GEOLABS, INC.

Geotechnical Engineering

PALI HIGHWAY RESURFACING
VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-101

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											Approximate Ground Surface Elevation (feet): 34 *
											11-inch **ASPHALTIC CONCRETE**
	12	101			52					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	16				7					ML	Brown **SANDY SILT**, medium stiff, moist (volcanic ash)
	30	76			7		5			SP-SM	Dark gray **SAND (BASALTIC)** with a little silt, medium dense, moist (cinder)
											Boring terminated at 6.5 feet
											* Elevations estimated from Topographic Survey Map provided by Wesley R. Segawa & Associates, Inc. on September 11, 2018
							10				
							15				
							20				
							25				

Date Started:	January 14, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 14, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 1
Total Depth:	6.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-102

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											Approximate Ground Surface Elevation (feet): 75.5 *
											6-inch **ASPHALTIC CONCRETE**
	11	101			44					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	31				9					ML	Light brown **SANDY SILT** with a little decomposed gravel, stiff, moist (alluvium)
	21	75			26		5				
											Boring terminated at 6.5 feet
							10				
							15				
							20				
							25				

Date Started:	January 15, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 16, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 2
Total Depth:	6.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-103

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											Approximate Ground Surface Elevation (feet): 191 *
											5-inch **ASPHALTIC CONCRETE**
										GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, dense, moist (base course)
	10	114			27/6"					SM	Tan **SILTY SAND (CORALLINE)** with a little gravel (coralline), medium dense, moist (subbase course)
					+60/3"						
					25/1"						Gray **BASALT**, medium hard to hard (basalt formation)
					50/3"		5				Boring terminated at 5.25 feet
							10				
							15				
							20				
							25				

Date Started:	January 16, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 16, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 3
Total Depth:	5.25 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-104

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 254.5 * **Description**
											5-inch **ASPHALTIC CONCRETE**
	16	110			32					GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	34				13					CH	Brown with gray mottling **SILTY CLAY**, stiff to very stiff, moist (saprolite)
TXUU S_u=1.8 ksf	32	88			19	2.8	5				
	32				23		10				grades to very stiff
	44	74			41	>4.5	15				
	62				5		20			ML	Orangish brown with multi-color mottling **CLAYEY SILT**, medium stiff, moist (saprolite)
											Boring terminated at 21.5 feet
							25				

Date Started:	January 17, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 17, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	
Total Depth:	21.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	A - 4
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-105

Laboratory			Field								Approximate Ground Surface Elevation (feet): 347 *
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											7-inch **ASPHALTIC CONCRETE**
	37	86			26					GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	42				10					CH	Brown **SILTY CLAY**, stiff, moist (alluvium)
LL=60 PI=23 TXUU S_u=0.9 ksf	48	61			9	1.0	5			MH	Brown with multi-color mottling **CLAYEY SILT**, medium stiff, moist (saprolite)
	53				8		10				grades with sand
	51	73			20	4.5	15				grades to stiff
	39				43		20				grades to hard
							25				Boring terminated at 21.5 feet

Date Started:	January 17, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 17, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 5
Total Depth:	21.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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HONOLULU, OAHU, HAWAII

Log of Boring

B-106

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 425.5 * Description
											19-inch **ASPHALTIC CONCRETE**
	52	71			32					GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	53				13					CH	Brown **SILTY CLAY**, stiff, moist (alluvium)
	58	65			19	2.8	5				
											Boring terminated at 6.5 feet
							10				
							15				
							20				
							25				

Date Started:	January 22, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 6
Total Depth:	6.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

B-107

Laboratory			Field								Approximate Ground Surface Elevation (feet): 382 *
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											11-inch **ASPHALTIC CONCRETE**
	38	79			15					GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	39				5					CH	Brown **SILTY CLAY** with a little gravel, medium stiff, moist (alluvium)
	45	71			10	2.0	5			CL	Brown with gray mottling **SILTY CLAY**, medium stiff, moist (saprolite)
	51				5		10				
LL=38 PI=16 TXUU S_u=1.5 ksf	57	71			14	>4.5	15				
	79				5		20				grades with gravel
											Boring terminated at 21.5 feet
							25				

Date Started:	January 17, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 18, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 7
Total Depth:	21.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

B-108

Laboratory			Field								Approximate Ground Surface Elevation (feet): 283.5 *
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											6-inch **ASPHALTIC CONCRETE**
										GC	Brown and gray **CLAYEY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	40	78			26					MH	Brown with gray mottling **CLAYEY SILT**, stiff, moist (saprolite)
	41				9						
	29	83			27		5				
LL=56 PI=15	49				7		10				grades to medium stiff
TXUU S_u=2.0 ksf	54	67			13	3.8	15				
										CH	Brown with multi-color mottling **SILTY CLAY** with a little sand, very stiff, moist (saprolite)
	34				26		20				
											Boring terminated at 21.5 feet
							25				

Date Started:	January 18, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 18, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 8
Total Depth:	21.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-109

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS
	14	115			38					GC
	23				24					CH
					10/0" Ref.		5			
							10			
							15			
							20			
							25			

Approximate Ground Surface Elevation (feet): 218 *

Description

6-inch **ASPHALTIC CONCRETE**

Brown and gray **CLAYEY GRAVEL (BASALTIC)**, medium dense, moist (base course)

Brown **SILTY CLAY** with some gravel (basaltic), stiff, moist (fill)

Gray **BASALT**, medium hard to hard (basalt formation)

Boring terminated at 4 feet

Date Started:	January 24, 2019	Water Level: ▼	Not Encountered
Date Completed:	January 24, 2019		
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)
Total Depth:	4 feet	Drilling Method:	4" Solid Stem Auger & AC Coring
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop

Plate

A - 9

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Log of Boring

B-110

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS
	20	99			50		0			
LL=57 PI=35	16				24					GP CH
	17	84			33		5			MH
							10			
							15			
							20			
							25			

Approximate Ground Surface Elevation (feet): 133.5 *

Description

9-inch **ASPHALTIC CONCRETE**

Dark gray **SANDY GRAVEL (BASALTIC)**, very dense, moist (base course)

Dark gray and orangish tan **SILTY CLAY** with some gravel and cobbles (basaltic), very stiff, moist (fill)

Dark brown with some orangish tan **CLAYEY SILT** with some sand (basaltic), very stiff, moist (alluvium)

Boring terminated at 6.5 feet

Date Started:	January 24, 2019	Water Level: ▽	Not Encountered		Plate
Date Completed:	January 24, 2019				
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2	(Energy Transfer Ratio = 81%)	A - 10
Total Depth:	6.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring		
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop		

BORING_LOG 6782-00(B).GPJ GEOLABS.GDT 4/8/19

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PALI HIGHWAY RESURFACING
VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

B-111

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											Approximate Ground Surface Elevation (feet): 60 *
											10-inch **ASPHALTIC CONCRETE**
	13	102			64					MH	Dark brownish red **CLAYEY SILT** with some cobbles (basaltic), hard, moist (fill)
	30				20					MH	Dark brown and orangish tan **CLAYEY SILT** with some weathered gravel (basaltic), stiff to very stiff, moist (alluvium)
	31	76			21		5				
											Boring terminated at 6.5 feet
							10				
							15				
							20				
							25				

Date Started:	January 25, 2019	Water Level: ▽	Not Encountered	Plate
Date Completed:	January 25, 2019			
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2 (Energy Transfer Ratio = 81%)	A - 11
Total Depth:	6.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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PALI HIGHWAY RESURFACING
VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-101

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 47.5 *
											Description
											3-inch **ASPHALTIC CONCRETE**
											Gray **CONCRETE**
											Boring terminated at 0.33 feet
							5				
							10				

Date Started:	January 14, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 14, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 12
Total Depth:	0.33 feet	Drilling Method:	AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-102

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 66.5 * Description
											10-inch **ASPHALTIC CONCRETE**
	36				24					GP	Brownish gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
										CL	Brown with multi-color mottling **SANDY CLAY**, stiff, moist (saprolite)
											Boring terminated at 2.5 feet
							5				
							10				

Date Started:	January 14, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 14, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 13
Total Depth:	2.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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C-103

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS

Approximate Ground Surface Elevation (feet): 119 *

Description

2-inch **ASPHALTIC CONCRETE**

Gray **CONCRETE**

Boring terminated at 0.25 feet

5

10

Date Started:	January 14, 2019	Water Level: ▼	Not Encountered		Plate
Date Completed:	January 14, 2019				
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK	(Energy Transfer Ratio = 78%)	A - 14
Total Depth:	0.25 feet	Drilling Method:	AC Coring		
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop		

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C-104

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 152.5 * Description
											7-inch **ASPHALTIC CONCRETE**
	12				64					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	15				51					SM	Tan **SILTY SAND (CORALLINE)** with a little gravel (coralline), very dense, moist (subbase course)
										GM	Gray **SILTY GRAVEL (BASALTIC)** with some sand (basaltic), very dense, moist (saprolite)
											Boring terminated at 4.5 feet
							5				
							10				

Date Started:	January 14, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 14, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 15
Total Depth:	4.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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HONOLULU, OAHU, HAWAII

Log of Boring

C-105

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS

Approximate Ground Surface Elevation (feet): 206 *

Description

2-inch **ASPHALTIC CONCRETE**

Gray **CONCRETE**

Boring terminated at 0.25 feet

5

10

Date Started:	January 16, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 16, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 16
Total Depth:	0.25 feet	Drilling Method:	AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

BORING_LOG 6782-00(B).GPJ GEOLABS.GDT 4/8/19

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PALI HIGHWAY RESURFACING
VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-106

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 232 * Description
											7-inch **ASPHALTIC CONCRETE**
	11				49					GM	Brown and gray **SILTY GRAVEL (BASALTIC)**, dense, moist (base course)
	30				19/6" +50/4"					MH	Light brown **CLAYEY SILT** with a little sand, very stiff, moist (alluvium)
											Gray **BASALT**, medium hard (basalt formation)
											Boring terminated at 4 feet
							5				
							10				

Date Started:	January 16, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 16, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 17
Total Depth:	4 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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C-107

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 272 * Description
											6-inch **ASPHALTIC CONCRETE**
	19				22					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	42				31					MH	Light brown **CLAYEY SILT** with a little sand, hard, moist (alluvium)
											Boring terminated at 4 feet
							5				
							10				

Date Started:	January 16, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 16, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 18
Total Depth:	4 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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PALI HIGHWAY RESURFACING
VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-108

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 295.5 * Description
											9-inch **ASPHALTIC CONCRETE**
	14				34					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	44				8					MH	Light brown **CLAYEY SILT** with a little sand, medium stiff, moist (alluvium)
											Boring terminated at 3.75 feet
							5				
							10				

Date Started:	January 22, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 19
Total Depth:	3.75 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-109

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 365 * Description
											2-inch **ASPHALTIC CONCRETE** 7-inch **CONCRETE**
	14				32					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	48				15					MH	Light brown **CLAYEY SILT** with a little sand, stiff, moist (alluvium)
											Boring terminated at 3.75 feet
							5				
							10				

Date Started:	January 22, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 20
Total Depth:	3.75 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-110

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 391 * Description
											7-inch **ASPHALTIC CONCRETE**
	14				39					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	56				22					MH	Light brown **CLAYEY SILT** with a little sand, very stiff, moist (alluvium)
							5				Boring terminated at 4.58 feet
							10				

Date Started:	January 22, 2019	Water Level: ▼ Not Encountered	Plate
Date Completed:	January 22, 2019		
Logged By:	B. Aiu	Drill Rig: CME-45C TRUCK (Energy Transfer Ratio = 78%)	
Total Depth:	4.58 feet	Drilling Method: 4" Solid Stem Auger & AC Coring	A - 21
Work Order:	6782-00(B)	Driving Energy: 140 lb. wt., 30 in. drop	

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VINEYARD BOULEVARD TO WAOKANAKA STREET
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Log of Boring

C-111

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 444.5 * Description
											13-inch **ASPHALTIC CONCRETE**
	23				32					GP	Dark gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	58				15					MH	Dark brownish red with some dark gray **CLAYEY SILT** with some gravel (basaltic), stiff, moist (alluvium)
							5				Boring terminated at 4.6 feet
							10				

Date Started:	January 22, 2019	Water Level: ▽	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2 (Energy Transfer Ratio = 81%)	A - 22
Total Depth:	4.6 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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C-112

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 413 * Description
											16.5-inch **ASPHALTIC CONCRETE**
	7				20					GP	Dark gray **SANDY GRAVEL (BASALTIC)**, medium dense, moist (base course)
	46				19					CH	Dark reddish brown **SILTY CLAY**, very stiff, moist (alluvium)
											Boring terminated at 4.37 feet
							5				
							10				

Date Started:	January 22, 2019	Water Level: ▽	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2 (Energy Transfer Ratio = 81%)	A - 23
Total Depth:	4.37 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

C-113

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 355 * Description
											6-inch **ASPHALTIC CONCRETE**
										GP	Dark gray **SANDY GRAVEL (BASALTIC)**, moist (base course)
	9				21					MH	Dark brownish red **CLAYEY SILT** with some gravel, medium stiff, moist (alluvium)
					7						
					5		5				
LL=53 PI=23	43				5						
											Boring terminated at 7.16 feet
							10				

Date Started:	January 22, 2019	Water Level: ▽	Not Encountered	Plate
Date Completed:	January 22, 2019			
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2 (Energy Transfer Ratio = 81%)	A - 24
Total Depth:	7.16 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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C-114

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS

Approximate Ground Surface Elevation (feet): 325 *

Description

6-inch **ASPHALTIC CONCRETE**

Boring terminated at 0.5 feet

(Note: Coring stopped at bottom of AC layer due to suspicion of underground utility)

5

10

Date Started:	January 23, 2019	Water Level: ▼	Not Encountered		Plate
Date Completed:	January 23, 2019				
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK	(Energy Transfer Ratio = 78%)	A - 25
Total Depth:	0.5 feet	Drilling Method:	AC Coring		
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop		

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VINEYARD BOULEVARD TO WAOKANAKA STREET
HONOLULU, OAHU, HAWAII

Log of Boring

C-115

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 269 * Description
											6.75-inch **ASPHALTIC CONCRETE**
	11				39					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
	39				21					MH	Light brown **CLAYEY SILT** with a little sand, stiff, moist (alluvium)
											Boring terminated at 3.58 feet
							5				
							10				

Date Started:	January 23, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 23, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 26
Total Depth:	3.58 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

C-116

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 238.5 * Description
											6.75-inch **ASPHALTIC CONCRETE**
	9				11					GP	Tan **SANDY GRAVEL (CORALLINE)**, medium dense, moist (base course)
	36				5					CH	Brown **SILTY CLAY** with a little gravel, medium stiff, moist (alluvium)
											Boring terminated at 3.5 feet
							5				
							10				

Date Started:	January 23, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 23, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 27
Total Depth:	3.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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HONOLULU, OAHU, HAWAII

Log of Boring

C-117

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 195 * **Description**
											6-INCH **ASPHALTIC CONCRETE**
	11				26					GP	Dark gray **GRAVEL (BASALTIC)** with a little sand (basaltic), medium dense, moist (base course)
										GM	Light tan **SILTY GRAVEL (CORALLINE)** with some sand (coralline), medium dense, moist (subbase course)
	20				55					SM	Black and orangish tan **SILTY SAND (BASALTIC)** with some weathered basalt gravel, very dense, moist (saprolite)
											Boring terminated at 3.5 feet
							5				
							10				

Date Started:	January 24, 2019	Water Level: ▽	Not Encountered	Plate
Date Completed:	January 24, 2019			
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2 (Energy Transfer Ratio = 81%)	A - 28
Total Depth:	3.5 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

C-118

Laboratory			Field								Approximate Ground Surface Elevation (feet): 177.5 *
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Description
											10-inch **ASPHALTIC CONCRETE**
	7				39					GP	Brown and gray **SANDY GRAVEL (BASALTIC)**, dense, moist (base course)
										SM	Tan **SILTY SAND (CORALLINE)** with a little gravel (coralline), dense, moist (subbase course)
	16				35					SM	Brownish gray **SILTY SAND (BASALTIC)** with some gravel (basaltic), dense, moist (saprolite)
											Boring terminated at 3.87 feet
							5				
							10				

Date Started:	January 24, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 24, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 29
Total Depth:	3.87 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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Log of Boring

C-119

Laboratory			Field							
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS
							0			
	19				16					GP
										MH
	19				17					
							5			
							10			

Approximate Ground Surface Elevation (feet): 99.5 *

Description

7-inch **ASPHALTIC CONCRETE**

Dark gray **GRAVEL (BASALTIC)**, medium dense, moist (base course)

Dark brown **CLAYEY SILT** with some gravel and sand (basaltic), very stiff, moist (alluvium)

Boring terminated at 4.08 feet

Date Started:	January 24, 2019	Water Level: ▽	Not Encountered		Plate
Date Completed:	January 24, 2019				
Logged By:	K. Gerstnecker	Drill Rig:	CME-75DG2	(Energy Transfer Ratio = 81%)	A - 30
Total Depth:	4.08 feet	Drilling Method:	4" Solid Stem Auger & AC Coring		
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop		

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Log of Boring

C-120

Laboratory			Field								
Other Tests	Moisture Content (%)	Dry Density (pcf)	Core Recovery (%)	RQD (%)	Penetration Resistance (blows/foot)	Pocket Pen. (tsf)	Depth (feet)	Sample	Graphic	USCS	Approximate Ground Surface Elevation (feet): 70 * Description
											14-inch **ASPHALTIC CONCRETE**
	12				41					GM	Brownish gray **SILTY GRAVEL (BASALTIC)**, dense, moist (base course)
	33				41					MH	Brown **CLAYEY SILT** with some sand and a little gravel (basaltic), hard, moist (alluvium)
											Boring terminated at 4.17 feet
							5				
							10				

Date Started:	January 24, 2019	Water Level: ▼	Not Encountered	Plate
Date Completed:	January 24, 2019			
Logged By:	B. Aiu	Drill Rig:	CME-45C TRUCK (Energy Transfer Ratio = 78%)	A - 31
Total Depth:	4.17 feet	Drilling Method:	4" Solid Stem Auger & AC Coring	
Work Order:	6782-00(B)	Driving Energy:	140 lb. wt., 30 in. drop	

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