

LOGGED BY S. McLandrich	BEGIN DATE 5-31-08	COMPLETION DATE 6-1-08	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N2120470.078 / E5994297.737 (NAD83)	HOLE ID BTNB-R1
DRILLING CONTRACTOR Gregg Drilling and Testing, Inc.			BOREHOLE LOCATION (Offset, Station, Line) Offset 77ft R Sta 83+61 NB Alignment	SURFACE ELEVATION 91.378 ft (NAVD88)
DRILLING METHOD Mud Rotary			DRILL RIG Fraste Multi-drill (track)	BOREHOLE DIAMETER 5 in. (soil); 4 in. (rock)
SAMPLER TYPE(S) AND SIZE(S) (ID) MC (2.4"), SPT (1.4"), Grab, Bulk, 101-Sampler			SPT HAMMER TYPE Automatic, 140 lbs., 30-inch drop	HAMMER EFFICIENCY, ERI 72.9%
BOREHOLE BACKFILL AND COMPLETION Neat Cement Grout backfill			GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS	TOTAL DEPTH OF BORING 98 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		3.75" ASPHALT CONCRETE, 7.5" UNREINFORCED CONCRETE.		S1										
89.38	2		SILTY SAND with GRAVEL (SM), light brown, dry, SAND is fine to medium, GRAVEL is fine, angular to subangular. [FILL]												
	3		SILT with SAND (ML), hard, brown and yellowish brown, dry, trace GRAVEL, GRAVEL is angular to subangular, with reddish brown mottling, rock-like structure (defined fracture planes). [RESIDUAL SOIL]		S2	13 24 40	64	100							
87.38	4				S3	14 28 36	64	50							
	5														
85.38	6		SILTY SAND (SM), very dense, brown to reddish brown, moist, trace GRAVEL, GRAVEL is fine to coarse, highly weathered sandstone fragments.												
	7														
83.38	8				S4	19 36 46	82	94							
	9														
81.38	10				S5	32 50/ 5.5"	50/ 5.5"	70							
	11														
79.38	12		SEDIMENTARY ROCK (Sandstone Breccia), reddish brown.												
	13				S6	18 41 50/3"	91/9"	53							
77.38	14		Fine grained, yellowish brown, moderately weathered, core is broken, contains CLAY and SILT, SANDSTONE pieces are hard, with soft CLAYEY, thinly weathered portions.		C7			20	0						
	15														
75.38	16														
	17				C8			100	0						
73.38	18		SEDIMENTARY ROCK (Mélange Matrix), gray, intensely fractured, moderately weathered, moderately hard, fine-grained SANDSTONE fragments (up to 0.25' thick) in sheared SHALE matrix.		C9			60	0						
	19														
71.38	20														
	21														
69.38	22				C10			85	0						
	23														
67.38	24		23.0' - 23.4', SANDSTONE piece.		C11			65	0						
	25														

(continued)

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY CALTRANS FORMAT.GLB 11/3/08



Department of Transportation
Division of Engineering Services
Geotechnical Services

REPORT TITLE BORING RECORD				HOLE ID BTNB-R1
DIST. 4	COUNTY S.F.	ROUTE 101	POSTMILE 8.3/9.4	EA 163701
PROJECT OR BRIDGE NAME Doyle Drive Replacement Project				
BRIDGE NUMBER 34-0161R	PREPARED BY T. Carroll	DATE 11-3-08	SHEET 1 of 4	

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
65.38	25		SEDIMENTARY ROCK (Mélange Matrix), gray, intensely fractured, moderately weathered, moderately hard, fine-grained SANDSTONE fragments (up to 0.25' thick) in sheared SHALE matrix. 25.0' - 25.3', hard SILTSTONE piece. Grades with SANDSTONE, SILTSTONE, and SHALE fragments. 30.0' - 30.8', slightly serpentinized or chloritized interval. 33.0', slightly weathered. Grades with SHALE fragments. 37.5' - 38.3', moderately hard SILTSTONE fragments with some SERPENTINITE. 41.5' - 41.65', reddish brown (CHERT?) fragment. 42.0', SHALE fragments, moderately soft. 43.0', SILTSTONE and fine grained SANDSTONE fragments (up to 0.1 thick) in sheared SHALE matrix. 46.5', 1.5" greenish gray, serpentinized interval. 49.8', light gray, completely sheared throughout. Fragments are up to 0.02' thick.	C12			75	0							
	26			C13		57	0								
63.38	27			C14		37	0								
	28			C15		65	0								
	29			C16		75	0								
61.38	30			C17		64	0								
	31			C18		70	0								
	32			C19		100	0								
59.38	33			C20		75	0								
	34			C21		90	0								
57.38	35			C22		75	0								
	36			C23		90	0								
	37			C24		90	0								
55.38	38			C25		60	0								
	39														
	40														
53.38	41														
	42														
	43														
49.38	44														
	45														
	46														
47.38	47														
	48														
	49														
45.38	50														
	51														
	52														
41.38	53														
	54														
39.38	55														

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Figure

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY CALTRANS FORMAT.GLB 11/3/08

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks	
35.38	56		SEDIMENTARY ROCK (Mélange Matrix), gray, intensely fractured, moderately weathered, moderately hard, fine-grained SANDSTONE fragments (up to 0.25' thick) in sheared SHALE matrix. 55.4' - 56.0', fragments are meta-SANDSTONE (up to 0.25' thick).		C26			50	0							
	57					C27			50	0						
33.38	58						C28			30	0					
	59															
31.38	60															
	61				61.0', moderately weathered, with slight iron-oxide staining throughout.		C29			40	0					
29.38	62															
	63				63.0', slightly weathered.											
27.38	64						C30			50	0					
	65															
25.38	66				CLAY matrix is dark greenish gray, serpentinized.		C31			90	0					
	67															Losing circulation
23.38	68						C32			80	0					
	69				68.5', white secondary mineral deposit. Grades slightly more gray than green and slightly more SILTSTONE layer.		C33			80	0					
21.38	70		69.0' - 69.8', crushed granular interval.													
	71				C34			65	0							
19.38	72															
	73		White secondary mineral is more common.		C35			80	0							
17.38	74		74.0', sheared SHALE matrix commonly has sandy intervals.											Begin Box 4 at 73'		
	75				C36			100	0							
15.38	76															
	77				C37			100	0							
13.38	78															
	79															
11.38	80				C38			80	0							
	81															
9.38	82															
	83													Drill with tricone through hard material from 82.5' to 84'		
7.38	84				C39			45	0							

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Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 in	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
85															
5.38	86		SEDIMENTARY ROCK (Mélange Matrix), gray, intensely fractured, moderately weathered, moderately hard, fine-grained SANDSTONE fragments (up to 0.25' thick) in sheared SHALE matrix.		C40			80	0						Drill with tricone through hard material from 87' to 89'
	87														
3.38	88														
	89						C41			70	0				
1.38	90														
	91														
-0.62	92				C42			60	0						Begin Box 5 at 92'
	93														
-2.62	94														
	95														
-4.62	96				C43			90	0						
	97														
-6.62	98														
	99		Borehole terminated at a depth of 98 feet on 6/1/2008.												
	100		See Boring Record Legend for soil classification chart and key to test data and sampler type.												
	101														
	102														
	103														
	104														
	105														
	106														
	107														
	108														
	109														
	110														
	111														
	112														
	113														
	114														
	115														



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Figure