50 to 100%

CRITERIA FOR CLAY PLATICITY AND DRY STRENGTH

PLASTICITY	PLASTICITY INDEX	DRY STRENGTH
NON-PLASTIC	0 - 3	VERY LOW
LOW	3 - 15	LOW
MEDIUM	15 - 30	MEDIUM
HIGH	>30	HIGH

THE TORVANE IS AN INDICATOR OF THE UNCONFINED COMPRESSIVE STRENGTH OF FINE-GRAINED SOILS. THE TORVANE IS MANUALLY ROTATED UNTIL THE SOIL SHEARS. THE TEST IS A VERY CRUDE ESTIMATE OF THE COMPRESSIVE STRENGTH. HENCE, IT SHOULD BE COMPARED WITH OTHERS FOR A RELIABLE ESTIMATE OF THE UNCONFINED COMPRESSIVE STRENGTH. RESULTS SHOWN ON PLOTS IN GDR.

UNIFIED SOIL CLASSIFICATION (USCS) IDENTIFICATION AND DESCRIPTION

MAJOR DIVISIONS				SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS	(LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
					GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES	(APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
					GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS	(LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
					SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES	(APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
					SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
					OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
		LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
					CH	INORGANIC CLAYS OF HIGH PLASTICITY
					OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS					PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

SOIL LABORATORY TEST DESCRIPTIONS

Water Content and Unit Weight

Measures water (moisture) content of soils by drying with direct heat.
Results reported in percent on field test boring logs.
Dry density determines dry unit weight of soils.
Results reported in kN/m^3on field test boring logs.

Liquid Limit, Plastic Limit, and Plasticity Index - ASTM D 4318

Measures liquid limit, plastic limit, and plasticity index of soils.
Results reported in liquid limit (LL) and plasticity index (PI) or non plastic (NP) on field test boring logs.

Grain Size Distribution Tests - ASTM D 422

Quantitatively measures distribution of particle sizes in soils.
Results shown on a plot in the geotechnical data report (GDR)
SV = Grain size distribution test was run
% Passing No. 200 = Amount of fines passing No. 200 sieve in percent.

Specific Gravity - ASTM D 854

Measures specific gravity of soils by means of a pycnometer.
Results reported in specific gravity (SG) on field test boring log.
SG = Specific gravity test was run.

Consolidation Test - ASTM D 2435

Measures rate and magnitude of consolidation of soil when it is restrained laterally and loaded and drained axially.
Results shown on plot in GRD.
C = Consolidation test was run.

Direct Shear Test - ASTM D 3080

Measures the shear strength of a soil in direct shear.
DS = Direct shear test was run for multi-point test.

Unconfined Compressive Strength - ASTM D 2166

Measures unconfined compressive strength, q_u, of cohesive soil in undisturbed condition using a strain-controlled application of the axial load.
Results shown as undrained shear strength, $s_u = (q_u/2)$, kPa on field boring log and summary of laboratory test data.

Corrosion Resistence Tests

Measures key parameters including pH, electrical resistivity (ohm-cm) and water soluble sulfates (ppm) for use in the evaluation of the corrosion potential of the existing soils.

3510d192

ABBREVIATIONS

NA - NOT APPLICABLE
GDR - GEOTECHNICAL DATA REPORT

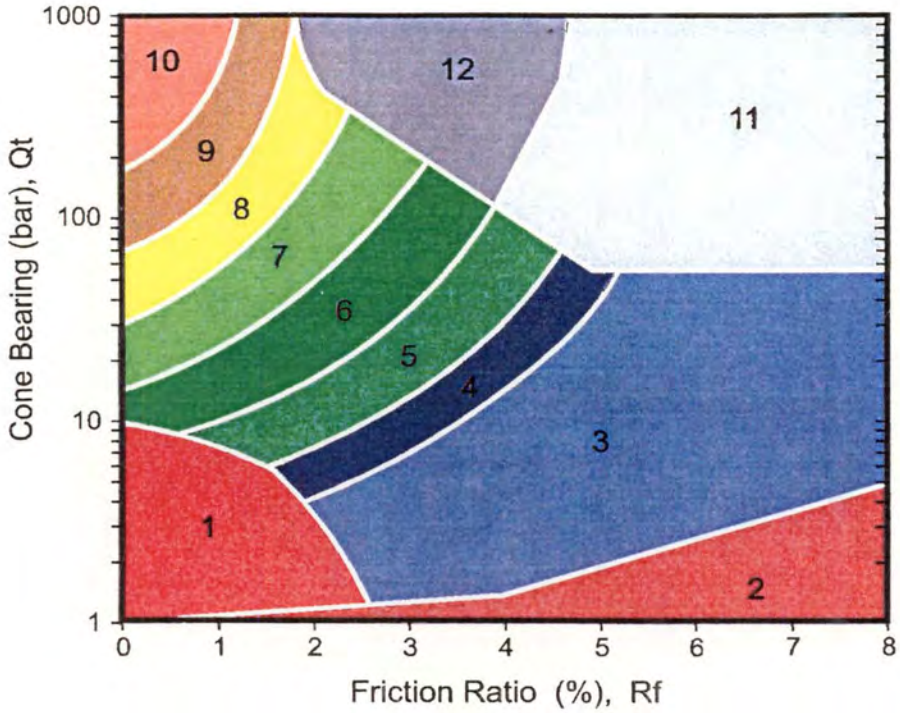
KLEINFELDER

Project Number 35-8163-05

Legacy Parkway - Preferred Alternative
I-215 to I-15 / US 89 Interchange

KEY TO BORING LOG
SOIL SYMBOLS AND TERMS

PLATE
D-103



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

CPT Classification Chart
(After Robertson & Campanella, 1990)

CONETEC