FED. ROAD DIST. NO.	STATE	FEDERAL – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–A311(6)R	2006	81	173

BORING LOG

W.O. 99–3144

BORING NO. B18 (STA 171+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/23/99
SURFACE ELEV. 105.7± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Clayey SILT (ML–CL) – Mottled reddish brown, moist, stiff, with sand.
			9/6"	94	24	
			30/3"			WEATHERED BASALT (WM–WH) – Mottled gray, dense to medium hard.
						Begin NX coring at 4 feet.
5						91% Recovery from 4 to 8 feet. RQD = 53%
						Completely weathered basalt from 7 to 8 feet.
						End NX coring at 8 feet.
10			96/9"	121	9	
			10/No Penetration			
15						End boring at 15 feet.
20						

Plate B18

BORING LOG

W.O. 99–3144

BORING NO. B19 (STA 180+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/23/99
SURFACE ELEV. 96.8± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			36	84	24	Clayey SILT (ML–CL) – Reddish brown, moist, stiff, with sand.
			70/10"	87	30	
5						WEATHERED BASALT (WM–WH) – Gray, medium hard.
			100/8"	103	25	Begin NX coring at 9 feet. 100% Recovery from 9 to 14 feet. RQD = 93%
10						
15						End boring at 14 feet.
20						

Plate B19

BORING LOG

W.O. 99–3144

BORING NO. B20 (STA 187+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/22/99
SURFACE ELEV. 95.8± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			39	81	20	Clayey SILT (ML–CL) – Reddish brown, moist, stiff, with sand.
			60	95	23	Brown color from 3 feet.
5			59	93	28	
10			41	88	31	
						Sandy SILT (ML–CL) – Mottled reddish brown, moist, stiff.
15			49	78	38	
						End boring at 15.5 feet.
20						

Plate B20

BORING LOG

W.O. 99–3144

BORING NO. B21 (STA 200+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/22/99
SURFACE ELEV. 82.3± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Sandy SILT (ML–CL) – Reddish brown, moist, stiff, with gravel.
			24	91	23	Clayey SILT (ML–CL) – Reddish brown, moist, stiff, with sand.
			33	84	27	
5			38	81	42	
10			88/9"	83	34	
						WEATHERED BASALT (WH–WM) – Mottled grayish brown, dense.
15			10/No Penetration			
						End boring at 15 feet.
20						

Plate B21

BORING LOG

W.O. 99–3144

BORING NO. B22 (STA 206+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/22/99
SURFACE ELEV. 78.7± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0						Clayey SILT (ML–CL) – Reddish brown, moist, medium stiff, with sand.
			12	79	27	
5			28	98	29	Stiff from 5 feet.
						WEATHERED BASALT (WC–WH) – Mottled brown, dense.
10			71	94	30	
15			85/9"	94	33	
						End boring at 15 feet.
20						

Plate B22

BORING LOG

W.O. 99–3144

BORING NO. B23 (STA 217+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/22/99
SURFACE ELEV. 63.1± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			26	76	25	Clayey SILT (ML–CL) – Reddish brown, moist, stiff, with sand.
			72	78	23	
5			26	79	24	
10			43	80	33	
						MODERATELY WEATHERED BASALT (WM) – Gray, medium hard.
15						End boring at 15 feet.
20						

Plate B23

Note:

1. *Boring Logs and Locations Reproduced From the "Soils Investigation" Report for Puunene Avenue/Mokulele Highway Widening Project, Puunene, Maui, Hawaii for Sato & Associates, Inc., By Ernest K. Hirata & Associates, Inc., W.O. 99–3144, Dated October 1, 1999.*

2. *The Boring Logs Indicate the Approximate Subsurface Soil Conditions Encountered Only At Those Times and Locations Where Borings Were Made, and May Not Represent Conditions At Other Times and Locations.*

3. *The Boring Logs are for Design Purposes Only, and are Not Intended for Use in Developing Cost Estimates By The Contractor.*

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

7/11/02

PROJ. NO.: M9901.00

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CLIFFORD M. ARAKAWA
LICENSED PROFESSIONAL ENGINEER
No. 1864–C
HAWAII U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

04/30/06
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal – Aid Project No. NH–A311(6)R
Scale: AS NOTED Date: JUNE 2005

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–A311(6)R	2006	82	173

BORING LOG

W.O. 99–3144

BORING NO. B24 (STA 227+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/19/99
SURFACE ELEV. 45.4± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			41	82	18	Sandy SILT (ML–CL) – Reddish brown, slightly moist, stiff.
5			10/No Penetration			WEATHERED BASALT (WH–WM) – Mottled grayish brown, dense to medium hard.
						Begin NX coring at 5 feet. 100% Recovery from 5 to 6 feet. RQD = 100% End NX coring at 6 feet.
10			9/6"	107	16	
			40/4"	Tip Recovery		
			40/3"	Tip Recovery		
15						End boring at 14 feet.
20						

Plate B24

BORING LOG

W.O. 99–3144

BORING NO. B25 (STA 238+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/19/99
SURFACE ELEV. 32.5± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			16	85	15	Silty SAND (SM) – Mottled brown, moist, medium dense, with gravel.
			14	79	21	Sandy SILT (ML–CL) – Mottled brown, moist, medium stiff.
5			10	94	15	
10			7	83	31	Silty SAND (SM) – Mottled brown, moist, medium dense.
15			22	82	8	
						End boring at 15.5 feet.
20						

Plate B25

BORING LOG

W.O. 99–3144

BORING NO. B26 (STA 247+50) DRIVING WT. 140 lb. DATE OF DRILLING 2/19/99
SURFACE ELEV. 32.8± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			18	98	21	Silty SAND (SM) – Mottled brown, slightly moist, medium dense.
			17	96	6	
5			12	95	11	
						Clayey SILT (ML–CL) – Mottled brown, moist, medium stiff, with sand.
10			2	83	35	Soft at 9 feet.
15			34	76	44	Stiff from 14 feet.
			32	106	12	Silty sand at 16 feet.
			35	87	31	
20						End boring at 19.5 feet.

Plate B26

BORING LOG

W.O. 99–3144

BORING NO. B27 (STA 250+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/19/99
SURFACE ELEV. 32.1± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			20	78	18	Sandy SILT (ML–CL) – Brown, moist, medium stiff, with gravel. Cobble from 0.5 to 1 foot.
			13	96	15	
5			13	90	17	
10			19	87	37	Clayey silt at 9 feet.
15			37	96	14	Stiff at 14 feet.
						End boring at 15.5 feet.
20						

Plate B27

BORING LOG

W.O. 99–3144

BORING NO. B28 (STA 256+00) DRIVING WT. 140 lb. DATE OF DRILLING 2/19/99
SURFACE ELEV. 32.4± DROP 30 in. WATER LEVEL None

DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			38	98	13	Silty SAND (SM) – Mottled brown, moist, dense, with gravel.
5			9	80	22	Medium dense from 4 feet.
			13	99	12	
10			9	79	14	Sandy SILT (ML–CL) – Brown, moist, medium stiff.
			25/No Penetration			Silty SAND (SM) – Brown, moist, medium dense.
			10/6"	104	17	
15						End boring at 14.5 feet.
20						

Plate B28

Note:

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BORING LOGS

MOKULELE HIGHWAY WIDENING
Maui Humane Society
To
Vicinity of Kolaloa Bridge
Federal – Aid Project No. NH–A311(6)R

Scale: AS NOTED Date: JUNE 2005

SHEET No. 2 OF 2 SHEETS