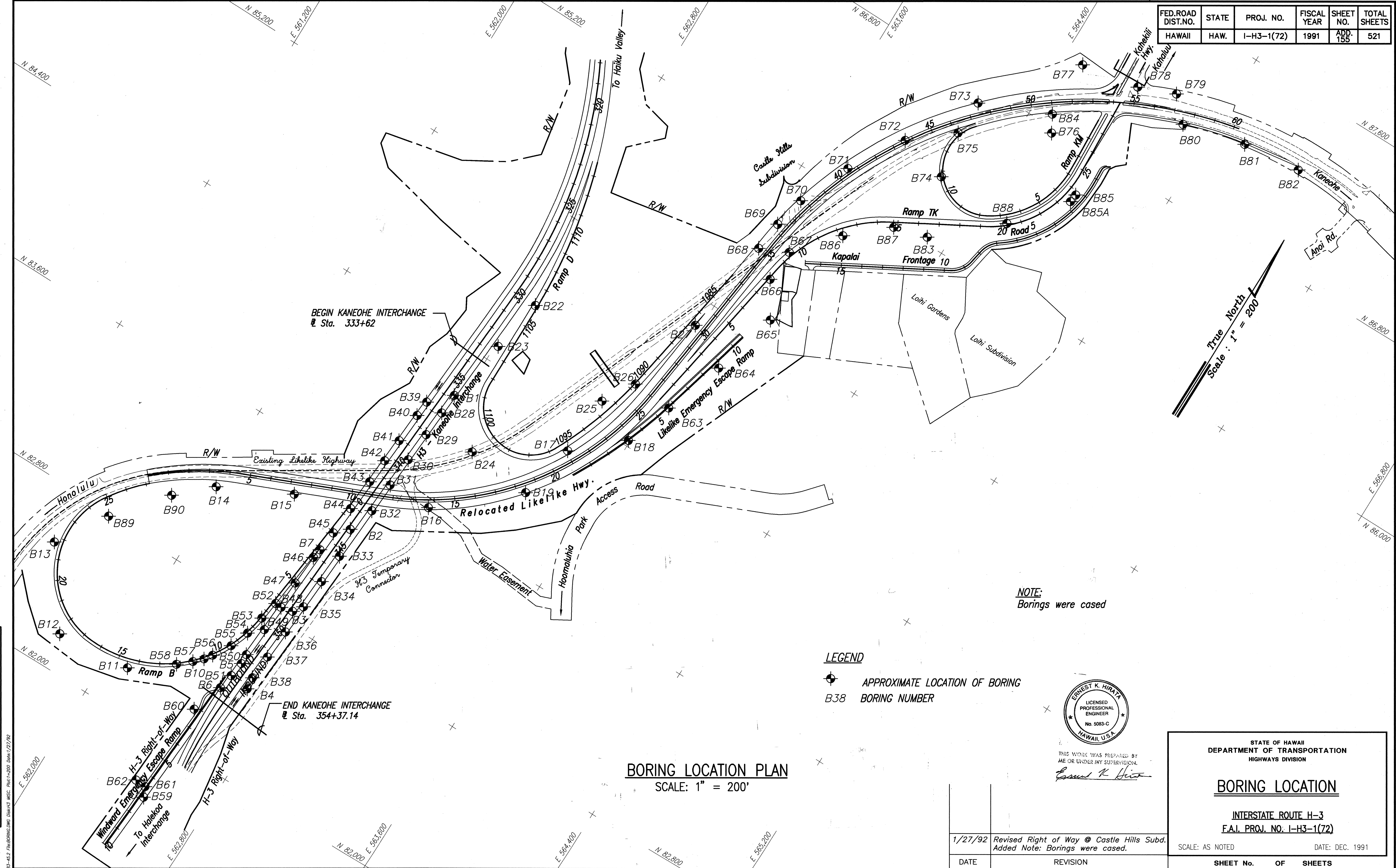


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	ADD. 155	521

DATE	1/27/92
DESIGNED BY	ERNEST K. HIRATA
TRACED BY	ERNEST K. HIRATA
NOTED BY	ERNEST K. HIRATA
QUANTITIES BY	ERNEST K. HIRATA
NO.	155



True North
Scale : 1" = 200'

NOTE:
Borings were cased

LEGEND
 • APPROXIMATE LOCATION OF BORING
 B38 BORING NUMBER



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Ernest K. Hirata

BORING LOCATION PLAN
SCALE: 1" = 200'

1/27/92	Revised Right of Way @ Castle Hills Subd. Added Note: Borings were cased.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOCATION

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. OF SHEETS

DATE

SURVEY PLOTTED BY

PLAN

DESIGNED BY

NOTED BY

CHECKED BY

No.

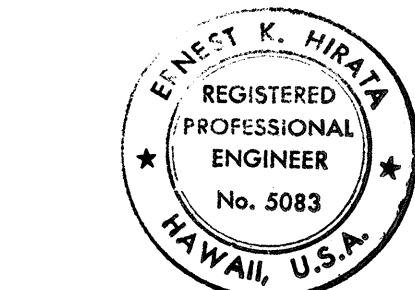
BORING LOG						
W.O. 90-1790.3						
BORING NO. B1 DRIVING WT. 140 lb. DATE OF DRILLING 2-28-91						
SURFACE ELEV. 350.4+ DROP 30 in. WATER LEVEL @ 110 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
12			12		55	
5				62	61	
12			12		52	
9			9		54	
15				67	51	
10			10		58	
15			15		61	
25				60	63	
13			13		34	
12			12		54	
35				67	57	
11			11		50	
45				62	63	
9			9		65	
9			9		73	
Clayey SILT - Mottled brown, moist, stiff, with weathered rock fragments.						

BORING NO. B1 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-28-91						
SURFACE ELEV. 350.4+ DROP 30 in. WATER LEVEL @ 110 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65				58	58	
14			14		65	
61				61	59	
18			18		61	
61				61	62	
15			15		45	
58				58	64	
16			16		40	
58				58	70	
20			20		27	
No Recovery						
30			30		39	

BORING NO. <u>B1 (Cont.)</u>			DRIVING WT. <u>140 lb.</u>		DATE OF DRILLING <u>2-28-91</u>		
SURFACE ELEV. <u>350.4 ±</u>			DROP <u>30 in.</u>		WATER LEVEL <u>@ 110 ft.</u>		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASS. TEXTURE	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120							
125				60	66		
130			26		47		
135			56	No Recovery			
140							End boring at 135.5 feet.
145							
150							

BORING LOG						
W.O. 89-1790						
BORING NO. B2 DRIVING WT. 140 lb. DATE OF DRILLING 2-14-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL None						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
47			47	86	34	
17			17	69	36	
31			31	105	15	
11			11	81	29	
48				48	66	
13			13	65	64	
Clayey SILT - Dark grayish brown, moist, stiff, with weathered rock fragments.						
Grading to mottled orange brown color and medium stiff from 17 feet.						

BORING NO. B2 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-14-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL None						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
11			11	61	68	
61				61	59	
22			22	65	61	
64				64	55	
66				66	41	
10			10		51	
68				68	42	
7			7		72	
62				62	55	
5			5		74	
66				66	44	
9			9		74	



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Ernest K. Hira

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 2 OF 41 SHEETS

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

44-80-452 Rev. 1-71

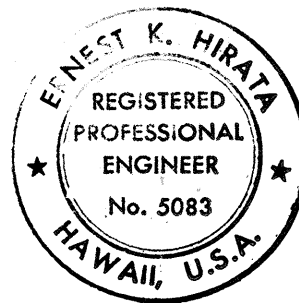
BORING LOG						
W.O. 89-1790						
BORING NO. B2 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-20-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL None						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95					70	43
100			40		54	
105					72	41
110			23			
115					61	42
120			56		61	
125			51/8"	No Recovery		
130					71	44
135			50/5"	No Recovery		
140						
145						
150						
COMPLETELY WEATHERED ROCK - Mottled brown, moist, dense.						
Begin NX coring from 136.5 feet. 37% Recovery from 136.5 to 141.5 feet. RQD = 0%						
End boring at 141.5 feet.						

BORING LOG						
W.O. 89-1790						
BORING NO. B3 DRIVING WT. 140 lb. DATE OF DRILLING 5-9-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 4.6 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			6		38	
10			68		36	
15			13		38	
20			16		60	
25			19		51	
30			24	62	62	
35			10		58	
40			78		28	
45			9		78	
50					63	57
55			26		58	
60					60	64
Clayey SILT - Brown, moist, medium stiff, with weathered rock fragments.						
Cobbles at 7 feet.						
Grading stiff and mottled brown color from 24 feet.						

BORING LOG						
W.O. 89-1790						
BORING NO. B3 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 5-10-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 4.6 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65			26		61	
70					56	70
75			105/8"		35	
80			40	77	41	
85			44		61	
90			67/8"	89	30	
95						
100						
105						
110						
115						
120						
COMPLETELY WEATHERED ROCK - Grayish brown, dense.						
Begin NX coring from 90.5 feet. 87% Recovery from 90.5 to 95.5 feet. RQD = 22%						
100% Recovery from 95.5 to 100.5 feet. RQD = 20%						
75% Recovery from 100.5 to 105.5 feet. RQD = 7%						
50% Recovery from 105.5 to 110.5 feet. RQD = 0%						
End boring at 110.5 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	157	531

BORING LOG						
W.O. 89-1790						
BORING NO. B4 DRIVING WT. 140 lb. DATE OF DRILLING 2-21-90						
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 43 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			9		60	
10					68	52
15			10		53	
20			10		37	
25					63	61
30			14		38	
Clayey SILT - Brown, moist, medium stiff, with weathered rock fragments.						
Grading to mottled orange brown color from 7 feet.						



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Ernest K. Hirata

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
BORING LOGS
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)
SCALE: AS NOTED DATE: DEC. 1991
SHEET No. 3 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	158	591

BORING LOG W.O. 89-1790

BORING NO. B4 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-21-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 43 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30			8		58		
35				61	59		
40			6		55		
45			4		60		
50				59	69		
55							
60			6		62		
65			13		63		
70				57	72		Grading stiff from 72 feet.
75			26		52		
80			18 1/2"		60		
85				59	66		
90			19		59		

BORING NO. B4 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-24-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 43 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90			14		59		
95				63	61		
100				59	68		
105							
110				53	58		Begin NX coring from 110 feet. 33% Recovery from 110 to 115 feet. RQD = 0%
115							End NX coring at 115 feet.
120				58	64		
125							
130				75	33		COMPLETELY WEATHERED ROCK - Mottled orange brown, dense.
135			65		36		
140			21				Grading to mottled gray color from 139 feet.
145							No Recovery
150			61				

BORING NO. B4 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 3-5-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 43 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
150							
155			53				
160							End boring at 155.5 feet.
165							
170							
175							
180							

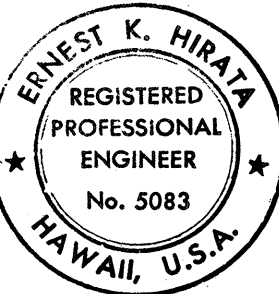
BORING LOG W.O. 89-1790

BORING NO. B5 DRIVING WT. 140 lb. DATE OF DRILLING 2-20-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Dark brown, moist, stiff.
5			35	66	61		
10			21	67	58		Grading with weathered rock fragments and to mottled orange brown color from 6.5 feet.
15				51	62		
20			41	74	51		
25			36	74	52		
30				55	59		

BORING NO. B5 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-20-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30			14	59	69		
35				55	62		
40							End boring at 38 feet.
45							
50							
55							
60							



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Ernest K. Hira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 4 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	159	521

BORING NO. B10 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 5-4-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0							
10			10		40		
20					63	60	
30			12		59		
40					67	52	
50			10		70		
60					64	58	
70			10		52		
80					63	57	
90			13		32		
100			25		43		
110			13		52		
120					No Recovery		



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Ernest K. Hirao

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 5 OF 41 SHEETS

BORING LOG W.Q. 89-1790
BORING NO. B10 DRIVING WT. 140 lb. DATE OF DRILLING 4-26-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0							
5			13		58		
10					62	59	
15			14		52		
20					58	58	
25			9		42		
30					58	64	
35			9		57		
40					61	59	
45			19		53		
50					61	61	
55			16		47		
60					62	62	

BORING LOG W.Q. 89-1790
BORING NO. B7 DRIVING WT. 140 lb. DATE OF DRILLING 2-12-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 18 ft

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0							
5			19		72	50	
10					40	54	
15			17		66	58	
20			26		65	60	
25					51	67	
30			14		61	66	
35			13		54	85	
40					48	74	
45			11		59	73	
50			10		No Recovery		
55					55	60	
60							

BORING LOG W.Q. 89-1790
BORING NO. B6 DRIVING WT. 140 lb. DATE OF DRILLING 2-18-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0							
5			24		71	50	
10					65	60	
15					58	63	
20			14		62	60	
25			16		70	49	
30					55	59	
35					64	56	
40					55	63	
45							
50							
55							
60							

SURVEY PLOTTED BY _____ DATE _____

ORIGINAL PLAN _____

DESIGNED BY _____

NOTED BY _____

CHECKED BY _____

No. _____

Adopted 4-2-79

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	160	571

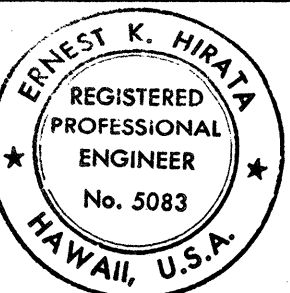
BORING LOG						
W.O. 89-1790						
BORING NO. B10 (Cont.)	DRIVING WT. 140 lb.	DATE OF DRILLING 5-7-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
-120			63	57		
-125		12	51			
-130			65	55		
-135		12	48			
-140			58	66		
-145		27	48			
-150			57	58		
-155		39	No Recovery			
-160			64	47		
-165		50/6"	65	40		
-170		50/5"				
-175		58/3"				
-180						
Grading stiff from 143 feet.						
COMPLETELY WEATHERED ROCK - Mottled grayish brown, moist, dense.						
Begin NX coring from 168.5 feet. 90% Recovery from 168.5 to 173.5 feet. RQD = 13%						
End boring at 173.5 feet.						

BORING LOG						
W.O. 89-1790						
BORING NO. B11	DRIVING WT. 140 lb.	DATE OF DRILLING 5-16-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH	11	39		
-5			69	37		
-10		6	44			
-15			71	35		
-20		6	45			
-25			67	46		
-30		19	52			
-35			63	51		
-40		18	43			
-45			69	38		
-50		11	50			
-55						
-60						
Clayey SILT - Mottled grayish brown, moist, medium stiff, with weathered rock fragments.						
Grading stiff from 29 feet.						
End boring at 50.5 feet.						

BORING LOG						
W.O. 89-1790						
BORING NO. B12	DRIVING WT. 140 lb.	DATE OF DRILLING 5-22-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH	24	26		
-5			21	18		
-10						
-15			43	22		
-20			No Penetration			
-25		7	68	54		
-30			59	67		
-35		9	71			
-40			62	64		
-45		13	50			
-50			64	56		
-55						
-60						
Clayey SILT - Dark brown, moist, stiff, with weathered rock fragments.						
Grading with numerous cobbles and boulders from 7.5 feet.						
Grading to mottled orange brown color and medium stiff from 24 feet.						
End boring at 50 feet.						

BORING LOG						
W.O. 89-1790						
BORING NO. B13	DRIVING WT. 140 lb.	DATE OF DRILLING 5-24-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL @ 30 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
-5			10	33		
-10			78	36		
-15			10	39		
-20			68	40		
-25			13	39		
-30			77	42		
-35			22	37		
-40			102	45		
-45			5	63		
-50			97	59		
-55			17	44		
-60						
Clayey SILT - Mottled orange brown, moist, medium stiff, with trace of sand.						
Grading with weathered rock fragments from 24 feet.						
End boring at 50.5 feet.						

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hirt

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 6 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	161	581

BORING LOG W.O. 89-1790

BORING NO. B14 DRIVING WT. 140 lb. DATE OF DRILLING 5-29-90
SURFACE ELEV. 30 in. DROP WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Brown, moist, medium stiff, with weathered rock fragments.
6					40		
8					43		
10			69		50		Grading to mottled orange brown color from 9 feet.
15			7		48		
20			68		47		
25			8		37		
30			67		53		
35			9		38		
40			74		41		
45			9		61		
50			73		37		
55			10		56		
60			72		35		End boring at 61 feet.

BORING LOG W.O. 89-1790

BORING NO. B15 DRIVING WT. 140 lb. DATE OF DRILLING 6-1-90
SURFACE ELEV. 30 in. DROP WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Mottled orange brown, moist, medium stiff.
6			60		59		
20					47		
15			85		8		Grading with weathered rock fragments from 12 feet.
5					53		
20			69		40		
25			9		56		
30			62		54		
35			11		54		
40			63		49		
45			12		70		
50			72		24		
55			13		44		End boring at 59 feet.
60							

BORING LOG W.O. 89-1790

BORING NO. B16 DRIVING WT. 140 lb. DATE OF DRILLING 6-7-90
SURFACE ELEV. 30 in. DROP WATER LEVEL None

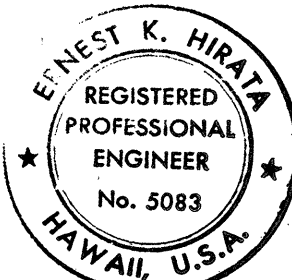
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Mottled orange brown, moist, medium stiff to stiff, with weathered rock fragments.
6			18		41		
5					80		
10			9		41		
15			66		45		
20			10		44		
25			73		34		
30			10		42		
35			75		36		
40			14		48		
45			68		44		
50			15		47		
55			80		24		
60			18		36		End boring at 61 feet.

BORING LOG W.O. 89-1790

BORING NO. B17 DRIVING WT. 140 lb. DATE OF DRILLING 3-28-90
SURFACE ELEV. 30 in. DROP WATER LEVEL @ 26.5 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Dark brown, moist, firm to medium stiff, with weathered rock fragments.
6					82	28	
10					43		
15					74	37	
20					30		
25			4		51		Grading firm from 24 feet.
30					No Recovery		
35			12		48		
40					No Recovery		
45			12		No Recovery		
50			6		42		
55					53	38	
60			9		37		

ORIGINAL PLAN	DATE
NO. 1	
NO. 2	
NO. 3	
NO. 4	
NO. 5	
NO. 6	
NO. 7	
NO. 8	
NO. 9	
NO. 10	
NO. 11	
NO. 12	
NO. 13	
NO. 14	
NO. 15	
NO. 16	
NO. 17	
NO. 18	
NO. 19	
NO. 20	
NO. 21	
NO. 22	
NO. 23	
NO. 24	
NO. 25	
NO. 26	
NO. 27	
NO. 28	
NO. 29	
NO. 30	
NO. 31	
NO. 32	
NO. 33	
NO. 34	
NO. 35	
NO. 36	
NO. 37	
NO. 38	
NO. 39	
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NO. 41	
NO. 42	
NO. 43	
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NO. 52	
NO. 53	
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NO. 55	
NO. 56	
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NO. 59	
NO. 60	
NO. 61	
NO. 62	
NO. 63	
NO. 64	
NO. 65	
NO. 66	
NO. 67	
NO. 68	
NO. 69	
NO. 70	
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NO. 88	
NO. 89	
NO. 90	
NO. 91	
NO. 92	
NO. 93	
NO. 94	
NO. 95	
NO. 96	
NO. 97	
NO. 98	
NO. 99	
NO. 100	



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Ernest K. Hiraoka

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 7 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	162	521

BORING LOG W.O. 90-1790.3

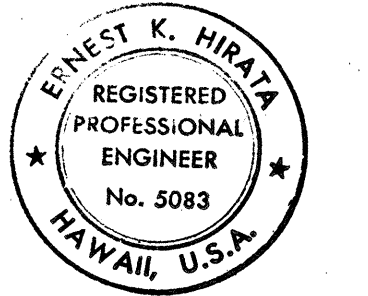
BORING NO. B17 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-28-90					
SURFACE ELEV.		DROP 30 in.		WATER LEVEL @ 26.5 ft.					
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASS. TEXTURE	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION		
60									
65								60	56
70								No Recovery	
75								No Recovery	
80								68	51
85								64	59
90								No Recovery	
95								No Recovery	
100								62	61
105								63	55
110								66	48
115								65	50
120	No Recovery								

BORING NO. _____		B17 (Cont.)		DRIVING WT. _____		140 lb.		DATE OF DRILLING _____		4-6-90	
SURFACE ELEV. _____				DROP _____		30 in.		WATER LEVEL _____		@ 26.5 ft.	
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION				
-120											
-125	□			67	48						
-130	■		8		59						
-135	□			No Recovery							
-140	■		36		63						
-145	□			No Recovery			Grading stiff from 138 feet.				
-150	⊗		54	67	55						
							End boring at 150.5 feet.				

BORING LOG W.O. 89-1790

BORING NO. B18		DRIVING WT. 140 lb.		DATE OF DRILLING 4-11-90			
SURFACE ELEV.		DROP 30 in.		WATER LEVEL @ 17 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH		68	36		Clayey SILT - Mottled dark brown, moist, firm to medium stiff, with weathered rock fragments.
5				62	52		
10			10		57		
				65	44		Grading firm from 11 feet.
			5		50		
15				62	52		
							
			10		60		
20				66	46		
25				67	45		
			3		56		
30				62	48		

BORING NO. B18 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-11-90				
SURFACE ELEV.		DROP 30 in.		WATER LEVEL @ 17 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
30			8		66		Grading to mottled yellowish brown color from 49 feet.	
35				68	42			
40				67	43			
45				65	48			
50				64	49			
55				65	50			
60				No Recovery				
				61	53			
65				65	46			
70				65	49			
75				66	47			
80			12		47			
85			14		41			
								End boring at 85.5 feet.
90								



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Ernest K. Hira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 8 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	163	571

BORING LOG

W.Q. 89-1790

BORING NO. B19 DRIVING WT. 140 lb. DATE OF DRILLING 6-6-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 53.0 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Mottled orange brown, moist, medium stiff, with weathered rock fragments.
16			63		45		
6					56		
71					41		
13					43		
75					36		
11					33		
70					42		
19					52		
71					37		
11					63		
102					42		

BORING NO. B19 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 6-7-90
SURFACE ELEV. DROP 30 in. WATER LEVEL @ 53.0 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			7		63		
62							End boring at 62 feet.

BORING LOG

W.Q. 90-1790.2

BORING NO. B22 DRIVING WT. 140 lb. DATE OF DRILLING 7-8-91
SURFACE ELEV. 369.6± DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH						Clayey SILT - Brown, moist, medium stiff, with basalt gravel and cobbles.
11					50		
72					46		Grading to mottled orange brown color from 5 feet.
7					57		
65					51		
12					50		
71					47		
29							Boulder at 29 feet.
29							End boring at 29 feet.
50							50/No Penetration

BORING LOG

W.Q. 90-1790.2

BORING NO. B23 DRIVING WT. 140 lb. DATE OF DRILLING 7-16-91
SURFACE ELEV. 342± DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH		85/11"	116	9		Clayey SILT - Brown, moist, medium stiff, with basalt gravel and cobbles.
9					40		Grading to mottled gray color and stiff from 2 feet.
20					37		
8					49		
18					58		Grading with completely weathered rock fragments from 19 feet.
11					54		
63					64		End boring at 30.5 feet.

BORING LOG

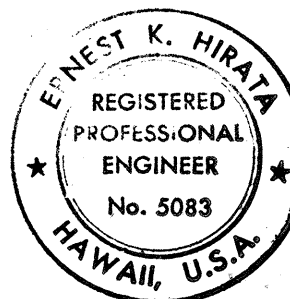
W.Q. 89-1790

BORING NO. B24 DRIVING WT. 140 lb. DATE OF DRILLING 6-18-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	MH		38		7		FILL - Silty clay with gravel, grayish brown, slightly moist, medium dense.
71	MH				49		Clayey SILT - Mottled brown, moist, medium stiff to stiff, with trace of weathered rock fragments.
11					34		
57					43		
12					47		
73					35		
10					48		

BORING NO. B24 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 6-18-90
SURFACE ELEV. DROP 30 in. WATER LEVEL None

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30							
76					31		
15					49		
76					26		
15					52		Grading with weathered rock fragments from 49 feet.
75					30		
59							End boring at 61 feet.



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Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 2 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	164	571

BORING LOG							W.Q.
BORING NO. B25							89-1790
DRIVING WT. 140 lb.							DATE OF DRILLING 4-17-90
SURFACE ELEV. 30 in.							WATER LEVEL @ 45.8 ft.
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, medium stiff, with weathered rock fragments.
9			21				
63			42				
9			37				
64			48				
18			40				
66			48				
8			36				
63			44				
16			33				
55			61				
12			41				
68			41				
9			41				
60			60				
10			39				
62			49				
16			28				
75			26				
5			63				
59			66				

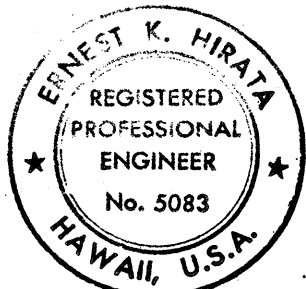
BORING LOG							W.Q.
BORING NO. B25 (Cont.)							89-1790
DRIVING WT. 140 lb.							DATE OF DRILLING 4-18-90
SURFACE ELEV. 30 in.							WATER LEVEL @ 45.8 ft.
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			7	45	61		Grading to mottled orange brown color from 60 feet.
65							
5			56				Grading firm from 67 feet.
55			74				
5			55				
61			60				
End boring at 78.5 feet.							

BORING LOG							W.Q.
BORING NO. B26							89-1790
DRIVING WT. 140 lb.							DATE OF DRILLING 6-8-90
SURFACE ELEV. 30 in.							WATER LEVEL @ 31.3 ft.
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Brown, moist, medium stiff, with weathered rock fragments.
10			25				
63			54				Grading to mottled orange brown color from 5 feet.
12			32				
74			29				
12			31				
61			54				
9			62				

BORING LOG							W.Q.
BORING NO. B26 (Cont.)							89-1790
DRIVING WT. 140 lb.							DATE OF DRILLING 6-12-90
SURFACE ELEV. 30 in.							WATER LEVEL @ 31.3 ft.
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
59			61				
4			63				Grading with soft dark gray organic matter at 39 feet.
64			55				
5			123				
72			67				
8			68				Grading to mottled orange brown color and stiff from 60.5 feet.
68			61				
9			68				
End boring at 71 feet.							

BORING LOG							W.Q.
BORING NO. B27							89-1790
DRIVING WT. 140 lb.							DATE OF DRILLING 6-13-90
SURFACE ELEV. 30 in.							WATER LEVEL @ 17.0 ft.
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled gray, moist, stiff, with weathered rock fragments.
19			41				
57			64				
9			47				Grading medium stiff from 9 feet.
55			70				
5			68				
53			78				Grading to mottled orange brown color from 24 feet.
6			55				

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



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Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 10 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	165	581

BORING LOG						
BORING NO. B27 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 6-14-90		
SURFACE ELEV. 350.2±		DROP 30 in.		WATER LEVEL @ 17.0 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35			54	72		
40		7		52		
45			60	68		
50		6		63		
55			59	69		
60		18		51		
End boring at 61 feet.						

BORING LOG						
BORING NO. B28 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-5-91		
SURFACE ELEV. 350.2±		DROP 30 in.		WATER LEVEL @ 101.5 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35			10	37		
40			63	61		
45			10	57		
50			59	72		
55			10	58		
60			69	51		
65			12	64		
70			62	59		
75			16	50		
80			59	64		
85			16	56		
90			70	56		

BORING LOG						
BORING NO. B28 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-5-91		
SURFACE ELEV. 350.2±		DROP 30 in.		WATER LEVEL @ 101.5 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95			16	44		
100			60	65		
105			16	56		
110			61	65		
115			17	40		
120			60	62		
125			72	52		
130			22	63		
135			32	No Recovery		
140			17	53		
145			33	64	60	
150			21	46		

BORING LOG						
BORING NO. B28 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-5-91		
SURFACE ELEV. 350.2±		DROP 30 in.		WATER LEVEL @ 101.5 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
150						
155			46	67	55	
160			16		47	
165			52	66	59	
170			15		63	
175		35/6" 80/3"	73	51		
End boring at 175 feet.						
180						

BORING LOG						
BORING NO. B28		DRIVING WT. 140 lb.		DATE OF DRILLING 3-5-91		
SURFACE ELEV. 350.2±		DROP 30 in.		WATER LEVEL @ 101.5 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5			15	71	43	
10			9		55	
15			71	42		
20			12	47		
25			11	33		
30			10	37		
35			64	64		
40			5	38		
45				46		
50			68	57		

SURVEY PLOTTED BY

DATE

DESIGNED BY

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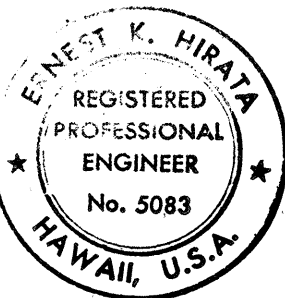
CHECKED BY

QUANTITIES BY

ORIGINAL PLAN

NOTE BOOK

No.



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Ernest K. Hino

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET NO. 11 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	166	521

BORING LOG W.O. 90-1790.3

BORING NO. B29 DRIVING WT. 140 lb. DATE OF DRILLING 10-28-91
SURFACE ELEV. 286± DROP 30 in. WATER LEVEL @ 40 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled yellowish orange brown, moist, medium stiff.
8			64		52		
5			5		65		
13			58		69		
15			9		68		Grading with weathered rock fragments from 14 feet.
17			61		62		
17					62		
17			60		67		
46			6		67		
14			62		64		
10					48		

BORING NO. B29 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 10-28-91
SURFACE ELEV. 286± DROP 30 in. WATER LEVEL @ 40 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
41			75		47		
15					59		
40			64		62		
17					54		
43			61		67		
16					60		
27			61		69		
25					63		

BORING NO. B29 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 10-28-91
SURFACE ELEV. 286± DROP 30 in. WATER LEVEL @ 40 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
63			94		25		
25					37		
End boring at 130.5 feet.							

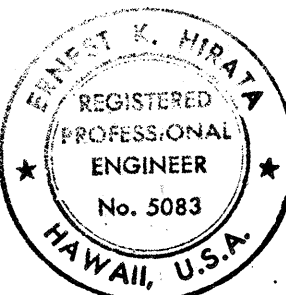
BORING LOG W.O. 90-1790.3

BORING NO. B30 DRIVING WT. 140 lb. DATE OF DRILLING 2-4-91
SURFACE ELEV. 314± DROP 30 in. WATER LEVEL @ 67.7 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
5					55		Clayey SILT - Mottled brown, moist, medium stiff, with gravel and weathered rock fragments.
59					52		
9							Grading to mottled orange brown color from 9 feet.
62					55		
5					53		
59					58		
9					62		

BORING NO. B30 (cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-4-91
SURFACE ELEV. 314± DROP 30 in. WATER LEVEL @ 67.7 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
67					46		
9					51		
83					14		
11					47		
62					55		
11					50		Grading stiff from 59 feet.



THIS WORK WAS PREPARED BY
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Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 12 OF 41 SHEETS

SCALE: VERT. 1"=4'

DATE _____
SURVEY PLOTTED BY _____
DRAWN BY _____
CHECKED BY _____
NOTE BOOK _____
No. _____

10081-462 Page 1-1

BORING LOG W.O. 90-1790.3

BORING NO. B30 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-4-91			
SURFACE ELEV. 314±		DROP 30 in.		WATER LEVEL @ 67.7 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF.)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60							
65	□			68	44		
68	▽						
70	■		9		47		
75	□			62	57		
80	■		9		56		
85	□			No Recovery			
90	■		9		49		
95	□			62	63		
100	■		9		57		
105	□			62	58		
110	■		13		66		
115	⊠		29	68	55		
120	⊠		32	No Recovery			

BORING NO. B30 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-4-91			
SURFACE ELEV. 314±		DROP 30 in.		WATER LEVEL @ 67.7 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
-120					45		Grading with rounded gravel from 135 feet.
-125		67	70	55			
-130		110/10*	71	50			
-135		59	67	60			
-140		85/8"	7 5	53			
-145							End boring at 141.5 feet.
-150							

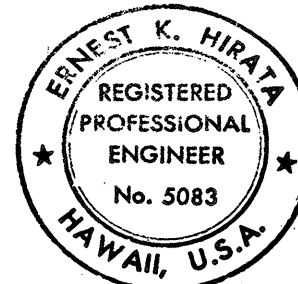
BORING LOG W.O. 90-1790.3

BORING NO. B31		DRIVING WT. 140 lb.		DATE OF DRILLING 2-26-91			
SURFACE ELEV. 326±		DROP 30 in.		WATER LEVEL @ 79 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, stiff, with weathered rock fragments.
			19	53			
5			71	44			
10			10	66			
15			61	63			
20			15	59			
25			52	62			
30	10	39					

BORING NO. B31 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-26-91			
SURFACE ELEV. 326±		DROP 30 in.		WATER LEVEL @ 79 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF.)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30							
35	□			61	61		
40	■		11		31		
45	□			68	47		
50	■		21		51		
55	□			65	54		
60	■		18		39		
65	□			64	52		
70	■		19		20		
75	□			74	39		
80	■		18		46		
85	□			65	51		
90	■		18		37		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	167	581

BORING NO. B31 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-26-91			
SURFACE ELEV. 326±		DROP 30 in.		WATER LEVEL @ 79 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90							
95	□			60	57		
100	■		29		58		
105	□			70	50		
110	■		28		56		
115	⊠		50	71	51		
120	■		35		36		
125	⊠		48	68	58		
130	■		63		46		
135	⊠		81	67	61		
140							End boring at 135.5 feet.
145							
150							



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SCALE: VERT. 1"=4'

SHEET No. 13 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	168	571

BORING LOG

W.O. 90-1790.3

BORING NO. B32 DRIVING WT. 140 lb. DATE OF DRILLING 4-15-91
SURFACE ELEV. 321.2+ DROP 30 in. WATER LEVEL @ 61 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled orange brown, moist, stiff.
17					57		
5				67	50		
14					63		
8					64		
71					43		
8					62		
9					66		Grading with weathered rock fragments from 24 feet.
64					52		
10					60		
62					59		
7					67		
64					53		
14					55		Grading to mottled orange grayish brown color from 49 feet.
58					60		
17					66		

BORING NO. B32 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-15-91
SURFACE ELEV. 321.2+ DROP 30 in. WATER LEVEL @ 61 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60					65		
60					65		
7					70		
64					55		
13					71		
68					50		
11					62		Grading to light gray color from 90 feet.
62					59		
7					60		
64					55		
9					66		
70					47		
10					75		

BORING NO. B32 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-15-91
SURFACE ELEV. 321.2+ DROP 30 in. WATER LEVEL @ 61 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
34					57	76	
14					66	52	
50/No Penetration							Grading with cobbles and boulders from 134 feet.
50/No Penetration							
50/3" No Recovery							End boring at 145 feet.

BORING LOG

W.O. 90-1790.3

BORING NO. B33 DRIVING WT. 140 lb. DATE OF DRILLING 6-6-91
SURFACE ELEV. 299+ DROP 30 in. WATER LEVEL @ 38 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, medium stiff, with weathered rock fragments.
56					40		
7					58		
59					56		
7					60		
61					55		
6					71		
60					63		Grading stiff from 29 feet.

BORING NO. B33 (Cont.) DRIVING WT. 140/300 lb. DATE OF DRILLING 6-6-91
SURFACE ELEV. 299+ DROP 30 in. WATER LEVEL @ 38 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
9					65		
8*					47	67	
60					63		
14*					57		
64					55		
12					63		
10					61		No Recovery
65					57		
13					64		
18					62	62	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

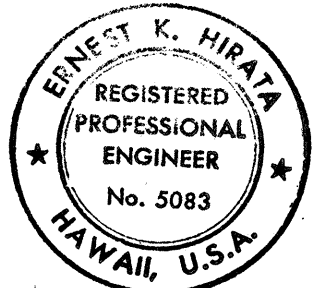
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 14 OF 41 SHEETS

SCALE: VERT. 1"=4'



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

Ernest K. Hira

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	160	521

BORING LOG

W.Q. 90-1790.3

BORING NO. B33 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 6-6-91
SURFACE ELEV. 299.2 DROP 30 in. WATER LEVEL @ 38 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90			8		61		
95							
100			36	75	51		
105			9		65		
110			50/2"	No Recovery			Grading with cobbles and boulders from 109 feet. Begin NX coring at 109 feet. 77% Recovery from 109 to 114 feet. RQD = 7%
115							80% Recovery from 114 to 119 feet. RQD = 25%
120							60% Recovery from 119 to 124 feet. RQD = 7%
125							97% Recovery from 124 to 129 feet. RQD = 35%
130							85% Recovery from 129 to 134 feet. RQD = 30%
135							End boring at 134 feet.
140							
145							
150							

BORING LOG

W.Q. 90-1790.3

BORING NO. B34 DRIVING WT. 140 lb. DATE OF DRILLING 6-13-91
SURFACE ELEV. 287.2 DROP 30 in. WATER LEVEL @ 15.9 ft.

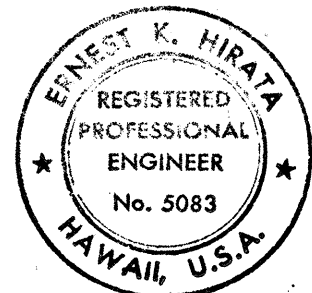
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, medium stiff, with weathered rock fragments.
5			6		53		
10			4		46		
15							
20			11		53		
25							
30			5		62		
35							
40							
45							
50							
55							
60							

BORING NO. B34 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 6-13-91
SURFACE ELEV. 287.2 DROP 30 in. WATER LEVEL @ 15.9 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			11		46		
65							
70				59	64		
75			6		63		
80							
85							
90							Grading stiff with cobbles and boulders from 86.5 feet.
95							
100							
105							
110							
115							
120							

BORING NO. B34 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 6-13-91
SURFACE ELEV. 287.2 DROP 30 in. WATER LEVEL @ 15.9 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120							
125							45/No Penetration
130							25/No Penetration
135							End boring at 129 feet.
140							
145							
150							



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Ernest K. Hira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 15 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	170	531

BORING LOG W.O. 90-1790.3

BORING NO. B35 DRIVING WT. 140 lb. DATE OF DRILLING 5-20-91
SURFACE ELEV. 271.9± DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled gray, moist, stiff, with weathered rock fragments. Grading with weathered cobbles and boulders from 5 feet.
5			24				
			No Penetration				
10			8	No Recovery			
			No Penetration				
15			5	No Recovery			
			20	No Recovery			
20			No Penetration 54/2"	No Recovery			
25							
30			57	Tip Recovery			
35							
40			12	71	55		Grading to mottled orange brown color and medium stiff from 39 feet.
			8		55		
45							
50			8	59	67		
			28		54		
55							
60			6	65	62		

BORING NO. B35 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 5-20-91
SURFACE ELEV. 271.9± DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			14		54		Grading with weathered cobbles and boulders from 60.5 feet.
65							
70			60	86	35		Grading to mottled grayish brown color from 69 feet.
			33		41		
75							
80			25	99	19		
			32		36		
85							
90			16	67	61		
			16		52		
95							
100			19	68	57		
			14				
105							
110			24	60	65		
			21		63		
115							
120			70/7"	No Recovery			Grading with basalt boulders from 119 feet.

BORING NO. B35 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 5-20-91
SURFACE ELEV. 271.9± DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120			73/8"	No Recovery			
125							
130			79/7"	Tip Recovery 50/No Penetration			Begin NX coring at 130 feet. 92% Recovery from 130 to 135 feet. RQD = 34%
135							80% Recovery from 135 to 140 feet. RQD = 46%
140							100% Recovery from 140 to 145 feet. RQD = 60%
145							End boring at 145 feet.
150							

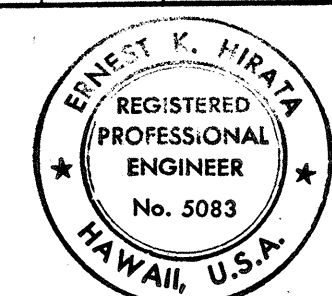
BORING LOG W.O. 90-1790.3

BORING NO. B36 DRIVING WT. 140 lb. DATE OF DRILLING 5-22-91
SURFACE ELEV. 275.9± DROP 30 in. WATER LEVEL @ 10.5 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, stiff, with weathered rock fragments.
5			21	67	52		
					27		
10			70	No Penetration 40			Grading with weathered cobbles and boulders from 7 feet.
15							
20			64	50			
			22		59		
25							
30			62	62			

BORING NO. B36 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 5-22-91
SURFACE ELEV. 275.9± DROP 30 in. WATER LEVEL @ 10.5 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30			7		55		Grading to mottled orange brown color and medium stiff from 31 feet.
35							
40			No Recovery				
			9		50		
45							
50			No Recovery				
			15		60		Grading stiff from 51 feet.
55							
60			17	56	75		
					61		
65							
70			82/8"	No Penetration 36			Grading with weathered cobbles and boulders from 69 feet.
			70/11"				
75							
80			77/11"	74	45		
85							
90			73/6"	No Recovery			



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Ernest K. Hira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SCALE: VERT. 1"=4'

SHEET No. 16 OF 41 SHEETS

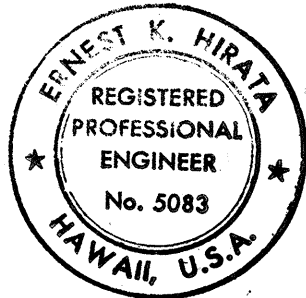
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	171	521

BORING LOG						
W.O. 90-1790.3						
BORING NO. B36 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 5-22-91						
SURFACE ELEV. 275.9+ DROP 30 in. WATER LEVEL @ 10.5 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90			75/11"		37	
95						
100			105/10"	94	32	
105						
110						
115						
120						
Begin NX coring at 104 feet. 80% Recovery from 104 to 109 feet. RQD = 21%						
40% Recovery from 109 to 114 feet. RQD = 7%						
100% Recovery from 114 to 119 feet. RQD = 23%						
End boring at 119 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B37 DRIVING WT. 140 lb. DATE OF DRILLING 4-27-91						
SURFACE ELEV. 282.5+ DROP 30 in. WATER LEVEL @ 17 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			11	62	58	
10			61	61	62	
15						
20			8	62	58	
25						
30				66	56	
Clayey SILT - Mottled orange and grayish brown, moist, medium stiff to stiff, with weathered rock fragments.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B37 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-27-91						
SURFACE ELEV. 282.5+ DROP 30 in. WATER LEVEL @ 17 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30			13	63		
35						
40			64	54		
45			7	76		
50			56	66		
55			7	71		
60			65	57		
65			13	66		
70			67	53		
75			28	55		
80			79	34		
85			27	No Recovery		
90			79/9"	No Recovery	65	62
Grading with cobbles and boulders from 78 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B37 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-27-91						
SURFACE ELEV. 282.5+ DROP 30 in. WATER LEVEL @ 17 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95			59	64	66	
100			66	72	66	
105			67/5"	57	76	
110			64	60	66	
115			50/5"	No Recovery		
120			50/1"	No Penetration		
125						
130						
135						
140						
145						
150						
Begin NX coring from 119 feet. 98% Recovery from 119 to 124 feet. RQD = 10%						
100% Recovery from 124 to 129 feet. RQD = 16%						
End boring at 129 feet.						



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ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 17 OF 41 SHEETS

SCALE: VERT. 1"=4'

SURVEY PLOTTED BY	DATE
DRAWN BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

4482-452 Rev 1-7

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

Job 93-14.2 Plot 1-1

BORING LOG

W.O. 90-1790.3

BORING NO. B38		DRIVING WT. 140 lb.		DATE OF DRILLING 3-28-91			
SURFACE ELEV. 312.2±		DROP 30 in.		WATER LEVEL @ 34.5 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF.)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled orange brown, moist, stiff, with weathered rock fragments.
	■		12		31		
5	□			67	53		
	■		11		36		
10							
	■		6		32		
15							
	□			78	39		
20	■		13		46		
25	■		12		47		
30	□			70	38		
	■		7		37		
	▽		8		67		
35							
	□			56	49		
40							
	■		8		49		
45							
	□			68	45		
50							
	■		5		61		
55							
	□			65	51		
60							

BORING NO. B38 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-28-91			
SURFACE ELEV. 312.2±		DROP 30 in.		WATER LEVEL @ 34.5 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60							
65	■		18		55		
70	□			73	43		
75	■		9		50		
80	□			81	52		
85	■		6		44		
90	□			64	58		
95	■		10		47		
100	□			67	53		
105	■		13		54		
110	□			No Recovery			
	⊠		41	74	45		
115	⊠		35	70	56		
120	■		13		65		

BORING NO. B38 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-28-91			
SURFACE ELEV. 312.2±		DROP 30 in.		WATER LEVEL @ 34.5 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
-120							
-125							
-130							
-135							
-140							
-145		63/11"	75	50			COMPLETELY WEATHERED ROCK - Mottled grayish brown, dense to medium hard.
-150		90/4"	Tip Recovery				
-155		50/No Penetration					
-160							End boring at 157 feet.
-165							
-170							
-175							
-180							

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	172	521



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Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 18 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	173	521

BORING LOG W.O. 90-1790.3

BORING NO. B39 DRIVING WT. 140 lb. DATE OF DRILLING 3-1-91
SURFACE ELEV. 380.5± DROP 30 in. WATER LEVEL @ 102 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, medium stiff to stiff, with weathered rock fragments.
10			52				
5			68	47			
8			56				
10			64				
15			72	32			
20			61				
25			64				
30			71	33			
35			62				
40			65	45			
45			60				
50			71	36			
55			62				
60							

BORING NO. B39 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 3-1-91
SURFACE ELEV. 360.5± DROP 30 in. WATER LEVEL @ 102 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			68	57			
65			39	49			
70			60	65			
75			10	53			
80			60	61			
85			15	67			Grading stiff from 85 feet.
90			63	54			
95			19	60			
100			60	64			
105			20	52			
110			56	No Recovery 67 59			
115			13	65			
120			62	56			

BORING NO. B39 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 3-1-91
SURFACE ELEV. 360.5± DROP 30 in. WATER LEVEL @ 102 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120							
125			14	66			
130			63	59			
135			25	59			
140			33	65	63		
145			51	75	44		End boring at 145.5 feet.
150							

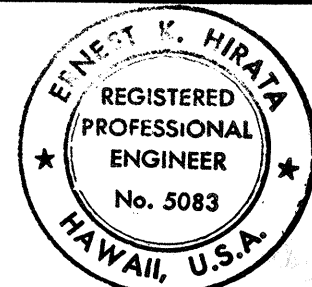
BORING LOG W.O. 90-1790.3

BORING NO. B40 DRIVING WT. 140 lb. DATE OF DRILLING 10-18-91
SURFACE ELEV. 304± DROP 30 in. WATER LEVEL @ 55 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, medium stiff, with weathered rock fragments.
5			9	61	63		
10			3	42			
15			17	67	58		
20			11	52			
25			13	57	68		
30							

BORING NO. B40 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 10-18-91
SURFACE ELEV. 304± DROP 30 in. WATER LEVEL @ 55 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30			10	61			
35							
40			51	69	51		
45							
50			13	39			
55							
60			19	63	65		
65							
70			11	55			
75							
80			21	62	66		
85							
90							



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Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 12 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL PLAN
DRAWN BY
DESIGNED BY
NOTE BOOK
QUANTITIES BY
CHECKED BY
No.

DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	174	521

BORING LOG W.O. 90-1790.3

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90	■		13		56		
95							
100	⊗		20	63	62		
105							
110	■		22		50		
115	⊗		28	59	69		
120	■		26		58		
125	⊗		27	61	69		
130	■		26		54		End boring at 130.5 feet.
135							
140							
145							
150							

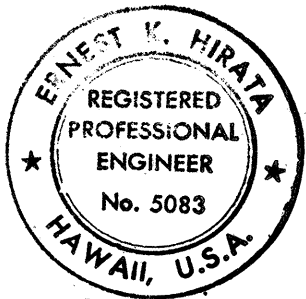
BORING LOG W.O. 90-1790.3

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0	⊗	MH					Clayey SILT - Mottled orange brown, moist, medium stiff, with weathered rock fragments.
5	⊗		12	71	48		
10	⊗		9	71	46		
15	⊗		14	76	35		
20	⊗		16		35		
25	⊗		18	77	34		
30	⊗		14	62	65		
35	⊗		15	62	64		
40	⊗		22	62	62		
45	⊗		17	56	74		
50	⊗		22	59	68		
55	⊗		19	59	65		
60	⊗		14	61	64		

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60	■		11				
65	⊗		14	65	60		
70	■		9				Tip Recovery
75	⊗		15	60	67		
80	■		10		66		
85	⊗		14	54	68		
90	■		8		58		
95	⊗		19	68	59		
100	■		24		57		
105	⊗		19	61	60		
110	■		32		61		
115	⊗		100/9"				No Recovery
120							Grading with boulders from 112 feet.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120	■		27		57		
125	⊗		50/4"				Tip Recovery
130	■		50/5"				Tip Recovery
135							
140							
145							
150							End boring at 129.5 feet.

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



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Ernest K. Hunt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 70 OF 41 SHEETS

SCALE: VERT. 1"=4'

SURVEY PLOTTED BY _____ DATE _____

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ORIGINAL PLAN

NOTE BOOK

No. _____

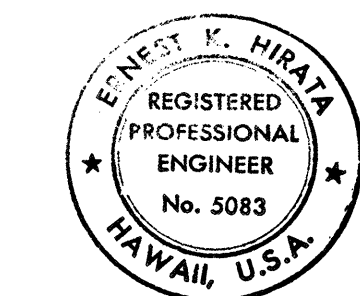
BORING LOG							W.Q. 90-1790.3	
BORING NO. B42		DRIVING WT. 140 lb.		DATE OF DRILLING 7-25-91		SURFACE ELEV. 340+		
		DROP 30 in.		WATER LEVEL @ 98 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0		MH					Clayey SILT - Mottled orange brown, moist, stiff.	
5			70/11"		35		Boulder at 6.5 feet.	
10				59	51			
15			14		55			
20				60	60			
25			12		56		Grading with weathered rock fragments from 24 feet.	
30				69	49			
35			15		33			
40				68	52			
45			14		56			
50				63	59			
55			12		64			
60			23		56			
					65			

BORING NO. B42 (Cont.)							W.Q. 90-1790.3	
BORING NO. B42 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 7-25-91		SURFACE ELEV. 340+		
		DROP 30 in.		WATER LEVEL @ 98 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
60			13		78			
65								
70			32	64	57			
75					61			
80				69	51			
85			45		53			
90				68	52			
95			27		53			
100				68	52			
105			17		58			
110				65	54			
115			11		62			
120				61	62			

BORING NO. B42 (Cont.)							W.Q. 90-1790.3	
BORING NO. B42 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 7-25-91		SURFACE ELEV. 340+		
		DROP 30 in.		WATER LEVEL @ 98 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
120			16		61			
125								
130			67/11"	65	58		COMPLETELY WEATHERED ROCK - Mottled orange brown, dense, with clayey silt.	
135			75	69	54			
140			39		54		Grading to mottled orange grayish brown color from 139 feet.	
145			102/10"	70	55		End boring at 145 feet.	
150								

BORING LOG							W.Q. 90-1790.3	
BORING NO. B43		DRIVING WT. 140 lb.		DATE OF DRILLING 2-8-91		SURFACE ELEV. 334.7+		
		DROP 30 in.		WATER LEVEL @ 74.6 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0		MH					Clayey SILT - Mottled orange brown, moist, medium stiff to stiff, with weathered rock fragments.	
5			12		51			
10				64	59			
15			17		55			
20								
25			12		60			
30				59	52			
			10		62			

BORING NO. B43 (Cont.)							W.Q. 90-1790.3	
BORING NO. B43 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-8-91		SURFACE ELEV. 334.7+		
		DROP 30 in.		WATER LEVEL @ 74.6 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
30								
35				68	57			
40			10		57			
45				60	64		Grading stiff from 44 feet.	
50			14		51			
55				66	45			
60			20		50			
65				57	56			
70			15		56			
75				63	59			
80			16		68			
85				62	64			
90			20		60			



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Ernest K. Hunt

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 21 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	175	521

ORIGINAL PLAN

DATE

NO.

SURVEY PLOTTED BY

DATE

TRACED BY

DATE

RECHECKED BY

DATE

QUANTITIES BY

DATE

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DATE

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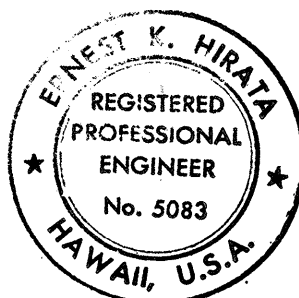
BORING LOG						
W.Q. 90-1790.3						
BORING NO. B43 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 2-8-91						
SURFACE ELEV. 334.7± DROP 30 in. WATER LEVEL @ 74.6 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95				56	79	
100			13		58	
105				64	58	
110			39/9"		55	
115					46	
120			38		65	
125			40	65	61	
130			82/8"	73	61	
135						
140						
145						
150						
COMpletely weathered rock - Mottled brown, dense.						
End boring at 130 feet.						

BORING LOG						
W.Q. 90-1790.3						
BORING NO. B44 DRIVING WT. 140 lb. DATE OF DRILLING 4-5-91						
SURFACE ELEV. 326.4± DROP 30 in. WATER LEVEL @ 60 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			18	56	57	
10			18	58		
15			65	55		
20			9	71		
25			59	58		
30			12	61		
35				57	59	
40			7	61		
45				52	66	
50			8	59		
55				66	49	
60			8	60		
65				58	69	
70			9	64		
75				67	56	
80			9	65		
85				65	57	
90			14	60		
95						
100						
105						
110						
115						
120						
125						
130						
135						
140						
145						
150						
Clayey SILT - Mottled brown, moist, stiff, with weathered rock fragments.						

BORING LOG						
W.Q. 90-1790.3						
BORING NO. B44 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-5-91						
SURFACE ELEV. 326.4± DROP 30 in. WATER LEVEL @ 60 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65				65	52	
70			7		66	
75				64	58	
80			6		64	
85				67	45	
90			8		60	
95				69	42	
100			10		59	
105				67	53	
110			13	No Recovery		
115				65	52	
120			21		62	
125						
130						
135						
140						
145						
150						

BORING LOG						
W.Q. 90-1790.3						
BORING NO. B44 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-5-91						
SURFACE ELEV. 326.4± DROP 30 in. WATER LEVEL @ 60 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
120						
125				51	62	
130			71/8"		61	
135				88	72	
140				60	42	
145			71/11"	66	59	
150						
COMpletely weathered rock - Mottled grayish brown, dense.						
End boring at 145.5 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	176	521



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Ernest K. Hiraoka

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 176 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL PLAN

DATE

NO.

SURVEY PLOTTED BY

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10-81-462 Page 1-1

BORING LOG						
WQ 90-1790.3						
BORING NO. B45 DRIVING WT. 140 lb. DATE OF DRILLING 6-3-91						
SURFACE ELEV. 311+ DROP 30 in. WATER LEVEL @ 47 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			19	59	50	
10			8	55	51	
15						
20			9	63	60	
25						
30			15	63	56	
35						
40			6*	62	63	
45						
50			5*	59	67	
55						
60				58	64	
* 300 lb. hammer						

BORING NO. B45 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 6-3-91						
SURFACE ELEV. 311+ DROP 30 in. WATER LEVEL @ 47 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60			4		65	
65						
70			14	63	60	
75						
80						
85						
90			15			
95			29		59	
100			25	66	59	
105			18		62	
110			34			
115						
120			50/No Penetration			

BORING NO. B45 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 6-3-91						
SURFACE ELEV. 311+ DROP 30 in. WATER LEVEL @ 47 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
120						
125						
130						
135						
140						
145						
150						

BORING LOG						
WQ 90-1790.3						
BORING NO. B46 DRIVING WT. 140 lb. DATE OF DRILLING 5-24-91						
SURFACE ELEV. 308+ DROP 30 in. WATER LEVEL Not Recorded						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			7	72	47	
10						
15						
20			13	61	59	
25						
30				60	65	

BORING NO. B46 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 5-24-91						
SURFACE ELEV. 308+ DROP 30 in. WATER LEVEL Not Recorded						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30			9		63	
35						
40			7	62	62	
45						
50						
55						
60			11	60	67	
65						
70			12	63	54	
75						
80			8	62	52	
85						
90				68	47	

ERNEST K. HIRATA

REGISTERED PROFESSIONAL ENGINEER

No. 5083

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 23 OF 41 SHEETS

DATE _____
SURVEY PLOTTED BY _____
DRAWN BY _____
CHECKED BY _____
NOTE BOOK _____
No. _____

100-452 Rev 1-1

BORING LOG

W.O. 90-1790.3

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90			15		70		
95							
100			72	41			Grading with cobbles and boulders from 99 feet.
105			9		58		
110							
115			No Recovery				
120			7		64		
125							
130			40	67	51		River-washed gravel at 119 feet.
135			14		59		
140							
145			35/No Penetration 40/No Penetration				Grading with cobbles and boulders from 130 feet. Begin NX coring from 130 feet. 60% Recovery from 130 to 135 feet. RQD = 28% 100% Recovery from 135 to 140 feet. RQD = 37%
150							100% Recovery from 140 to 145 feet. RQD = 68%
							End boring at 145 feet.

BORING LOG

W.O. 90-1790.3

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Brown, moist, medium stiff, with weathered rock fragments and sand.
5							Grading with numerous cobbles and boulders from 3.5 to 12 feet.
10			16				Tip Recovery
15			31/6" 50/1"		37		Grading to mottled orange brown color from 9 feet.
20			7				
25			11		56		
30			14				Tip Recovery
35			4		95		
40			14	53	78		
45							
50			33		65		Grading stiff from 50 feet.
55							
60			17/6" 45/6"	61	59		

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60							
65							
70			96		44		Grading to grayish brown color from 69 feet.
75			45/6" 50/3"		36		Grading with numerous cobbles and boulders from 72 feet.
80							Begin NX coring from 79 feet. 100% Recovery from 79 to 84 feet. RQD = 87%
85							55% Recovery from 84 to 89 feet. RQD = 20%
90							37% Recovery from 89 to 94 feet. RQD = 0%
95							54% Recovery from 94 to 99 feet. RQD = 12%
100							50% Recovery from 99 to 104 feet. RQD = 24%
105							60% Recovery from 104 to 109 feet. RQD = 20%
110							52% Recovery from 109 to 114 feet. RQD = 7%
115							End boring at 114 feet.
120							

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	178	581



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Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 24 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL PLAN

DATE

NO.

SURVEY PLOTTED BY

DATE

TRACED BY

DATE

REVIEWED BY

DATE

CHECKED BY

DATE

BORING LOG						
BORING NO. B48		DRIVING WT. 300 lb.		DATE OF DRILLING 5-4-91		W.O. 90-1790.3
SURFACE ELEV. 281.2±		DROP 30 in.		WATER LEVEL @ 7.5 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			8		37	
10						
15			15	No Penetration	23	
20						
25			65/8"	No Recovery		
30			25	No Recovery		
35						
40			16	No Recovery		
45			5		69	
50						
55				No Recovery		
60						

BORING NO. B48 (Cont.)						
SURFACE ELEV. 281.2±		DROP 30 in.		DATE OF DRILLING 5-4-91		W.O. 90-1790.3
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65			16		90	
70			22	81	41	
75			73/9"	84	39	
80			21		51	
85						
90						
95			8/6" 50/5"	63	62	
100			23		63	
105						
110						
115			39/6" 50/No	74	41	
120			57	No Penetration	35	

BORING NO. B48 (Cont.)						
SURFACE ELEV. 281.2±		DROP 30 in.		DATE OF DRILLING 5-4-91		W.O. 90-1790.3
120						
125						
130						
135			50/No Penetration	31		
140						
145						
150						

BORING LOG						
BORING NO. B49		DRIVING WT. 140 lb.		DATE OF DRILLING 4-24-91		W.O. 90-1790.3
SURFACE ELEV. 285.1±		DROP 30 in.		WATER LEVEL @ 7 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			10		52	
10			34	No Penetration	49	
15			10		67	
20			6		67	
25						
30						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	170	521

BORING NO. B49 (Cont.)						
SURFACE ELEV. 285.1±		DROP 30 in.		DATE OF DRILLING 4-24-91		W.O. 90-1790.3
30			5		70	
35						
40			10	No Recovery	67	
45						
50			16		71	
55						
60			29		59	
65						
70			43		55	
75						
80						
85			57	69	56	
90			80/9"	No Recovery		

ERNEST K. HIRATA

REGISTERED PROFESSIONAL ENGINEER

No. 5083

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3

F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SCALE: VERT. 1"=4'

SHEET No. 25 OF 41 SHEETS

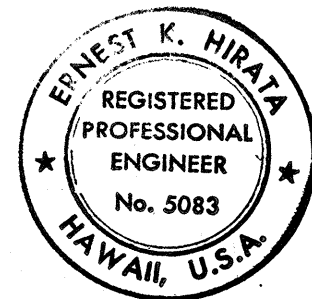
FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	100	521

BORING LOG						
W.O. 90-1790.3						
BORING NO. B49 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-24-91						
SURFACE ELEV. 285.1+ DROP 30 in. WATER LEVEL @ 7 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95			71/10"	No Recovery		
100			50/3"	No Recovery		
105			71	74	33	
110			50/No	Penetration		
115			50/No	Penetration		
120						
100% Recovery from 114 to 119 feet. RQD = 16%						
End boring at 119 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B50 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 9-9-91						
SURFACE ELEV. 304+ DROP 30 in. WATER LEVEL @ 20 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35						
40			11	57	68	
45					70	
50						
55			6	51	92	
60					72	
65						
70			12	59	62	
75					69	
80						
85						
90						
95						
100						
105						
110						
115						
120						
125						
130						
135						
140						
145						
150						
54						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B50 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 9-9-91						
SURFACE ELEV. 304+ DROP 30 in. WATER LEVEL @ 20 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90			10		62	
95						
100					42	
105			13		55	
110						
115						
120						
125						
130			64	No Recovery		
135						
140						
145						
150						
47/6" 50/0"						
51						
Grading with weathered cobbles and boulders from 106 feet.						
Grading to mottled gray color from 129 feet. Begin NX coring from 130 feet. 50% Recovery from 130 to 135 feet. RQD = 0%						
50% Recovery from 135 to 140 feet. RQD = 7%						
30% Recovery from 140 to 145 feet. RQD = 0%						
End boring at 145 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B50 DRIVING WT. 140 lb. DATE OF DRILLING 9-9-91						
SURFACE ELEV. 304+ DROP 30 in. WATER LEVEL @ 20 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			13		63	
10						
15						
20						
25						
30						
Clayey SILT - Mottled orange brown, moist, medium stiff, with weathered rock fragments.						
59						
65						
60						
62						
63						
65						
62						
63						



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ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 96 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL
PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DATE
DRAWN BY
TRACED BY
DESIGNED BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	101	521

BORING LOG W.Q. 90-1790.3

BORING NO. B51 DRIVING WT. 140 lb. DATE OF DRILLING 3-13-91
SURFACE ELEV. 318.9+ DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled brown, moist, stiff, with weathered rock fragments.
17			17		60		
5				54	60		
7			7		66		
10					60		
11			11		60		
15				70	47		
17			17		47		
25			12		65		
30				56	60		
35			12		61		
40				69	50		
45			11		64		
50				63	60		
55			14		53		
60				63	58		

BORING NO. B51 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 3-13-91
SURFACE ELEV. 318.9+ DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60							
65			15		53		
70				58	70		
75			11		75		
80				60	63		
85			10		66		
90				72	39		
95			9		60		
100				65	56		
105			8		58		
110				68	52		
115			12		57		
120				73	39		

BORING NO. B51 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 3-13-91
SURFACE ELEV. 318.9+ DROP 30 in. WATER LEVEL Not Recorded

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120			42	66	64		Grading with weathered rock fragments from 119 feet.
125			32	54	70		
130				65	52		
135			32	60	67		
140			92/11"	70	55		COMPLETELY WEATHERED ROCK - Mottled light gray, dense to medium hard.
145			68	61	63		Grading to reddish orange color from 144 feet.
150			90/9"	74	49		End boring at 150 feet.

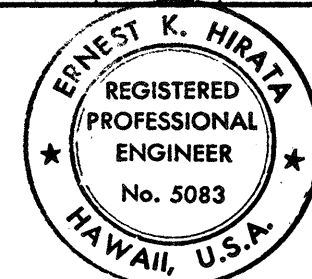
BORING LOG W.Q. 90-1790.3

BORING NO. B52 DRIVING WT. 140 lb. DATE OF DRILLING 4-26-91
SURFACE ELEV. 283.9+ DROP 30 in. WATER LEVEL @ 8.8 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled orange brown, moist, stiff, with weathered rock fragments.
5			4		37		Grading with cobbles and boulders from 6.5 feet.
10				67	51		
15			7		46		
20			34		24		
25							
30			18	65	63		

BORING NO. B52 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-26-91
SURFACE ELEV. 283.9+ DROP 30 in. WATER LEVEL @ 8.8 ft.

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30							
35							
40				62	55		
45					56		
50			15		56		
55				62	61		
60			11		66		
65				65	57		
70			12		56		
75							
80				71	43		
85			23		49		
90				40	76	45	
				50/3"	56		
			20	64	61		



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Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 27 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL PLAN	DATE
NOTED BY	
DESIGNED BY	
CHECKED BY	
NO.	

40083-452 R01/1-1

DATE: _____

SURVEY PLOTTED BY: _____

ORIGINAL PLAN

DESIGNED BY: _____

NOTE BOOK

CHECKED BY: _____

No. _____

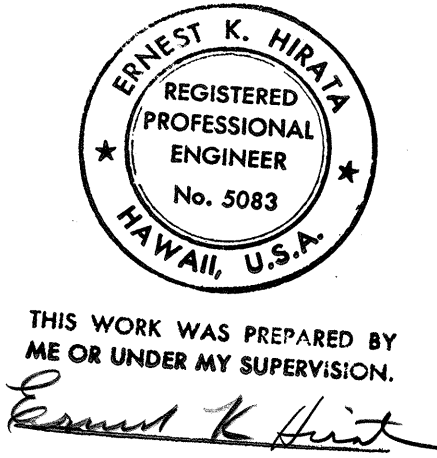
BORING LOG						W.O. 90-1790.3	
BORING NO. B52 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-26-91			
SURFACE ELEV. 283.9±		DROP 30 in.		WATER LEVEL @ 8.8 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
90							
95	■		13		65		
100	⊠		90/11"	75	46		
105	■		25		48		
110	⊠		72	67	60		
115	■		14		66		
120	⊠		50/5"	88	37		
125	■		94/11"		36		
130	⊠		75/7"	84	42		
135	■		50/3"	Tip Recovery			Begin NX coring from 136 feet. 60% Recovery from 136 to 141 feet. RQD = 18%
140	■						End NX coring at 141 feet.
145	■		50/No	Penetration			Begin NX coring from 147 feet. 72% Recovery from 147 to 152 feet. RQD = 27%
150	■						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B52 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-26-91						
SURFACE ELEV. 283.9± DROP 30 in. WATER LEVEL @ 8.8 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
150						
155						
160						
165						
170						
175						
180						
58% Recovery from 152 to 157 feet. RQD = 0%						
70% Recovery from 157 to 162 feet. RQD = 7%						
60% Recovery from 162 to 167 feet. RQD = 0%						
End boring at 170 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B53 DRIVING WT. 300 lb. DATE OF DRILLING 5-11-91						
SURFACE ELEV. 286.7± DROP 30 in. WATER LEVEL @ 8.3 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			3		55	
10			71	50		
15			50/No Penetration			
20			17	50	63	
25				70	53	
30				65	60	
Clayey SILT - Mottled orange brown, moist, stiff, with weathered rock fragments.						
Grading with boulder from 9 feet.						

BORING NO. B53 (Cont.)		DRIVING WT. 300 lb.		DATE OF DRILLING 5-11-91			
SURFACE ELEV. 286.7±		DROP 30 in.		WATER LEVEL @ 8.3 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30	■		12		62		Grading medium stiff from 41 feet.
35							
40	□		No Recovery				
	□		6	60	66		
45							
50	□		5	63	65		
	■		6		64		
55							
60	□		14	Tip Recovery			
	■		16		63		
65							Grading to mottled grayish brown color and stiff from 61 feet.
70	□		18	59	59		
	■		22		59		
75							
80	□		12	65	64		Grading with weathered cobbles and boulders from 69 feet.
	■		24		50		
85							
90	□		29	Tip Recovery			

BORING LOG						
W.O. 90-1790.3						
BORING NO. B53 (Cont.) DRIVING WT. 300 lb. DATE OF DRILLING 5-11-91						
SURFACE ELEV. 286.7± DROP 30 in. WATER LEVEL @ 8.3 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90			18		64	
95						
100			17	61	62	
105			14			
110			3	No Recovery		
115			18		52	
120			52	Tip Recovery		
125			66/9"	88	26	
130			50/No Penetration			
135			50/No Penetration			
140						
145						
150						
Begin NX coring at 129 feet. 56% Recovery from 129 to 134 feet. RQD = 31%						
40% Recovery from 134 to 139 feet. RQD = 8%						
End boring at 139 feet.						



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	182	521

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 182 OF 41 SHEETS

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

4083-452 Rev. 1-1

BORING LOG						
W.O. 90-1790.3						
BORING NO. B54	DRIVING WT. 140 lb.	DATE OF DRILLING 4-19-91				
SURFACE ELEV. 291±	DROP 30 in.	WATER LEVEL @ 4 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5				52	70	
10		55/5"			13	
15		10			31	
20				68	53	
25						
30				66	61	
35		8		No Recovery		
40						
45						
50				No Recovery		
55		7			58	
60				17	63	63
Clayey SILT - Mottled orange brown, moist, stiff, with weathered rock fragments and cobbles and boulders.						
Grading with cobbles and boulders from 52 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B54 (Cont.)	DRIVING WT. 140 lb.	DATE OF DRILLING 4-19-91				
SURFACE ELEV. 291±	DROP 30 in.	WATER LEVEL @ 4 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60			14		39	
65						
70			37	61	45	
75			42	76	42	
80			35		38	
85			45	71	50	
90			15		35	
95		50/4"		79	31	
100		85/10"			41	
105			50		43	
110			49		31	
115		50/3"			32	
120						
COMpletely weathered rock - Mottled orange gray, medium dense to dense.						
End boring at 115 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B55	DRIVING WT. 140 lb.	DATE OF DRILLING 4-19-91				
SURFACE ELEV. 305.5±	DROP 30 in.	WATER LEVEL @ 12.5 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH			58	51	
5			14		49	
10				65	56	
15			3		63	
20				62	49	
25						
30				No Recovery		
35			6		61	
40				74	40	
45			7		65	
50				72	49	
55			12		64	
60				No Recovery		
Clayey SILT - Mottled orange brown, moist, medium stiff, with weathered rock fragments.						
Grading with cobbles and boulders from 5 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B55 (Cont.)	DRIVING WT. 140 lb.	DATE OF DRILLING 4-19-91				
SURFACE ELEV. 305.5±	DROP 30 in.	WATER LEVEL @ 12.5 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65			18		64	
70				72	43	
75			27		61	
80				69	55	
85			25		55	
90				70	54	
95			74/10"	No Recovery		
100			42/9"		55	
105						
110			50/No Penetration			
115			106/9"	72	54	
120						
Grading to mottled orange grayish brown color from 69 feet.						
Grading with cobbles and boulders from 89 feet.						
Begin NX coring from 106 feet. 85% Recovery from 106 to 111 feet. RQD = 33%						
End boring at 111 feet.						

ERNEST K. HIRATA
REGISTERED PROFESSIONAL ENGINEER
No. 5083
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hirata

SCALE: VERT. 1"=4'

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
BORING LOGS
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)
SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 22 OF 41 SHEETS

ORIGINAL PLAN
DATE
DRAWN BY
DESIGNED BY
NOTED BY
CHECKED BY
No.

4083-423 Page 1 of 1

BORING LOG

W.O. 90-1790.3

BORING NO. B56		DRIVING WT. 140 lb.		DATE OF DRILLING 4-12-91			
SURFACE ELEV. 328.7±		DROP 30 in.		WATER LEVEL @ 46 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled orange brown, moist, stiff.
	■		13		61		
5	□			62	59		
	■		9		60		
10	■						Grading with weathered rock fragments from 12 feet.
	■		13		57		
15	□			55	66		
	■		7		60		
20	■						
	■		11		62		
25	□			62	57		
	■		10		66		
30	■						
	■		8		68		
35	□			59	68		
40	■						
	■		12		71		
45	□						
	■			59	68		
50	■						
	■		7		68		
55	□						
	■			57	68		
60	■						

BORING NO. B56 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-12-91			
SURFACE ELEV. 328.7±		DROP 30 in.		WATER LEVEL @ 46 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60							
65	■		9		67		
70	□			59	70		
75	■		8		69		
80	□			57	70		
85	■		7		61		
90	□			62	62		
95	■		11		58		
100	⊗			62	62		COMPLETELY WEATHERED ROCK - Mottled brown, dense.
105	⊗		58	73	46		
110	⊗		41	68	55		
115	⊗		38	64	65		
120	⊗		45	71	50		

BORING NO. B56 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-12-91			
SURFACE ELEV. 328.7±		DROP 30 in.		WATER LEVEL @ 46 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
-120							Grading to light grayish brown color from 124 feet.
-125		50/4"	Tip Recovery				
-130		73/3"	78	44			
-135		55/5"	102	48			
-140							End boring at 134.5 feet.
-145							
-150							

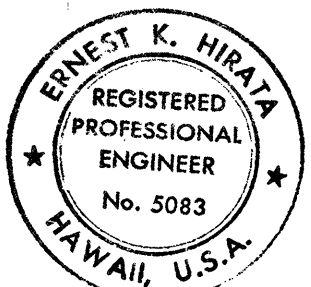
BORING LOG

W.O. 90-1790.3

BORING NO. B57		DRIVING WT. 140 lb.		DATE OF DRILLING 4-15-91			
SURFACE ELEV. 338±		DROP 30 in.		WATER LEVEL Not Recorded			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		MH					Clayey SILT - Mottled orange brown, moist, stiff, with weathered rock fragments.
	□			65	55		
	■		11		59		
5	■		10		57		
	□			59	60		
	■		5		66		
15	■		5		55		
	□			63	56		
20	■		5		65		
	■		7		63		
25							
	□			63	58		
30							

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	104	521

BORING NO. B57 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-15-91			
SURFACE ELEV. 338±		DROP 30 in.		WATER LEVEL Not Recorded			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASS. TEXTURE	BLOWS/FT	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30	■		6		62		
35	■		13		59		
40	□			72	46		
45	■	14		60			
50	□		59	52			
55	■	11		62			
60	□		62	63			
65	■	11		66			
70	□		61	68			
75	■	17		72			
80	□		61	61			
85	■	9		63			
90	□		64	58			



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Ernest K. Hiest

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SCALE: VERT. 1"=4'

SHEET No. 30 OF 41 SHEETS

ORIGINAL PLAN
NO. _____
SURVEY PLOTTED BY _____
DRAWN BY _____
TRACED BY _____
DESIGNED BY _____
CHECKED BY _____
No. _____

4-83-452 Page 1-1

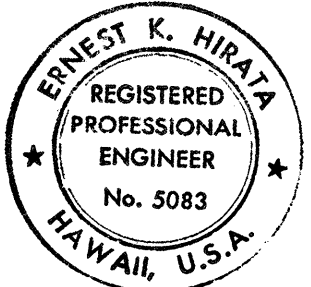
BORING LOG						
W.O. 90-1790.3						
BORING NO. B57 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-15-91						
SURFACE ELEV. 338+ DROP 30 in. WATER LEVEL Not Recorded						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95			7		61	
100				58	71	
105			11		62	
110				67	56	
115			14		66	
120				66	60	
125			23		60	
130			28	65	63	
135			16	63	62	
140			24	65	59	
145			87/10"	68	60	
150			50/No Penetration			
COMpletely WEATHERED ROCK - Mottled gray, dense.						
End boring at 149 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B58 DRIVING WT. 140 lb. DATE OF DRILLING 4-3-91						
SURFACE ELEV. 346.8+ DROP 30 in. WATER LEVEL @ 56 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			16		55	
10			59		59	
15			13		72	
20			7		64	
25				61	60	
30			6		59	
35			7		64	
40				62	58	
45			9		56	
50			9		62	
55				66	58	
60			10		65	
65				72	46	
70			14		59	
75				66	66	
80			7		67	
85						
90						
95						
100						
105						
110						
115						
120						
125						
130						
135						
140						
145						
150						
155						
160						
165						
170						
175						
180						
Clayey SILT - Mottled orange brown, moist, stiff.						
Grading with weathered rock fragments from 7 feet.						

BORING LOG						
W.O. 90-1790.3						
BORING NO. B58 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-3-91						
SURFACE ELEV. 346.8+ DROP 30 in. WATER LEVEL @ 56 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60						
65				72	41	
70			8		62	
75				64	59	
80			11		70	
85				67	46	
90			8		67	
95				65	54	
100			9		65	
105				69	46	
110			12		68	
115				62	59	
120			6		67	
125						
130						
135						
140						
145						
150						
155						
160						
165						
170						
175						
180						
COMpletely WEATHERED ROCK - Mottled orange brown, dense.						
End boring at 155 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	185	521

BORING LOG						
W.O. 90-1790.3						
BORING NO. B58 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-3-91						
SURFACE ELEV. 346.8+ DROP 30 in. WATER LEVEL @ 56 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
120						
125				62	59	
130			8		63	
135				63	52	
140			39		60	
145			50/5"	69 74	44 47	
150			56	70	56	
155			50/4"	70	48	
160						
165						
170						
175						
180						
COMpletely WEATHERED ROCK - Mottled orange brown, dense.						
End boring at 155 feet.						



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Ernest K. Hiraoka

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 31 OF 41 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	186	521

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B59	DRIVING WT. 140 lb.	DATE OF DRILLING 7-9-91				
SURFACE ELEV. 30 in.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH		2		35	
5			8	77	38	
10			15		33	
15			38/6" 50/5"	97	21	
20			50/No Penetration			
25						
30						
Clayey SILT - Mottled brown, moist, medium stiff, with basalt gravel. Grading with completely weathered rock fragments from 2 feet. Grading stiff with cobbles and boulders from 14.5 feet. End boring at 19 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B61	DRIVING WT. 140 lb.	DATE OF DRILLING 7-9-91				
SURFACE ELEV. 30 in.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH		12		38	
5			5/6" 22/6"	78	42	
10			50/No Penetration			
15			13/6" 50/3"	99	17	
20			17/6" 50/1"		32	
25			13	92	27	
30			9		53	
Clayey SILT - Mottled brown, moist, stiff. Grading with highly weathered rock fragments from 2 feet. Grading with cobbles and boulders from 5 feet. 50/No Penetration Grading stiff with cobbles and boulders from 14.5 feet. End boring at 19 feet. Grading medium stiff from 24 feet. End boring at 30.5 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B63	DRIVING WT. 140 lb.	DATE OF DRILLING 7-12-91				
SURFACE ELEV. 214+	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		27			
5			28	64	54	
10			14		63	
15			14	59	66	
20	MH		9			
25						
30						
Silty CLAY - Mottled brown, moist, stiff. Grading to mottled orange brown color from 9 feet. Clayey SILT - Mottled orange brownish gray, moist, medium stiff, with completely weathered rock fragments. End boring at 20.5 feet.						

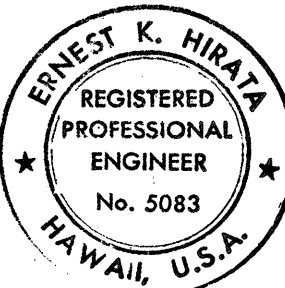
BORING NO. B64 (Cont.)						
W.Q. 90-1790.2						
BORING NO. B64 (Cont.)	DRIVING WT. 140 lb.	DATE OF DRILLING 7-15-91				
SURFACE ELEV. 197.3+	DROP 30 in.	WATER LEVEL @ 4.8 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35			3		75	
40			7	No Recovery		
45			4		73	
50			7	59	71	
55			4		79	
60			9	60	71	
Grading with completely weathered rock fragments from 44 feet. End boring at 60.5 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B60	DRIVING WT. 140 lb.	DATE OF DRILLING 7-9-91				
SURFACE ELEV. 337.9+	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH		10		58	
5				61	64	
10			14		64	
15				63	57	
20			10		42	
25						
30						
Clayey SILT - Brown, moist, medium stiff. Grading to mottled orange brown color with completely weathered rock fragments from 2 feet. Grading stiff from 5 feet. End boring at 20.5 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B62	DRIVING WT. 140 lb.	DATE OF DRILLING 7-11-91				
SURFACE ELEV. 30 in.	DROP 30 in.	WATER LEVEL None				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH		45			
5			50/6" 12/6"	83	26	
10			34			
15			25/6" 50/3"	95	22	
20			18/6" 50/4"			
25			50/No Penetration			
30			50/No Penetration			
Clayey SILT - Mottled brown, moist, medium stiff, with basalt gravel. Grading with cobbles and boulders from 2 feet. Grading to mottled orange brown color with completely weathered rock fragments from 6 feet. End boring at 29 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B64	DRIVING WT. 140 lb.	DATE OF DRILLING 7-15-91				
SURFACE ELEV. 197.3+	DROP 30 in.	WATER LEVEL @ 4.8 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH		12	66	58	
5	CH		4		76	
10			3	58	69	
15			4		124	
20	MH		9	53	79	
25			5		76	
30			11	70	53	
Clayey SILT - Mottled brown, moist, medium stiff. Silty CLAY - Mottled orange gray, moist, firm. Grading soft from 9 feet. Grading with organic material from 15 feet. Clayey SILT - Mottled orange grayish brown, medium stiff, with organic material.						

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	



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Ernest K. Hirata

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 32 OF 41 SHEETS

SCALE: VERT. 1"=4'

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

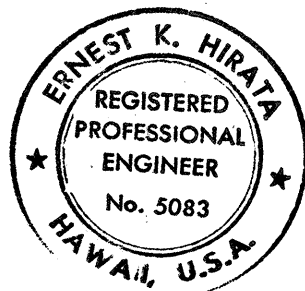
4463-452 Rev. 1-71

BORING LOG							W.Q. 90-1790.2	
BORING NO. B65		DRIVING WT. 140 lb.		DATE OF DRILLING 7-9-91				
SURFACE ELEV. 203.5+		DROP 30 in.		WATER LEVEL @ 4 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0	CH			71	48		Silty CLAY - Mottled brown, moist, stiff, with highly weathered rock fragments. Covered by 6 inches of concrete.	
5			5				Grading medium stiff from 3 feet.	
12			12	85	33			
23	MH		23	85	37		Clayey SILT - Mottled brown, stiff, with highly weathered rock fragments.	
15			7	No Recovery				
17			7	No Recovery				
20			48	113	21		Grading with river washed gravel from 19 feet.	
25			90/9"	101	21			
30			56	82	39			
35			88/9"	Tip Recovery			Grading to mottled grayish brown color from 34 feet.	
40			70	73	28			
45			50/3"	No Recovery			Grading with boulders from 44 feet. Begin NX coring from 44 feet. 90% Recovery from 44 to 49 feet. RQD = 30%	
50							100% Recovery from 49 to 54 feet. RQD = 40%	
55							End boring at 54 feet.	
60								

BORING LOG							W.Q. 90-1790.2	
BORING NO. B66		DRIVING WT. 140 lb.		DATE OF DRILLING 7-3-91				
SURFACE ELEV. 224.1+		DROP 30 in.		WATER LEVEL @ 28 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0	CH		12		57		Silty CLAY - Mottled brown, moist, stiff, with highly weathered rock fragments.	
5			63	58				
11			11	63				
10			64	54			Grading to mottled orange grayish brown color from 9 feet.	
15			14	64				
20			63	56				
25			7	62			Grading medium stiff from 24 feet.	
30			61	63				
35			5	72				
40			62	65				
45			9	55				
50			66	56				
55							End boring at 51 feet.	
60								

BORING LOG							W.Q. 90-1790.2	
BORING NO. B67		DRIVING WT. 140 lb.		DATE OF DRILLING 7-3-91				
SURFACE ELEV. 223.8+		DROP 30 in.		WATER LEVEL @ 28 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0	CH		22		57		Silty CLAY - Mottled brown, moist, stiff, with weathered rock fragments.	
5			70	47				
16			16	54			Grading to mottled orange brown color with completely weathered rock fragments from 5 feet.	
10			70	42				
15			16	62				
20			63	51			Grading medium stiff from 19 feet.	
25			10	71				
30			57	70				
35			7	74				
40			56	65				
45			7	76				
50			No Recovery					
55							End boring at 51 feet.	
60								

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	187	521



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hiraoka

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)	
SCALE: AS NOTED	DATE: DEC. 1991
SHEET No. 33 OF 41 SHEETS	

SCALE: VERT. 1"=4'

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NO.	

44083-45.2 (Rev. 1-71)

BORING LOG							W.Q.	90-1790.2	
BORING NO. B68		DRIVING WT. 140 lb.		DATE OF DRILLING 7-8-91		SURFACE ELEV. 252.1±		WATER LEVEL None	
SURFACE ELEV. 252.1±		DROP 30 in.		WATER LEVEL		None			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION		
0	■	CH	8		35		Silty CLAY - Brown, moist, medium stiff, with weathered rock fragments.		
	□			67	37				
5	■	9		42			Grading to mottled brown color from 9 feet.		
	□		67	49					
10	■	8		65					
	□		59	66					
20	■	11		57					
	□		65	53					
25	■	12		59					
	□		64	58					
30	■	8		62					
	□		64	54					
35	■						End boring at 51 feet.		
40	■								
45	■								
50	■								
55									
60									

BORING LOG							W.Q.	90-1790.2	
BORING NO. B69		DRIVING WT. 140 lb.		DATE OF DRILLING 7-8-91		SURFACE ELEV. 252.9±		WATER LEVEL None	
SURFACE ELEV. 252.9±		DROP 30 in.		WATER LEVEL		None			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION		
0		MH					Clayey SILT - Mottled orange brown, moist, stiff, with highly weathered rock fragments.		
		23		63					
5					42				
		10		59					
15			66	54					
20			15	60					
25			62	58					
						Grading with completely weathered rock fragments from 24 feet.			
30			10	58		Grading medium stiff from 29 feet.			
35			64	52					
40			11	61					
45			70	43					
50			14	60		End boring at 50.5 feet.			
55									
60									

BORING LOG							W.Q.	90-1790.2	
BORING NO. B70		DRIVING WT. 140 lb.		DATE OF DRILLING 7-2-91		SURFACE ELEV. 204.3±		WATER LEVEL @ 11 ft.	
SURFACE ELEV. 204.3±		DROP 30 in.		WATER LEVEL		@ 11 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION		
0	■	CH	7		59		Silty CLAY - Mottled brown, moist, medium stiff, with weathered rock fragments.		
	□			55	71				
5	■		12		64				
	□			59	68				
10	▼								
	■		5		78				
15									
	□			56	74				
20									
	■		5		74				
25							End boring at 25.5 feet.		
30									

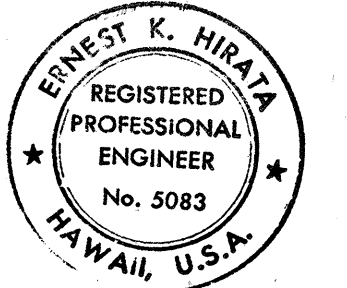
BORING LOG							W.Q.	90-1790.2	
BORING NO. B71		DRIVING WT. 140 lb.		DATE OF DRILLING 7-1-91		SURFACE ELEV. 187.4±		WATER LEVEL @ 5 ft.	
SURFACE ELEV. 187.4±		DROP 30 in.		WATER LEVEL		@ 5 ft.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION		
0		CH					Silty CLAY - Brown, moist, medium stiff, with weathered rock fragments.		
	■		6		42				
	▼			34	134		Grading to gray color and soft with organic material from 5 feet.		
	□								
							Grading to mottled brown color with completely weathered rock fragments from 19 feet.		
-10	■	Wt. of Hammer			108				
	□			50	85		Grading medium stiff from 24 feet.		
-15									
	■	2/No Recovery					Grading to mottled brown color with completely weathered rock fragments from 19 feet.		
-20	□	4	58	68					
	□		59	67			Grading medium stiff from 24 feet.		
-25									
	■		5	65			Grading medium stiff from 24 feet.		
-30									

FED. ROAD DIST. NO.		STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII		HAW.	I-H3-1(72)	1991	188	521

BORING NO. B71 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 7-1-91	
SURFACE ELEV. 187.4±		DROP 30 in.		WATER LEVEL @ 5 ft.	

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSI- FICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
30			5	61	60	79	
35							
40							
45							
50			4		70		End boring at 50.5 feet.
55							
60							

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	188	521



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Ernest K. Hirata

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)	
SCALE: AS NOTED	DATE: DEC. 1991

SCALE: VERT. 1"=4'

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

4081-42, Rev. 1-71

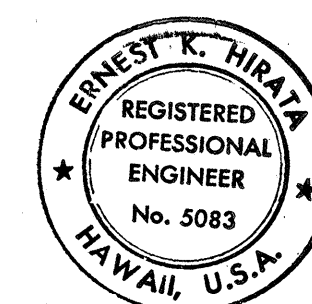
BORING LOG						
W.Q. 90-1790.2						
BORING NO. B72 DRIVING WT. 140 lb. DATE OF DRILLING 7-1-91						
SURFACE ELEV. 175.5± DROP 30 in. WATER LEVEL @ 10.2 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		13		32	
5			73		44	
10			19		63	
15			54		75	
20			3		80	
25			57		68	
30			5		72	
35			No Recovery			
40			3		83	
45			67		44	
50			3			
55			45		107	
60						
Silty CLAY - Mottled brown, moist, medium stiff.						
Grading to brownish gray color and soft from 9 feet.						
Grading with completely weathered rock fragments from 14 feet.						
End boring at 51 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B73 DRIVING WT. 140 lb. DATE OF DRILLING 7-1-91						
SURFACE ELEV. 168.5± DROP 30 in. WATER LEVEL @ 18 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		29		50	
5			65		49	
10			26		52	
15			66		53	
20			9		63	
25			67		55	
30			9		74	
35			63		58	
40			10		68	
45			50		82	
50			5		64	
55			48		89	
60						
Silty CLAY - Mottled brown, moist, stiff.						
Grading medium stiff from 14 feet.						
Grading with completely weathered rock fragments from 19 feet.						
Grading to mottled gray color from 34 feet.						
End boring at 51 feet.						

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B74 DRIVING WT. 140 lb. DATE OF DRILLING 7-5-91						
SURFACE ELEV. 170.5± DROP 30 in. WATER LEVEL @ 16 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		21		61	
5			59		51	
10			13		66	
15			62		48	
20			5		64	
25			68		47	
30			10		74	
35			68		50	
40			11		59	
45			13		68	
50			63		56	
55			11		92	
60			62		54	
Silty CLAY - Mottled orange brown, moist, stiff.						
Grading medium stiff from 14 feet.						
Grading with highly weathered rock fragments from 19 feet.						
End boring at 61 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	189	521

BORING LOG						
W.Q. 90-1790.2						
BORING NO. B75 DRIVING WT. 140 lb. DATE OF DRILLING 7-2-91						
SURFACE ELEV. 167.5± DROP 30 in. WATER LEVEL @ 6 ft.						
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		12		54	
5			61		63	
10			7		67	
15			57		68	
20			9		63	
25			49		87	
30			7		72	
Silty CLAY - Mottled light gray, moist, stiff.						
Grading medium stiff from 5 feet.						
Grading with completely weathered rock fragments from 19 feet.						
End boring at 25.5 feet.						



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Ernest K. Hira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 35 OF 41 SHEETS

SCALE: VERT. 1"=4'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	190	521

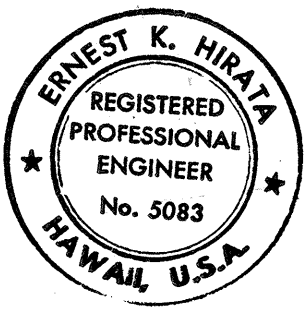
BORING LOG						
W.O. 90-1790.2						
BORING NO. B76	DRIVING WT. 140 lb.	DATE OF DRILLING 7-16-91				
SURFACE ELEV. 142.2	DROP 30 in.	WATER LEVEL @ 11 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			55	68	40	
10			8		40	
15			4	52	74	
20			4		51	
25			3	57	58	
30			5		85	
Clayey SILT - Mottled orange brown, moist, stiff.						
Grading to mottled orange gray color and medium stiff from 5 feet.						
Grading firm with completely weathered rock fragments from 9 feet.						
End boring at 25.5 feet.						

BORING LOG						
W.O. 90-1790.2						
BORING NO. B77	DRIVING WT. 140 lb.	DATE OF DRILLING 6-27-91				
SURFACE ELEV. 135.2	DROP 30 in.	WATER LEVEL @ 15 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		CH				
5			10		58	
10			41		108	
15			3		79	
20			57		70	
25			5		71	
30			64		58	
35			14		76	
40			71		49	
Silty CLAY - Brown, moist, medium stiff.						
Grading to mottled light gray color from 1 foot.						
Grading soft from 5 feet.						
Grading to dark greenish gray color and stiff with completely weathered rock fragments from 19 feet.						

BORING LOG						
W.O. 90-1790.2						
BORING NO. B77 (Cont.)	DRIVING WT. 140 lb.	DATE OF DRILLING 6-27-91				
SURFACE ELEV. 135.2	DROP 30 in.	WATER LEVEL @ 15 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35						
40						
45						
50						
55						
60						
65						
70						
75						
80						
85						
90						
Grading with cobbles and boulders from 32.5 feet.						
Begin NX coring from 35 feet.						
80% Recovery from 35 to 40 feet.						
RQD = 31%						
5% Recovery from 40 to 45 feet.						
RQD = 0%						
End NX coring at 45 feet.						
72/11" No Recovery						
36 No Recovery						
20 60						
50 64 63						
93 Tip Recovery						
Begin NX coring from 60 feet.						
40% Recovery from 60 to 65 feet.						
RQD = 0%						
100% Recovery from 65 to 70 feet.						
RQD = 40%						
End boring at 70 feet.						

BORING LOG						
W.O. 90-1790.2						
BORING NO. B78	DRIVING WT. 140 lb.	DATE OF DRILLING 6-24-91				
SURFACE ELEV. 131.9	DROP 30 in.	WATER LEVEL @ 8 ft.				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		CH				
5			69		46	
10			10		54	
15			69		57	
20			16		43	
25						
30			57		68	
35			10		59	
40						
45						
50						
55						
60						
65						
70						
75						
80						
85						
90						
Silty CLAY - Mottled brown, moist, medium stiff.						
Grading to mottled brownish gray color and soft with sand and weathered gravel from 5 feet.						
Grading stiff from 9 feet.						
Clayey SILT - Dark greenish gray, stiff, with sand and weathered gravel.						
53 80						
21 72						
88/11" 78 41						
85/9" 75 45						
42 Tip Recovery						
50/1" No Recovery						
Grading to mottled orange brown color from 34 feet.						
End boring at 49 feet.						

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



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Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. 36 OF 41 SHEETS

SCALE: VERT. 1"=4'

DATE _____
SURVEY PLOTTED BY _____
DRAWN BY _____
CHECKED BY _____
ORIGINAL PLAN _____
NOTE BOOK _____
No. _____

3085-452 Rev. 1-1

BORING LOG						
BORING NO. B79		DRIVING WT. 140 lb.		W.O. 90-1790.2		
SURFACE ELEV. 113.7±		DROP 30 in.		DATE OF DRILLING 6-25-91		
				WATER LEVEL @ 8 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		18		38	
5			4		76	
10		Tip Recovery			42	
15			14		68	
20				72	44	
25			10		69	
30					50	
35			17		63	
40			67	79	34	No Recovery
45			100/9"	89	33	
50			100/7"	No Recovery		
55						
60						

BORING LOG						
BORING NO. B80		DRIVING WT. 140 lb.		W.O. 90-1790.2		
SURFACE ELEV. 117.4±		DROP 30 in.		DATE OF DRILLING 6-27-91		
				WATER LEVEL None		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		33		31	
5			16		44	
10				67	52	
15			14		58	
20				71	49	
25			14		60	
30						

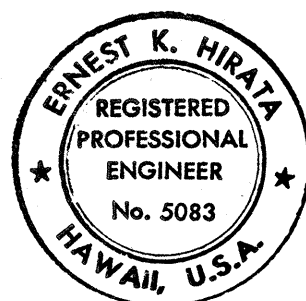
BORING LOG						
BORING NO. B81		DRIVING WT. 140 lb.		W.O. 90-1790.2		
SURFACE ELEV. 124.7±		DROP 30 in.		DATE OF DRILLING 6-26-91		
				WATER LEVEL None		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH		Tip Recovery		36	
5			32		48	
10			10		52	
15				62	56	
20			10		57	
25				64	57	
30						

BORING LOG						
BORING NO. B82		DRIVING WT. 140 lb.		W.O. 90-1790.2		
SURFACE ELEV. 121.7±		DROP 30 in.		DATE OF DRILLING 6-27-91		
				WATER LEVEL None		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	CH			84	38	
5			30		41	
10			21		53	
15				61	54	
20			18		45	
25				73	46	
30						

BORING LOG						
BORING NO. B83		DRIVING WT. 140 lb.		W.O. 89-1790.1		
SURFACE ELEV. _____		DROP 30 in.		DATE OF DRILLING 2-21-90		
				WATER LEVEL @ 9.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5			4			
10				60	69	
15			4			
20				51	71	
25			5			
30				63	57	

BORING LOG						
BORING NO. B83 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 2-21-90		
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ 9.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30						
35			3			
40						
45				55	86	
50			10/No Penetration			
55			48			
60			19			

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	191	521



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Ernest K. Hirt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 37 OF 41 SHEETS

SCALE: VERT. 1"=4'

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

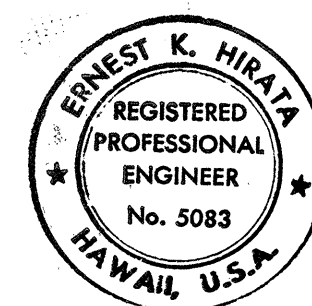
4483-452 Rev. 1-71

BORING LOG						
W.O. 89-1790.1						
BORING NO. B84	DRIVING WT. 140 lb.	DATE OF DRILLING 2-24-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL @ 6.2 ft				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5			65	60		
5	OL					
10		Wt. of Hammer				
15			24	178		
20		Wt. of Hammer			159	
25			29	117		
30	MH	7		76		
35			47	83		
40		18		69		
45			33	68		
50		16		50		
55						
60		24		35		

BORING LOG						
W.O. 89-1790.1						
BORING NO. B85	DRIVING WT. 140 lb.	DATE OF DRILLING 3-8-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL @ 10.4 ft				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5			18	57		
10			67	47		
15			5	52	68	
20			42	66		
25			23	48		
30			27	55		
35			52			
40			15	50		
45			50/4"	25		
50						
55						
60						

BORING LOG						
W.O. 89-1790.1						
BORING NO. B85A	DRIVING WT. 140 lb.	DATE OF DRILLING 3-14-90				
SURFACE ELEV.	DROP 30 in.	WATER LEVEL @ 10.4 ft				
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH					
5						
10						
15						
20						
25						
30						
35						
40						
45						
50						
55						
60						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	192	521



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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
BORING LOGS
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)
SCALE: AS NOTED DATE: DEC. 1991
SHEET No. 38 OF 41 SHEETS

SCALE: VERT. 1"=4'

ORIGINAL PLAN	No.	SURVEY PLOTTED BY	DATE
		DESIGNED BY	
		TRACED BY	
		NOTED BY	
		CHECKED BY	

46-81-43.2 Rev. 1-71

BORING LOG

W.O. 89-1790.1

BORING NO. B86 DRIVING WT. 140 lb. DATE OF DRILLING 3-31-90
SURFACE ELEV. 30 in. WATER LEVEL @ Surface

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		OL					Clayey SILT- Dark grayish brown, wet, very soft, organic.
5			Wt. of Hammer	44	82	313	
10							
15		MH	2		68		Clayey SILT- Grayish brown, moist, soft, with weathered sand and gravel.
20				54	65		
25			4		60		Grading to orange brown color from 22 feet.
30				60	37		
35			5		78		Grading firm from 32 feet.
40				60	32		
45			56		67		Grading to dark grayish brown color from 42 feet.
50			5		62		
55							
60			5		67		

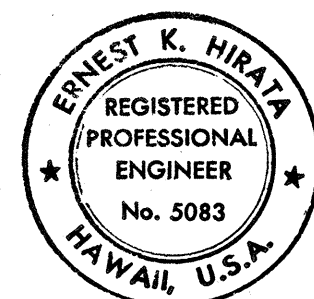
BORING NO. B86 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-4-90
SURFACE ELEV. 30 in. WATER LEVEL @ Surface

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
60			22	64	63		Grading medium stiff from 62 feet.
65							
70			13		62		
75							Grading to dark yellowish brown color from 72 feet.
80			62		54		
85			3		64		Grading firm from 77 feet.
90							
95			63		55		
100			7		54		
105							
110			66		47		
115			14				
120							
			67		47		Grading with highly weathered gravel from 102 feet.
			4				
			60		36		Grading to dark grayish brown color from 112 feet.
			13		60		

BORING NO. B86 (Cont.) DRIVING WT. 140 lb. DATE OF DRILLING 4-7-90
SURFACE ELEV. 30 in. WATER LEVEL @ Surface

DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
120							No Recovery
125			5		66		
130							No Recovery
135							
140			10		54		Grading medium stiff from 137 feet.
145							No Recovery
150			33		75	46	
155			13		55		Grading to reddish brown color from 152 feet.
160							
165			54		No Recovery		
170			9		70		
175			63		67	59	
180							End boring at 168.5 feet.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	193	521



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC. 1991

SHEET No. 39 OF 41 SHEETS

SCALE: VERT. 1"=4'

SURVEY PLOTTED BY

DATE

DRIVEN BY

TRACED BY

NOTED BY

CHECKED BY

No.

4083-422 (Rev. 1-79)

BORING LOG						
BORING NO. B87		DRIVING WT. 140 lb.		DATE OF DRILLING 4-20-90		W.O. 89-1790.1
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ Surface		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		OL				
5			30		136	
10						
15						
20		MH	57		64	
25			5			
30			60		62	
35						
40			3			
45						
50			82		26	
55						
60			8			
Clayey SILT - Dark gray, wet, very soft, organic.						
Clayey SILT - Mottled orange brown, firm, with highly weathered gravel and sand.						
Grading to grayish brown color from 27 feet.						
Grading with gravel and cobbles from 45 feet. Begin NX coring from 46 feet. 83% Recovery from 46 to 51 feet. RQD = 6%						

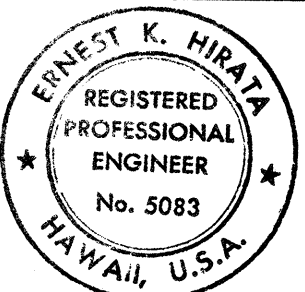
BORING LOG						
BORING NO. B87 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 4-23-90		W.O. 89-1790.1
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ Surface		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
60				62	57	
65			5			
70				60	65	
75						
80			5			
85				66	53	
90						
End boring at 84 feet.						

BORING LOG						
BORING NO. B88		DRIVING WT. 140 lb.		DATE OF DRILLING 3-16-90		W.O. 89-1790.1
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ 6.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH				
5			15		43	
10			9			
15			5		73	
20				60	63	
25			4		73	
30				67	49	
Clayey SILT - Brown, moist, medium stiff, with sand and gravel.						
Grading to mottled orange brown color from 5 feet.						
Grading firm from 13 feet.						
Grading with highly weathered gravel from 18 feet.						

BORING LOG						
BORING NO. B88 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-17-90		W.O. 89-1790.1
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ 6.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
30			14		66	
35						
40			70		66	
45			16		63	
50				35	132	
55			8		59	
60				67	45	
65			22		55	
70				62	60	
75			25		51	
80			13			
85			26		60	
90			16		70	
Grading firm to medium stiff from 33 feet.						
Organic material at 48 feet.						
Grading to dark gray color with river wash gravel at 60 feet.						
Grading medium stiff from 65 feet.						
Grading sandier from 69 feet.						

BORING LOG						
BORING NO. B88 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-21-90		W.O. 89-1790.1
SURFACE ELEV. _____		DROP 30 in.		WATER LEVEL @ 6.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
90						
95			20		57	
100			16		68	
105			12		58	
110				56	64	
115			10		60	
120						
125			8		69	
130			11		60	
135			16		59	
140			16		51	
145			23		62	
150						
Grading to orange brown color from 108 feet.						
Grading to mottled grayish brown color from 124 feet.						
Grading to mottled orange brown color from 145 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	194	521



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ernest K. Hunt

SCALE: VERT. 1"=4'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED

DATE: DEC 1991

SHEET No. 40 OF 41 SHEETS

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

40681-452 R06/1-7

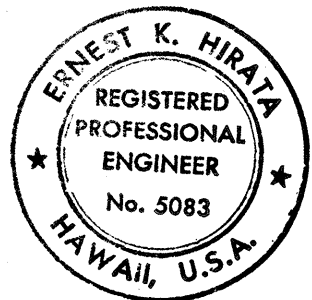
BORING LOG						
BORING NO. B88 (Cont.)		DRIVING WT. 140 lb.		DATE OF DRILLING 3-16-90		
SURFACE ELEV. 30 in.		DROP 30 in.		WATER LEVEL @ 6.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
-150			55	61	64	
-155			24		50	
-160			18		52	
-165			105/10	73	52	
-170			25			
-175			42			
-180			22	58	73	
-185			5			
-190			44		38	
-195			37			
-200			43			
-205			11		46	
-210						
Grading to dark gray color from 150 feet.						
Sandy from 165 feet.						
Grading to mottled orange color from 180 feet.						
Grading stiff from 190 feet.						
Grading to orange brown color from 200 feet.						

BORING LOG						
BORING NO. B88 (Cont.)		DRIVING WT. 300 lb.		DATE OF DRILLING 3-22-90		
SURFACE ELEV. 30 in.		DROP 30 in.		WATER LEVEL @ 6.9 ft.		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
-210			19			
-215			26			
-220			6			
-225			19			
-230				69	43	
-235			16			
-240			11			
-245						
-250						
-255						
-260						
-265						
-270						
Grading to brown color from 220 feet, clayey.						
End boring at 241.5 feet.						

BORING LOG						
BORING NO. B89		DRIVING WT. 140 lb.		DATE OF DRILLING 10-29-91		
SURFACE ELEV. 383±		DROP 30 in.		WATER LEVEL None		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH	9	62	58	
5			16	73	44	
10			28	68	58	
15			9	56	73	
20			53/5"	67	60	
25						
30						
Clayey SILT - Mottled brown, moist, firm to medium stiff, with weathered rock fragments. Grading with cobbles and boulders from 2.5 feet.						
End boring at 15 feet.						

BORING LOG						
BORING NO. B90		DRIVING WT. 140 lb.		DATE OF DRILLING 10-30-91		
SURFACE ELEV. 375±		DROP 30 in.		WATER LEVEL None		
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0		MH	12	71	46	
5			9	75	37	
10			8	48	63	
15			3	71	41	
20			3	64	64	
25			9	67	52	
30						
Clayey SILT - Mottled brown, moist, medium stiff.						
Grading with highly weathered rock fragments from 5 feet. Cobble at 6.5 feet.						
Grading soft from 14 feet.						
End boring at 25.5 feet.						

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	195	521



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Ernest K. Hirata

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I-H3-1(72)	
SCALE: AS NOTED	DATE: DEC. 1991
SHEET No. 41 OF 41 SHEETS	

SCALE: VERT. 1"=4'