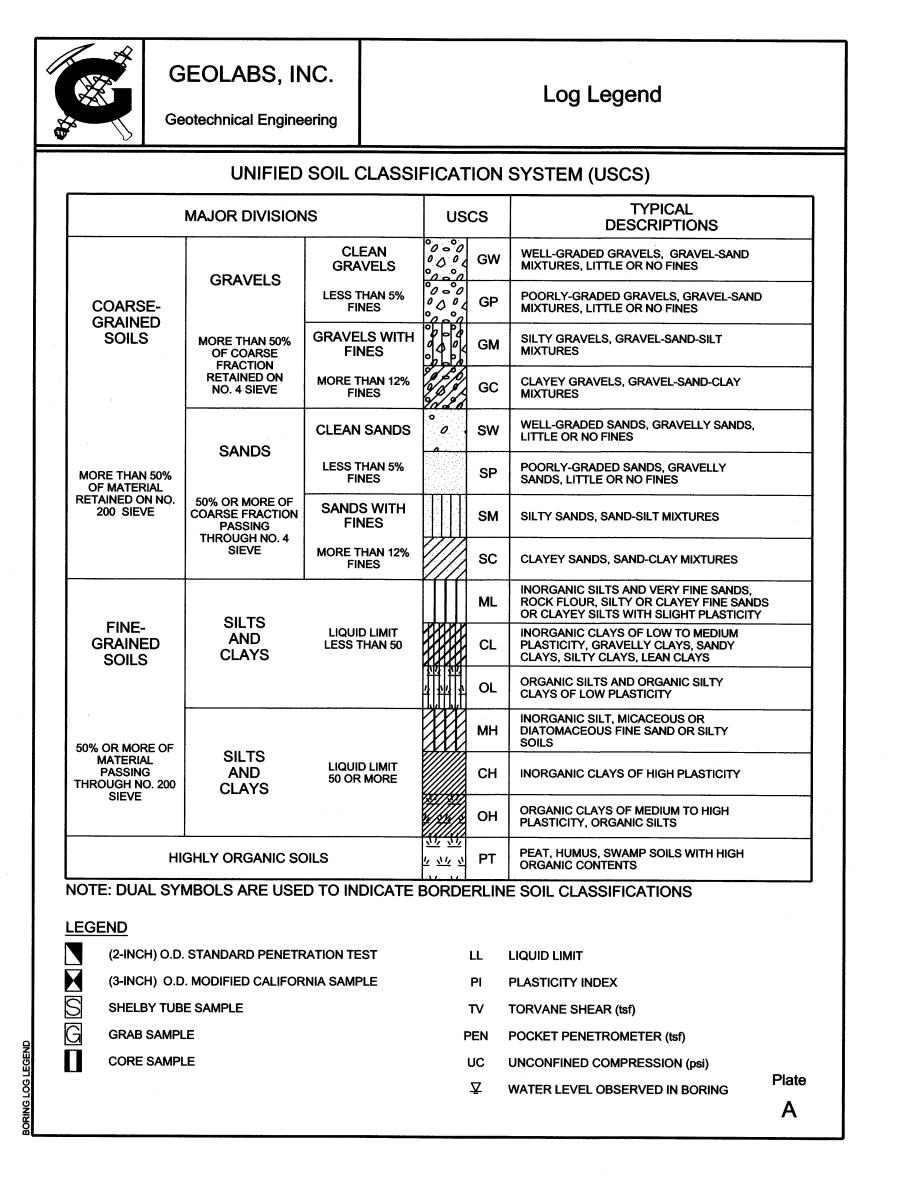
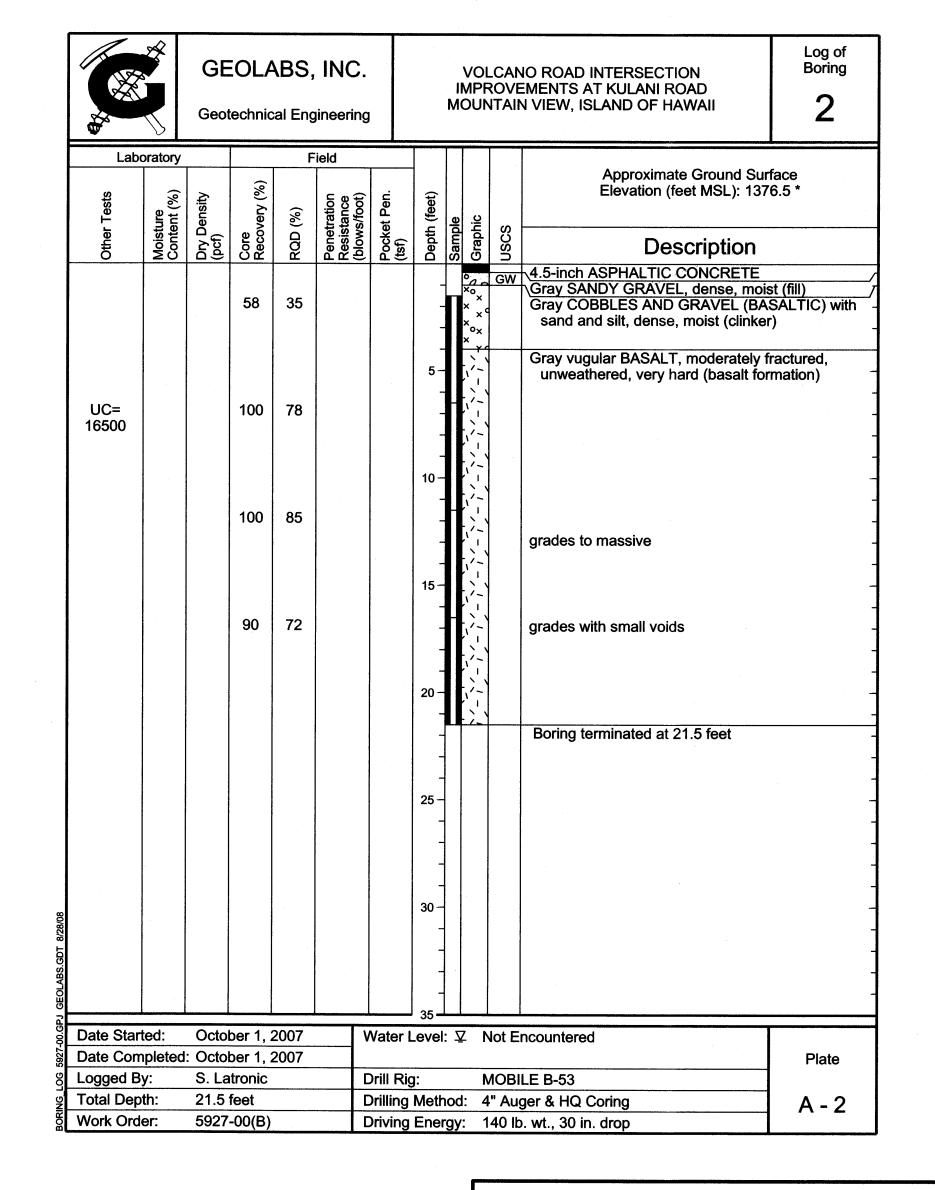
GEOTECHNICAL NOTES:

- 1. A geotechnical engineering report entitled "Geotechnical Engineering Exploration, Volcano Road Intersection Improvements at Kulani Road, Mountain View, Island of Hawaii" dated December 3, 2010 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 Sheets 12 & 13.
- 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.

ED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	HS-STP-011-2(38)	2010	9	141



	GEOLABS, INC									MPF	ROVE	IO ROAD INTERSECTION EMENTS AT KULANI ROAD N VIEW, ISLAND OF HAWAII	Log of Boring
		oratory 8	₹	(%)		ield S o 🕏	ć.	- (Approximate Ground Sur Elevation (feet MSL): 138	
	Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	nscs	Description	
	** F 0.473	7				30			_	000	GW	4.5-inch ASPHALTIC CONCRETE Gray SANDY GRAVEL, dense, dam Gray SANDY GRAVEL, medium de	p (fill) nse, damp (fill) -
		7				21			1	°/	SW	Gray GRAVELLY SAND, medium d	ense, moist
		24				45		5-		0	SW	∖ (fill) Grayish brown GRAVELLY SAND w medium dense to dense, moist (cli	
				100	63		·		-	<u> </u>		Gray vugular BASALT, moderately f unweathered, very hard (basalt for	
		·		100	80	-		10		-/-/-/-			
								15		12-12-1		grades to slightly fractured	
·				100	93			20-		7-72-73		grades to massive	
				100	100			20		-/2-/2-] - - -
								25	11	·/·		Boring terminated at 25 feet	
									- .			* Elevations estimated from Topographic Survey Plan receive M&E Pacific, Inc. on 12/11/07.	ed from
T 8/28/08								30 -					1
J GEOLABS.GDT 8/28/08								35.					-
27-00.GPJ	Date Start			per 1, 2		V	Vater		l: <u>S</u>	Z N	lot E	ncountered	
LOG 592	Date Com Logged By	<u> </u>		oer 1, 2 tronic	2007		Prill R	ig:		N	ЮВІ	LE B-53	Plate
ORING L	Total Dep		25 fe				Prilling					ger & HQ Coring	A - 1
윒	Work Ord	er:	5927	-00(B)			riving	g ⊏ne	rgy	: 1	40 lb	. wt., 30 in. drop	



 RIGINAL
 SURVEY PLOTTED BY
 DATE

 PLAN
 DRAWN BY
 "

 TE BOOK
 DESIGNED BY
 "

 QUANTITIES BY
 "

 CHECKED BY
 "

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

<u>Volcano Road Intersection and</u>

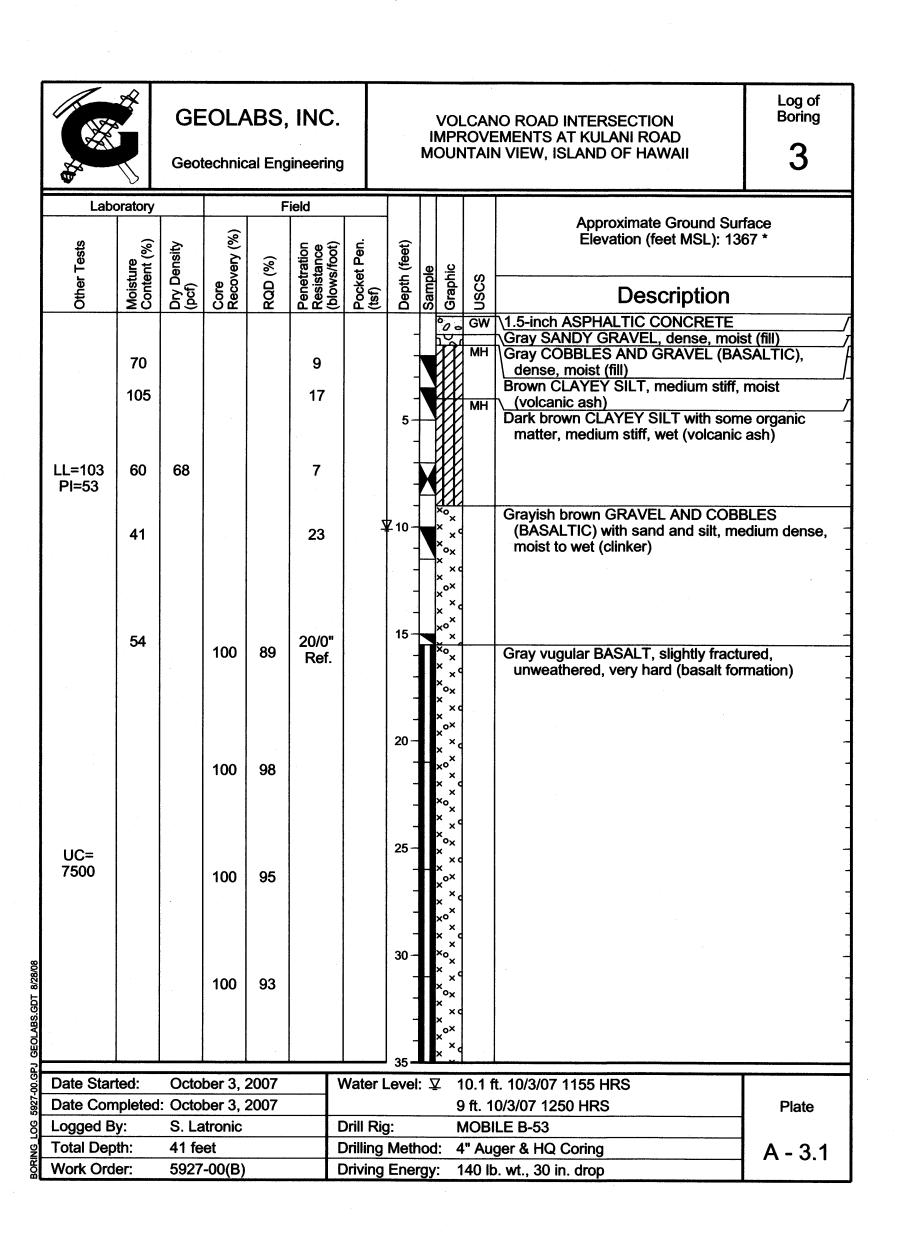
<u>Drainage Improvements</u>

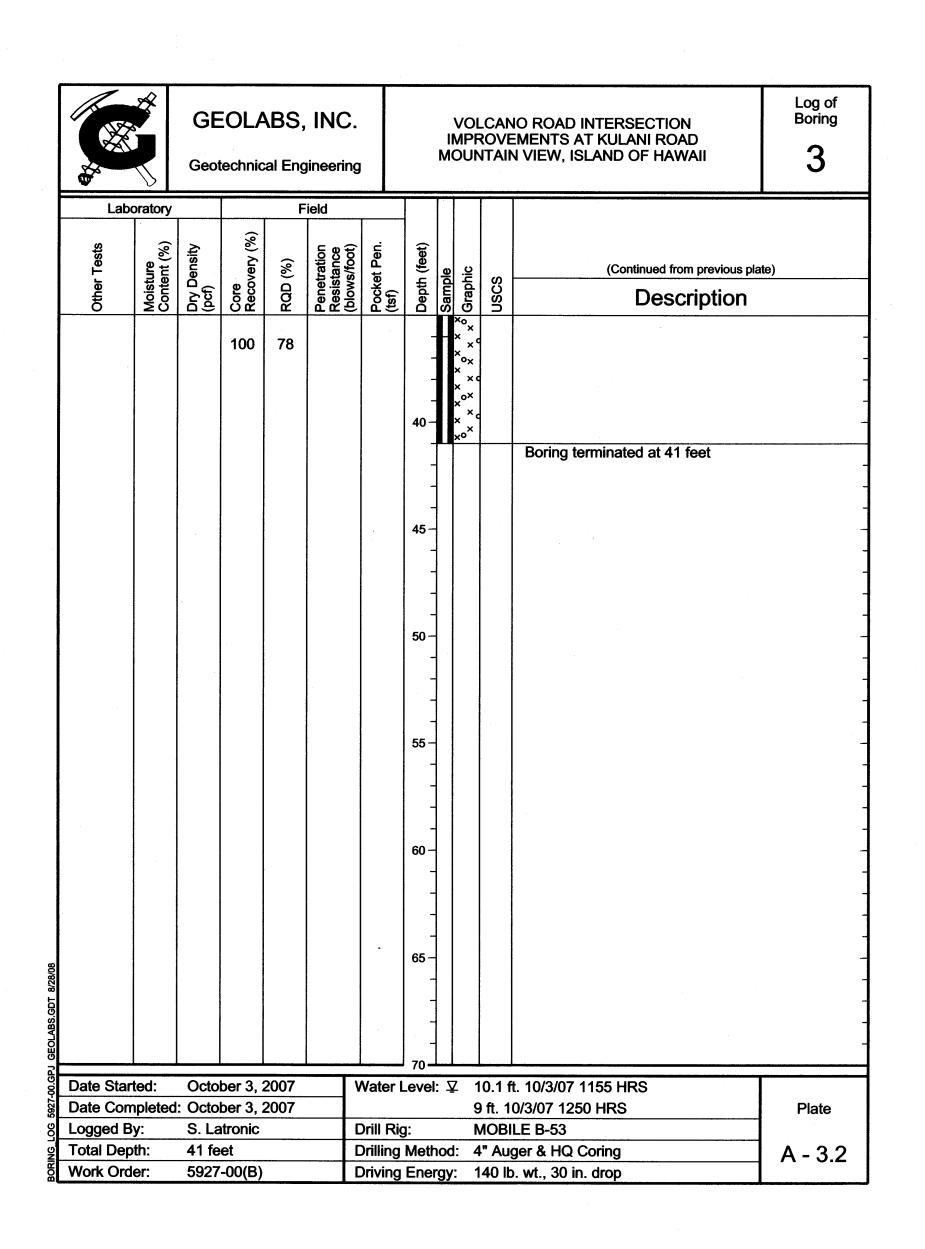
Federal—Aid Project No. HS-STP-011-2(38

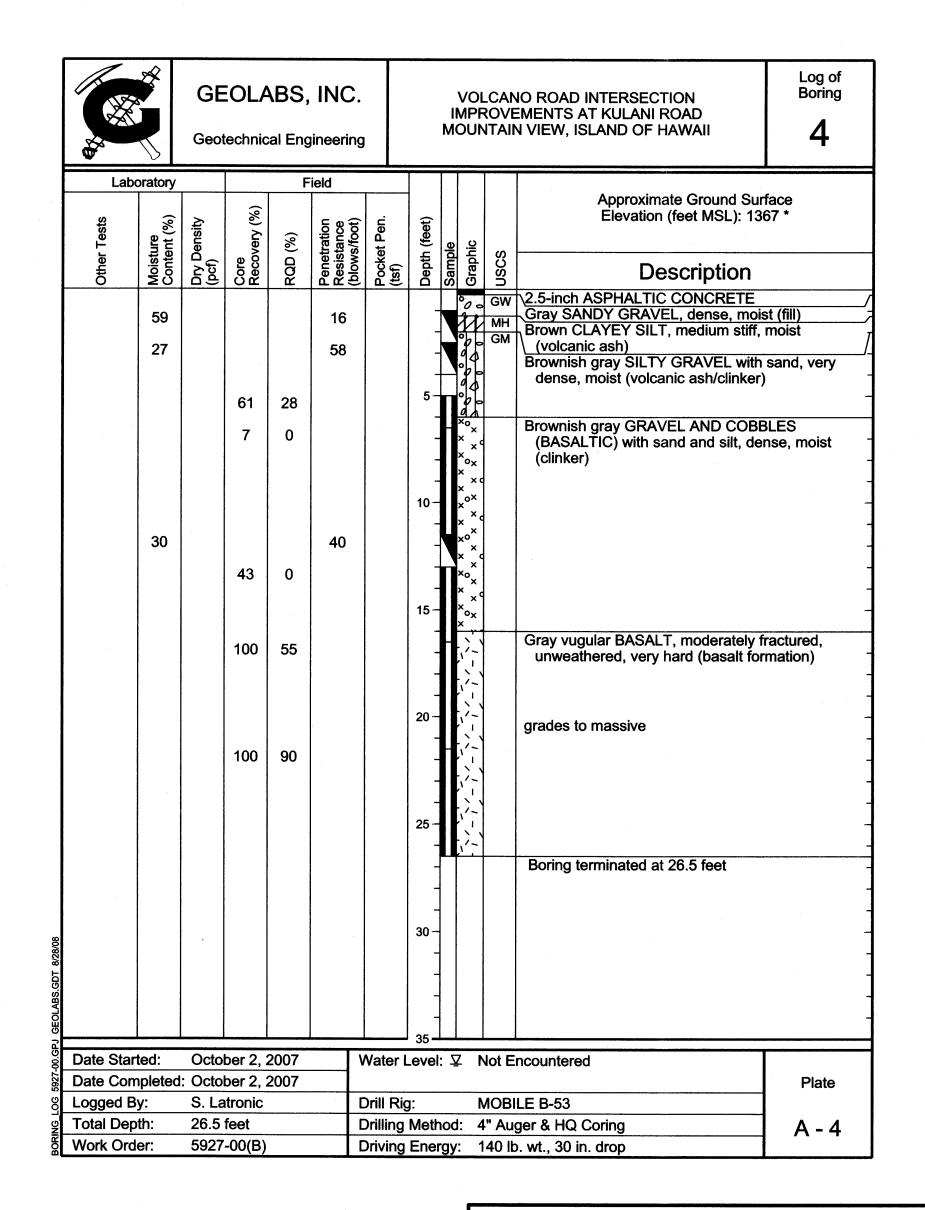
Scale: None

Date: November 2010

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
DIST. NO.		PROJ. NO.	YEAR	NO.	SHEETS
HAWAII	HAW.	HS-STP-011-2(38)	2010	10	141







STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

BORING LOGS

<u>Volcano Road Intersection and</u>

<u>Drainage Improvements</u>

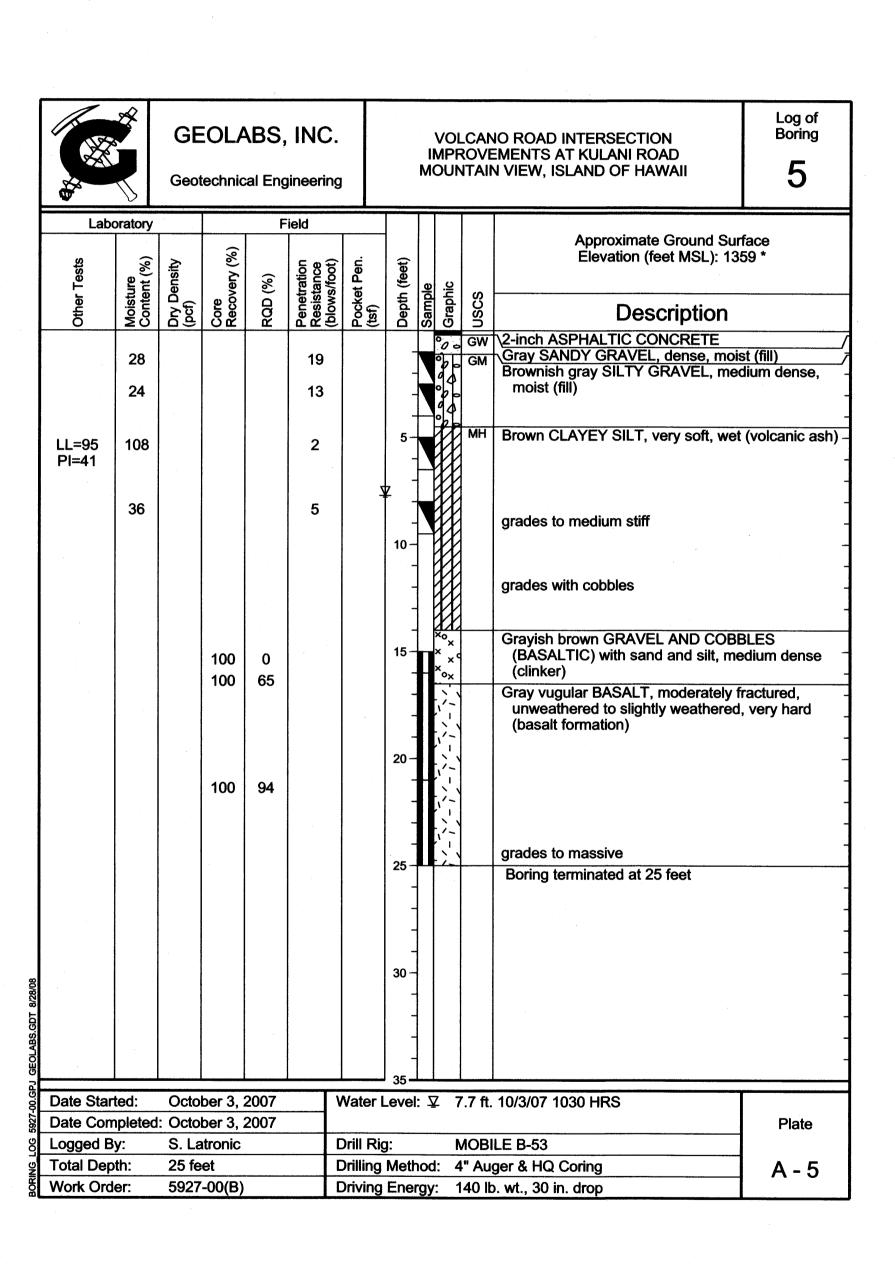
<u>Federal-Aid Project No. HS-STP-011-2(38</u>

Scale: None

Date: November 2010

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HS-STP-011-2(38)	2010	11	141



GEOLABS, Geotechnical Engir							11	MPF	ROVE	IO ROAD INTERSECTION EMENTS AT KULANI ROAD N VIEW, ISLAND OF HAWAII	Log of Boring	
Labe	Laboratory Field		ield						Approximate Ground St	urfaco		
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	ple	hic	တ္	Approximate Ground Su Elevation (feet MSL): 13	
Othe	Mois	Dry ((pcf)	Core	RQD	Pene Resi (blov	Pock (tsf)	Dept	Sample	Graphic	nscs	Description	
									°0 0		2.5-inch ASPHALTIC CONCRETE	:-4 (£11)
			85	13			_		×o×		Gray SANDY GRAVEL, dense, mo Brownish gray GRAVEL AND COB	BLES
			85	13			-		-		(BASALTIC) with sand and silt, do (clinker)	ense, moist
							-	H	,,		Brownish gray vugular BASALT, cle	osely fractured
							5-		\ <u>`</u>		moderately weathered, hard (bas	alt formation)
			100	90			_	Н	- } 		Gray dense BASALT, slightly fractu	ıred
							-		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		unweathered, very hard (basalt fo	ormation)
			·				-	H	\ \ !			
							10 -					
			400	07			-	Н	` . ` .			
			100	87			-	П	\ <u>-</u>			
							_	П	\ \ '-			
							15-		, , , \		grades with some vugs	
							-	П				
			100	73			-		,,,		grades to reddish gray	
							-	II	\ <u>'</u>		g.a.,	
							20		,'-'			
							20 -		,,'\			
							-		·` .		Boring terminated at 21.5 feet	T
							-					
							-					
							25 –					
							_					
						•	_					
							30 -					
							-					
							-					
							-					
· · · · · · · · · · · · · · · · · · ·							35-					
Date Star	ted:	Octo	ber 2, 2	2007	Ιv	Vater I		: Z	Z N	lot E	ncountered	
Date Completed: October 2, 2007												Plate
Logged By: S. Latronic						rill Riç					LE B-53	
Total Depth: 21.5 feet					D	rilling	Meth	od	l: 4	" Au	ger & HQ Coring	A-6

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

BORING LOGS

<u>Volcano Road Intersection and</u>

<u>Drainage Improvements</u>

<u>Federal-Aid Project No. HS-STP-011-2(38</u>)

Scale: None

Date: November 2010

SHEET No. 3 OF 3 SHEETS