

# Boring Log Legend

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS		TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS        MORE THAN 50% OF MATERIAL RETAINED ON NO. 200 SIEVE	GRAVELS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		LESS THAN 5% FINES		GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
		MORE THAN 12% FINES		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		LESS THAN 5% FINES		SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND-SILT MIXTURES
		MORE THAN 12% FINES		SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS       50% OR MORE OF MATERIAL PASSING THROUGH NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT 50 OR MORE		MH	INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

LEGEND



2-INCH O.D. STANDARD PENETRATION TEST  
3-INCH O.D. MODIFIED CALIFORNIA SAMPLE  
SHELBY TUBE SAMPLE  
GRAB SAMPLE  
CORE SAMPLE

LL LIQUID LIMIT  
PI PLASTICITY INDEX  
TV TORVANE SHEAR (tsf)  
PEN POCKET PENETROMETER (tsf)  
UC UNCONFINED COMPRESSION (psi)  
▽ WATER LEVEL OBSERVED IN BORING

GEOTECHNICAL NOTES

- A geotechnical engineering report entitled "Geotechnical Engineering Exploration, Fort Weaver Road (Route 76) Widening, Aawa Street to Geiger Road, Ewa, Oahu, Hawaii" dated May 17, 2004 has been prepared by Geolabs, Inc. A copy of the report is on file at the office of the Engineer for review by the Contractor.
- For boring locations, see Sheet No. 20-25.
- The information presented in the logs of borings depict the subsurface conditions encountered at that specified location and at the time of the field exploration only. Variations of subsoil conditions from those depicted in the logs of borings may occur between and beyond the borings.
- The penetration resistance shown on the logs of borings indicate the number of blows required for the specific sampler type used. The blow counts may need to be factored to obtain the Standard Penetration Test (SPT) blow counts.
- The data given is for general information only. Bidders shall examine the site and the boring data and draw their own conclusions therefrom as to the character of materials to be encountered. The Engineer will not assume responsibility for variations of subsoil quality or conditions other than at the boring locations shown and at the time the borings were taken.

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**BORING LOG LEGEND**  
**AND NOTES-1**  
FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD  
FEDERAL AID PROJECT NO. CMAQ-076-1(9)  
SCALE: NTS  
DATE: June 2004  
SHEET No. 1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	58	64

logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 1	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 15.3 *			
										Description			
										10-inch ASPHALTIC CONCRETE			
	13	106			52				GW	Light brown SANDY GRAVEL with silt, dense, dry to damp			
	18				31	>4.5			CH	grades to reddish brown at 1.5 feet			
	17	95			63		5		SM	Brown SILTY CLAY with some sand and gravel, hard, damp			
										grades to SILTY SAND, medium dense			
									SP	Dark brown SAND with some silt and rootlets, medium dense, wet			
	45				7	<0.5	10		CH	Dark blackish gray CLAYEY ORGANIC SILT, soft			
	40	82			10		15		ML	grades to SANDY SILT			
	46				3		20			grades with shell fragments			
										grades to brown			
	51	75			68		25		MH	Brown CLAYEY SILT with sand and some basaltic cobbles and gravel, very stiff			
	39				37		30						
	43	80			44	2.0	35						
									CH	Brown with gray mottling SILTY CLAY, hard			
	47				32	>4.5	40			Boring terminated at 41.5 feet			
							45			* Elevations estimated from Topographic Survey Map transmitted by KN Consulting Services, Inc. on April 26, 2004.			
							50						
Date Started: August 21, 2002								Water Level: ∇ 9.8 ft. 8/21/02 1440 HRS					
Date Completed: August 21, 2002													
Logged By: Y. Chiba								Drill Rig: CME-75					
Total Depth: 41.5 feet								Drilling Method: 4" Auger					
Work Order: 4927-00								Driving Energy: 140 lb. wt., 30 in. drop					

logo.tif		GEOLABS, INC. Geotechnical Engineering				FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII				Log of Boring 2	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 15 *	
										Description	
	6	109			42/.5'				GW	2.5-inch ASPHALTIC CONCRETE	
	15				+40/.3'				SM	Dark reddish brown SANDY GRAVEL with silt, dense, damp (fill)	
	18	106			43					Reddish brown SILTY SAND with gravel, dense, damp to dry (fill)	
					45	>4.5	5		CH	Dark brown with black mottling SILTY CLAY with some gravel, hard, damp (fill)	
									SP	grades to SAND, medium dense, wet	
	20				20	2.5	10		CH	Dark brown with black mottling SILTY ORGANIC CLAY, stiff (alluvium/lagoonal deposit)	
	45	75			13		15		ML	Dark gray with dark brown mottling SANDY SILT, soft (lagoonal deposit)	
									SP	grades to SAND with some silt	
	51				2		20		SM	grades to SILTY SAND with some organic and shell fragments, very loose	
	66	55			6		25			grades to dark brown	
	63				4		30		ML	grades to very fine SANDY SILT with organic and shell fragments	
	51	71			7		35		SM	grades to SILTY SAND	
	59				3		40			Boring terminated at 41.5 feet	
							45				
							50				
Date Started: August 19, 2002									Water Level: ∇ 11.0 ft. 8/19/02 1244 HRS		
Date Completed: August 19, 2002											
Logged By: Y. Chiba									Drill Rig: CME-75		
Total Depth: 41.5 feet									Drilling Method: 4" Auger		
Work Order: 4927-00									Driving Energy: 140 lb. wt., 30 in. drop		

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS-2

FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD


FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS  
DATE: June 2004

SHEET No. 2 OF 8 SHEETS



logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 3		
Other Tests		Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 18 *			
											Description			
											GW	9-inch ASPHALTIC CONCRETE		
												Light brown SANDY GRAVEL with silt, very dense, dry (fill)		
21											CH	Brown SILTY CLAY with some sand and gravel, very stiff, damp to dry		
16 89											MH	grades to CLAYEY SILT with sand and some gravel		
											CH	Dark brown SILTY CLAY, hard, damp		
25											SC	grades to CLAYEY SAND with silt, medium dense, wet		
14 111											SP	Gray SAND, medium dense		
77											OH	Gray with dark gray mottling CLAYEY ORGANIC SILT, soft		
											SM	Dark blackish gray SILTY SAND with organic and shell fragments, loose		
59 63											MH	grades to CLAYEY SILT with sand and organic and shell fragments, very loose		
74											ML	grades to SANDY SILT, very soft		
55 62														
45														
												Boring terminated at 41.5 feet		

		<b>GEOLABS, INC.</b> Geotechnical Engineering				FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII				Log of Boring <b>4</b>	
Other Tests		Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Description
											Approximate Ground Surface Elevation (feet MSL): 15.3 *
											3-inch ASPHALTIC CONCRETE
		4				40/.3'				GW	Brown SANDY GRAVEL in a silt matrix, very dense, damp (fill)
		20	95			33				CH	Dark brown with black mottling SILTY CLAY with sand and gravel, very stiff, damp to moist (fill) grades with some cobbles
		22				34	4.0	5			grades with some sand, soft, wet
		27	95			18	0.5	10			
										OH/ MH	Dark blackish brown CLAYEY ORGANIC SILT with sand, very soft (lagoonal deposit)
						4	<0.5	15			
		64	60			5		20			
		76				2	<0.5	25			grades with shell fragments
		33	86			83	4.0	30		MH	Orangish brown with black and yellow mottling CLAYEY SILT with sand, hard
		39				41		35		SM	Brown with black mottling SILTY SAND with some gravel, medium dense (alluvium)
		35				48		40			
											Boring terminated at 41.5 feet
								45			
								50			
Date Started: August 20, 2002 Date Completed: August 20, 2002 Logged By: Y. Chiba Total Depth: 41.5 feet Work Order: 4927-00										Water Level: ∇ 12.50 ft. 8/20/02 1358 HRS  Drill Rig: CME-75 Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop	

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	" _____
	TRACED BY _____	" _____
	DESIGNED BY _____	" _____
	QUANTITIES BY _____	" _____
No. _____	CHECKED BY _____	" _____

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS-3

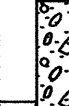



FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD

FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS DATE: June 2004

**SHEET No. 3 OF 8 SHEETS**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	60	64

logo.tif		GEOLABS, INC. Geotechnical Engineering						FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 5	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 15.5 *				
	Description													
	32	90			22				GW	2-inch ASPHALTIC CONCRETE				
	33				10	1.5			CH	Dark brownish gray with brown mottling SILTY CLAY, stiff, moist grades to dark brown				
	28	98			37	1.0	5			grades to tannish brown				
	31				28	3.0	10			Boring terminated at 11.5 feet				
							15							
							20							
							25							
							30							
							35							
							40							
							45							
							50							
Date Started: August 23, 2002									Water Level: 6.8 ft. 8/23/02 1315 HRS					
Date Completed: August 23, 2002														
Logged By: Y. Chiba									Drill Rig: CME-75					
Total Depth: 11.5 feet									Drilling Method: 4" Auger					
Work Order: 4927-00									Driving Energy: 140 lb. wt., 30 in. drop					

logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 6	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 26.5 *		
	Description												
	10	85			30/.3' Ref.			▲		SM	Light tannish brown SILTY SAND AND GRAVEL, dense, dry (fill)		
	19				33/.5' Ref.	>4.5		▼		CH	Orangish brown with gray mottling SILTY CLAY with some gravel, hard, damp		
	36	82			+25/.3' Ref. 80	3.5	5	▲			grades to damp to moist		
	41				19		10	▼		ML	grades to SANDY SILT with some clay, medium stiff, moist to wet		
											Boring terminated at 11.5 feet		
							15						
							20						
							25						
							30						
							35						
							40						
							45						
							50						
Date Started: August 19, 2002								Water Level: ▽ Not Encountered					
Date Completed: August 19, 2002													
Logged By: Y. Chiba								Drill Rig: CME-75					
Total Depth: 11.5 feet								Drilling Method: 4" Auger					
Work Order: 4927-00								Driving Energy: 140 lb. wt., 30 in. drop					

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
No.	CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS-4

FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD

FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS      DATE: June 2004

SHEET No. 4 OF 8 SHEETS



logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 7	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 48.6 *		
											Description		
	25	94			36					GW	3-inch ASPHALTIC CONCRETE		
	32				38	4.0				GW	Brown SANDY GRAVEL with some silt, dense, damp (fill)		
	26	90			31/5' +20/3' Ref.	>4.5	5			CH	Reddish brown SANDY GRAVEL with silt, dense, damp (fill)		
										MH	Tannish brown with black mottling SILTY CLAY, hard, damp to moist grades to CLAYEY SILT		
	27				55	>4.5	10			CH	grades to SILTY CLAY		
												Boring terminated at 11.5 feet	

logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 8		
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 46 *			
											Description			
LL=53 PI=35	70	67			24	1.0				GW	2-inch ASPHALTIC CONCRETE			
	23				21	4.0				CH	Brown SANDY GRAVEL with silt, very dense, damp (fill)			
	24	92			62	>4.5	5			MH	grades to reddish brown at 1.5 feet Brown SILTY CLAY with some gravel, very stiff, damp			
											Tannish brown with black mottling CLAYEY SILT, very hard, damp grades to damp to dry			
	23				50/.5' +10/.0' Ref.	>4.5	10							
	28				35/.5' +30/.3' Ref.	>4.5	15				grades with some weathered coralline gravel			
	28				38/.5' +25/.3' Ref.	>4.5	20							
	12				50/.3' Ref.		25			GP	Tannish white weathered CORALLINE GRAVEL with some silt, very dense, moist (coralline detritus) Boring terminated at 25.3 feet			
							30							
							35							
							40							
							45							
							50							
Date Started: August 22, 2002										Water Level: ∇			Not Encountered	
Date Completed: August 22, 2002														
Logged By: Y. Chiba										Drill Rig: CME-75				
Total Depth: 25.3 feet										Drilling Method: 4" Auger				
Work Order: 4927-00										Driving Energy: 140 lb. wt., 30 in. drop				

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS-5

FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD

FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS

DATE: June 2004

SHEET No. 5 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	62	64

logo.tif		GEOLABS, INC. Geotechnical Engineering						FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII				Log of Boring 9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Other Tests		Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 43.5 *																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
												Description																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
												2.5-inch ASPHALTIC CONCRETE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
												Brown SANDY GRAVEL with silt, dense, damp (fill)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
12												107			29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		



logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 11	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 42.5 *		
											Description		
	6	105			44						3-inch ASPHALTIC CONCRETE		
	30			15	1.0	CH	Dark brown SANDY GRAVEL with silt, dense, moist (fill)						
	24	94		21	0.5	5	CH				Dark brown with black mottling SILTY CLAY with some organics, medium stiff, moist (fill)		
											Dark brown SILTY CLAY, medium stiff, damp to moist		
	23			28	4.0	10					Boring terminated at 11.5 feet		
							15						
							20						
							25						
							30						
							35						
							40						
							45						
							50						
Date Started: August 20, 2002										Water Level: ∇		Not Encountered	
Date Completed: August 20, 2002													
Logged By: Y. Chiba										Drill Rig:		CME-75	
Total Depth: 11.5 feet										Drilling Method:		4" Auger	
Work Order: 4927-00										Driving Energy:		140 lb. wt., 30 in. drop	

logo.tif		GEOLABS, INC. Geotechnical Engineering					FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII					Log of Boring 12	
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 32.5 *			
										Description			
	38	75			30	2.5			GW	3-inch ASPHALTIC CONCRETE			
	28				18	4.0			CH	Dark reddish brown SANDY GRAVEL with silt, dense, damp (fill)			
	26	97			23/.5' +40/.3' Ref.		5		CH	Brown with orange mottling SILTY CLAY with some gravel and sand, very stiff, damp to moist grades to hard ay 3 feet			
	12				74		10			Reddish brown with white mottling SILTY CLAY with coralline sand and gravel, very dense, damp			
							15			Boring terminated at 11.5 feet			
							20						
							25						
							30						
							35						
							40						
							45						
							50						
Date Started: August 20, 2002									Water Level: ∇ Not Encountered				
Date Completed: August 20, 2002													
Logged By: Y. Chiba													
Total Depth: 11.5 feet													
Work Order: 4927-00													
									Drill Rig: CME-75				
									Drilling Method: 4" Auger				
									Driving Energy: 140 lb. wt., 30 in. drop				

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS-7

FORT WEAVER ROAD WIDENING  
AAWA DRIVE TO GEIGER ROAD

FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS      DATE: June 2004

SHEET No. 7 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	64	64

logo.tif		GEOLABS, INC. Geotechnical Engineering		FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII		Log of Boring 13					
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet MSL): 34.3 *
	Description										
	41	75			29					GW	2-inch ASPHALTIC CONCRETE
	40				24	1.5				CH	Brown SANDY GRAVEL with silt, dense, dry to damp (fill)
	26	88			37	0.5	5			CH	grades to reddish brown at 1 foot Orangish brown with multi-color mottling SILTY CLAY with sand and gravel, very stiff, moist (fill)
											Dark reddish brown SILTY CLAY, medium stiff, moist
	10				30/.5' +30/.3' Ref.	>4.5	10			SP	grades to dark brown with white mottling with weathered coralline sand and gravel, hard, damp at 6 feet
											Whitish tan densely cemented CORALLINE SAND AND GRAVEL, dense, dry to damp (coralline detritus)
											Boring terminated at 10.8 feet
							15				
							20				
							25				
							30				
							35				
							40				
							45				
							50				
Date Started: August 23, 2002						Water Level: ∇ Not Encountered					
Date Completed: August 23, 2002											
Logged By: Y. Chiba						Drill Rig: CME-75					
Total Depth: 10.8 feet						Drilling Method: 4" Auger					
Work Order: 4927-00						Driving Energy: 140 lb. wt., 30 in. drop					

ORIGINAL PLAN NOTE BOOK No.	SURVEY PLOTTED BY	DATE
	DRAWN BY	" "
	TRACED BY	" "
	CHECKED BY	" "

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS-8	
FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD	
FEDERAL AID PROJECT NO. CMAQ-076-1(9)	
SCALE: NTS	DATE: June 2004
SHEET No. 8 OF 8 SHEETS	