FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	57	64

Boring Log Legend

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

	MAJOR DIVISION	S	US	CS	TYPICAL DESCRIPTIONS
	GRAVELS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
COARSE- GRAINED	GIAVEES	LESS THAN 5% FINES	000	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
SOILS	MORE THAN 50% OF COARSE FRACTION	GRAVELS WITH FINES	000	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	RETAINED ON NO. 4 SIEVE	MORE THAN 12% FINES		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS	CLEAN SANDS	0	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL RETAINED ON NO. 200 SIEVE	SANDS	LESS THAN 5% FINES		SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	50% OR MORE OF COARSE FRACTION PASSING	SANDS WITH FINES		SM	SILTY SANDS, SAND-SILT MIXTURES
	THROUGH NO. 4 SIEVE	MORE THAN 12% FINES		SC	CLAYEY SANDS, SAND-CLAY MIXTURES
	CII TC			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
FINE- GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		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
500/ 00 11005 05				МН	INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
50% OR MORE OF MATERIAL PASSING THROUGH NO. 200	SILTS AND CLAYS	LIQUID LIMIT 50 OR MORE		CH	INORGANIC CLAYS OF HIGH PLASTICITY
SIEVE				ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
ŀ	HIGHLY ORGANIC SOI	LS	\(\frac{1}{2\frac{1}{2\frac{1}{2}}}\)	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

LIQUID LIMIT

PLASTICITY INDEX

TORVANE SHEAR (tsf)

POCKET PENETROMETER (tsf)

UNCONFINED COMPRESSION (psi)

WATER LEVEL OBSERVED IN BORING

GEOTECHNICAL NOTES

- 1. 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.

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

OF 8 SHEETS SHEET No.

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

logo.tif		Geot	echr	nical	3S, IN Engine					ORT WEAVER ROAD WIDENING AWA 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	nscs	Approximate Ground Surface Elevation (feet MSL): 15.3 *					
ō	<u>≌</u> 8	Wei	လီဆီ	RC	Pe Re (bid	Po (ts)	<u> </u>	Sa		Description 10-inch ASPHALTIC CONCRETE					
	13	106			52		-	0.6	GW CH	Light brown SANDY GRAVEL with silt, dense, dry to damp					
	18				31	>4.5	5-		SM	grades to reddish brown at 1.5 feet Brown SILTY CLAY with some sand and gravel,					
	17	95			63			X		hard, damp grades to SILTY SAND, medium dense					
									SP	Dark brown SAND with some silt and rootlets, medium dense, wet					
	45				7	<0.5	⁷ 10-		СН	Dark blackish gray CLAYEY ORGANIC SILT, soft					
									NAI.						
	40	82			10		15-	X	ML	grades to SANDY SILT					
	46				3		20-			grades with shell fragments					
										grades to brown					
	51	75			68		25	X							
									МН	Brown CLAYEY SILT with sand and some basaltic cobbles and gravel, very stiff					
	39				37		30-			-					
	00						•			-					
	40	00					35-								
	43	80			44	2.0									
									СН	Brown with gray mottling SILTY CLAY, hard					
	47				32	>4.5	40-			-					
	a.									Boring terminated at 41.5 feet * Elevations estimated from Topographic Survey					
							45			Map transmitted by KN Consulting Services, Inc. on April 26, 2004.					
4										-					
 Date Started: August 21, 2002										Water Level: 9.8 ft. 8/21/02 1440 HRS					
 Logged E	Зу:		Y. Ch	iba	2002					Drill Rig: CME-75					
 Total De Work Ord			<u>41.5 1</u> 4927-			· · · · · · · · · · · · · · · · · · ·				Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop					

Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (feet MSL): 15 * Description Approximate Ground Surface Elevation (fill) Reddish brown Surface Elevati	logo.tif					3S, IN Engine		,			ORT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII Log of Boring 2
6 109 42/5' +40/.3' Ref. 43 18 106 45 > 4.5 10 20 20 2.5 10 CH Dark brown with black mottling SILTY CAY some gravel, hard, damp (fill) Red by some gravel, hard, damp (fill) SP grades to SAND, medium dense, wet CH Dark brown with black mottling SILTY ORG. CLAY, stiff (alluvium/lagoonal deposit) SP grades to SAND with some silt SM grades to SILTY SAND with some organic a shell fragments, very loose 66 55 6 25 ML grades to dark brown ML grades to very fine SANDY SILT with organishell fragments SM grades to SILTY SAND Boring terminated at 41.5 feet	ther Tests	oisture ontent (%)	ry Unit 'eight (pcf)	ore ecovery (%)	aD (%)	enetration esistance lows/foot)	ocket Pen. sf)	epth (feet)	ample raphic	SCS	Approximate Ground Surface Elevation (feet MSL): 15 *
some gravel, hard, damp (fill) SP grades to SAND, medium dense, wet CH Dark brown with black mottling SILTY ORG, CLAY, stiff (alluvium/lagoonal deposit) ML Dark gray with dark brown mottling SANDY soft (lagoonal deposit) SP grades to SAND with some silt SM grades to SILTY SAND with some organic a shell fragments, very loose GRADE of SECTION OF SANDY SILT with organic shell fragments ML grades to very fine SANDY SILT with organic shell fragments SM grades to SILTY SAND Boring terminated at 41.5 feet	Ó	6 15	109			42/.5' +40/.3' Ref. 43		5		GW SM	2.5-inch ASPHALTIC CONCRETE Dark reddish brown SANDY GRAVEL with silt, dense, damp (fill) Reddish brown SILTY SAND with gravel, dense, damp to dry (fill)
20 2 CH Dark brown with black mottling SILTY ORG, CLAY, stiff (alluvium/lagoonal deposit) ML Dark gray with dark brown mottling SANDY soft (lagoonal deposit) SP grades to SAND with some organic a shell fragments, very loose 66 55 6 25 grades to dark brown ML grades to very fine SANDY SILT with organishell fragments SM grades to SILTY SAND ML grades to Very fine SANDY SILT with organishell fragments SM grades to SILTY SAND Boring terminated at 41.5 feet		10	100			45	/ 4.5				some gravel, hard, damp (fill)
soft (lagoonal deposit) grades to SAND with some organic a shell fragments, very loose SM grades to SILTY SAND with some organic a shell fragments, very loose GS SM grades to dark brown ML grades to very fine SANDY SILT with organic shell fragments SM grades to SILTY SAND Boring terminated at 41.5 feet		20				20	2.5	10- Z	-	СН	Dark brown with black mottling SILTY ORGANIC CLAY, stiff (alluvium/lagoonal deposit)
51 2 25 Shell fragments, very loose 66 55 6 25 M grades to dark brown 63 ML grades to very fine SANDY SILT with organishell fragments 51 71 7 35 M grades to SILTY SAND 59 8 8 8 8 9 8 9 8 9 8 9 9 9 9 9 9 9 9 9		45	75			13	,	15			
63 4 30 ML grades to very fine SANDY SILT with organishell fragments 51 71 7 35 SM grades to SILTY SAND 59 8 8 Boring terminated at 41.5 feet		51				2		20		SM	10
ML grades to very fine SANDY SILT with organishell fragments SM grades to SILTY SAND 35 SM grades to SILTY SAND Boring terminated at 41.5 feet		66	55			6		25			grades to dark brown
59 3 Boring terminated at 41.5 feet		63			·	4		30		ML	grades to very fine SANDY SILT with organic and shell fragments
Boring terminated at 41.5 feet		51	71			7		35		SM	grades to SILTY SAND
		59				3		40			Boring terminated at 41.5 feet
									- - - - - - -		
Date Started: August 19, 2002 Water Level:								OU.			Water Level: 11.0 ft. 8/19/02 1244 HRS
Logged By: Y. Chiba Drill Rig: CME-75 Total Depth: 41.5 feet Drilling Method: 4" Auger	Logged E	Зу:	,	Y. Ch	iba						

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

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	59	64

logo.tif					3S, IN Engine		,			ORT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII	Log of Boring
Other Tests	isture ntent (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 18 *	
<u></u>	နိုင်	Ve Ve	Cor	_RO	Res (blo	Poc (tsf	Det	Sar	SO	Description	
	21				20/.0' Ref.	>4.5		0.00 0.00 0.00 0.00 0.00	GW	dry (fill)	
	16	89			37 68	>4.5	5		CH MH	Brown SILTY CLAY with some sand and govern stiff, damp to dry grades to CLAYEY SILT with sand and so gravel	
							10-		СН	1	
	25				13	3.5			SC	grades to CLAYEY SAND with silt, mediun	n dense
	14	111			23		15-	X	SP	Gray SAND, medium dense	
	77				6	<0.5	20-		ОН	Gray with dark gray mottling CLAYEY ORG	GANIC
					•	\0. 3			SM	Dark blackish gray SILTY SAND with orga shell fragments, loose	nic and
	59	63			6		25	X			
	74				4		30		МН	grades to CLAYEY SILT with sand and organd shell fragments, very loose	ganic
	55	62			12		35	X	ML	grades to SANDY SILT, very soft	
	45				7		40	-			
						5	45	-		Boring terminated at 41.5 feet	
Date Sta	arted:		Augus	st 21	, 2002		50-			Water Level: 13.50 ft. 8/21/02 1119 HRS	
Date Co	mplet	ed:	Augu	st 21,	, 2002						
Logged Total De			<u>Y. Ch</u> 41.5 f							Drill Rig: CME-75 Drilling Method: 4" Auger	
Work Or			4927-							Driving Energy: 140 lb. wt., 30 in. drop	

logo.tif					BS, IN Engine				DRT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII 4	
Other Tests	isture ntent (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet). Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 15.3 *	
ð	<u> </u>	Dry We	Cor	RQ	Per Res (blc	Poc (tsf	Sar Gra	Sn	Description	
	4 20 22	95			40/.3' Ref. 33	4.0	5	GW	3-inch ASPHALTIC CONCRETE Brown SANDY GRAVEL in a silt matrix, very dense, damp (fill) Dark brown with black mottling SILTY CLAY wi sand and gravel, very stiff, damp to moist (fill) grades with some cobbles	th
	27	95			18	0.5	10		grades with some sand, soft, wet	
					4	<0.5	15	OH/ MH	Dark blackish brown CLAYEY ORGANIC SILT with sand, very soft (lagoonal deposit)	
LL=58 PI=14	64	60			5		20			
	76				2	<0.5	25		grades with shell fragments	
	33	86			83	4.0	30	МН	Orangish brown with black and yellow mottling CLAYEY SILT with sand, hard	
	39				41		35	SM	Brown with black mottling SILTY SAND with so gravel, medium dense (alluvium)	me
	35				48		40		Boring terminated at 41.5 feet	
							45-			
	Date Started: August 20, 2002						50-1-1		Water Level: 12.50 ft. 8/20/02 1358 HRS	
Date Con Logged E			Augu Y. Ch		, 2002				Drill Rig: CME-75	
	oth:		41.51						Drilling Method: 4" Auger	

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					BS, IN					DRT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD Log of Boring
] [Engine	_				EWA, OAHU, HAWAII 5
Other Tests	Moisture Content (%)	ory Unit Veight (pcf	ore ecovery (%	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 15.5 * Description
0	≥0		0 &	<u> </u>		<u> </u>	Δ	S 0 €		\2-inch ASPHALTIC CONCRETE
	32 33	90			22 10	1.5		X.0.	СН	Brown SANDY GRAVEL with silt, dense, damp Dark brownish gray with brown mottling SILTY
	28	98			37	1.0	5	X		CLAY, stiff, moist grades to dark brown
	31				28	3.0	10-			grades to tannish brown
										Boring terminated at 11.5 feet
							15			
							20			
							25			
							30			
							35			
							40			
							45			
								1		
D=4= 01			Λ	-4.00	2000		50			
Date Sta		ed:	Augu	st 23,	, 2002 , 2002					Water Level: 6.8 ft. 8/23/02 1315 HRS
Logged	Ву:		Y. Ch 11.51	iba						Drill Rig: CME-75 Drilling Method: 4" Auger
Total De Work Or			4927-							Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop

logo.tif					3S, IN Engine					ORT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII Log of Boring Boring
Other Tests	Moisture Content (%)				Penetration Resistance (blows/foot)		Depth (feet)	Sample Graphic	SC	Approximate Ground Surface Elevation (feet MSL): 26.5 *
Oth	10 19	Wei Wei	Cor		30/.3' Ref. 33/.5' +25/.3'	>4.5			SOSO	Description Light tannish brown SILTY SAND AND GRAVEL, dense, dry (fill) Orangish brown with gray mottling SILTY CLAY with some gravel, hard, damp
	36	82			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	- - -		
							<i>A</i>	1		
							45			
							ΕΛ	1		
Date Sta					2002		50			Water Level: ☑ Not Encountered
Date Cor Logged I			Augu Y. Ch		2002		· · · · · · · · · · · · · · · · · · ·			Drill Rig: CME-75
Total De			11.51							Drilling Method: 4" Auger

BORING LOGS-4

FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD

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

SCALE: NTS

SHEET No. 4 OF 8 SHEETS

60

DATE: June 2004

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	61	64

logo.tif					BS, IN Engine		,			ORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII Tog of Boring Road Boring
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample		Approximate Ground Surface Elevation (feet MSL): 48.6 * Description
	25 32 26 27	94			36 31/.5' +20/.3' Ref.	1	10 15 20 25 40 45		GW GW CH MH	Brown SANDY GRAVEL with some silt, dense, damp (fill) Reddish brown SANDY GRAVEL with silt, dense,
Date Sta Date Co Logged I Total De Work Or	mplet By: pth:	ed:		st 23 iba feet	, 2002 , 2002		50-			Water Level: Not Encountered Drill Rig: CME-75 Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop

logo.tif					BS, IN Engine			FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII				
Other Tests		Dry Unit Weight (pcf)			Penetration Resistance (blows/foot)		et)	Sample	USCS	EWA, OAHU, HAWAII Approximate Ground Surface Elevation (feet MSL): 46 * Description		
LL=53 PI=35	70	67 92			24 21 62	1.0 4.0 >4.5	5	X	GW	2-inch ASPHALTIC CONCRETE Brown SANDY GRAVEL with silt, very dense, damp (fill) grades to reddish brown at 1.5 feet Brown SILTY CLAY with some gravel, very stiff,		
	23				50/.5' +10/.0' Ref.		10-					
	28				35/.5' +30/.3' Ref.	1	15-			grades with some weathered coralline gravel		
	28				38/.5' +25/.3' Ref.		20					
	12				50/.3' Ref.		25	0000	GP	Tannish white weathered CORALLINE GRAVEL with some silt, very dense, moist (coralline detritus) Boring terminated at 25.3 feet		
		;					30					
							35					
							40					
							45					
Date Sta	mplet	ed:	Augu	st 22	2002		50-			Water Level: ☑ Not Encountered		
Logged Total De			Y. Ch 25.3	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						Drill Rig: CME-75 Drilling Method: 4" Auger		
	der:		4927	·			***************************************			Driving Energy: 140 lb. wt., 30 in. drop		

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)

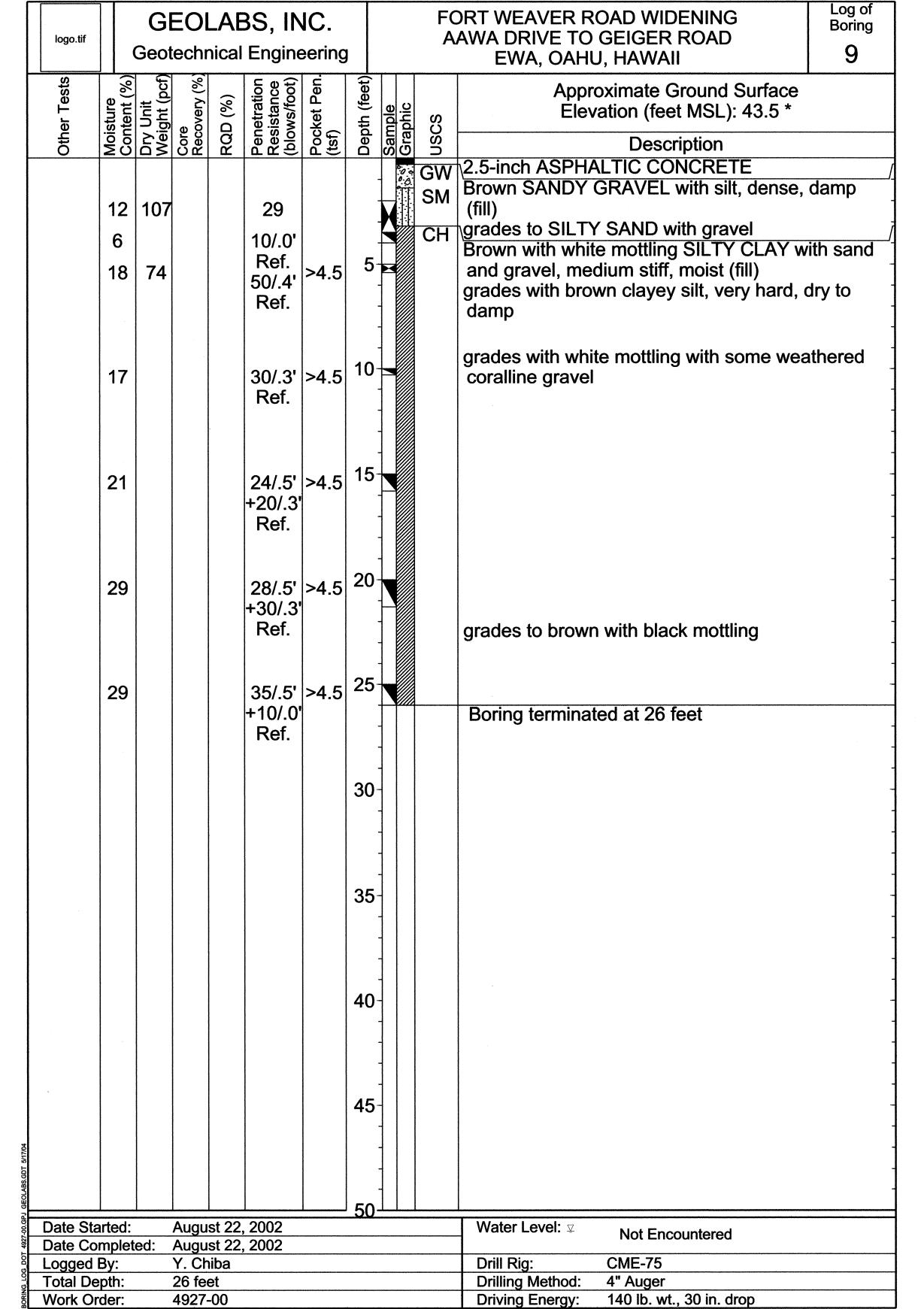
SCALE: NTS

DATE: June 2004

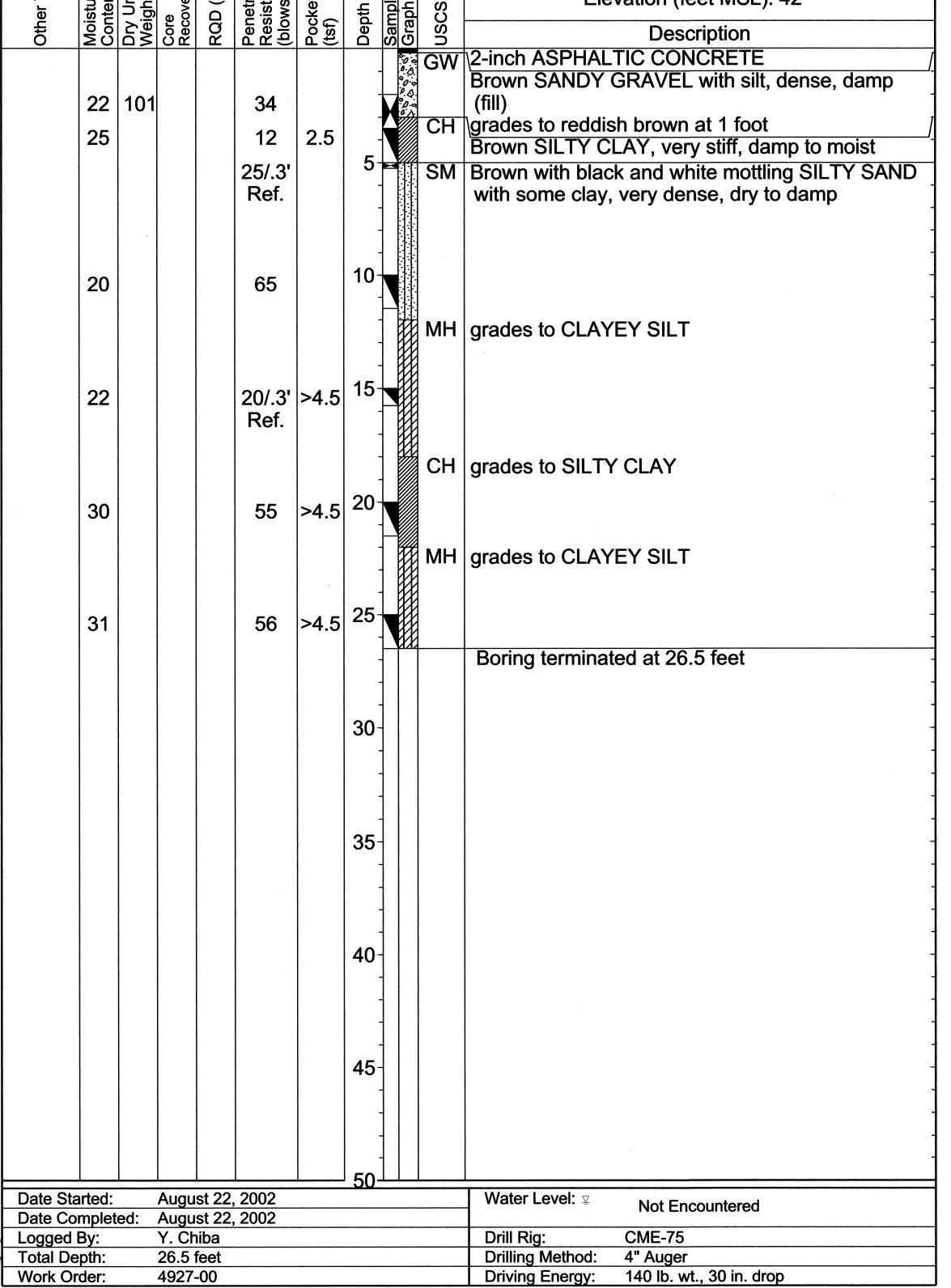
SHEET No. 5 OF 8 SHEETS

61

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					BS, IN Engine					ORT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII Log of Boring 10			
Other Tests	oisture	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 42 * Description			
0	22 25	101		<u>«</u>	34 12 25/.3' Ref.	2.5	<u> </u>		GW	2-inch ASPHALTIC CONCRETE Brown SANDY GRAVEL with silt, dense, damp (fill)			
	20				65		- 10- - -		МН	grades to CLAYEY SILT			
	22				20/.3' Ref.	>4.5	15- -		CU	arados to SILTV CLAV			
	30				55	>4.5	20- -		CH MH	grades to SILTY CLAY grades to CLAYEY SILT			
	31				56	>4.5	25-			Boring terminated at 26.5 feet			
							30-						
Date Sta					, 2002		45-			Water Level: ☑ Not Encountered			
Logged Total De Work Or	epth:		Y. Ch 26.5 4927	feet						Drill Rig: CME-75 Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop			



BORING LOGS-6

FORT WEAVER ROAD WIDENING AAWA DRIVE TO GEIGER ROAD

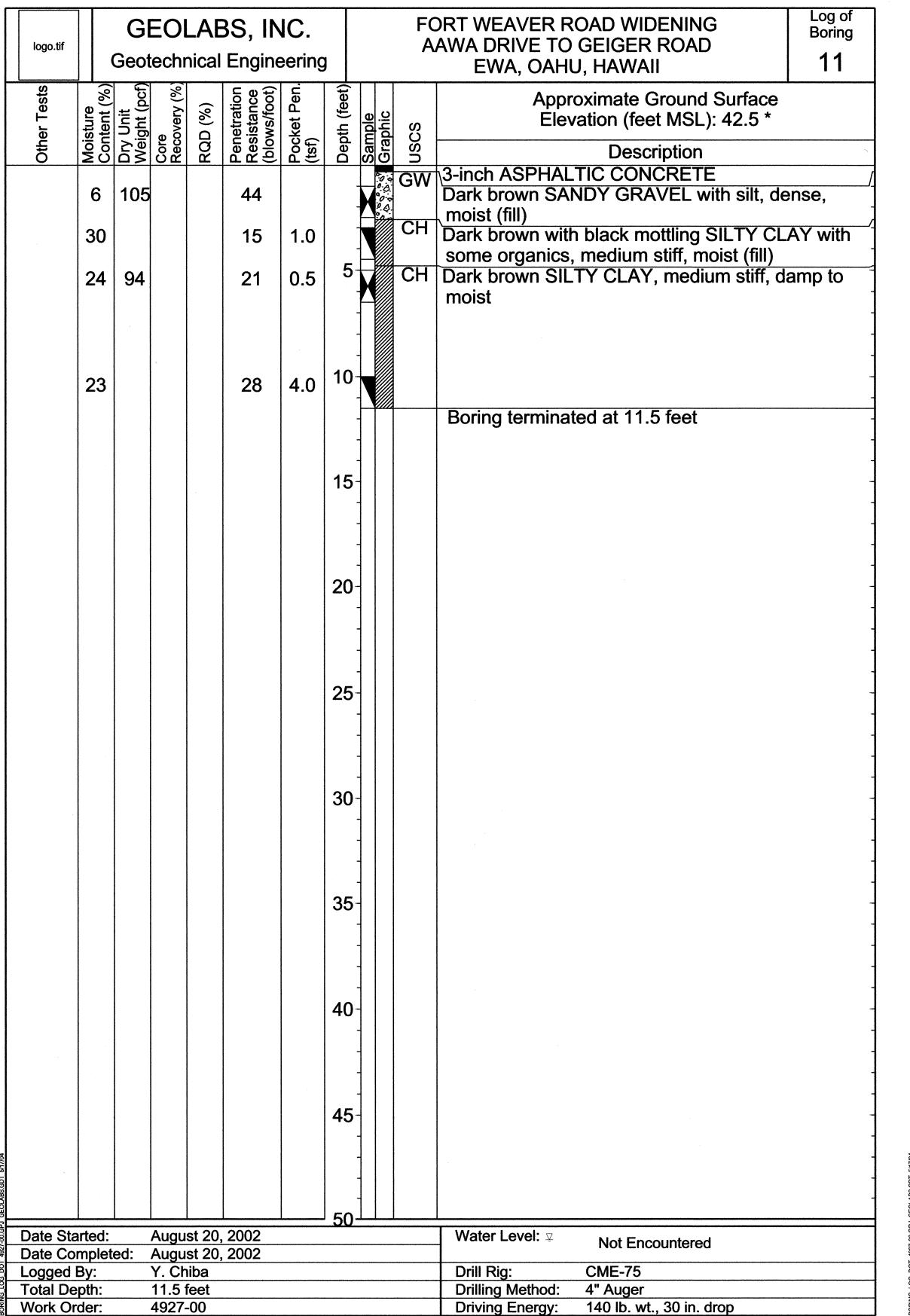
FEDERAL AID PROJECT NO. CMAQ-076-1(9)

SCALE: NTS

DATE: June 2004

6 OF 8 SHEETS SHEET No.

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2004	63	64



logo.tif					BS, IN				no custom con contra		ORT WEAVER ROAD WIDENING AWA DRIVE TO GEIGER ROAD EWA, OAHU, HAWAII	Log of Boring
Other Tests	sture tent (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	buic	SS	Approximate Ground Surface Elevation (feet MSL): 32.5 *	
o #	Mo.	Dry Wei	Core	RQ	Pen Res (blo	Poc (tsf)	Dep	San		nscs	Description \3-inch ASPHALTIC CONCRETE	
	38	75			30	2.5		100	0.0		Dark reddish brown SANDY GRAVEL with	silt,
	28				18	4.0	·			CH	dense, damp (fill) Brown with orange mottling SILTY CLAY wi	
	26	97			23/.5'		5				some gravel and sand, very stiff, damp to n grades to hard ay 3 feet	noist]
	20	01			+40/.3'					СН	Reddish brown with white mottling SILTY C	
					Ref.			-			with coralline sand and gravel, very dense,	damp
	12				74		10					1
	12				/						Boring terminated at 11.5 feet	-
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							15	1				-
								1				-
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								1				-
Deta Ci	nd1		Λ	01.00	2000		50				I Woton Lovely —	
Date Sta	mplet	ed:	Augu	st 20	, 2002 , 2002						Water Level: Not Encountered Drill Big: CME 75	
Logged I Total De	pth:		Y. Ch	feet							Drill Rig: CME-75 Drilling Method: 4" Auger	
Work Or	der:		4927-	-00							Driving Energy: 140 lb. wt., 30 in. drop	

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

logo.tif					3S, IN Engine					DRT WEAVER ROAD WIDENING AWA 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	nscs	Approximate Ground Surface Elevation (feet MSL): 34.3 *
5	Žŏ	ַבֿאַ	ပိမ္ထ	<u> </u>	98.0	Pc (ts	<u> </u>	S O	GW	Description 2-inch ASPHALTIC CONCRETE
	41	75			29				СН	Brown SANDY GRAVEL with silt, dense, dry to damp (fill)
	40				24	1.5				grades to reddish brown at 1 foot
	26	88			37	0.5	5		СН	Orangish brown with multi-color mottling SILTY CLAY with sand and gravel, very stiff, moist (fill) Dark reddish brown SILTY CLAY, medium stiff,
									SP	moist grades to dark brown with white mottling with
	10				30/.5'	1 1	10			weathered coralline sand and gravel, hard, dampated at 6 feet
					+30/.3' Ref.			-		Whitish tan densely cemented CORALLINE SAN AND GRAVEL, dense, dry to damp (coralline
								-		detritus) Boring terminated at 10.8 feet
							15	-		boning terminated at 10.0 leet
						·		-		
								-		
							20	-		
								-		
								- - -		
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							25	-		
							35	-		
								-		
							40	-	Management of the state of the	
							70	-	Antonia describerations de la constitución de la co	
							45	-		
							50			
Date Sta		***************************************			, 2002					Water Level: ☑ Not Encountered
Logged	Ву:		Y. Ch	iba						Drill Rig: CME-75
Total De Work Or			10.8 1 4927-					······································		Drilling Method: 4" Auger Driving Energy: 140 lb. wt., 30 in. drop

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