

LOGGED BY T. Carroll	BEGIN DATE 3-4-08	COMPLETION DATE 3-4-08	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N2120378.671 / E5995179.887 (NAD83)	HOLE ID M-9/RW7-A1A
DRILLING CONTRACTOR Gregg Drilling and Testing, Inc.		BOREHOLE LOCATION (Offset, Station, Line) Offset 91ft R Sta 74+26 NB Alignment		SURFACE ELEVATION 17.928 ft (NAVD88)
DRILLING METHOD Mud Rotary		DRILL RIG CME 550		BOREHOLE DIAMETER 5 in. (soil); 4 in. (rock)
SAMPLER TYPE(S) AND SIZE(S) (ID) MC (2.4"), SPT (1.4"), Shelby (2.87"), HQ Core, 101-Sampler		SPT HAMMER TYPE Automatic, 140 lbs., 30-inch drop		HAMMER EFFICIENCY, ERI 76.2%
BOREHOLE BACKFILL AND COMPLETION Neat Cement Grout backfill		GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS		TOTAL DEPTH OF BORING 59 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		SILTY SAND with GRAVEL (SM), poorly compacted, dark brown, moist, fine, occasional clumps of CLAY, with casts up to 1/16" diameter, piece of brick at 1', GRAVEL is sub-rounded to sub-angular, GRAVEL is fine. [FILL]												Lithology and samples above 5.5' taken from M-9/RW7-A1
15.93	2														
13.93	4		4.0', grades gray, wet.		S1	1 2 12	14	67							
	5				S2	1 2 1	3	33							
11.93	6		CLAYEY SAND (SC), very loose, dark gray, wet, fine to very fine, slight organic odor, frequent decomposed wood. [HYDRAULIC FILL]		S3	0 2 2	4	100		39.7	113.5			PA	
	7				S4	0 0 0	0	78							
9.93	8		SAND with CLAY (SP-SC), loose, dark gray, wet, fine to very fine.												
	9		CLAYEY SAND (SC), loose, dark brown, wet, fine to very fine, occasional pieces of wood/twigs (up to 1/16" diameter).												
7.93	10				U5		50 psi	0							
5.93	12		Grades yellowish brown and reddish brown, fine, with occasional pockets of SANDY CLAY (up to 1/4" diameter).		S6	0 1 2	3	100		22				PA	
3.93	13														
1.93	15				S7	1 2 2	4	0							
	16				S8	0 1 2	3	100		24.8				PA	
-0.07	17		CLAYEY SAND (SC), bluish gray, moist to wet, with occasional roots (up to 1/16" diameter), with greenish gray mottling, pieces of decayed vegetation, with pockets of CLAYEY SAND. [MARINE SAND]												
	18														
	19		19.0', cuttings are fine sand.												
-2.07	20		Poorly graded SAND (SP-SC), medium dense, yellowish brown, fine to medium, with pieces of GRAVEL, GRAVEL is rounded.		S9	10 15 19	34	67							MC sample at 20' run with catchers
	21				S10	7 25 40	65	100							
-4.07	22														
	23		Poorly graded SAND (SP), dense, yellowish to reddish brown, moist, fine, trace fines. [COLMA SAND]												
-6.07	24														
	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 M-9/RW7-A1A
DIST. 4	COUNTY S.F.	ROUTE 101	POSTMILE 8.3/9.4	EA 163701
PROJECT OR BRIDGE NAME Doyle Drive Replacement Project				
BRIDGE NUMBER N/A	PREPARED BY T. Carroll		DATE 11-3-08	SHEET 1 of 3

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
-8.07	25		SANDY lean CLAY (CL), medium stiff, brown and dark reddish brown, moist, SAND is fine to coarse, mottled. [COLLUVIUM]	S11	15 28 14	42	83			20.4	135.7	UU = 0.73		PA	
	27		Grades brown to yellowish brown, with chert fragments up to 3/4" diameter (angular).	S12	6 9 14	23	89								
-10.07	28		Grades hard, greenish gray, trace SILT, with grayish brown mottling, SAND is fine.												
	29														
-12.07	30		Grades grayish brown, moist, trace GRAVEL, GRAVEL is fine, subangular (up to 3/4" diameter), SAND is fine to coarse, with reddish brown mottling, with black specks.	S13	10 20 26	46	67			24.3	129.4	UU = 1.17		PA	
	31														
-14.07	32		32.0', grades very stiff, SAND is fine, with frequent reddish brown oxidized nodules (up to 1/4" diameter).	S14	8 7 14	21	50								
	33														
-16.07	34														
	35														
-18.07	36		CLAYEY GRAVEL with SAND (GC), dense, greenish gray and brown, moist, GRAVEL is angular to subangular, SAND is fine, with reddish brown oxidation.	S15	25 43 34	77	33			12.1	142.2	UU = 1.03		PA	
	37		GRAVELLY lean CLAY with SAND (CL), medium stiff, dark gray, moist, GRAVEL is subangular, SAND is fine to coarse, with pockets of greenish gray SANDY CLAY up to 1/8" diameter.	S16	14 16 24	40	67								
-20.07	38		37.0' - 37.3', red to dark red CHERT fragments.												Rig chatter at 37.5'
	39														
-22.07	40		METAMORPHIC ROCK (SERPENTINITE), yellowish green and green, completely weathered, moderately soft, very intensely fractured (SANDY lean CLAY (CL), very stiff to hard, moist, trace fine GRAVEL).	S17	13 31 50/5"	81/11"	100			14	124.2	UU = 0.93		PI, LL	
	41			S18	50/6"	50/6"	67								
-24.07	42														
	43														
-26.07	44		IGNEOUS ROCK (GABBRO), aphanitic, very dark gray, slightly weathered, hard, moderately to slightly fractured, secondary mineralization throughout (blebs).	C19			25	0							Common mechanical breaks
	45			C20			0	N/A							
-28.07	46			C21			85	45							46', unable to advance 101, switch to HQ
	47														
-30.07	48		47.4', white mineral vein filling along fracture (dipping 48°).												
	49														
-32.07	50		METAMORPHIC ROCK (SERPENTINITE), green, intensely weathered, soft, intensely fractured.												
	51														
-34.07	52		SEDIMENTARY ROCK (MELANGE MATRIX), dark gray, crushed, slightly weathered to fresh, very soft, very intensely fractured (moderately hard SILTSTONE fragments in sheared SHALE matrix, CLAY with GRAVEL (CL), soft GRAVEL is fine to angular, moist to wet, coarse.	C22			20	N/A							
	53														
-36.07	54														
	55														

(continued)



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PROJECT OR BRIDGE NAME Doyle Drive Replacement Project					
BRIDGE NUMBER N/A		PREPARED BY T. Carroll		DATE 11-3-08	SHEET 2 of 3

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
55															
-38.07	56	[Cross-hatched pattern]	SEDIMENTARY ROCK (MELANGE MATRIX), dark gray, crushed, slightly weathered to fresh, very soft, very intensely fractured (moderately hard SILTSTONE fragments in sheared SHALE matrix, CLAY with GRAVEL (CL), soft GRAVEL is fine to angular, moist to wet, coarse.		C23			32	N/A						Swith to mud rotary at 55.5'
	57														
-40.07	58						C24			0	N/A				
	59		Borehole terminated at a depth of 59 feet on 3/4/2008.		S25	50/5"	50/5'	80							
-42.07	60		See Boring Record Legend for soil classification chart and key to test data and sampler type.												
	61														
-44.07	62														
	63														
-46.07	64														
	65														
-48.07	66														
	67														
-50.07	68														
	69														
-52.07	70														
	71														
-54.07	72														
	73														
-56.07	74														
	75														
-58.07	76														
	77														
-60.07	78														
	79														
-62.07	80														
	81														
-64.07	82														
	83														
-66.07	84														
	85														



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