

LOGGED BY M. McKee	BEGIN DATE 1-8-08	COMPLETION DATE 1-10-08	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N2120949.918 / E5997425.522 (NAD83)	HOLE ID DNB-R3
DRILLING CONTRACTOR Gregg Drilling and Testing, Inc.			BOREHOLE LOCATION (Offset, Station, Line) Offset 131ft R Sta 50+93 NB Alignment	SURFACE ELEVATION 11.270 ft (NAVD88)
DRILLING METHOD Mud Rotary			DRILL RIG Fraste Multi-drill (track)	BOREHOLE DIAMETER 5 in.
SAMPLER TYPE(S) AND SIZE(S) (ID) MC (2.4"), SPT (1.4"), Shelby (2.87"), Pitcher (2.87")			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 2.9	TOTAL DEPTH OF BORING 129.1 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	0		3" ASPHALT CONCRETE												
1	1		SILTY SAND (SM), loose to medium dense, reddish brown and gray, moist, fine, trace fine GRAVEL. [FILL]												
9.27	2		CLAYEY SAND (SC), loose, dark gray brown, loose, very moist, trace fine GRAVEL, pockets of plastic CLAY.	S1	4 4 6	10	100								
7.27	3														
4	4														
5.27	5		SANDY lean CLAY (CL), soft to medium stiff, dark greenish gray, moist. [BAY MUD]	S2	1 2 2	4	100								
6	6														
3.27	7		CLAYEY SAND (SC), loose, dark gray, wet, fine, earthy odor detected. [MARINE SAND]	U3		50	psi	100							
8	8														
10	10														
-0.73	12		SANDY CLAY, soft, gray, wet. [BAY MUD]	S4	1 2 1	3	100								
13	13														
-2.73	14														
15	15		Poorly graded SAND (SP), medium dense, gray, wet, fine to medium, trace of SILT. [MARINE SAND]	S5	2 4 6	10	0								
16	16														
-4.73	17														
18	18		SANDY fat CLAY (CH), very soft, gray, very moist, SAND is very fine. [BAY MUD]	S6	12 20 22	42	67								
19	19														
-6.73	20														
21	21		Poorly graded SAND (SP), medium dense to dense, grayish brown, very moist, fine to medium size grain, occasional shell fragments, a piece of fine subangular GRAVEL. [MARINE SAND]	S7	4 2 2	4	100								
22	22														
-8.73	23														
24	24		SANDY fat CLAY (CH), very soft, gray, very moist, SAND is very fine. [BAY MUD]	S8	2 19 21	40	100								
25	25														
-10.73	22		Poorly graded SAND (SP), medium dense to dense, grayish brown, very moist, fine to medium size grain, occasional shell fragments, a piece of fine subangular GRAVEL. [MARINE SAND]	S9	7 13 21	34	100								
-12.73	24														
	25														Contact not observed

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



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REPORT TITLE BORING RECORD				HOLE ID DNB-R3	
DIST. 4	COUNTY S.F.	ROUTE 101	POSTMILE 8.3/9.4	EA 163701	
PROJECT OR BRIDGE NAME Doyle Drive Replacement Project					
BRIDGE NUMBER 34-164R		PREPARED BY T. Carroll		DATE 11-3-08	SHEET 1 of 5

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
-14.73	25	[MARINE SAND]	Poorly graded SAND (SP), medium dense to dense, grayish brown, very moist, fine to medium size grain, occasional shell fragments, a piece of fine subangular GRAVEL. [MARINE SAND]												
	26		25.0', grades bluish gray with trace fines.												
-16.73	27	[COLMA SAND]	Poorly graded SAND (SP), dense, dark yellowish, wet, fine, trace of CLAY, with reddish brown iron-oxide staining. [COLMA SAND]												
	28			S10	6 14 27	41	83								
	29			S11	17 20 28	48	100								
-18.73	30														
	31														
-20.73	32														
	33														
-22.73	34		Grades very dense.												
	35														
-24.73	36														
	37														
-26.73	38		Grades with decreased fines content, with occasional pieces of decomposed vegetation.												
	39														
-28.73	40		Grades slightly cemented.												
	41														
-30.73	42														
	43		Grades dark yellowish brown to dark grayish brown.												
-32.73	44														
	45		45.0', 1/2" iron-oxide stained seam.												
-34.73	46														
	47														
-36.73	48		Grades dark yellowish brown, with increase in fines content.												
	49														
-38.73	50		Poorly graded SAND with CLAY (SP-SC), very dense, dark yellowish brown, moist to very moist, SAND is fine, with iron-oxide streaks.												
	51														
-40.73	52														
	53		Grades dense.												
-42.73	54														
	55														

(continued)



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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
-44.73	56		Poorly graded SAND with CLAY (SP-SC), very dense, dark yellowish brown, moist to very moist, SAND is fine, with iron-oxide streaks.												
-46.73	58		Grades with pockets of CLAYEY SAND, CLAY is very pale brown.	S21	16 27 39	66	100								
-48.73	60														
-50.73	62														
-52.73	64		CLAYEY SAND (SC), dense, bluish gray, moist, fine.	S22	19 18 20	38	100								
-54.73	66														
-56.73	68		Poorly Graded SAND (SP), very dense, dark gray, very moist, fine.	S23	23 27 37	64	100								
-58.73	70														
-60.73	72		SANDY lean CLAY (CL), very stiff, bluish gray, moist to wet. [OLD BAY CLAY]												Drilling advance slows at 71'
-62.73	74		Grades hard.	S24	13 23 32	55	89					PP = 1.6, 2.1, >2.25, >2.25			Consistency based on feel of cutting only
-64.73	76														
-66.73	78		Grades to lean CLAY.	U25		400 psi	113					PP = 1.65, 1.7, 1.38			~4" slough at top of PT sampler
-68.73	80		Grades very stiff.												
-70.73	82		Grades to lean CLAY with SAND.	S26	6 9 11	20	100					PP = 1.13, 1.13, 1.38			
-72.73	84		83.0', grades with shells.												

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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															
-74.73	86		SANDY lean CLAY (CL), very stiff, bluish gray, moist to wet. [OLD BAY CLAY]												
	87				U27		RWC	110				PP = 1.1, 1.7			
-76.73	88														
	89		Shell fragments grade larger (up to 1 inch diameter), with lenses of CLAYEY SAND.												
-78.73	90														
	91														
-80.73	92														
	93				S28	8	22	100							
-82.73	94		SANDY CLAY with SHELLS (CL), very stiff to hard, brownish gray, moist, with frequent shells.			9									
	95					13									
-84.73	96														
	97														
-86.73	98		CLAYEY SAND (SC), very dense, yellowish brown and reddish brown, fine, with iron-oxide mottling, with black specks. [ALLUVIUM]		S29	24	56/5"	100							
	99														
-88.73	100														
	101														
-90.73	102														
	103														
-92.73	104														
	105														
-94.73	106		SANDY fat CLAY (CH), hard, yellowish brown, moist, sand is very fine, with iron-oxide mottling. [OLD BAY CLAY]												Drilling slowed at 105.5'
	107														
-96.73	108				U30		500	100				PP = 2.2, 1.88, >2.25			
	109														
-98.73	110														
	111														
-100.73	112														
	113														
-102.73	114														
	115														

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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
-104.73	115		SANDY fat CLAY (CH), hard, yellowish brown, moist, sand is very fine, with iron-oxide mottling. [OLD BAY CLAY] 115.0' - 117.0', cuttings same as above.												
-106.73	117		CLAYEY SAND (SC), dense, grayish to yellowish brown, moist to very moist, fine.		S31	21 41 50/ 5.5"	91/ 11.5"	100							~2' slough noted in bottom of hole on re-entry following drive at 117'
-108.73	118		Poorly graded SAND (SP), very dense, brown, moist, with lenses of fat CLAY, with iron-oxide staining.												
-116.73	128		SEDIMENTARY ROCK (Mélange Matrix), olive brown and gray, very intensely weathered, very soft, very intensely fractured, sheared shale with graywacke sandstone fragments.		U32			92						Pull-down pressures Rod weight only at 127' - 127.5': 400 psi psi at 127.5' - 128.5'; 400 psi to 1700 psi at 128.5' - 129.1'	
-118.73	129		Borehole terminated at a depth of 129.1 feet on 1/10/2008.												
-120.73	130		See Boring Record Legend for soil classification chart and key to test data and sampler type.												



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Figure