Appendix A

Boring Logs

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engineers, scientists, economists

Project: UC Berkeley Richmond Field Station
Project Location: Richmond, California
Project Number: 26814100

Key to Log of Boring

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	SAMPLES: Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
1	2	3	4	5	6	7	8

COLUMN DESCRIPTIONS

1. **Elevation:** Elevation in feet referenced to mean sea level (MSL) or site datum.
2. **Downhole Depth:** Distance in feet below the ground surface.
3. **Sample Interval:** Graphic depiction of field sampling depths and intervals from which laboratory samples were collected; sampler symbols are explained below.
4. **Lab ID Number:** Identification number of samples collected for possible chemical analysis.
5. **Headspace PID:** Photo-ionization device field sample headspace reading, in parts per million (ppm).
6. **Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.
7. **Material Description:** Description of material encountered; may include color, moisture, grain size, and density/consistency.
8. **Field Notes:** Comments and observations regarding drilling or sampling made by driller or URS field personnel.

TYPICAL MATERIAL GRAPHIC SYMBOLS

SAND	CLAY, low to medium plasticity	SILT	GRAVEL
SAND with SILT	CLAY, high plasticity	SILTY CLAY	SILTY GRAVEL
SILTY SAND	CLAYEY SAND	CLAYEY SILT	Cinders

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Recovery in geoprobe continuous core sampler
- No recovery zone in geoprobe sampler
- Sample retained for possible chemical testing

OTHER GRAPHIC SYMBOLS

- First water encountered at during drilling
- Water level measured at completion of drilling
- Water level measured after 24 hrs
- Inferred contact due to no recovery or gradational change in lithology

GENERAL NOTES

1. Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-1** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	8.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	4.96 feet MSL
Groundwater Level(s)	First: 3.0 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0		Blb-1-0.5'			CLAY [FILL], dark brown and gray, moist, medium stiff, trace coarse-grained sand, brick fragments	
			Blb-1-1.5'			← Cinder laminae ~1 inch thick at contact ▽	
						SILT [SEDIMENT], dark gray, wet, soft	
			Blb-1-3.5'			SAND, grayish brown, wet, fine-grained, pieces of greenish gray clay	
0	5					← Sand grades medium-grained, with fine gravel	
						SILTY CLAY, light brown, wet, soft	
			Blb-1-6'			GRAVEL	
						BOTTOM OF BORING AT 8 FEET	
-5	10						
-10	15						
-15	20						
-20	25						

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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-2** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	8.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	5.45 feet MSL
Groundwater Level(s)	First: 3.0 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	SAMPLES: Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
5	0		Blb-2-0.5'			SILTY CLAY [FILL], dark brown, damp, medium stiff, some roots	
						← Wood at fill/sediment contact ▽	
			Blb-2-3'			SILT [SEDIMENT], dark gray to black, wet, soft	Cinder color in top 6 inches of sediment.
0	5		Blb-2-5.5'			CLAY, greenish gray, wet, soft, trace fine gravel	
						SILTY CLAY, bright orange, wet, soft	
						← Becomes mottled gray and orange	
						BOTTOM OF BORING AT 8 FEET	
-5	10						
-10	15						
-15	20						
	25						

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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-3** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-Inch-OD drive point	Total Depth of Borehole	8.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	6.90 feet MSL
Groundwater Levels(s)	First: ground surface Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0					GRAVELLY CLAY [FILL], dark brown, wet, soft, gravel to 1/2 inch dia.	
5			Blb-3-0.5'				
			Blb-3-3'			CLAY [SEDIMENT], dark gray, wet, soft, some roots	
	5		Blb-3-4.5'				
						SILT, gray, wet, soft	
0			Blb-3-6'				
			Blb-3-7.2'			CLAY, grayish brown and reddish brown, wet, soft	
						BOTTOM OF BORING AT 8 FEET	
	10						
-5							
	15						
-10							
	20						
-15							
	25						

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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-4** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	8.5 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	7.49 feet MSL
Groundwater Level(s)	First: 6.0 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0						
			Blb-4-0.5'			CLAY [FILL], dark gray to black, moist, soft, some rounded gravel to 1/2 inch dia.	
-5						SILTY CLAY [FILL], dark brown, moist, soft, some sand and gravel	
			Blb-4-4'				
	5					▽	
			Blb-4-6.5'			SILT [SEDIMENT], dark gray to black, wet, soft	
-0						Becomes gray	
			Blb-4-8'				
						BOTTOM OF BORING AT 8.5 FEET	
	10						
-5							
	15						
-10							
	20						
-15							
	25						

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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-5** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	9.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	8.67 feet MSL
Groundwater Levels(s)	First: 7.5 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0		Blb-5-0.5'			CLAY [FILL], dark gray and brown, damp, stiff, some roots	
						Becomes hard	
-5	5		Blb-5-4'				
			Blb-5-7.5'			▽	
						SANDY SILT [SEDIMENT], dark gray, wet, loose, fine-grained sand	
-0						CLAY [BAY MUD], greenish gray, wet	
						BOTTOM OF BORING AT 9 FEET	
	10						
-5							
	15						
-10							
	20						
-15							
	25						

Report: ENV_3PS/W_SOLON; File: BERKRICH.GPJ; 1/14/2003 BLB-05

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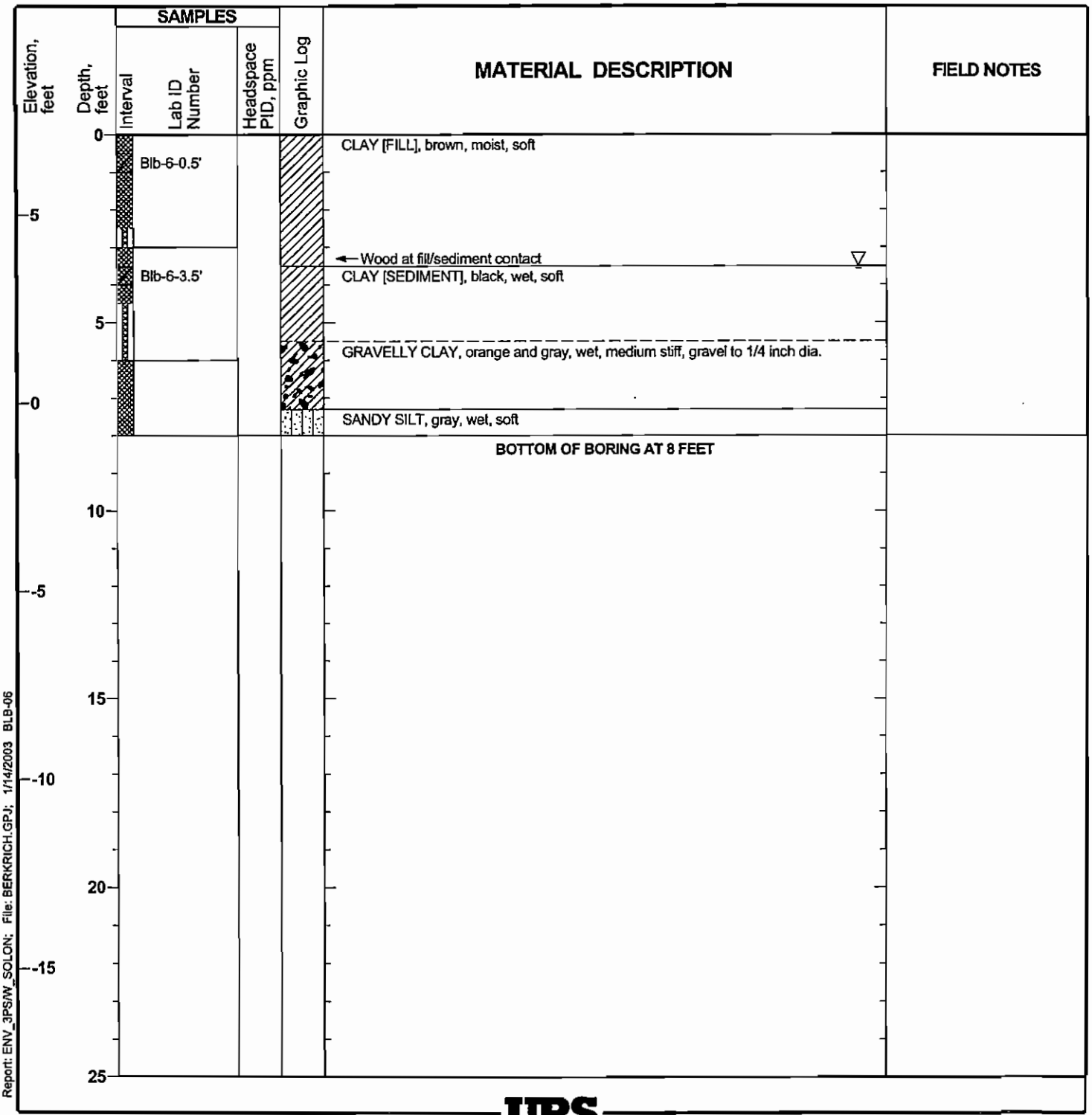
Project: UC Berkeley Richmond Field Station
Project Location: Richmond, California
Project Number: 26814100

Log of Boring Blb-6

Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	8.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	7.14 feet MSL
Groundwater Levels(s)	First: 3.5 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		



Report: ENV_3PS/W_SOLON; File: BERKRICH.GPJ; 1/14/2003 BLB-06

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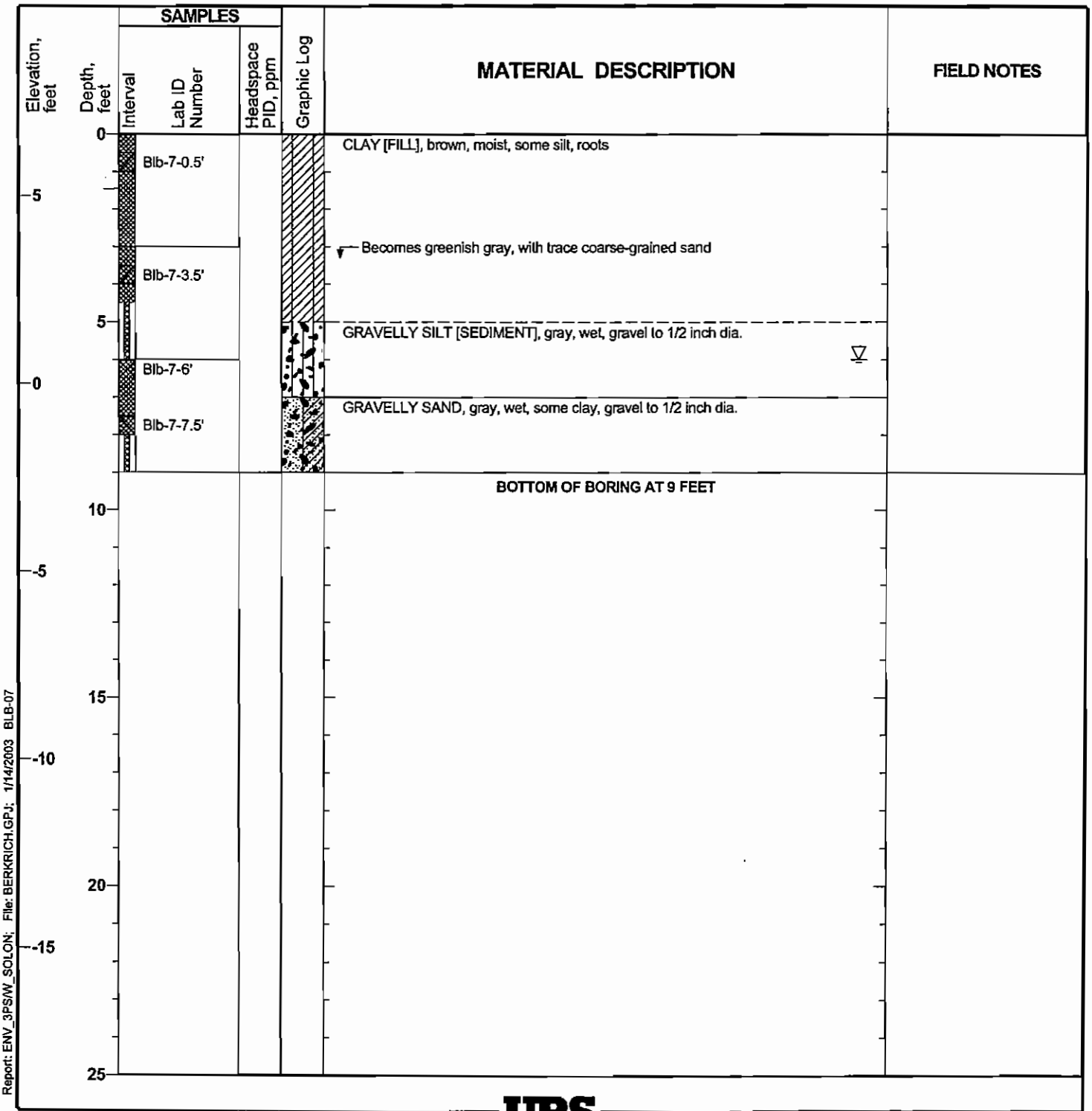
Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	Log of Boring Blb-7 Sheet 1 of 1

Date(s) Drilled	12/12/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	9.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	6.64 feet MSL
Groundwater Level(s)	First: 6.0 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		



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Project: UC Berkeley Richmond Field Station Project Location: Richmond, California Project Number: 26814100	**Log of Boring Blb-8** Sheet 1 of 1

Date(s) Drilled	12/11/02	Logged By	B. Copeland	Checked By	K. Abbott
Drilling Method	Direct Push	Drill Bit Size/Type	2-inch-OD drive point	Total Depth of Borehole	8.0 feet
Drill Rig Type	Geoprobe	Drilling Contractor	Precision Drilling	Surface Elevation	7.38 feet MSL
Groundwater Levels(s)	First: 3.0 ft bgs Completion: not measured	Sampling Method(s)	4-foot dual tube Geoprobe sampler with acetate liner		
Location	Bulb Area	Borehole Completion	Backfilled with grout to ground surface		

Elevation, feet	Depth, feet	SAMPLES: Interval	SAMPLES: Lab ID Number	SAMPLES: Headspace PID, ppm	Graphic Log	MATERIAL DESCRIPTION	FIELD NOTES
	0		Blb-8-0.5'			CLAYEY SILT [FILL], dark brown, moist, trace gravel to 1 inch dia., pieces of clay	
5			Blb-8-2.5'			CLAY [FILL], grayish brown, moist, medium stiff ← Wood at fill/sediment contact ▽	
			Blb-8-3'			SILTY CLAY [SEDIMENT], black, wet, soft	
	5					← Becomes gray and reddish brown, medium stiff	
0			Blb-8-6.5'			GRAVEL, brown, wet, subangular gravel to 1 inch dia., some coarse-grained sand	
						BOTTOM OF BORING AT 8 FEET	
	10						
-5							
	15						
-10							
	20						
-15							
	25						

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