					В	ORING LOG	W.O	99-3144
	g no. <u>e</u> Nce elev					. 140 lb. 30 in.	_ DATE OF DRILLING _ WATER LEVEL	
D E P T H	RAP	M	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	C	DESCRIPTION	
0 —			38	98	13	Silty SAND (SM) — M gravel.	ottled brown, moist,	dense, wit
- 5		The state of the s	9	80	22	Medium dense fron	n 4 feet.	
			13	99	12			•
-10			9	79	14	Sandy SILT (ML—CL)	– Brown, moist, me	dium stiff.
			25/No	Penetrati	on	Silty SAND (SM) - B	rown, moist, medium	dense.
			10/6"	104	17	End boring at 14.5 fe		
-15					Transmission of the second of	End boring at 14.5 it	set.	
······································								
-20-		deritation de la company de la						
		availmer viralistis stratistis (stratistis)						
· · · · · · · · · · · · · · · · · · ·	The state of the s							
-25-	Portugue de la companya de la compan							
-30				***************************************				Plate B2

				В	ORING LOG	W.O. <u>99-3144</u>
BORING NOI	<u> </u>	(STA 27) 22.7:	5+50) C	ORIVING WT	. <u>140 lb.</u> 30 in.	DATE OF DRILLING 2/18/99 WATER LEVEL None
D G R P A T P H	Ş	BLOWS PER FOOT	DRY DENSITY (PCF)			DESCRIPTION
0					Clayey SILT (ML-CL) and gravel.	— Brown, moist, stiff, with sand
		34	99	17		
5		40	96	29		
		25/6"	96	20	MODERATE! Y WEATH	ERED BASALT (WM) — Gray, hard
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					MODENAILL MEATH	ENED DAGAET (HIM) - GRUY, HURU
-10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1					Begin NX coring of 100% Recovery from RQD = 100%	at 10 feet. om 10 to 15 feet.
-15					End boring at 15 fe	et.
-20-						
-25 -			Миниску			
		•				.
-30-						Plate B31

					В	ORING LOG	W. O. <u>99–3144</u>
BORIN	G NO	B29	(STA 26	6+00)	DRIVING WT	. 140 lb.	DATE OF DRILLING _2/18/99
SURFA			27.6	<u> </u>	DROP	SU In.	WATER LEVELNone
DEPTH	G R A P H	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	ı	DESCRIPTION
- 0						Silty SAND (SM) - M	lottled brown, moist, dense.
			35	93	21		
			28	91	14		
- 5 — ——			14	95	12	Medium dense from	m 5 feet.
· · · · · · · · · · · · · · · · · · ·		***************************************	16	98	7		
-10			14	76	41	Sandy SILT (ML-CL) with gravel.	- Brown, moist, medium stif
,							
-15			4/6" 28/6"	79	47	Stiff at 15 feet.	
						End boring at 15.5 f	feet.
	<u> </u>						
	<u> </u>						
	-						
-20					A-400-000-000-000-000-000-000-000-000-00		
					Average Averag		
	- Landana						
-25	***************************************						

	-						
-30-							Plate B

							W.O. <u>99-3144</u> DATE OF DRILLING <u>2/18/99</u>
SURFA	ICE ELE	.V. <u> </u>	<u> 15.8</u> :	<u> </u>	DROP	<u>30 in.</u>	WATER LEVEL None
DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DE	SCRIPTION
0 —			44	89	15	Sandy SILT (ML-CL) - gravel.	Brown, moist, stiff, with
			40/6"	61	50		
- 5 -						Begin NX coring at 89% Recovery from RQD = 80%	BASALT (WS) - Gray, hard. 5 feet. 5 to 10 feet.
-10							
						95% Recovery from RQD = 95%	TO to 15 feet.
-15	[17]17]17]					End boring at 15 feet.	
				ventur de entre de la constanta de la constant	TANANA AMARAN MANANA MA	·	
				enconnect to the control of the cont			
20-							
-25							
				The state of the s			
				tin to the state of the state o	***************************************		

					В	ORING LOG W.O. 99-3144
			(STA 27 25.0	<u>0+00)</u> D	RIVING WT	. 140 lb. DATE OF DRILLING 2/18/99 30 in. WATER LEVEL None
DEPTH	G R A P H	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0 —			16	83	14	Sandy SILT (ML-CL) — Brown, moist, medium stiff.
			9	76	21	
5 —			12	77	17	Boulder from 5 to 6 feet.
10-	0		47	89	17	Cobble from 8 to 8.5 feet. Stiff from 9 feet.
			30	96	25	
15-			20	95	24	
						End boring at 15.5 feet.

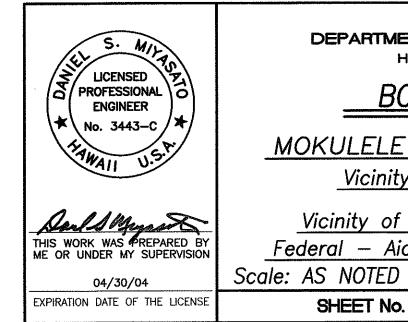
FED. ROAD DIST. NO.	STATE	FEDERAL — AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(7)	2004	64	136

Note:

 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.

Plate B30

- 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.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

BORING LOGS

MOKULELE HIGHWAY WIDENING

<u>Vicinity of Kolaloa Bridge</u> To <u>Vicinity of Kealia Pond Driveway</u> Federal — Aid Project No. NH—A311(7)

Date: August 2003 SHEET No. 1 OF 2 SHEETS

64

					E	BORING LOG W.O. 99-3144
BORING SURFA	g no .ce ele	<u>B33</u> V	(STA 29 14.7	9+00) [E [RIVING W	T. 140 lb. DATE OF DRILLING 2/17/99 30 in. WATER LEVEL None
DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION
0			35	85	29	Silty SAND (SM) — Brown, moist, dense, with grave
			10/No	Penetrati	on	SLIGHTLY WEATHERED BASALT (WS) - Gray, hard.
- 5						Begin NX coring at 5 feet. 100% Recovery from 5 to 10 feet. RQD = 100%
-10-						100% Recovery from 10 to 15 feet. RQD = 85%
-15	[<u>_</u>					End boring at 15 feet.
XX						
-20-		VARIABLEANCE				
-25		***************************************				

-30						Plate B3

BORING NO. <u>B36 (STA 324+00)</u> **DRIVING WT.** <u>140 lb.</u>

3/6" 78 10/No Penetration

81

DATE OF DRILLING 2/17/99
WATER LEVEL 12.7 feet

Plate B36

DESCRIPTION

Sandy SILT (ML-CL) - Brown, moist, medium stiff.

Firm to medium stiff from 3 feet. Boulder from 3.5 to 4.5 feet.

End boring at 15.5 feet.

					В	ORING LOG	W.O. <u>99-314</u>
BORIN SURF#	g no Nce ele	<u>B34</u> V	(STA 30 16.4:	7+00) ±	DRIVING WT	. 140 lb. 30 in.	DATE OF DRILLING 2/17/9 WATER LEVEL None
DEPTH	GRAPH	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	D	ESCRIPTION
-0-							- Brown, moist, medium stif
						SLIGHTLY WEATHERED	BASALT (WS) — Gray, hard.
- 5 -						Begin NX coring at 98% Recovery from RQD = 65%	5 feet. 5 to 10 feet.
-10						100% Recovery from RQD = 100%	n 10 to 15 feet.
-15 						End boring at 15 feet	•
-20							
OF							
25							
-30							Plate B

					E	ORING LOG	W.O. <u>99-3</u>
			5 (STA 31 8.8:	8+00) [± [ORIVING WT	. 140 lb. DATE OF DR 30 in. WATER LEVE	RILLING <u>2/17</u> :L <u>7.5 fee</u>
DEPTH	G R A P H	SAMPLE	BLOWS PER FOOT	DRY DENSITY (PCF)	MOIST. CONT. (%)	DESCRIPTION	
— O —						Silty SAND (SM) — Brown, moist, n	nedium dense
			21	84	10		
- 5 -			15	85	15	Sandy SILT (ML-CL) — Brown, mois	st, medium s
Ţ							
——————————————————————————————————————			17	82	23		

			2	59	68	Clayey SILT (ML) — Gray, soft.	
—15—			3	lip Ke	covery	End boring at 15.5 feet.	**************************************
.,.						and borning at 1000 1000	
20							
—25 —							

FED. ROAD DIST. NO.	STATE	FEDERAL — AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(7)	2004	65	138

٨	lo	+	Δ	•
1 V	ľ	Ł		•

- 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.

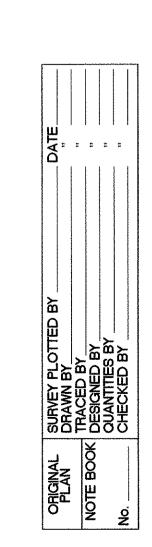
LICENSED PROFESSIONAL ENGINEER No. 3443-C	
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION 04/30/04	5
EXPIRATION DATE OF THE LICENSE	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION BORING LOGS

MOKULELE HIGHWAY WIDENING

Vicinity of Kolaloa Bridge

To Vicinity of Kealia Pond Driveway Federal - Aid Project No. NH-A311(7) Date: August 2003 Scale: AS NOTED



SHEET No. 2 OF 2 SHEETS 65