

APPENDIX B

BORING LOGS

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-1		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>5.0'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
1		B1-0.5		FILL Moderately dense to dense, moist, brown to grayish brown, Clayey GRAVEL		GC	0.0
2		B1-1					
3		B1-2					
4		B1-2.5					
5		B1-5					
6		B1-5.5		-grades to wet			
7				BAY MUD Stiff, wet, olive gray to gray, slightly Sandy CLAY		CL	---
8							
9							
10							
11		B1-10					
12		B1-10.5					
13							
14							
15		B1-14					
16		B1-14.5					
17				-sand content decreases			
18		B1-18		-grades to Clayey, fine to medium SAND		SC	12 to 15
19		B1-18.5					
20				-clean sand lense			
21							
22		B1-22		-sand gradation and clay content vary			9
23		B1-22.5					
24							

Figure C1, Log of Boring B-1, page 1 of 2

ENV_NO_WELL_CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-1		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>5.0'</u>		
				EQUIPMENT <u>STRATAPROBE</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
26		B1-26					7.5 to 9
27		B1-26.5					
28			xxxxxx	PANOCHÉ FORMATION Dense, moist, olive brown with orange brown veins, severely weathered SILTSTONE and CLAYSTONE			0.0
29			xxxxxx				
30			xxxxxx				
31			xxxxxx				
32			xxxxxx				
33			xxxxxx				
34			xxxxxx				
35			xxxxxx				
36		B1-36	xxxxxx				
37		B1-36.5	xxxxxx				
38			xxxxxx				
39			xxxxxx				
40			xxxxxx				
41			xxxxxx				
42			xxxxxx				
43			xxxxxx				
44			xxxxxx				
45			xxxxxx				
46		B1-45.5	xxxxxx				
		B1-46	xxxxxx				
				BORING TERMINATED AT 46.5 FEET			

Figure C2, Log of Boring B-1, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-2		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>3.5'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
1		B2-0.5		FILL Moderately dense to dense, dry to moist, brown, Clayey GRAVEL		GC	0.0
2		B2-2					
3							
4				▼ Moderately dense, wet, dark olive brown, Silty SAND with gravel		SM	
5							
6		B2-6		BAY MUD Firm, wet, dark olive gray to dark gray, CLAY with some sand		CL	0.0
7							
8							
9							
10		B2-10					1.5
11							
12							
13							
14		B2-14					
15							
16							
17							
18		B2-18		-sample tube shattered; no sample			
19							
20							
21							
22		B2-22		-grades to Clayey SAND		SC	1.5
23							
24							

Figure C2, Log of Boring B-2, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-2		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>3.5'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
26		B2-26		-grades to Sandy CLAY		SC	9.0
27							
28							
29							
30				PANOCHE FORMATION Stiff, wet, light olive brown, Sandy CLAY (weathered claystone)		CL	
31							
32				-driller noted hard push			
33							
34							
35				Dense, moist, brown to orange, slightly cemented, Sandy SILT and Sandy CLAY			
36		B2-36					
BORING TERMINATED AT 36.5 FEET							

Figure C3, Log of Boring B-2, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-3		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>4.0'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
1		B3-0.5		Dense, dry to moist, Sandy GRAVEL to Gravelly SAND		GW/SW	4.5
2		B3-2					7.5
3							
4							
5							
6		B3-6					0.0
7				BAY MUD Stiff, wet, dark gray to black, CLAY		CL	
8							
9							
10		B3-10					0.0
11							
12							
13							
14		B3-14					1.5
15							
16							
17				Grades to Clayey, fine to medium SAND, thin sand lenses with relatively "clean" sand		SC	
18		B3-18					0.0
19							
20							
21							
22		B3-22					7.5 to 9.0
23							
24							

Figure C3, Log of Boring B-3, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-3		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>6/24/98</u>	WATER LEVEL (ATD) <u>4.0'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
26		B3-26		Grades to stiff to very stiff, moist, dark olive brown, Sandy CLAY		CL	9.0
27							
28							
29							
30							
31							
32							
33							
34							
35							
36		B3-36		Grades to Sandy CLAY with gravel			9.0
37							
38							
39							
40							
41							
42							
43							
44							
45							
46		B3-46		BORING TERMINATED AT 46.5 FEET			1.5 to 3.0

Figure C4, Log of Boring B-3, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-4		SOIL (USCS)	HEADSPACE (PPM)	
				DATE DRILLED 7/6/98	WATER LEVEL (ATD) 4.0'			
				EQUIPMENT STRATAPROBE	DRILLER V&W DRILLING			
SOIL DESCRIPTION								
1		B4-0.5		FILL Dense, dry, brown to grayish brown, Clayey GRAVEL and SAND			0.0	
2		B4-2					GC	
3								
4					-water at 4.2 feet 2 hours after push			
5								
6		B4-6		Soft to firm, wet, bluish gray, CLAY and CLAYSTONE fragments			0.0	
7							CL	
8								
9								
10		B4-10		BAY MUD Soft to firm, wet, dark gray, CLAY			0.0	
11							CL	
12								
13								
14		B4-14		Grades to gray, Clayey, fine to medium SAND			0.0	
15							SC	
16								
17								
18		B4-18		Fine sand with clay predominantly Sandy CLAY -clay content decreases; sand lenses			0.0	
19							CL	
20								
21								
22		B4-22						0.0
23								
24								

Figure C4, Log of Boring B-4, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-4		SOIL (USCS)	HEADSPACE (PPM)	
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) <u>4.0'</u>			
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION								
26		B4-26	[Hatched pattern]				7.5	
27								
28								
29								
30								
31								
32								
33								
34								
35								
36		B4-36	[Hatched pattern]				9.0	
37								
38								
39								
40								
41								
42				Grades to CLAY with claystone fragments (coarse sand to fine gravel size)				CL 9.0
43								
44								
45								
46		B4-46	Driller comment "very hard at 46 feet"					
BORING TERMINATED AT 46.5 FEET								

Figure C5, Log of Boring B-4, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-5		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) <u>4.5'</u>		
				EQUIPMENT <u>STRATAPROBE</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1		B5-0.5		FILL Dense, dry to moist, brown to gray brown, Sandy GRAVEL			7.5
2		B5-2				GW	
3							
4				▼ Water at 4.2 feet ~1.5 after push			
5							
6		B5-6		Grades to medium dense, wet, brown, Clayey GRAVEL		GC	9.0
7							
8							
9							
10		B5-10		BAY MUD Soft to firm, wet, dark gray, CLAY		CL	9.0
11							
12							
13							
14		B5-14					9.0
15							
16				Grades to Sandy CLAY			
17						CL	
18		B5-18		Sand lenses fine to medium with clay			9.0
19							
20							
21							
22		B5-22					16.5
23							
24							

Figure C5, Log of Boring B-5, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-5		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED 7/6/98	WATER LEVEL (ATD) 4.5'		
				EQUIPMENT STRATAPROBE	DRILLER V&W DRILLING		
SOIL DESCRIPTION							
26		B5-26		PID out			9.0
27							
28							
29							
30							
31							
32							
33							
34							
35							
36		B5-36					
37							
38							
39							
40							
41							
42							
43							
44							
45		B5-46		PANOCHÉ FORMATION Dense, moist, dark brown and grayish brown, CLAYSTONE, moderately weathered			
46				BORING TERMINATED AT 47 FEET			
47							

Figure C6, Log of Boring B-5, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-6		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>STRATAPROBE</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1		B6-0.5		Dense, dry, brown, Sandy GRAVEL with some clay			0.0
2		B6-2				GW	0.0
3							
4							
5				Clay content increases Grades to Clayey GRAVEL		GC	
6		B6-6					4.5 to 6.0
7							
8							
9				BAY MUD Stiff, moist to wet, dark gray, CLAY		CL	0.0
10		B6-10					
11							
12							
13				No sample recovery			
14		B6-14					
15							
16							
17				Grades to sandy CLAY		CL	0.0
18		B6-18					
19							
20							
21				Sand lenses Moderately dense, wet, dark gray, Clayey SAND		SC	
22		B6-22					
23							
24							

Figure C6, Log of Boring B-6, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-6		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>STRATAPROBE</u>		DRILLER <u>V&W DRILLING</u>	
SOIL DESCRIPTION							
26		B6-26		Clay content increases			
27							
28							
29							
30							
31		B6-36		Stiff, wet, dark olive gray, CLAY with sand -sand content decreases -light bluish gray inclusions		CL	
32							
33							
34							
35							
36							
37							
38							
39							
40							
41		B6-46		BORING TERMINATED AT 47 FEET			
42							
43							
44							
45							
46							
47							

Figure C7, Log of Boring B-6, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-7		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>STRATAPROBE</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1		B7-0.5		FILL Dense, dry to moist, brown to dark brown, Sandy GRAVEL	GW		
2		B7-2					
3							
4							
5							
6		B7-6					
7							
8							
9							
10		B7-10					
11				BAY MUD Soft to firm, wet, gray, CLAY	CL		
12							
13							
14		B7-14		Grades to Sandy CLAY			
15							
16							
17				Grades to Clayey SAND			
18							
19							
20							
21							
22		B7-22	Clay and sand content vary	SC			
23							
24							

Figure C7, Log of Boring B-7, page 1 of 2

ENV_NO_WELL CARQUIN.GP1 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-7		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>STRATAPROBE</u>		DRILLER <u>V&W DRILLING</u>	
SOIL DESCRIPTION							
26		B7-26		No recovery, soft and wet		CL	
27							
28							
29							
30							
31							
32							
33				Grades to stiff, gray CLAY with sand			
34							
35							
36		B7-36					
37							
38							
39							
40							
41							
42							
43							
44				Driller comment "harder ground"			
45							
46		B7-46					
47				BORING TERMINATED AT 47 FEET			

Figure C8, Log of Boring B-7, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-8		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) <u>4.5'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
1		B8-0.5		FILL Dense, dry to moist, brown to dark brown, Sandy GRAVEL -clay content increases		GW	
2		B8-2					
3							
4							
5				▽ Grades to moderately dense, wet, brown to grayish brown, Clayey GRAVEL		GC	
6		B8-6					
7							
8							
9							
10		B8-10					
11				BAY MUD Soft to firm, wet, gray, CLAY		CL	
12							
13							
14		B8-14					
15							
16							
17							
18		B8-18					
19			Sand content increases -grades to Sandy CLAY		CL		
20							
21							
22		B8-22					
23			Sand lenses Grades to Clayey SAND		SC		
24							

Figure C8, Log of Boring B-8, page 1 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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PROJECT NO. S8130-06-85 South Anchor

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-8		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/6/98</u>	WATER LEVEL (ATD) <u>4.5'</u>		
				EQUIPMENT <u>STRATAPROBE</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
26		B8-26	[Hatched Pattern]			CL	
27							
28							
29							
30							
31			Grades to stiff, moist, blueish gray CLAY				
32			Woody plant matter in sample				
33							
34							
35			BORING TERMINATED AT 37 FEET				
36		B8-36					
37							

Figure C9, Log of Boring B-8, page 2 of 2

ENV_NO_WELL CARQUIN.GPJ 09/16/98

BORING ELEVATION:

ENGINEER/GEOLOGIST: **BILL KENNEY**

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-1		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/20/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1		B1-0.5 1345	ASPHALT CONCRETE/ASPHALT BASE PAVEMENT SECTION				0.0
2	42	B1-2 1350	Stiff, moist, brown, lean CLAY with sand -dark brown mottle			CL	0.0
3							
4							
5							
6	79	B1-6 1355					0.0
7							
8							
9							
10	37	B1-10 1403					0.0
11							
12							
13							
14							
15	74	B1-15 1406	PANOCHE FORMATION Dense, moist, olive gray, CLAYSTONE, severely weathered				0.0
16							
17							
18							
19							
20	36/50-2'	B1-20 1412	Dense to very dense, moist, strong brown, Silty SANDSTONE, severely weathered				0.0
21							
22							
23							
24							
25							
26							
27			Weathering decreases, sand content increases				
28							
29							

Figure C1, Log of Boring B-1, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-1		SOIL (USCS)	HEADSPACE (PPM)					
				DATE DRILLED <u>7/20/98</u>	WATER LEVEL (ATD) _____							
				EQUIPMENT <u>MOBILE B-61</u>		DRILLER <u>V&W DRILLING</u>						
SOIL DESCRIPTION												
31	60	B1-30 1423	[Dotted Lithology Pattern]				0.0					
32												
33												
34												
35												
36												
37												
38												
39												
40	65	B1-40 1429									23	
41												
42												
43												
44											1.1	
45												
46												
47												
48												
49												
50												
BORING TERMINATED AT 50 FEET												

Figure C2, Log of Boring B-1, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-2		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/20/98</u>	WATER LEVEL (ATD) <u>36.0'</u>		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1	74	B2-0.5 0816	XXXXXX	ASPHALT CONCRETE/AGGREGATE BASE PAVEMENT			0.0
2		B2-2 0818	XXXXXX	PANOCHE FORMATION Dense to very dense, moist, yellowish brown, SILTSTONE, fractured, moderately cemented			
3			XXXXXX				
4			XXXXXX				
5			XXXXXX				
6	47/50-3"	B2-6 0828	XXXXXX	Grades to very fine SANDSTONE			0.0
7			XXXXXX				
8			XXXXXX				
9			XXXXXX				
10	50/50-5"	B2-10 0840	XXXXXX				0.0
11			XXXXXX				
12			XXXXXX				
13			XXXXXX				
14			XXXXXX				
15	75/5"	B2-15 0840	XXXXXX				0.0
16			XXXXXX				
17			XXXXXX				
18			XXXXXX				
19			XXXXXX	Grades to very dense, moist, grayish brown, SANDSTONE			
20	40/50-4"	B2-20 0846	XXXXXX				0.0
21			XXXXXX				
22			XXXXXX				
23			XXXXXX				
24			XXXXXX				
25			XXXXXX				
26			XXXXXX				
27			XXXXXX				
28			XXXXXX	Driller comment "very hard"			
29			XXXXXX				

Figure C2, Log of Boring B-2, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

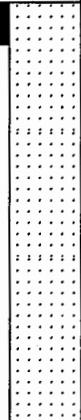
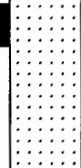
DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-2		SOIL (USCS)	HEADSPACE (PPM)		
				DATE DRILLED <u>7/20/98</u>	WATER LEVEL (ATD) <u>36.0'</u>				
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>					
SOIL DESCRIPTION									
31	50-2"	B2-30 0855		Color change to gray ▽ -water at 36 feet					6.0
32									
33									
34									
35	37/50-4"	B2-40 1050		Dense, moist, gray, CLAYSTONE					
36									
37									
38									
39									
40									
41	45/50-4"	B2-50 1105		Cuttings very moist					
42									
43									
44									
45									
46									
47	BORING TERMINATED AT 51 FEET								
48	BORING TERMINATED AT 51 FEET								
49	BORING TERMINATED AT 51 FEET								
50	BORING TERMINATED AT 51 FEET								
51	BORING TERMINATED AT 51 FEET								

Figure C3, Log of Boring B-2, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-3		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1	29	B3-0.5 0740		ASPHALT CONCRETE/ASPHALT BASE		0.0	
2	38	B3-2 0744		FILL Stiff to very stiff, moist, olive brown to brown, Sandy CLAY	CL	0.0	
3							
4							
5							
6	31	B3-6 0749		PANOCHÉ FORMATION Stiff to very stiff, moist, olive brown, severely weathered, CLAYSTONE with gravel size fragments		0.0	
7							
8							
9	54	B3-10 0753		Grades into coarser material i.e. SILTSTONE very fine sandstone with weathered clay in fractures		0.0	
10							
11							
12							
13	34/50-3'	B3-15 0802		Layered strata		0.0	
14							
15							
16							
17	34/50-4'	B3-20 0810				0.0	
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							

Figure C3, Log of Boring B-3, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-3		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
31				Hard, moist, gray, CLAYSTONE			
32							
33							
34							
35	50-5"	B3-35 0826					0.0
36							
37							
38							
39							
40	48/50-4'	B3-40 0826					23
41							
42							
43							
44							
45							
46							
47							
48							
49							
50	89	B3-50 0846			9		
51				BORING TERMINATED AT 51.5 FEET			

Figure C4, Log of Boring B-3, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-4		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u>	DRILLER <u>V&W DRILLING</u>		
SOIL DESCRIPTION							
1	17	B4-0.5 1145		ASPHALT CONCRETE PAVEMENT			0.0
2	27	B4-2 1150		FILL Moderately dense, moist, brown, Sandy CLAY			0.0
3							
4							
5							
6	65-6"	B4-6 1155					0.0
7							
8							
9							
10	74	B4-10 1158					0.0
11							
12							
13							
14							
15	70-6"	B4-15 1204		No recovery			0.0
16							
17							
18							
19							
20	60-6"	B4-20 1210					0.0
21							
22							
23							
24							
25							
26							
27							
28							
29							

Figure C4, Log of Boring B-4, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:

ENGINEER/GEOLOGIST: **BILL KENNEY**

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-4		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
31	50-3"	B4-30 1222					0.0
32							
33							
34							
35							
36	50-3"	B4-40 1235			Sample appears to be cuttings		10
37							
38							
39							
40							
41							
42							
43							
44							
45							
46	78	B4-50			No recovery		
47							
48							
49							
50	BORING TERMINATED AT 50 FEET						

Figure C5, Log of Boring B-4, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-5		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u>		DRILLER <u>V&W DRILLING</u>	
SOIL DESCRIPTION							
1	31	B5-0.5 0930		ASPHALT CONCRETE/ASPHALT BASE			8
2		B5-2 0934		FILL/TOPSOIL Stiff, moist, brown, Sandy CLAY		CL	13
3				-dark brown mottle			
4							
5							
6	50-5"	B5-6 0942		PANOCHE FORMATION Dense to very dense, moist, dark brown, SANDSTONE			34
7				-orange/brown clay in fractures			
8							
9							
10	50	B5-10 0949					
11							
12							
13							
14							
15	120	B5-15 0958		Grades to dark brown			23
16							
17							
18							
19							
20	70-5"	B5-20 1010		Grades to olive brown			20
21							
22							
23							
24							
25							
26							
27							
28				Driller comment "very hard"			
29							

Figure C5, Log of Boring B-5, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-5		SOIL (USCS)	HEADSPACE (PFM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
31	75	B5-30 1020	[Dotted Pattern]	Grades to dark brown SANDSTONE			50
32							
33							
34							
35							
36							
37							
38							
39							
40							
41		B5-40		No Recovery			14
42							
43							
44		B5-50		Slow drilling			
45							
46							
47							
48							
49							
50				No recovery			
BORING TERMINATED AT 50 FEET							

Figure C6, Log of Boring B-5, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-6		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1	38	B6-0.5 1535	[Symbol]	ASPHALT CONCRETE/ASPHALT BASE			0.0
2	86	B6-2 1540	[Symbol]	FILL Dense, moist, brown, Silty SAND and Clayey SAND			0.0
3				PANOCHE FORMATION Very dense, moist, olive brown, SILTSTONE, well cemented			
4			[Symbol]				
5			[Symbol]				
6	50	B6-6 1548	[Symbol]	Very dense			0.0
7							
8							
9			[Symbol]				
10	50	B6-10 1555	[Symbol]				0.0
11							
12							
13			[Symbol]				
14			[Symbol]				
15	50-5"	B6-15 1602	[Symbol]				0.0
16							
17							
18			[Symbol]				
19			[Symbol]				
20	50	B6-20 1610	[Symbol]				0.0
21							
22							
23			[Symbol]				
24			[Symbol]				
25			[Symbol]				
26			[Symbol]				
27			[Symbol]				
28			[Symbol]				
29			[Symbol]	Driller comment "very hard drilling"			

Figure C6, Log of Boring B-6, page 1 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-6		SOIL (USCS)	HEADSPACE (PPM)	
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____			
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>				
				SOIL DESCRIPTION				
31	50-1"	B6-30	xxxxxx	No recovery				
				REFUSAL AT 31 FEET				

Figure C7, Log of Boring B-6, page 2 of 2

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-7		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/21/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u> DRILLER <u>V&W DRILLING</u>			
SOIL DESCRIPTION							
1	44	B7-0.5 1720		ASPHALT CONCRETE/ASPHALT BASE			0.0
2	83	B7-2 1728		PANOCHÉ FORMATION Dense, moist, brown to light brown SANDSTONE, moderately cemented			0.0
3							
4							
5							
6	50	B7-6 1737		Cementation increases to well cemented			0.0
7							
8							
9							
10	75	B7-10		No recovery BORING TERMINATED AT 10.5 FEET			

Figure C7, Log of Boring B-7, page 1 of 1

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:	ENGINEER/GEOLOGIST: BILL KENNEY
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NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. S8130-06-85 North Anchorage

DEPTH IN FEET	PENETRAT. RESIST. BLOWS/FT.	SAMPLE NO.	LITHOLOGY	BORING NO. B-8		SOIL (USCS)	HEADSPACE (PPM)
				DATE DRILLED <u>7/20/98</u>	WATER LEVEL (ATD) _____		
				EQUIPMENT <u>MOBILE B-61</u>		DRILLER <u>V&W DRILLING</u>	
SOIL DESCRIPTION							
1	40	B8-0.5 1814		ASPHALT CONCRETE/ASPHALT BASE		CL	0.0
2	28	B8-2 1823		TOPSOIL/FILL Stiff, moist, dark brown, Sandy CLAY			13
3							
4							
5							
6	38	B8-6 1830					23
7							
8							
9							
10	49	B8-10		PANOCHÉ FORMATION Very stiff, moist, olive brown, CLAY and severely weathered CLAYSTONE			2
11				BORING TERMINATED AT 11.5 FEET			

Figure C8, Log of Boring B-8, page 1 of 1

ENV_NO_WELL CARQ_N.GPJ 09/16/98

BORING ELEVATION:

ENGINEER/GEOLOGIST: **BILL KENNEY**

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.