

## Boring Log Legend

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

	MAJOR DIVISION	S	US	CS	TYPICAL DESCRIPTIONS
	GRAVELS	CLEAN GRAVELS	0000	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
COARSE- GRAINED	OTOTOLO	LESS THAN 5% FINES	000	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
SOILS	MORE THAN 50% OF COARSE	GRAVELS WITH FINES	0000	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	FRACTION RETAINED ON NO. 4 SIEVE	MORE THAN 12% FINES		GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	CANDO	CLEAN SANDS	0	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL	SANDS	LESS THAN 5% FINES		SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
RETAINED ON NO. 200 SIEVE	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
	OU TO			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
			4	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
				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		СН	INORGANIC CLAYS OF HIGH PLASTICITY
SIEVE				ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
-	HIGHLY ORGANIC SOI	LS		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

TORVANE SHEAR (tsf)

EN POCKET PENETROMETER (tsf)

IC UNCONFINED COMPRESSION (psi)

WATER LEVEL OBSERVED IN BORING

## GEOTECHNICAL NOTES

1. A geotechnical engineering report entitled "Geotechnical Engineering Exploration, Waiehu Beach Road (Route 3400), Rehabilitation of Iao Stream Bridge, Wailuku, Maui, Hawaii" dated May 29, 2012 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.

2. For boring locations, see Sheet G-1.

- 3. 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.
- 4. 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.
- 5. 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.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APRIL 30, 2014
LIC. EXP. DATE

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS LEGEND & NOTES

<u>WAIEHU BEACH ROAD</u> <u>REHABILITATION OF IAO STREAM BRIDGE</u> <u>Federal Aid Project No. BR-STP-3400(5)</u>

Date: October 2012

SHEET No. G-2 OF 7 SHEETS

					3S, IN			RE		EHU BEACH ROAD (ROUTE 3400)  BILITATION OF IAO STREAM BRIDGE  WAILUKU, MAUI, 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): 39.5 *  Description
Sieve - #200 = 3.3%	2 2	94	6		7 13		5		SP	Tan SAND (CORALLINE) with traces of silt and fine gravel, loose, dry (dune sand) grades to medium dense cobbles (basaltic) encountered between 4.0 to 4.5 feet
	15		0		12		10	- J		grades to weakly cemented
LL=37 PI=13	29		17		15		15		CL	Dark brown SANDY CLAY, stiff, moist (alluvium)  Gray COBBLES AND BOULDERS (BASALTIC), dense (alluvium)
	1		28		12		20	60000000000000000000000000000000000000		
			60		10/0" Ref.		25			
			50				30	500000 5000000000000000000000000000000		- -
	,		43				35	0000 000 000 000 000 000 000 000 000 0		-
			33				40			- - -
			15				45	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	014	
	49		67		20		50	000000000000000000000000000000000000000	GM	Brown SILTY GRAVEL (BASALTIC) with sand and some cobbles, medium dense (alluvium)
			45				55	000000000000000000000000000000000000000		
	45		et en		27		60	0000		Boring terminated at 58.5 feet
							65			* Elevations estimated from Topographic Survey - Plan transmitted by Wilson Okamoto Corporation on January 31, 2008.
							70			
				hinaaliinissaa maanaa sa sa sa			75	-	ing to be some the body of the second	-
Date Sta Date Co	**********		Augu: Augu:	ALTERNATION OF A PARTY				<b>3</b> )// <b>3</b> (000 + 0 (000)   100 (000)		Water Level: ᠌ Not Measured, Hole Caved-In
Logged I Total De	Ву:		E. Sh 58.5 f	insate				Matter Control	71. v.	Drill Rig: MOBILE B-53 Drilling Method: 4" Auger, 4" Casing & HQ Coring
<del></del>	ork Order: 5741-00									Driving Energy: 140 lb. wt., 30 in. drop

	полиматичностиничностиничностиничностиничности				3S, IN Engine			RE		EHU BEACH ROAD (ROUTE 3400) ILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII	Log of Boring
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): 19 *  Description	And the second s
UC= 16590	24	102	50 50 60		23/6" Ref.		<ul><li>5</li><li>10</li><li>15</li></ul>		GP SM	Gray SANDY GRAVEL (BASALTIC) with medium dense, dry (fill) Brown SILTY SAND with traces of gravel (basaltic), medium dense, moist (fill) Gray COBBLES (BASALTIC) with gravel, dense (alluvium) grades with some brown silt	
			57 27				20				
	47		31		31/6" +10/0" Ref.		30		SM	Reddish brown SILTY SAND (BASALTIC gravel, dense (alluvium) grades with some highly weathered cobb (basaltic)	ŕ
Sieve #200 = 25.1%	49	To the second se	24		31 28		35 40			grades to medium dense to dense	
	51	,	0		21		45	000000000000000000000000000000000000000	GW	Brown SANDY GRAVEL (BASALTIC) wit silt and highly weathered cobbles, mediu to dense (alluvium)	
			<ul><li>83</li><li>57</li></ul>				50 55			Gray COBBLES with some gravel and sa moderately weathered, very dense (alluv	
							60			Boring terminated at 57 feet	
							70				
Date Sta Date Cor Logged I Total De	mplet By:	ed:	Augus Augus E. Sh 57 fee	st 5, 2 insate	2008		75-			Water Level:   Not Measured, Hole Caved-In  Drill Rig: MOBILE B-53  Drilling Method: 4" Auger & HQ Coring	

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	BR-STP-3400(5)	2012	50	108



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GEOLABS, INC. APRIL 30, ELIC. EXP.

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS - 1

WAIEHU BEACH ROAD

REHABILITATION OF IAO STREAM BRIDGE
Federal Aid Project No. BR-STP-3400(5)

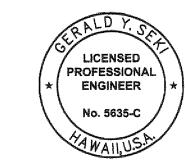
Date: October 2012

SHEET No. G-3 OF 7 SHEETS

		Geot	echr	nical	BS, IN Engine			R		EHU BEACH ROAD (ROUTE 3400) BILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII  Log of Boring 2A
Other Tests	Moisture Content (%)	Dry Unit Weight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	USCS	Approximate Ground Surface Elevation (feet MSL): 19 *  Description
	5		83 50		10/1" Ref. 50/0" Ref.		5		SM	Brown SILTY SAND with some gravel (basaltic), dense, damp (fill)  Gray BOULDERS AND COBBLES (BASALTIC), very dense (alluvium)
			40				10			
			50		50/0" Ref.		20			Gray BOULDERS AND COBBLES (BASALTIC) with some sand and silt, dense (alluvium)
			30				25 <sup>-</sup>		SM	Reddish brown SILTY SAND with some gravel and cobbles, medium dense (alluvium)
	50		86		24		30			Poring terminated at 32 feet
		ţ					35			Boring terminated at 32 feet Water Level Readings: 6.0 ft. 01/26/2009 1215 HRS 5.6 ft. 01/28/2009 1004 HRS 4.9 ft. 01/29/2009 1217 HRS
							40	are and a second a		4.8 ft. 01/30/2009 1515 HRS 6.0 ft. 02/2/2009 1514 HRS
							50	- - - - - -		
							55	-		
							60	-		
							65			
							70°			
Date Star Date Cor Logged E	nplet	ed:		ary 26	3, 2009 3, 2009		13.			Water Level:   See End of Log  Drill Rig: MOBILE B-53

		Geot	echr	nical	3S, IN Engine			RE		EHU BEACH ROAD (ROUTE 3400) SILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, 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	nscs	Approximate Ground Surface Elevation (feet MSL): 18 * Description
	6 9	110	67 25		26/Ref. 35/6" +32/3" Ref.		5		GP GM	To-inch CONCRETE Gray SANDY GRAVEL (BASALTIC) (fill) Brownish gray SILTY GRAVEL (BASALTIC), dense to very dense, dry (fill) grades with cobbles Gray BOULDERS AND COBBLES (BASALTIC), very dense (alluvium)
			23				15 20			
	43		38		36		25 30	000000000000000000000000000000000000000	GW- GM	Brown SILTY GRAVEL with sand, dense (alluvium)
	50		83		39		35	000000000000000000000000000000000000000		
	47		57	*	25		40	000000000000000000000000000000000000000		
	47		57		38		45	000000000000000000000000000000000000000		
	43		24		46		50	000000000000000000000000000000000000000		
	47		57		33		55	000000000		
	46				37		60	-		Boring terminated at 58.5 feet
							70 75			
Date Sta			Augu:							Water Level:   Not Measured, Hole Caved-In
Logged I	Зу:		Augu: E. Sh	insat			trul (Address) selectiva (Address) (		Source :	Drill Rig: MOBILE B-53
Total De	<u>pth:</u> der:		<u>58.5 f</u> 5741-				had and till to		**************************************	Drilling Method: 4" Auger & HQ Coring Driving Energy: 140 lb. wt., 30 in. drop

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII		BR-STP-3400(5)		51	108



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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS - 2

<u>WAIEHU BEACH ROAD</u> <u>REHABILITATION OF IAO STREAM BRIDGE</u> <u>Federal Aid Project No. BR-STP-3400(5)</u>

Date: October 2012

SHEET No. G-4 OF 7 SHEETS

51

GEOLABS,  Beotechnical Eng		WAIEHU BEACH ROAD (ROUTE 3400) REHABILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII 4
Dry Unit Weight (pcf) Core Recovery (%) RQD (%) Penetration Resistance	(blows/foot) Pocket Pen. (tsf) Depth (feet)	Approximate Ground Surface  Elevation (feet MSL): 31 *  Description
30/ Re	i I	SM Tan SILTY FINE SAND (CORALLINE) with grave GM loose, dry (fill) Brown SILTY GRAVEL (BASALTIC) with some cobbles, very dense, damp (fill)
36 23	3   10	grades to medium dense
28	15	Gray BOULDERS AND COBBLES (BASALTIC) with some brown silt, dense (alluvium)
47 10/ Re		
35	25	
55	30	SM Brown SILTY SAND (BASALTIC) with some
24 29	35	cobbles and gravel, medium dense to dense (alluvium)
29 30	40	
50 39	45	
79 32	50	
74 31	55	
37	60	Boring terminated at 58.5 feet
	65	
	70	
August 8, 2008	75	-
ed:	August 8, 2008 August 8, 2008 E. Shinsato	75 August 8, 2008 August 8, 2008

Logged By: Total Depth:

Work Order:

58.5 feet

5741-00

Drilling Method: 4" Auger & HQ Coring
Driving Energy: 140 lb. wt., 30 in. drop

					3S, IN Engine			R			og of Boring <b>5</b>
Other Tests	Moisture Content (%)	ry Unit /eight (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 41 * Description	
0	_			<u> </u>		<u>a</u> #		000	GP	Tan SANDY GRAVEL (BASALTIC) with som	e silt,
	8	112			49			-100	SP	medium dense, dry (fill)	<del></del>
	<u> </u>						5			Tan SAND (CORALLINE), loose, dry (fill)	
	5				15					grades to medium dense	
UC=6010	1		100 18		53		10		GM	Brown SILTY GRAVEL (BASALTIC) with sor sand (coralline), medium dense to dense, medium)	
							15			Gray BOULDERS (BASALTIC), very dense	
			5		10/0"			1 00000	GW- GM	(alluvium) grades with some brown silt grades with some cobbles (basaltic)	
							20	- 000		Brown SILTY GRAVEL (BASALTIC) with son sub-rounded cobbles and sand, medium der	
Sieve - #200 =	11		60		76					dense (alluvium)	100 10
10.6%			00		A COLOMBIA DE LA COLO		25			grades to very dense Gray BOULDERS AND COBBLES (BASALT	IC)
			70		Theorem and the state of the st					very dense (alluvium)	/,
							30				
			17			TO THE PROPERTY OF THE PROPERT					
			_				35			D OH TV/ OD AV/CH /DAGALTIOV '''	
¥	22				23			- 000	GW- GM	Brown SILTY GRAVEL (BASALTIC) with sar some clay seams, medium dense (alluvium)	
	L L		52		<b>23</b>		*~	- 000		grades with some cobbles (basaltic)	
							40	0.000			
	37		67		36			1000		grades to dense	
			01				45	0000	<del>.</del>		
Transconding to the second sec			28					000	<b>.</b>		
TO COMMUNICATION							50	0000	, ,		
	23				50			0.00		grades to medium dense to dense	
The state of the s			62				55	0.000			
			The state of the s		34			- 000		arados to doneo	
Section 1			50		34	RAMA DEPOTATION OF	~~	000	,	grades to dense	
	ļ						60	000	:		
a de la constanta de la consta										Boring terminated at 62 feet	
4000	!						65	-			
		T.						-			
		***************************************					70				
									formations de manuel de experiencies		
					, , , , , , , , , , , , , , , , , , , ,		75				
Date Sta Date Cor		· · · · · · · · · · · · · · · · · · ·	Augu: Augu:	<del></del>			, <u>, , , , , , , , , , , , , , , , , , </u>			Water Level:   □ Not Measured, Hole Caved-In	
Logged F	Зу:		E. Sh	insate						Drill Rig: MOBILE B-53	
Total De Work Ord		····	62 fee 5741-		addres tallet and an analysis and an all the second and					Drilling Method: 4" Auger, 4" Casing & HQ Coring Driving Energy: 140 lb. wt., 30 in. drop	

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	BR-STP-3400(5)	2012	52	108



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GEOLABS, INC.

APRIL 30, 2014
LIC. EXP. DATE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS - 3

<u>WAIEHU BEACH ROAD</u> <u>REHABILITATION OF IAO STREAM BRIDGE</u> <u>Federal Aid Project No. BR-STP-3400(5)</u>

Date: October 2012

SHEET No. G-5 OF 7 SHEETS

52

					3S, IN Engine			RE		EHU BEACH ROAD (ROUTE 3400)  BILITATION OF IAO STREAM BRIDGE  WAILUKU, MAUI, HAWAII  Cog of Boring  Boring  6
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): 19.5 *
<u>ot</u>	16	107	<u>ე გ</u> 78 58	RC	10/6" +10/1" Ref.		5 10		GP SM	Description  10-inch CONCRETE  Gray SANDY GRAVEL (BASALTIC), dense, dry  (fill)  Brown SILTY SAND with some gravel (basaltic), medium dense, moist (fill)  Gray BOULDERS (BASALTIC) with some cobbles and sub-rounded gravel, very dense (alluvium)
UC= 23410			50				15			grades with some brown silt
	13		20		35/6" +20/1" Ref.		20			grades with some reddish brown silt
Sieve #200 = 23.4%	43		24		42		25	- - - -	SM	Reddish brown SILTY SAND (BASALTIC) with some sub-rounded gravel, dense to very dense, very moist (alluvium)
	44		14		28		30	-		grades with some cobbles (basaltic) at 24 feet
	42		33		45		35	- 000		Brownish gray COBBLES (BASALTIC) with some
,			72				40	30000000000000000000000000000000000000		sub-rounded gravel, moderately weathered, medium dense to dense (alluvium)
	44		+0		25		45	- 1000000000000000000000000000000000000		grades with some roddish brown silty sand highly
	44		43		∠3		50			grades with some reddish brown silty sand, highly weathered

grades to very dense

Water Level: ▽

Boring terminated at 62 feet

Drill Rig: MOBILE B-53
Drilling Method: 4" Auger & HQ Coring
Driving Energy: 140 lb. wt., 30 in. drop

Not Measured, Hole Caved-In

Date Started:

August 4, 2008

Date Completed: August 4, 2008

Logged By: E. Shinsato

Total Depth: 57 feet

Work Order: 5741-00

48

August 5, 2008

E. Shinsato

62 feet 5741-00

Date Completed: August 5, 2008

65-

					3S, IN			RE		EHU BEACH ROAD (ROUTE 3400) ILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII  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): 19 * Description
Direct Shear UC= 17450	9 23 35	124			41 18 15/1" Ref.		5 10 15		GP SP SM	Tayish brown SANDY GRAVEL with traces of silt, medium dense, damp (fill)  Tan fine SAND (CORALLINE) with traces of gravel (basaltic), medium dense, damp (fill)  Brown SILTY SAND (BASALTIC) with some moderately weathered sub-rounded gravel, medium dense, moist (alluvium)  Gray COBBLES AND BOULDERS (BASALTIC) with some sub-rounded gravel, very dense (alluvium)
			<ul><li>28</li><li>37</li><li>38</li></ul>				25 30		GW	Brownish gray COBBLES (BASALTIC) with some rounded gravel and traces of clay, very dense (alluvium)  Grayish brown with dark gray seams SILTY GRAVEL (BASALTIC) with some cobbles, severely fractured, moderately to highly
		A	50				35 40	0.0000000000000000000000000000000000000		weathered, very dense (alluvium)
			42				45	0,00,00,00,00		
			73				50	000000000000000000000000000000000000000		
							<ul><li>55</li><li>60</li></ul>	0.000 0.000		Boring terminated at 57 feet
							65			
							70	70-		

Water Level: 

Not Measured, Hole Caved-In

Drilling Method: 4" Auger & HQ Coring
Driving Energy: 140 lb. wt., 30 in. drop

Drill Rig:

MOBILE B-53

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	BR-STP-3400(5)	2012	53	108



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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS - 4

<u>WAIEHU BEACH ROAD</u> <u>REHABILITATION OF IAO STREAM BRIDGE</u> <u>Federal Aid Project No. BR-STP-3400(5)</u>

Date: October 2012

SHEET No. G-6 OF 7 SHEETS



Date Started:

Logged By: Total Depth: Work Order:

					BS, IN			RE		EHU BEACH ROAD (ROUTE 3400)  BILITATION OF IAO STREAM BRIDGE  WAILUKU, MAUI, HAWAII  Log of Boring 8
Other Tests	Moisture Content (%)	1	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 38.5 *  Description
Other T	Moistur 5 8 9 10 Conten	Dry Uni 1 10 1 10 Weight		45 O	Henetical Penetical Penetical No. 10	Pocket (tsf)	) updag 5 10 15 20 25 30 35 40 45 60 65	8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.	SOSN G M SP SW	Description  Grayish brown SANDY GRAVEL (BASALTIC), medium dense, damp (fill)
GEOLABS, SDT 1013/08							70 75			

Not Measured, Hole Caved-In

MOBILE B-53

Drilling Method: 4" Auger, 4" Casing & HQ Coring
Driving Energy: 140 lb. wt., 30 in. drop

Water Level: ヱ

Drill Rig:

Date Started: August 6, 2008

Date Completed: August 7, 2008

Logged By: E. Shinsato

62 feet 5741-00

Logged By: Total Depth: Work Order:

	GEOLABS, INC. Geotechnical Engineering						WAIEHU BEACH ROAD (ROUTE 3400) REHABILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII 9					
Other Tests	Content (%) Dry Unit	Weight (pcf) Core Recovery (%)	RaD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs	Approximate Ground Surface Elevation (feet MSL): 44 *			
#   \$	305	Re S   ≪	RG	Pel Re (bl(	Pog (tsf	De	Sal	S	Description			
	3 10			63 70		eda activida de l'esta de la companya de la company	<b>X</b>	SM SP	Brown SILTY SAND with some gravel (basaltic) (fill) Tan weakly cemented SAND (CORALLINE),			
	2 10	9		85		5	- X		dense, dry (dune sand) grades to very dense			
	3			89		10	-					
	3			52		15	- -		-			
00015	3			88		20	-	hlippropych ameniya ya shi kakiliki masa				
	in the second se					25	-		Boring terminated at 21.5 feet			
Date Started: August 9, 2008  Date Completed: August 9, 2008								Water Level:   Not Encountered				
Logged By: E. Shinsato								Drill Rig: MOBILE B-53				
Total Depth: 21.5 feet								Drilling Method: 4" Auger, 6" Hollow-Stem Auger				
Work Orde	); :	5741-	·UU			nerskerede nieder Assesser	in and the second second second		Driving Energy: 140 lb. wt., 30 in. drop			

		GEOLABS, INC. Geotechnical Engineering							WAIEHU BEACH ROAD (ROUTE 3400) REHABILITATION OF IAO STREAM BRIDGE WAILUKU, MAUI, HAWAII  Log of Boring 10					
Other Tests	isture ntent (%)	Dry Unit Weight (pcf)	Core Recovery (%)	(%) Q	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample Graphic	nscs		oximate Ground Surface ation (feet MSL): 33.5 *			
Ott	oD 6 5	115	Co	RG	40 27 10/0" Ref. 10/0" Ref.	Po (tst)	5 10 15		SP GM SP	Brownish gray S very dense, dry Brown SILTY G cobbles and san (fill) Brownish tan we (CORALLINE) v damp (dune san Brownish gray E	RAVEL (BASALTIC) with nd, medium dense to dense eakly cemented SAND with traces of silt, medium nd) BOULDERS AND COBBLI th some sub-rounded grav	some se, damp dense,		
Date Star	ted:		Augu	st 9 (	2008		<u>25</u>			Water Level:    Value	Not Encountered			
Date Com			Augu			MOTOR CONTRACTOR OF THE PROPERTY OF THE PROPER				A LOCK POOL WEST A POOL 1 MAN				
Logged By: E. Shinsato									Drill Rig:	MOBILE B-53				
Total Depth: 15 feet									Drilling Method:	4" Auger	0			
Work Ord			5741-	00				and a complete to the Name of State of the Name of State		Driving Energy:	140 lb. wt., 30 in. drop			

FED. AID FISCAL SHEET TOTAL PROJ. NO. PROJ. NO. SHEETS

HAWAII HAW. BR-STP-3400(5) 2012 54 108



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS - 5

WAIEHU BEACH ROAD
REHABILITATION OF IAO STREAM BRIDGE
Federal Aid Project No. BR-STP-3400(5)

Date: October 2012

SHEET No. G-7 OF 7 SHEETS

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