





FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	231	274

BORING IP-7 FILE 433-2 DATE 7-31-84						PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEV. 601± DEPTH TO WATER NONE ENCOUNTERED					
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION	LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
68	56	8	1	1	DARK BROWN CLAYEY SILT (ML) WITH TRACE OF ORGANICS AND DECOMPOSED ROCK FRAGMENTS, MEDIUM STIFF TO STIFF, DAMP TO WET						
60	61	16	2	2							
68		12	3	3							
				4							
61	61	5	4	4	(ASH)						
68		7	5	5							
				6							
58		9	6	6							
				7	DARK GRAY/BROWN SILT (ML), MEDIUM STIFF, WET						
				8							
				9	(DECOMPOSED CINDERS)						
				10							
				11	REDDISH BROWN SILTY SAND (SM), WITH DECOMPOSED ROCK FRAGMENTS, MEDIUM DENSE, MOIST						
				12							
				13	(RESIDUAL)						
				14							
				15	DARK BROWN SANDY SILT (ML), STIFF, WET						
				16							
				17	(RESIDUAL)						
				18							
				19	DARK BROWN SANDY SILT (ML), STIFF, WET						
				20							
				21	(RESIDUAL)						
				22							
				23	DARK BROWN SANDY SILT (ML), STIFF, WET						
				24							
				25	(RESIDUAL)						
				26							
				27	DARK BROWN SANDY SILT (ML), STIFF, WET						
				28							
				29	(RESIDUAL)						
				30							
				31	DARK BROWN SANDY SILT (ML), STIFF, WET						
				32							
				33	(RESIDUAL)						
				34							
				35	DARK BROWN SANDY SILT (ML), STIFF, WET						
				36							
				37	(RESIDUAL)						
				38							
				39	DARK BROWN SANDY SILT (ML), STIFF, WET						
				40							
				41	(RESIDUAL)						
				42							
				43	DARK BROWN SANDY SILT (ML), STIFF, WET						
				44							
				45	(RESIDUAL)						
				46							
				47	DARK BROWN SANDY SILT (ML), STIFF, WET						
				48							
				49	(RESIDUAL)						
				50							
				51	DARK BROWN SANDY SILT (ML), STIFF, WET						
				52							
				53	(RESIDUAL)						
				54							
				55	DARK BROWN SANDY SILT (ML), STIFF, WET						
				56							
				57	(RESIDUAL)						
				58							
				59	DARK BROWN SANDY SILT (ML), STIFF, WET						
				60							
				61	(RESIDUAL)						
				62							
				63	DARK BROWN SANDY SILT (ML), STIFF, WET						
				64							
				65	(RESIDUAL)						
				66							
				67	DARK BROWN SANDY SILT (ML), STIFF, WET						
				68							
				69	(RESIDUAL)						
				70							

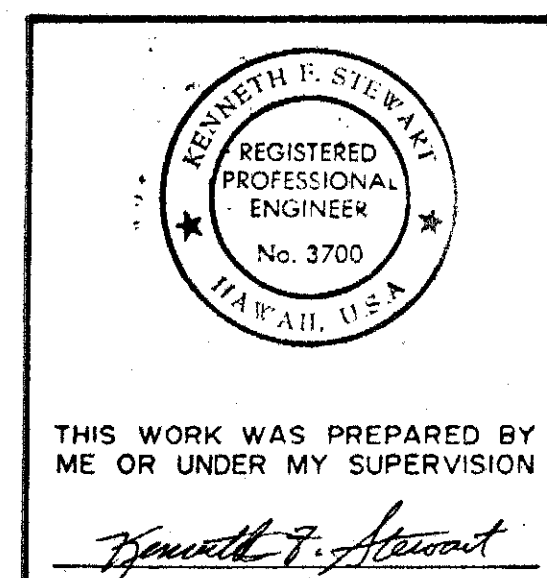
BORING IP-7 CONT.				PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2				SURFACE ELEV. 601±			
DATE 7-31-84				DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION		
			18	16		BROWN SANDY SILT (ML)	
			14	17		VERY STIFF, MOIST	
			30	18		(RESIDUAL)	
			73	19		GRAY BROWN DECOMPOSED ROCK, SLIGHTLY VESICULAR, HARD, MOIST	
			36	20			
			R	21			
			53	22		(DECOMPOSED ROCK)	
			55	23		GRAY BROWN DECOMPOSED ROCK, SLIGHTLY VESICULAR, HARD, MOIST	
			R	24		(DECOMPOSED ROCK)	
						GRAY BASALT, HARD, DAMP	
						BOH @ 109.5'	
				115			
				120			
				125			
				130			
				135			
				140			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	232	274

BORING IP-8		PROJECT H-3 PRELIMINARY RECOMMENDATION		SURFACE ELEV. 569±		DEPTH TO WATER NONE ENCOUNTERED	
FILE 433-2							
DATE 8-10-84							
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION		
	57	64	7	1	BROWN SILT (ML) WITH SOME GRAVEL, MEDIUM STIFF, WET		
			5	2			
			16	3	(ALLUVIUM)		
			60% NX RECOV. CORE	10			
			56	4	COBBLES, BOULDERS, GRAVEL WITH SILTY SAND, DENSE, MOIST		
			50% NX RECOV. CORE	15			
			7	5	(STREAM WASH)		
NON-PLASTIC	75	54	10	6			
NON-PLASTIC	64	62	20	7	BROWN SANDY SILT (ML), VERY STIFF, WET		
	60	64	30	8			
	61	65	17	9			
	67	58	16	10	(DECOMPOSED CINDERS)		
			27	11			
			59	12	BROWN SANDY SILT (ML), VERY STIFF TO HARD, WET		
			15	13			
			37	16	(DECOMPOSED CINDERS)		
			70% NX RECOV. CORE	65	GRAY/BROWN TUFF, HARD (TUFF)		
			34	15	BROWN SILTY SAND (SM), MEDIUM DENSE, WET (DECOMPOSED CINDERS)		

BORING IP-8 CONT.		PROJECT H-3 PRELIMINARY RECOMMENDATION		SURFACE ELEV. 569±		DEPTH TO WATER NONE ENCOUNTERED	
FILE 433-2							
DATE 8-10-84							
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION		
				70	BROWN SILTY SAND (SM), MEDIUM DENSE, WET (DECOMPOSED CINDERS)		
			60% NX RECOV. CORE	75			
			95% NX RECOV. CORE	80	BROWN/GRAY WELDED CINDERS, MEDIUM HARD TO HARD, MASSIVE (TUFF)		
			50% NX RECOV. CORE	85	GRAY BASALT, HARD		
				90			
				95			
				100			
				105			

BORING OP-8		PROJECT H-3 PRELIMINARY RECOMMENDATION		SURFACE ELEV. 579±		DEPTH TO WATER NONE ENCOUNTERED	
FILE 433-2							
DATE 8-7-84							
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION		
	51	67	11	1	DARK BROWN SILT (ML), VERY STIFF TO HARD, MOIST		
	34	78	26	2	(ASH)		
			50% NX RECOV. CORE	5			
			83% NX RECOV. CORE	10	GRAY/BROWN BASALT COBBLES AND BOULDERS WITH SOIL SEAMS		
			R 3	15			
			80% NX RECOV. CORE	20	(STREAM WASH)		
			6	4			
	67	61	6	5	BROWN SILTY SAND (SM), LOOSE TO MEDIUM DENSE, WET		
	43		30	6	(DECOMPOSED CINDERS)		
	48	75	R	7	BROWN/BLACK SAND (SM), VERY DENSE, WET		
	24		113	8	(CINDERS)		
			R 9	9			
			100% NX RECOV. CORE	40			
			95% NX RECOV. CORE	45	GRAYISH BROWN TUFF, HARD, MASSIVE		
			100% NX RECOV. CORE	50	(TUFF)		
				55			
				60			
				65			
				70			



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Kenneth E. Stewart

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

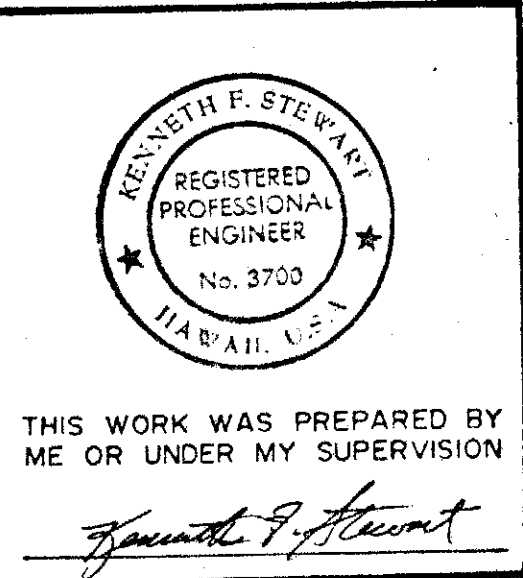
INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET No. 89 OF 32 SHEETS

239
232

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	233	274

BORING IP-9 FILE 433-2 DATE 8-15-84			PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEV. 567± DEPTH TO WATER NONE ENCOUNTERED		
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
LL=65 PI=15	40	73	16	1	BROWN CLAYEY SILT (ML) WITH COBBLES, STIFF TO VERY STIFF, MOIST
			13	2	
	47		10	3	
			14	4	(ASH)
LL=89 PI=27	88	49	6	5	DARK BROWN CLAYEY SILT (MH), STIFF, WET
			10	6	
LL=85 PI=32	64	50	10	7	DARK BROWN CLAYEY SILT (MH), STIFF, WET
			8	8	
	81	53	9	8	
			12	9	(DECOMPOSED CINDERS)
	88	47	12	9	BROWN SANDY SILT (ML) WITH ROCK FRAGMENTS, HARD, WET
			71	10	(DECOMPOSED CINDERS)
			75	11	
			66	12	(DECOMPOSED CINDERS)
			R	13	YELLOW BROWN WEATHERED CEMENTED CINDERS, HARD, MOIST
			80	14	
			134	15	(CINDERS)
			95	16	BROWN WELDED CINDERS, VERY HARD
			70% NX RECOV. CORE	60	
				65	(WELDED CINDERS)
				70	BOH @ 66.0'

DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
IN CHARGE	_____



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1 (57) F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET No. 810 OF 32 SHEETS	

DATE	_____
------	-------

REVISION

240
233

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	234	274

BORING IP-12 PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 544±									
DATE 8-29-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMP. DEPTH	CLASSIFICATION				
	49		6	1	BROWN CLAYEY SILT (ML) WITH GRAVEL, MEDIUM STIFF, MOIST				
				2					
	46	77	6	3					
			5	4					
					(COLLUVIUM)				
	82	54	4	5	REDDISH BROWN CLAYEY SILT (ML), SOFT, WET				
			3	6					
	85	54	3	7					
					(ASH)				
			7	8	BROWN SANDY SILT (ML), MEDIUM STIFF, MOIST				
			8	9					
	77	55	7	10					
C=800 PSF Ø=26"	73	57	6	11					
	78	52	6	12					
C=600 PSF Ø=38"	70	56	5	13					
	60	66	11	14					
C=550 PSF Ø=31"	68	60	5	15	(DECOMPOSED CINDERS)				

BORING IP-12 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 544±									
DATE 8-29-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMP. DEPTH	CLASSIFICATION				
C=425 PSF Ø=35"	62	63	4	16	BROWN SANDY SILT (ML), MEDIUM STIFF, MOIST				
	71	58	9	17					
			10	18					
					(DECOMPOSED CINDERS)				
C=450 PSF Ø=44"	68	62	12	19	DARK BROWN SANDY SILT (ML), STIFF, WET				
			17	20					
			11	21					
			16	22					
					(DECOMPOSED CINDERS)				
					DARK BROWN SILT (ML) WITH CINDERS, VERY STIFF, MOIST				
			17	23					
					(DECOMPOSED CINDERS)				

BORING IP-12 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 544±									
DATE 8-29-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMP. DEPTH	CLASSIFICATION				
					DARK BROWN SILT (ML) WITH CINDERS, VERY STIFF, MOIST				
					(DECOMPOSED CINDERS)				
					DARK GRAY SILT (ML), VERY STIFF TO HARD, MOIST				
					(DECOMPOSED ROCK)				
					BOH @ 166.0'				

DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

REGISTERED PROFESSIONAL ENGINEER
No. 2700
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
Edward P. Stewart

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET No. 211 OF 32 SHEETS

DATE	REVISION
------	----------

241
234

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(57)	1988	235	274

DEPTH	SOIL SYMBOL	BORING NO. 9	DATE
		ELEVATION	
		WATER LEVEL	
		WATER ELEVATION	
		DESCRIPTION	
10		STIFF, MOTTLED BROWN CLAYEY SILT WITH GRAVEL BLUE, ROCK (BOULDER?)	
		BROWN, SILTS WITH GRAVEL & BLUE ROCK (BOULDER?)	
20		BLUE ROCK (BOULDERS & COBBLES)	
		GRAY-BROWN DECOMPOSED ROCK	
30			
40		GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES	
50			
60			
70		GRAY-BROWN PUKA PUKA ROCK	
80		GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES	
90		REDDISH BROWN-GRAY PUKA PUKA ROCK WITH CINDERS	
100			
110		END OF BORING @ 108'	
120			
130			
140			
150			
160			
170			
180			

DEPTH	SOIL SYMBOL	BORING NO. 11	DATE
		ELEVATION	
		WATER LEVEL	
		WATER ELEVATION	
		DESCRIPTION	
10		STIFF, MOTTLED BROWN CLAYEY SILT WITH SOME ROOTS	
		STIFF, MOTTLED BROWN CLAYEY SILT	
20		STIFF, BROWN CLAYEY SILT	
30		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
		STIFF, BROWN CLAYEY SILT	
40		STIFF, MOTTLED BROWN & GRAY CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
		STIFF, BROWN & GRAY CLAYEY SILT	
50		STIFF, MOTTLED BROWN & GRAY CLAYEY SILT	
		HARD, MOTTLED BROWN CLAYEY SILT	
60		HARD, MOTTLED BROWN & GRAY CLAYEY SILT	
		HARD, MOTTLED BROWN & GRAY CLAYEY SILT WITH DECOMPOSED ROCK	
70		BROWN, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED	
		CLINKERS WITH BROWN & GRAY PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED	
80		FRACTURED BLUE ROCK SLIGHTLY WEATHERED	
90		BROWN & GRAY, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED	
		GRAY, FRACTURED PUKA PUKA LAVA ROCK SLIGHTLY WEATHERED	
100			
110		GRAY & BROWN PUKA PUKA ROCK WITH TAN CLAY IN FRACTURES	
120		GRAY, PUKA PUKA ROCK WITH FRACTURES	
130		GRAY-BROWN PUKA PUKA ROCK WITH FRACTURES	
140		END OF BORING @ 136.5'	
150			
160			
170			
180			

DEPTH	SOIL SYMBOL	BORING NO. 12	DATE
		ELEVATION	
		WATER LEVEL	
		WATER ELEVATION	
		DESCRIPTION	
10		SOFT, MOTTLED BROWN & GRAY CLAYEY SILT	
		MEDIUM REDDISH BROWN & BROWN CLAYEY SILT	
20			
		STIFF, MOTTLED BROWN & GRAY CLAYEY SILT	
30			
		STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
40		MEDIUM TO STIFF REDDISH BROWN & GRAY CLAYEY SILT	
		STIFF, MOTTLED GRAY & BROWN CLAYEY SILT	
50		STIFF, MOTTLED BROWN CLAYEY SILT	
60		STIFF, MOTTLED GRAY & BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
70		GRAY BROWN PUKA PUKA ROCK WITH FRACTURES & TRACES OF BROWN CLAY	
80			
90		GRAY BROWN PUKA PUKA ROCK WITH FRACTURES	
100			
110		BLUE PUKA PUKA ROCK WITH FRACTURES	
120		BROWN & GRAY CLINKERS	
130		GRAY PUKA PUKA ROCK SLIGHTLY FRACTURED	
140		GRAY-BROWN PUKA PUKA ROCK	
150		END OF BORING @ 150'	
160			
170			
180			

DEPTH	SOIL SYMBOL	BORING NO. 13	DATE
		ELEVATION	
		WATER LEVEL	
		WATER ELEVATION	
		DESCRIPTION	
10		STIFF, BROWN CLAYEY SILT WITH TRACES OF ROOTS	
		MOTTLED BROWN DECOMPOSED ROCK	
20		STIFF, TAN BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
		GRAY WITH TRACES OF BROWN DECOMPOSED ROCK	
30		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
		STIFF, MOTTLED RED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
40		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
		MOTTLED BROWN DECOMPOSED ROCK WITH CLAYEY SILT	
50		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
60		GRAY BROWN PUKA PUKA ROCK HIGHLY WEATHERED	
70		CLINKERS	
80		FRACTURED BLUE ROCK	
90			
100		BROWN PUKA PUKA ROCK	
110			
120		PUKA PUKA ROCK	
130			
140		END OF BORING @ 145'	
150			
160			
170			
180			

DEPTH	SOIL SYMBOL	BORING NO. 14	DATE
		ELEVATION	
		WATER LEVEL	
		WATER ELEVATION	
		DESCRIPTION	
10		MEDIUM, BROWN CLAYEY SILT WITH ROOTS & DECOMPOSED ROCK	
		MEDIUM, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
20		MEDIUM, TAN BROWN WITH BLACK CLAYEY SILT WITH DECOMPOSED ROCK	
		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
30			
40			
50		MOTTLED RED BROWN DECOMPOSED ROCK WITH CLAYEY SILT	
		RED & BROWN PUKA PUKA ROCK	
60			
70			
80			
90		END OF BORING @ 90.5'	
100			
110			
120			
130			
140			

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(57)
F.A.I. PROJECT NO. I-H3-1(58)
SCALE: AS NOTED DATE: SEPT. 1988

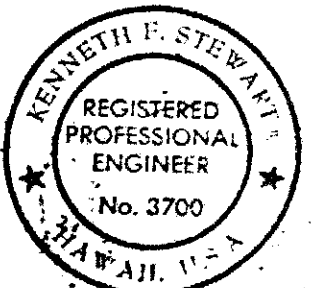
SHEET NO. 812 OF 32 SHEETS

242
235

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	236	274

BORING OP-12						PROJECT H-3 PRELIMINARY RECOMMENDATION					
FILE 433-2						SURFACE ELEV. 566±					
DATE 8-22-84						DEPTH TO WATER NONE ENCOUNTERED					
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPL. DEPTH	DEPTH	CLASSIFICATION					
	39	78	10	1	0	DARK BROWN SILT (ML) WITH COBBLES AND GRAVEL, <u>VERY STIFF</u> , MOIST					
	56	49	5	2	5						
			11	3	10						
						(COLLUVIUM)					
	70	55	5	4	15	BROWN SILT (ML), <u>STIFF TO VERY STIFF</u> , MOIST					
			8	5	20						
	73	56	8	6	25						
			8	7	30						
	74	55	11	8	35						
			12	9	40						
	72	54	13	10	45						
			12	11	50						
	76	52	14	12	55						
			13	13	60						
	72	58	16	14	65	(DECOMPOSED CINDERS)					
			23	15	70						

BORING OP-12 CONT.						PROJECT H-3 PRELIMINARY RECOMMENDATION					
FILE 433-2						SURFACE ELEV. 566±					
DATE 8-22-84						DEPTH TO WATER NONE ENCOUNTERED					
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPL. DEPTH	DEPTH	CLASSIFICATION					
			R SPT	16	70	BROWN SILT (ML), <u>VERY STIFF</u> , MOIST (DECOMPOSED CINDERS)					
			65% RECOV. CORE	17	75						
			10% RECOV. CORE			GRAY BASALT BOULDER, FRACTURED					
	59		24	18	80	BROWN SANDY SILT (ML), <u>VERY STIFF</u> , MOIST					
	57	71	32	19	85						
						(DECOMPOSED CINDERS)					
			7	20	90	REDDISH BROWN SILT (ML), <u>VERY STIFF TO HARD</u> , MOIST					
			30	21	95						
	55	66	55	22	100						
	53	68	34	23	105						
	50	77	150	24	110						
			33	25	115						
	62	61	40	27	120						
	48	71	48	28	125	(RESIDUAL)					
						BOH @ 120.0'					



THIS WORK WAS PREPARED BY
 ME OR UNDER MY SUPERVISION
Kenneth E. Stearns

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
BORING LOGS

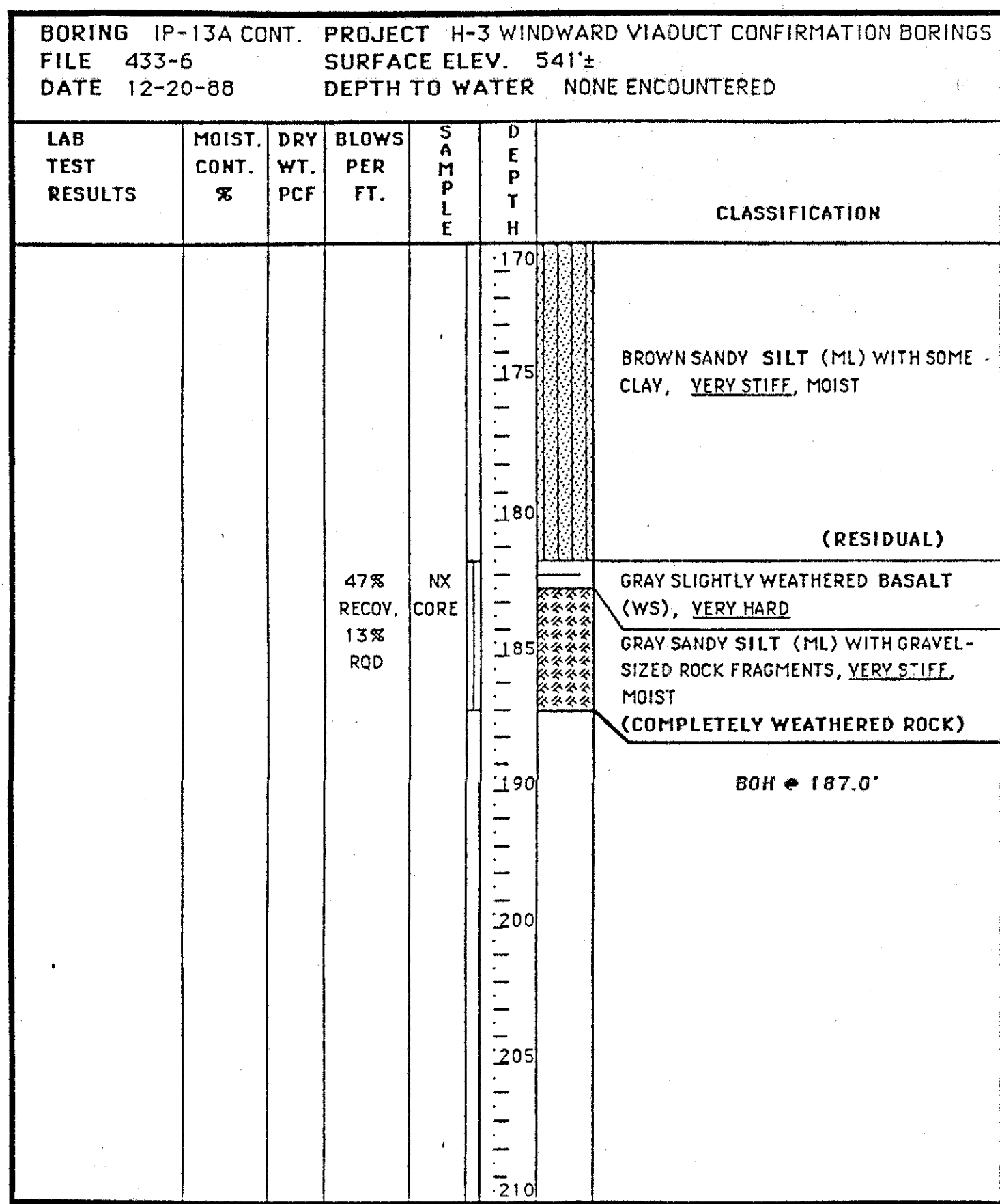
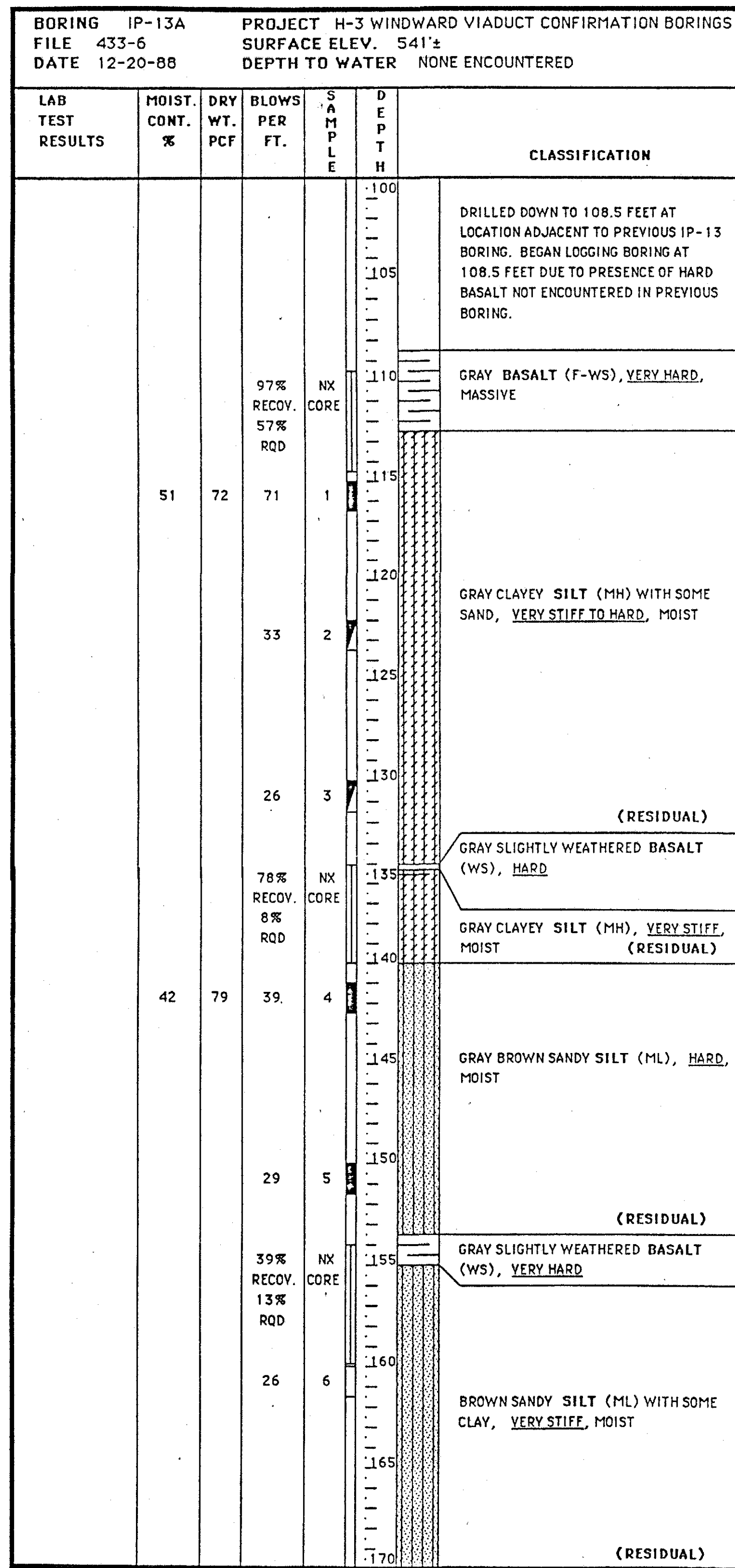
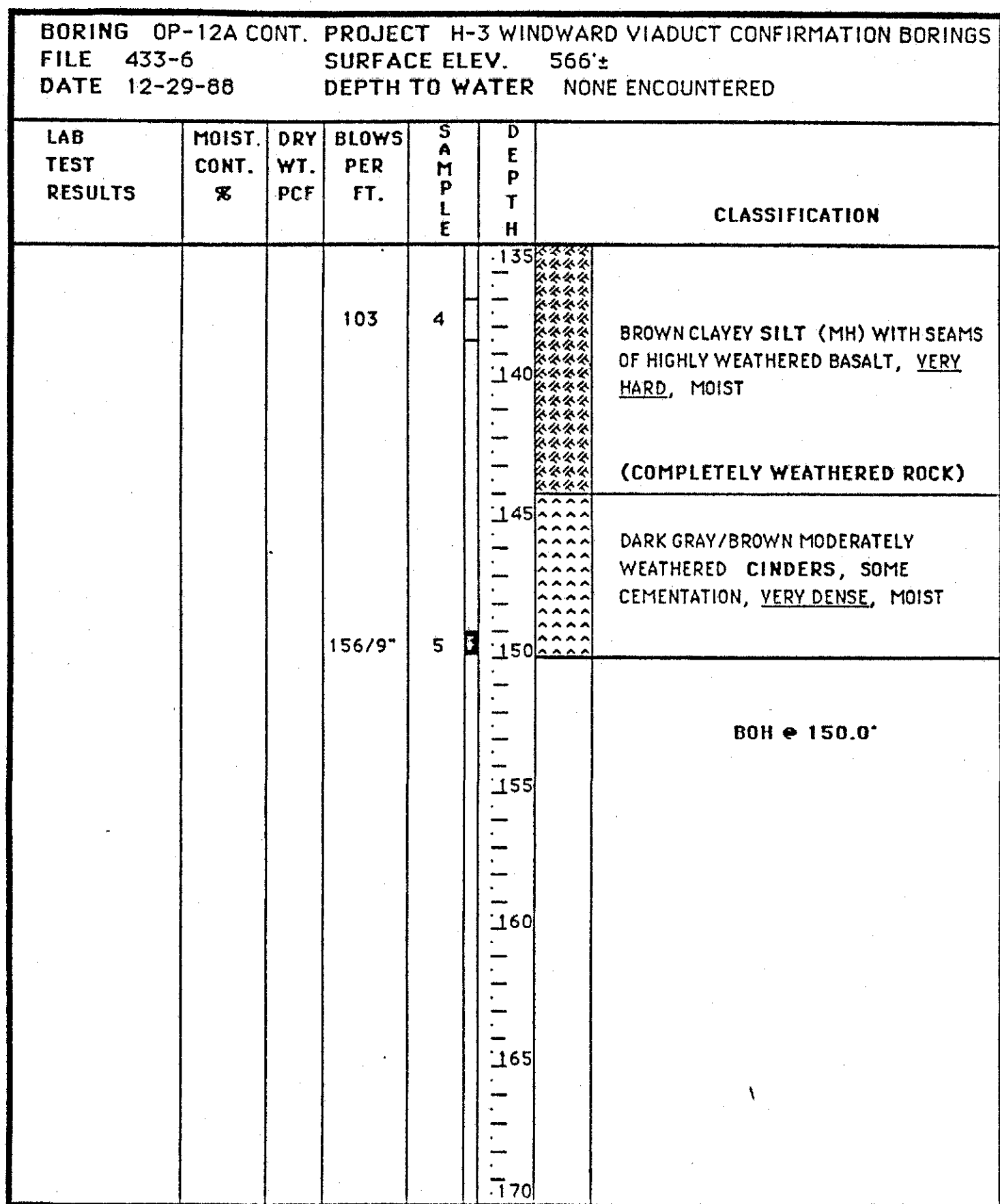
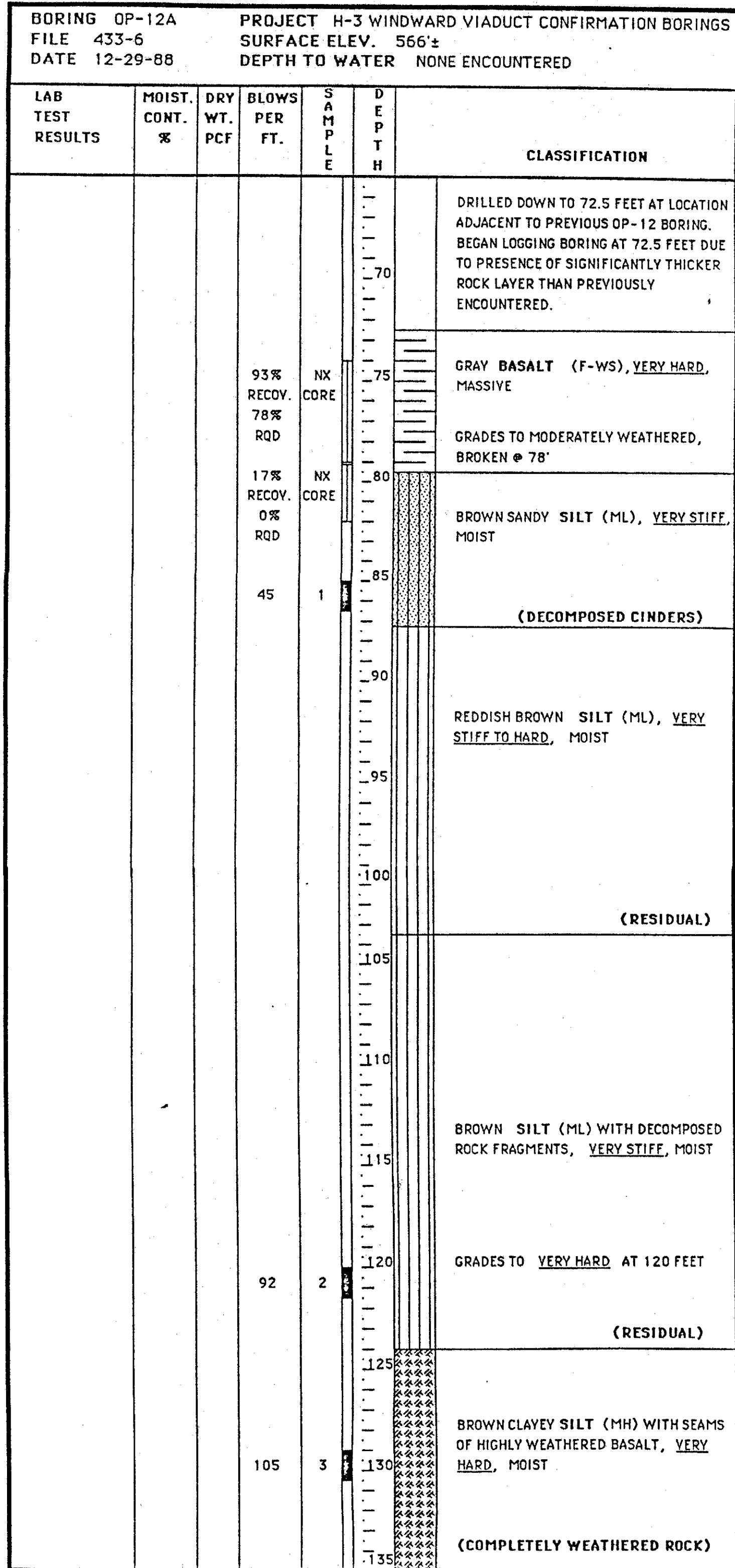
INTERSTATE ROUTE H-3
 F.A.I. PROJECT NO. I-H3-1 (57)
 F.A.I. PROJECT NO. I-H3-1 (58)
 SCALE: NONE DATE: SEPT. 1988
 SHEET No. B13 OF 32 SHEETS

DATE

REVISION

~~244~~
237

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	238	274



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

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. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: _____
SHEET No. B15 OF 32 SHEETS

DATE REVISION

245
238

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	239	274

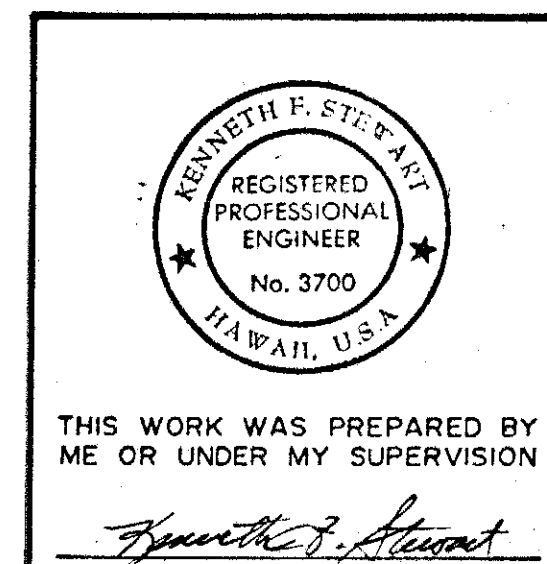
BORING IP-14		PROJECT H-3 PRELIMINARY RECOMMENDATION				
FILE 433-2		SURFACE ELEV. 513±				
DATE 9-12-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
C=900 PSF δ=42°	16	28	1		5	DARK BROWN CLAYEY SILT (ML) WITH COBBLES AND BOULDERS, <u>VERY STIFF</u> , DAMP
			2		10	
			3		15	
C=1000 PSF δ=44°	63	63	4		20	(COLLUVIUM) DARK BROWN SANDY SILT (ML), <u>HARD</u> , DAMP (ASH WITH CINDERS)
			5		25	VOID @ 20' TO 21'
			6		30	BROWN SILTY SAND (SM) WITH DECOMPOSED ROCK, <u>MEDIUM DENSE</u> , MOIST (CINDERS)
C=760 PSF δ=36°	58	62	7		35	BROWN/GRAY ROCK, <u>HARD</u> , FRACTURED (BOULDER) BROWN SANDY SILT (ML) WITH DECOMPOSED CINDERS, <u>VERY STIFF</u> , MOIST
			8		40	
			9		45	
C=800 PSF δ=38°	44	74	10		50	GRAY/BROWN SILT (ML) WITH SOME DECOMPOSED ROCK, <u>HARD</u> , MOIST
			11		55	
			12		60	
	48	75	12		65	(RESIDUAL) GRAY/BROWN DECOMPOSED ROCK WITH SOME SILT POCKETS, <u>MEDIUM HARD TO HARD</u> , MOIST (DECOMPOSED ROCK)

BORING IP-14 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION				FILE 433-2		SURFACE ELEV. 513±	
DATE 9-12-84				DEPTH TO WATER		NONE ENCOUNTERED	
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION	
	39	82	88	13	70		GRAY/BROWN DECOMPOSED ROCK WITH SOME SILT POCKETS MEDIUM HARD TO HARD, MOIST
	22		31	14	80		
					85		
					90		
	39		27	15	95		
					95		
					100		
	36		R	16	100		
					105		
					105		
						(DECOMPOSED ROCK)	
						BOH @ 100.0'	

BORING OP-14 FILE 433-2 DATE 9-11-84			PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEV. 530± DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION
C=700 P.S.F. Ø=45*	41	61	23	1	0	BROWN SANDY SILT (MH) WITH SOME GRAVEL, <u>VERY STIFF</u> , MOIST
	36	71	31	2	5	
			R	3	10	
LL=66 PI=2	55	60	15	4	15	(DECOMPOSED COLLUVIUM)
	50	70	29	5	20	
	64	64	25	6	25	
C=880 P.S.F. Ø=24*	65		16	7	30	BROWN CLAYEY SILT (ML) WITH DECOMPOSED CINDERS, <u>HARD</u> , DAMP
	54	66	26	8	35	
			27	9	40	
LL=47 PI=13				R	45	(DECOMPOSED CINDERS)
				80% NX RECOV. CORE	50	
					55	
					60	BROWNISH GRAY TUFF, <u>HARD</u> , MASSIVE (TUFF)
	50	45	11		65	BROWN CEMENTED CINDERS, <u>HARD</u> , MASSIVE (CINDERS)
	37	25	12		70	DARK BROWN SANDY SILT (ML) WITH CINDERS, <u>STIFF</u> , MOIST
					75	(CINDERS)

BORING OP-14A FILE 433-6 DATE 11-18-88			PROJECT H-3 WINDWARD VIADUCT CONFIRMATION BORINGS SURFACE ELEV. 530± DEPTH OF WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION
					70	NOTE: DRILLED DOWN TO 76.5 FEET AT LOCATION ADJACENT TO PREVIOUS OP-14 BORING. BEGAN LOGGING THE BORING AT 76.5 FEET.
					75	
					80	DARK BROWN SANDY SILT (ML) WITH CINDERS, <u>VERY STIFF</u> , MOIST (CINDERS)
		93% RECOV. 52% RQD	NX CORE			GRAY SLIGHTLY WEATHERED BASALT (WS), <u>HARD</u> , BROKEN TO OCCASIONALLY BROKEN
		68% RECOV. 23% RQD	NX CORE		85	DARK GRAY MODERATE TO HIGHLY WEATHERED BASALT (WM-WH), <u>MEDIUM HARD TO HARD</u>
		82% RECOV. 17% RQD	NX CORE		90	REDDISH BROWN COMPLETELY WEATHERED BASALT (WC), <u>MEDIUM HARD</u> , BROKEN
		89% RECOV. 31% RQD	NX CORE		95	DARK GRAY MODERATELY WEATHERED BASALT (WM), <u>HARD</u> , BROKEN
					100	GRADES TO VESICULAR AT 94' GRAY AND BROWN HIGHLY TO COMPLETELY WEATHERED BASALT (WH-WC)
					105	BOH @ 100.0' NOTE: HARD DRILLING ENCOUNTERED BETWEEN DEPTHS OF 34 AND 50 FEET.

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET NO. B16 OF 32 SHEETS

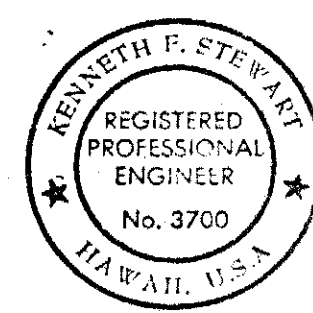
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	240	274

BORING IP-15 PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 452±									
DATE 9-20-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T.H.	CLASSIFICATION			
LL=79 PI=27	59	60	6	1	0	BROWN CLAYEY SILT (MH) WITH GRAVEL AND COBBLES, <u>STIFF</u> , MOIST			
			20	2	5				
	58	64	20	3	10				
QU=4000 PSF	53	67	11	4	15	(DECOMPOSED COLLUVIUM)			
					20				
	62	61	15	5	25				
C=800 PSF Ø=41"					30	BROWN CLAYEY SILT (ML) WITH TRACE OF SAND, <u>HARD</u> , MOIST			
	66	59	10	6	35				
					40				
	65	53	21	7	45				
	52	68	30	8	50				
C=600 PSF Ø=38"					55	BLACK/BROWN SILTY SAND (SM) WITH GRAVEL, <u>LOOSE TO MEDIUM DENSE</u> , WET			
	63	61	17	9	60				
					65				
					70				
	61	55	13	11	75				
C=600 PSF Ø=38"					80	BROWN CLAYEY SILT (ML-MH) WITH DECOMPOSED ROCK, <u>VERY STIFF</u> , MOIST			
					85				
	60	62	25	12	90				
					95	(RESIDUAL)			
					100	DARK BROWN SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST			
					105	(RESIDUAL)			

BORING IP-15 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 452±									
DATE 9-20-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T.H.	CLASSIFICATION			
	45		57	13	70	DARK BROWN SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST			
					75				
					80				
	42		34	14	85	NOTE: DRILLED DOWN TO 91.0 FEET AT LOCATION ADJACENT TO PREVIOUS IP-15 BORING. BEGAN LOGGING THE BORING AT 91.0 FEET.			
					90				
					95				
	35		62/5"	15	100	DARK BROWN HIGHLY WEATHERED BASALT (WH), <u>HARD</u>			
					105				
					110				
					115	GRAY MODERATELY WEATHERED BASALT (WM), <u>VERY HARD</u> , BROKEN TO OCCASIONALLY BROKEN			
					120				
					125				
					130	DARK GRAY SANDY SILT (ML) WITH GRAVEL, COBBLES, <u>DENSE</u> (CLINKER)			
					135				
					140				
					145	GRAY MODERATELY WEATHERED BASALT (WM), <u>MEDIUM TO VERY HARD</u> , BROKEN TO OCCASIONALLY BROKEN			
					150				
					155				
					160	GRAY SLIGHTLY WEATHERED BASALT (WS), <u>VERY HARD</u> , OCCASIONALLY BROKEN TO MASSIVE			
					165				
					170				
					175	(RESIDUAL)			
					180	BOH Ø 113.0"			

BORING OP-15 PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 474±									
DATE 9-18-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T.H.	CLASSIFICATION			
	60	62	18	1	0	BROWN SILT (ML) WITH DECOMPOSED BOULDERS AND COBBLES, <u>VERY STIFF</u> , MOIST			
	55	68	20	2	5				
	57	64	28	3	10				
					15	(DECOMPOSED COLLUVIUM)			
					20	REDDISH BROWN SILT (ML) WITH TRACE OF SAND, <u>VERY STIFF</u> , DAMP			
					25				
					30				
					35	(ASH AND CINDERS)			
					40				
					45				
					50	ORANGE BROWN SILT (ML), <u>VERY STIFF</u> , MOIST			
					55				
					60				
					65	(RESIDUAL)			
					70	DARK BROWN SANDY SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST			
					75				
					80				
					85	(RESIDUAL)			
					90	(RESIDUAL)			

BORING OP-15 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION									
FILE 433-2 SURFACE ELEV. 474±									
DATE 9-18-84 DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T.H.	CLASSIFICATION			
	51	72	77	14	0	DARK BROWN SANDY SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST			
					5				
					10				
					15	(RESIDUAL)			
					20	BROWN GRAY BASALT WITH INTERBEDDED CLINKER LAYERS, BROKEN, <u>HARD</u> (BASALT)			
					25				
					30				
					35	BOH Ø 92.5"			
					40				
					45				
					50	(RESIDUAL)			
					55	(RESIDUAL)			
					60	(RESIDUAL)			



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Kenneth P. Stewart

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
BORING LOGS

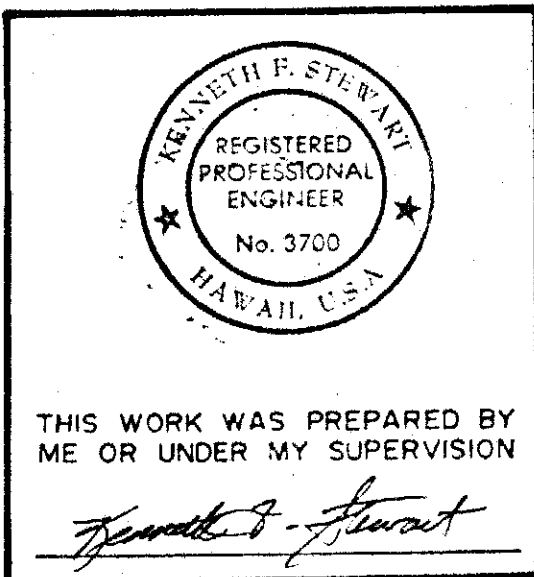
INTERSTATE ROUTE H-3
 F.A.I. PROJECT NO. I-H3-1 (57)
 F.A.I. PROJECT NO. I-H3-1 (58)
 SCALE: NONE DATE: SEPT. 1988
 SHEET No. 817 OF 32 SHEETS

DATE REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	241	274

BORING IP-16		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 481'±			
DATE 9-22-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
LL=61 PI=NP	55	68	23	1	BROWN SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, <u>VERY STIFF</u> , DAMP (RESIDUAL)
	52	68	26	2	
	47	73	42	3	
LL=73 PI=11	60	60	27	4	REDDISH BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , MOIST (RESIDUAL)
	67	58	24	5	
	47	72	27	6	
QU=4900 PSF	45	73	41	7	DARK BROWN SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , DAMP (RESIDUAL)
					GRAY VESICULAR BASALT MASSIVE, OCCASIONALLY BROKEN, <u>HARD</u> (BASALT)
					BOH @ 64.0'

BORING OP-16		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 496±			
DATE 9-21-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
LL=80 PI=9	69	58	19	1	REDDISH BROWN CLAYEY SILT (MH), <u>VERY STIFF</u> , MOIST (RESIDUAL)
	60	55	17	2	
	66	61	28	3	
C=1775 P.S.F. 8=15"	50	65	31	4	DARK BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK, <u>HARD</u> , MOIST (RESIDUAL)
	49	71	39	5	
LL=70 PI=8	54	67	45	6	DARK BROWN DECOMPOSED ROCK WITH INTERBEDDED SILT POCKETS, <u>HARD</u> , WET (DECOMPOSED ROCK)
	48	71	38	7	
	54	58	31	8	
	88			9	
	63			11	
	95% NX RECOV. CORE				
96% NX RECOV. CORE					BROWN WEATHERED BASALT OCCASIONALLY BROKEN, <u>HARD</u> , MASSIVE (BASALT)
					BOH @ 60.0'
					</



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET No. 818 OF 32 SHEETS

DATE
DRAWN BY
CHECKED BY
ORIGINAL PLAN
NOTED BY
NO.

DATE
DRAWN BY
CHECKED BY
ORIGINAL PLAN
NOTED BY
NO.

DATE	REVISION
------	----------

248
241

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

~~249~~
242

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	243	274

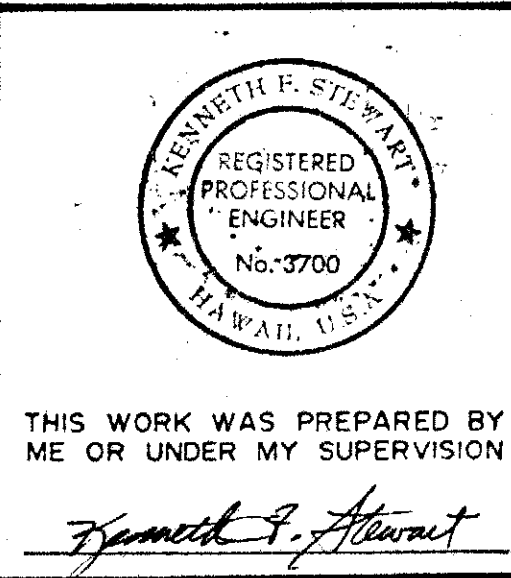
BORING IP-18		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 485±			
DATE 10-1-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	DEPTH FT.	CLASSIFICATION
C=850 Ø=30° LL=95 PI=28			31	1	BROWN CLAYEY SILT (MH), <u>VERY STIFF</u> , DAMP (DECOMPOSED COLLUVIUM)
	57	63	29	2	
	52	71	19	3	
	57	65	30	4	REDDISH BROWN CLAYEY SILT (ML-MH), <u>VERY STIFF</u> , MOIST
	60	58	20	5	
	63	56	13	6	
	69	59	15	7	
C=700 Ø=29°	70	52	16	8	(RESIDUAL)
	69	52	17	9	
	60	61	24	10	
C=700 Ø=31°	57	69	44	11	GRAY/BROWN SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , DAMP (RESIDUAL)

BORING IP-18 CONT.		PROJECT H-3 PRELIMINARY RECOMMENDATION				
FILE 433-2		SURFACE ELEV. 485±				
DATE 10-1-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
C=1200 PSF Ø=40°	43	80	88	12	70	GRAY/BROWN SILT (ML) WITH DECOMPOSED ROCK, <u>HARD</u> , DAMP (RESIDUAL)
					75	
	48		26	13	80	DARK GRAY SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , DAMP
					85	
	44		57	14	90	NOTE: DRILLED DOWN TO 111.5 FEET AT LOCATION ADJACENT TO PREVIOUS IP-18 BORING. BEGAN LOGGING THE BORING AT 111.5 FEET.
					95	
	39		57	15	100	DARK GRAY SILT (MH) WITH ROCK FRAGMENTS, <u>HARD</u> , MOIST (RESIDUAL)
					105	
			133		110	GRAY SLIGHTLY WEATHERED BASALT (WS) <u>HARD</u> , VERY BROKEN TO BROKEN
			57% RECOV. 0% RQD	NX CORE	115	
			92% RECOV. 22% RQD	NX CORE	120	GRAY/BROWN HIGHLY WEATHERED BASALT (WH) WITH SEAMS OF HARD SILT, MEDIUM <u>HARD</u> , BROKEN
			90% RECOV. 7% RQD	NX CORE	125	GRAY SLIGHTLY WEATHERED BASALT (WS) MEDIUM <u>HARD</u> , BROKEN
			90% RECOV. 65% RQD	NX CORE	130	GRAY/BROWN SILT (MH) WITH HIGHLY WEATHERED ROCK FRAGMENTS, <u>HARD</u> , MOIST (DECOMPOSED CLINKER)
					135	GRAY MODERATELY WEATHERED BASALT (WM), MEDIUM HARD TO <u>HARD</u> , OCCASIONALLY BROKEN TO MASSIVE
					140	BOH @ 133.0'

BORING OP-18		PROJECT H-3 PRELIMINARY RECOMMENDATION				
FILE 433-2		SURFACE ELEV. 509±				
DATE 9-27-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
LL=64 PI=14 C=1000 P.S.F. θ=32°	56	59	27	1		BROWN CLAYEY SILT (MH), <u>VERY STIFF</u> , DAMP
	50	69	31	2		
	55	66	36	3		
	57	62	25	4		(DECOMPOSED COLLUVIUM)
	65		33	5		
	63	60	18	6		
C=650 θ=32°	70	55	13	7		REDDISH BROWN CLAYEY SILT (ML), <u>VERY STIFF</u> , MOIST
	75	54	12	8		
C=150 θ=39°	56	22	9			(RESIDUAL)
	80	54	13	10		
						BROWN SILT (ML) WITH SOME DECOMPOSED ROCK, <u>HARD</u> , MOIST
	56	54	37	11		

BORING OP-18 CONT.		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 509±			
DATE 9-27-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
C=900 θ=34°	67	60	35	12	BROWN SILT (ML) WITH SOME DECOMPOSED ROCK, <u>HARD</u> , MOIST (RESIDUAL)
	59	64	38	13	
	43		96	14	
	45		87	15	GRAY BROWN DECOMPOSED ROCK WITH SOME INTERBEDDED SILT, <u>HARD</u> , MOIST (DECOMPOSED ROCK)
					BOH @ 100.0'

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



STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3	
F.A.I. PROJECT NO. I-H3-1 (57)	
F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET No. 820 OF 32 SHEETS	


DATE REVISION

250
243

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

BORING FILE DATE		IP-19 433-2 6-20-84		PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEV. 470± DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION	
LL=67 PI=8	64	54	18	1	0	DARK BROWN CLAYEY SILT (MH), <u>VERY STIFF TO HARD</u> , DAMP	
	43	69	52	2	5		
			47	3	10		
	52	64	49	4	15		
	56	66	52	5	20		
NON-PLASTIC			22	6	25	REDDISH BROWN SILT (HL), <u>VERY STIFF</u> , MOIST	
	60		40	7	30		
			24	8	35		
			26	9	40		
	C=550 g=30°	70	60	24	10		45
		66	58	25	11		50
	LL=85 PI=21			24	12		55
		71	58	30	13		60
			40	14	65		
	C=550 g=31°	68	60	34	15		70
						(RESIDUAL)	

BORING IP-19A FILE 433-6 DATE 10-27-88		PROJECT H-3 WINDWARD VIADUCT-CONFIRMATORY BORING SURFACE ELEV. 470'± DEPTH OF WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
						NOTE: DRILLED DOWN TO 100 FEET AT LOCATION ADJACENT TO PREVIOUS IP-19 BORING. BEGAN LOGGING THE BORING AT 100 FEET.
	65	62	22	1	100	BROWN CLAYEY SILT (MH), <u>VERY STIFF</u> , MOIST
					105	
	68	60	39	2	110	
					115	GRADES <u>VERY STIFF TO HARD</u>
	69	60	40	3	120	
					125	
						(RESIDUAL)
	57	77	41	4	130	DARK GRAY/BROWN CLAYEY SILT (MH) WITH HIGHLY WEATHERED ROCK FRAGMENTS, <u>HARD</u> , MOIST
					135	DARK GRAY/BROWN CLAYEY SILT (MH) WITH HIGHLY WEATHERED ROCK FRAGMENTS, <u>HARD</u> , MOIST
	54	69	73	5	140	GRADES TO <u>VERY HARD</u>
					145	(RESIDUAL)
					150	
			1311/8"	6	155	
			80% RECOV. 0% RQD	NX CORE	155	GRAY BROWN HIGHLY WEATHERED BASALT (WH), <u>MEDIUM HARD</u> , BROKEN
			82% RECOV. 7% RQD	NX CORE	160	
					165	
						BOH = 161.5'



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

Kenneth F. Stewart

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET No. B22 OF 32 SHEETS

DATE	REVISION
------	----------

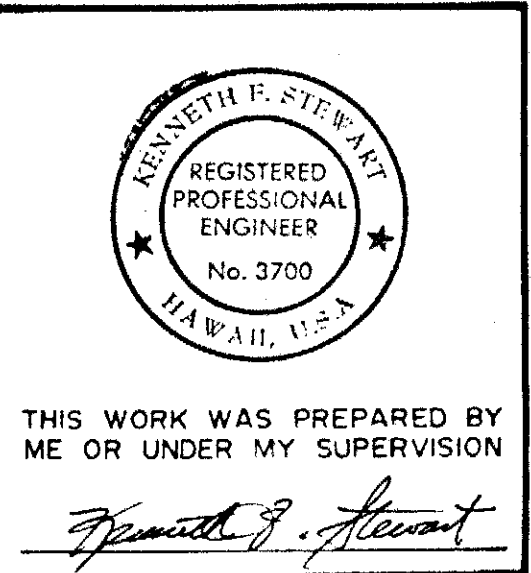
~~252~~
245

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	246	274

BORING IP-20		PROJECT H-3 PRELIMINARY RECOMMENDATION				
FILE 433-2		SURFACE ELEV. 470'±				
DATE 6-26-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE	DEPTH	CLASSIFICATION
LL=66 PI=24	42	74	70	1		BROWN CLAYEY SILT (MH) WITH WEATHERED ROCK FRAGMENTS, <u>HARD</u> , DAMP (COLLUVIUM)
			48	2	5	
	22		80	3	10	
			39	4		
C=250 PSF Ø=42°	53	65	31	5	15	REDDISH BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , DAMP
	50	66	51	6	20	
	52	67	43	7	25	
			37	8	30	
LL=69 PI=24	58	64	59	9	35	
	64	61	63	10	40	
	38	81	92	11	45	
			45	12	50	
LL=69 PI=21	56	66	36	13	55	
	52	65	47	14	60	
			28	15	65	
					70	
						(DECOMPOSED COLLUVIUM)

BORING IP-20 CONT.		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 470±			
DATE 6-26-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
C=900 PSF Ø=41°	52	67	49	16	REDDISH BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , DAMP (DECOMPOSED COLLUVIUM)
	59	63	82	17	
	54	64	43	18	
			90	19	
QU=2700 PSF	47	66	102	20	BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, <u>VERY HARD</u> , MOIST (RESIDUAL)
	47	70	103	21	
			62	22	
					BOH @ 100.0'

DATE	DATE
DESIGNED BY	DESIGNED BY
DRAWN BY	DRAWN BY
CHECKED BY	CHECKED BY
NOTED BY	NOTED BY
DATE	DATE

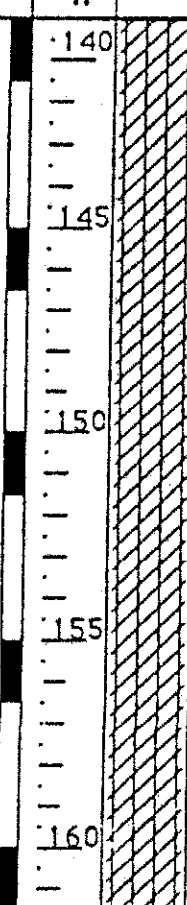


STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1 (57) F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET No. 823 OF 32 SHEETS	

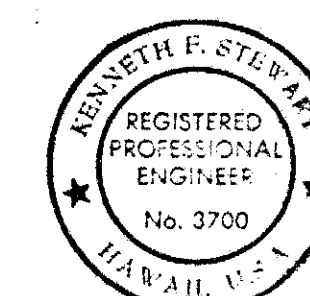
DATE REVISION

BORING IP-21 FILE 433-2 DATE 7-23-84		PROJECT H-3 PRELIMINARY RECOMMENDATION SURFACE ELEV. 456'± DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION
LL=73 PI=14	40	71	84	1	0	BROWN CLAYEY SILT (MH), <u>HARD</u> , DAMP
	51	68	68	2	5	
	47	67	46	3	10	
	60	61	25	4	15	
	60	61	28	5	20	
LL=63 PI=10			39	6	25	BROWN CLAYEY SILT (MH), <u>HARD</u> , DAMP (ASH)
	24		110	7	30	
	40		68	8	35	
			R	9	40	
	26	88	152	10	45	
			55	11	50	BROWN DECOMPOSED ROCK, <u>HARD</u> , MOIST (DECOMPOSED CINDERS)
	34		115	12	55	
	55	65	16	13	60	
			16	14	65	
	57	66	27	15	70	
LL=72 PI=23						BROWN CLAYEY SILT (MH) WITH SOME SAND, <u>VERY STIFF TO HARD</u> , WET (DECOMPOSED ROCK)

BORING IP-21 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION						
FILE 433-2		SURFACE ELEV. 456±				
DATE 7-23-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION
			33	16	70	
	62	58	36	17	75	BROWN CLAYEY SILT (MH), <u>HARD</u> , MOIST
C=300 PSF Ø=37°			30	18	80	(DECOMPOSED CINDERS)
C=600 PSF Ø=26°	67		32	19	85	
LL=75 PI=29			32	20	90	BROWN SILTY CLAY (CH), <u>VERY STIFF</u> , MOIST
	60	56	32	21	95	
			39	22	100	
	67	50	49	23	105	
LL=68 PI=22			64	24	110	
	66	58	50	25	115	
			62	26	120	
C=970 PSF Ø=27°	58		58	27	125	(DECOMPOSED CINDERS)
			109	28	130	BROWN DECOMPOSED ROCK, <u>HARD</u> , MOIST
						(DECOMPOSED ROCK)
	62	71	29		135	BROWN CLAYEY SILT (MH), <u>HARD</u> , WET
					140	(DECOMPOSED CINDERS)

BORING IP-21 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION					
FILE 433-2		SURFACE ELEV. 456±			
DATE 7-23-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
LL=72 PI=23 C=900 σ=23*	61		75	30	 BROWN CLAYEY SILT (MH), <u>HARD</u> , WET
	61	61	63	31	
			70	32	
			82	33	
			57	34	
					(DECOMPOSED CINDERS)
					BOH ø 161.5"

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY _____	
	TRACTED BY _____	
	DESIGNED BY _____	
	QUANTIFIED BY _____	
	CHECKED BY _____	



Frank J. Stoner

SHEET No. B24 OF 32 SHEETS

DATE	REVISION
------	----------

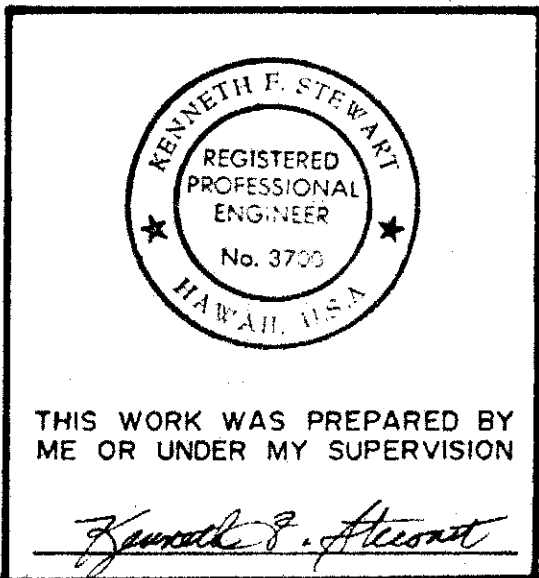
SHEET No. B24 OF 32 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	248	274

BORING OP-22		PROJECT H-3 PRELIMINARY RECOMMENDATION			
FILE 433-2		SURFACE ELEV. 436±			
DATE 10-5-84		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION
LL=73 PI=15	44	60	23	1	BROWN CLAYEY SILT (MH), <u>VERY</u> STIFF TO HARD, MOIST
	50	71	31	2	
	49	66	38	3	
	55	61	28	4	
	61	52	24	5	
C=500 PSF θ=38°	50	67	22	6	(DECOMPOSED COLLUVIUM)
	62	62	29	7	
	53	64	31	8	
LL=77 PI=13	46	40	9	9	REDDISH BROWN CLAYEY SILT (MH), <u>HARD</u> , MOIST
	51	65	10	10	
C=900 PSF θ=38°	57	62	35	11	(RESIDUAL)
	43	73	120	12	
LL=72 PI=2					DARK BROWN SILT (MH) WITH SOME WEATHERED ROCK, <u>HARD</u> , MOIST
					(RESIDUAL)
					DARK GRAY SANDY SILT (ML) WITH WEATHERED ROCK AND OLIVINE CRYSTALS, <u>HARD</u> , MOIST
					(DECOMPOSED ROCK)
					GREENISH BROWN SANDY SILT (ML), <u>HARD</u> , DAMP (DECOMPOSED ROCK)

BORING OP-22 CONT. PROJECT H-3 PRELIMINARY RECOMMENDATION						
FILE 433-2		SURFACE ELEV. 436±				
DATE 10-5-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION	
	48	77	66	13	70	GREENISH BROWN SANDY SILT (ML), <u>HARD</u> , DAMP
	18		60/5"	14	75	(DECOMPOSED ROCK)
			70% RECOV. CORE		80	BROWNISH GRAY WEATHERED BASALT WITH SOIL SEAMS, FRACTURED, <u>HARD</u>
	49	24	15			(WEATHERED BASALT)
					85	DARK BROWN SILT (ML), <u>VERY STIFF</u> , MOIST
					90	BOH ø 83.5"
					95	
					100	
					105	
					110	

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITY BY	
CREATED BY	

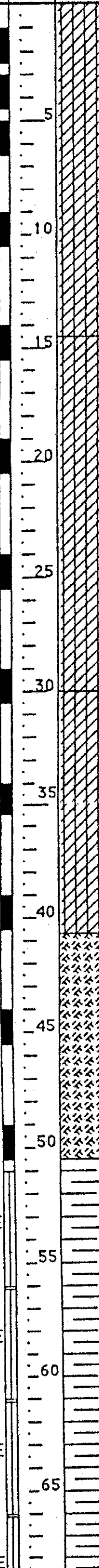


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS
INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE
DATE: SEPT. 1988
SHEET No. 255 OF 32 SHEETS

DATE	REVISION
------	----------

255
248

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	249	274

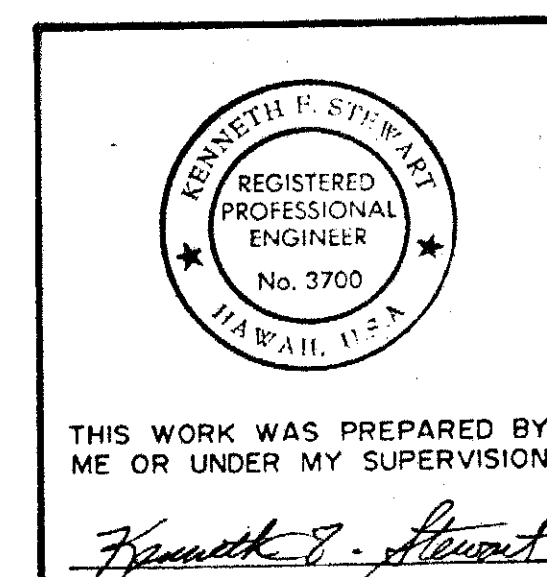
BORING IP-23 FILE 433-4 DATE 4-26-88		PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHOE, SURFACE ELEV. 464± DEPTH TO WATER NONE ENCOUNTERED				DAHU, HAWAII	
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION		
LL=74 PI=10	51	71	10	1		BROWN CLAYEY SILT (ML), <u>VERY STIFF TO HARD</u> ; MOIST	
	55	70	25	2			
	56	64	34	3			
	50	69	36	4			
C= 950 PSF δ= 40°			26	5	(COLLUVIUM)		
	50	74	31	6	BROWN AND ORANGE CLAYEY SILT (ML) W/TRACE SAND, <u>HARD</u> , DAMP		
	65	65	25	7			
	59	65	42	8			
	LL=63 NON-PLASTIC	57	67	91	9	35	BLACK AND BROWN CLAYEY SILT (ML), <u>HARD</u> , MOIST
59		67	70	10	40	(RESIDUAL)	
53		67	161	11	45	BROWN DECOMPOSED ROCK, <u>HARD</u> , MOIST	
46		78	154/4"	12	50	(DECOMPOSED ROCK)	
			55% RECOV.	NX CORE	55	GRAY BASALT W/SEAMS OF BROWN SILT, VERY BROKEN TO BROKEN, <u>SOFT TO MEDIUM HARD</u>	
		37% RECOV.	NX CORE	60			
		53% RECOV.	NX CORE	65			
		47% RECOV.	NX CORE	70	(BASALT)	GRAY BASALT BROKEN TO OCCASIONALLY BROKEN, <u>HARD</u>	

BORING IP-23 CONT.		PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHOE, OAHU, HAWAII		FILE 433-4		SURFACE ELEV. 464±		DEPTH TO WATER NONE ENCOUNTERED	
DATE 4-26-88									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION				
			87% RECOV.	NX CORE	70	GRAY BASALT BROKEN TO OCCASIONALLY BROKEN, <u>HARD</u> (BASALT)			
					75	BOH @ 73.5'			
					80				
85									
90									
95									
100									
105									

BORING OP-23 FILE 433-4 DATE 4-21-88		PROJECT H-3 WINDWARD VIADUCT-PHASE II SURFACE ELEV. 492± DEPTH TO WATER NONE ENCOUNTERED						KANEHOE, OAHU HAWAII	
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION			
C=850 P.S.F. Ø=41°	53	50	23	1	0	BROWN SANDY SILT (MH), STIFF MOIST (COLLUVIUM)			
	44	69	16	2	5				
	52	63	17	3	10				
	62	60	22	4	15				
	46	75	18	5	20	GRAY/BROWN SANDY SILT (ML) HARD, MOIST			
	62	61	40	6-2	25				
	43	75		6-1	30				
	53	60	20	7	35				
	56	64	25	8	40	(RESIDUAL)			
	59	62	76	9	45	GRAY/BROWN SILTY SAND (SM), MEDIUM DENSE TO DENSE, MOIST			
C=950 P.S.F. Ø=39°			46	10	50				
	42	70	66	11-2	55	(RESIDUAL)			
	47	79		11-1	60				
			40% RECOV.	NX CORE	65	GRAY BASALT WITH SEAMS OF STIFF SILT, VERY BROKEN, MEDIUM HARD			
			40% RECOV.	NX CORE	70				
			60% RECOV.	NX CORE	75				
			100% RECOV.	NX CORE	80	(BASALT)			
					85	GRAY BASALT (WS) OCCASIONALLY BROKEN TO MASSIVE, HARD (BASALT)			

BORING OP-23 CONT.		PROJECT H-3 WINDWARD VIADUCT-PHASE II		KANEHOE, OAHU, HAWAII		
FILE 433-4		SURFACE ELEV. 492±				
DATE 4-21-88		DEPTH TO WATER		NONE ENCOUNTERED		
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH	CLASSIFICATION	
			100% RECOV. CORE	NX CORE	70	GRAY BASALT OCCASIONALLY BROKEN TO MASSIVE, <u>HARD</u> (BASALT)
						BOH @ 77.0'

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET NO. B26 OF 32 SHEETS

DATE REVISION

256
249

DATE: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN _____
NOTE BOOK _____
No. _____

DEPTH	SOIL SYMBOL	BORING NO. 31 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10			STIFF, DARK BROWN CLAYEY SILT WITH DECOMPOSED ROCK
20			MODERATE TO WEATHERED ROCK
30			MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
40			
50			
60			WEATHERED ROCK WITH CLAYEY SILT
70			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
80			STIFF, MOTTLED BROWN & GRAY CLAYEY SILT & DECOMPOSED ROCK
90			
100			
110			STIFF, MOTTLED BROWN CLAYEY WITH SAND & SOME DECOMPOSED ROCK
120			
130			STIFF, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK
140			
150			
160			END OF BORING @ 166.5'
170			
180			
190			
200			
210			

DEPTH	SOIL SYMBOL	BORING NO. 32 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
20			STIFF, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK
30			STIFF, MOTTLED BROWN, RED & WHITE CLAYEY SILT WITH DECOMPOSED ROCK
40			
50			STIFF, MOTTLED BROWN, ORANGE & GRAY CLAYEY SILT & DECOMPOSED ROCK
60			
70			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
80			STIFF, MOTTLED BROWN & GRAY CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK
90			MOTTLED BROWN CLAYEY SILT & SOFT PUKA PUKA ROCK
100			SOFT, GRAY-BROWN PUKA PUKA ROCK
110			SAND SIZE MATERIAL GRAY-BROWN WEATHERED BASALT
120			MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK
130			END OF BORING @ 125'
140			
150			
160			
170			
180			
190			
200			
210			

DEPTH	SOIL SYMBOL	BORING NO. 33 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10			SOFT, BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK & ROOTS
20			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
30			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
40			TAN BROWN WITH BLACK DECOMPOSED ROCK
50			GRAY WITH BROWN DECOMPOSED ROCK
60			MOTTLED BROWN DECOMPOSED ROCK
70			TAN BROWN & BROWN WITH BLACK DECOMPOSED ROCK
80			MOTTLED BROWN WITH GRAY DECOMPOSED ROCK WITH CLAYEY SILT
90			MOTTLED GRAY-BROWN DECOMPOSED ROCK WITH CLAYEY SILT
100			GRAY-BROWN DECOMPOSED ROCK
110			MOTTLED BROWN WITH BLACK DECOMPOSED ROCK
120			STIFF, TAN BROWN & BROWN CLAYEY SILT WITH DECOMPOSED ROCK
130			STIFF, MOTTLED BROWN WITH GRAY CLAYEY SILT WITH DECOMPOSED ROCK
140			MOTTLED BROWN WITH GRAY DECOMPOSED ROCK WITH TRACES OF CLAYEY SILT
150			MOTTLED BROWN DECOMPOSED ROCK WITH CLAYEY SILT
160			MEDIUM, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
170			STIFF, MOTTLED TAN BROWN CLAYEY SILT WITH DECOMPOSED ROCK
180			
190			STIFF, DARK MOTTLED BROWN & GRAY CLAYEY SILT WITH DECOMPOSED ROCK
200			STIFF, DARK MOTTLED BROWN & GRAY CLAYEY SILT WITH DECOMPOSED ROCK & GRAVEL
210			STIFF, MOTTLED BROWN & GRAY CLAYEY SILT AND DECOMPOSED ROCK
220			NOTE: HOLE CAVED IN 146' OR CUTTINGS?
230			MOTTLED BROWN CLAYEY SILT WITH SAND & GRAVEL
240			STIFF, MOTTLED BROWN & GRAY CLAYEY SILT & DECOMPOSED ROCK
250			
260			BOULDER?
270			DECOMPOSED ROCK WITH DARK MOTTLED BROWN & GRAY, CLAYEY SILT
280			NOTE: HOLE CAVED IN @ 180'
290			
300			END OF BORING @ 201.5'

DEPTH	SOIL SYMBOL	BORING NO. 34 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10			BROWN, CLAYEY SILT, WEATHERED ROCK
20			MOTTLED BROWN CLAYEY SILT
30			BOULDER
40			MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK
50			BOULDER, MOTTLED DARK BROWN CLAYEY SILT & DECOMPOSED ROCK
60			HARD DRILLING BOULDER?
70			MOTTLED BROWN, TAN & ORANGE, CLAYEY SILT
80			
90			MOTTLED LIGHT BROWN CLAYEY SILT
100			MOTTLED DARK BROWN CLAYEY SILT & DECOMPOSED ROCK
110			
120			MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
130			
140			
150			
160			
170			STIFF, MOTTLED DARK BROWN & REDDISH BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK
180			END OF BORING @ 127.5'
190			
200			
210			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(57)	1988	250	274

DEPTH	SOIL SYMBOL	BORING NO. 35 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10			STIFF, MOTTLED BROWN SILTY CLAY WITH DECOMPOSED ROCK
20			COBBLES MOTTLED GRAY BROWN DECOMPOSED ROCK WITH BROWN SILTY CLAY
30			STIFF, BROWN SILTY CLAY WITH DECOMPOSED ROCK
40			STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK
50			
60			STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK
70			STIFF, MOTTLED LAVENDER CLAYEY SILT
80			
90			MOTTLED BROWN-GRAY CLAYEY SILT & DECOMPOSED ROCK
100			
110			DECOMPOSED ROCK
120			WEATHERED PUKA PUKA ROCK
130			NOTE: HOLE CAVED @ 110'
140			
150			DECOMPOSED ROCK
160			WEATHERED PUKA PUKA ROCK
170			
180			MOTTLED GRAY & BROWN DECOMPOSED ROCK
190			NOTE: HOLE CAVED @ 120'
200			
210			BROWN DECOMPOSED ROCK WITH BROWN-GRAY, CLAYEY SILT
220			END OF BORING @ 169.5'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(57)
F.A.I. PROJECT NO. I-H3-1(58)
SCALE: AS NOTED DATE: SEPT. 1988
SHEET No. 827 OF 32 SHEETS

257
250

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I - H3-1 (57)	1988	251	274

DEPTH	SOIL SYMBOL	BORING NO. 36 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10		SOFT, BROWN CLAYEY SILT WITH TRACES OF ROOTS	
20		STIFF, MOTTLED BROWN CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
30		STIFF, MOTTLED BROWN WITH BLACK CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
40		STIFF, MOTTLED BROWN WITH GRAY CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
50		STIFF, MOTTLED BROWN WITH BLACK CLAYEY SILT WITH TRACES OF DECOMPOSED ROCK	
60		MOTTLED BROWN WITH BLACK DECOMPOSED ROCK	
70		GRAY & BROWN DECOMPOSED ROCK WITH TRACES OF TAN CLAY	
80		MOTTLED BROWN DECOMPOSED ROCK	
90		MODERATELY WEATHERED PUKA PUKA ROCK WITH TRACES OF CLAY	
100		BLUE, ROCK	
110		BLUE, PUKA PUKA ROCK	
120		FRACTURED, DENSE BLUE ROCK	
130		BLUE, PUKA PUKA ROCK FRACTURED WITH TRACES OF GREEN CLAY	
140		BLUE, PUKA PUKA ROCK	
150		END OF BORING @ 123.5'	

DEPTH	SOIL SYMBOL	BORING NO. 37 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10		STIFF, MOTTLED BROWN CLAYEY SILT	
20		HARD, MOTTLED BROWN CLAYEY SILT	
30		HARD, MOTTLED BROWN CLAYEY SILT & DECOMPOSED ROCK	
40		HARD, MOTTLED BLUE CLAYEY SILT & DECOMPOSED ROCK	
50		BLUE, HIGHLY FRACTURED LAVA ROCK WITH SOME WEATHERING & FAIRLY HARD ROCK	
60		REDDISH BROWN WEATHERED PUKA PUKA LAVA ROCK WELL FRACTURED (FAIRLY SOFT ROCK)	
70		REDDISH BROWN & GRAY WEATHERED, FRACTURED PUKA PUKA ROCK & CLINKER WITH TAN CLAY (SOFT ROCK)	
80		GRAY, MODERATELY WEATHERED LAVA ROCK FRACTURED WITH TAN, CLAY	
90		BLUE, DENSE LAVA ROCK SLIGHTLY FRACTURED	
100		MOTTLED BROWN & GRAY PUKA PUKA ROCK	
110		BLUE, DENSE LAVA ROCK SLIGHTLY FRACTURED	
120		GRAY & REDDISH BROWN CLINKER WITH TAN, CLAY	
130		END OF BORING @ 90.2'	

DEPTH	SOIL SYMBOL	BORING NO. 38 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10		MEDIUM, BROWN CLAYEY SILT	
20		MOTTLED BROWN CLAYEY SILT	
30		MOTTLED BROWN CLAYEY SILT (DECOMPOSED ROCK)	
40		HARD, GREEN & BROWN CLAYEY SILT	
50		HARD, LIGHT BROWN CLAYEY SILT	
60		DARK BROWN CLAYEY SILT WITH DECOI	
70		MOTTLED BLUE CLAYEY SILT & DECOMPOSED ROCK	
80		FRACTURED BLUE ROCK	
90		FRACTURED BLUE ROCK HIGHLY FRACTURED (SAND SIZE)	
100		NOTE: HOLE CAVED @ 60.5' BROWN & YELLOW WEATHERED CLINKER WITH CLAY	
110		FRACTURED BLUE ROCK WITH TRACES OF YELLOW CLAY	
120		NOTE: HOLE CAVED @ 64' DARK GRAY, WEATHERED CLINKER (SILTY SAND & GRAVEL) WITH TRACES OF TAN CLAY	
130		BLUE ROCK, FRACTURED WITH TRACES OF TAN CLAY ALONG JOINTS	
140		BLUE & BROWN, CLINKER WELL CEMENTED WITH SOME TAN CLAY	
150		MODERATELY WEATHERED BLUE-GREEN, PUKA PUKA ROCK WITH CLAY SEAMS	
160		BLUE, PUKA PUKA ROCK WITH TRACES OF YELLOW-GREEN CLAY	
170		BLUE, PUKA PUKA ROCK	
180		END OF BORING @ 117'	

DEPTH	SOIL SYMBOL	BORING NO. 39 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10		MOTTLED BROWN CLAYEY SILT	
20		WEATHERED PUKA PUKA ROCK	
30		DARK BROWN CLAYEY SILT & DECOMPOSED ROCK	
40		WEATHERED PUKA PUKA ROCK	
50		REDDISH BROWN & GRAY PARTIALLY DECOMPOSED PUKA PUKA ROCK	
60		BLUE, DENSE LAVA ROCK (HARD ROCK)	
70		REDDISH BROWN & GRAY PARTIALLY DECOMPOSED LAVA ROCK WITH LARGE VESICLES	
80		BLUE, DENSE LAVA ROCK WITH LARGE VESICLES	
90		REDDISH BROWN DECOMPOSED CLINKER	
100		BLUE, DENSE LAVA ROCK, FRACTURED	
110		REDDISH GRAY CLINKER	
120		BLUE, DENSE LAVA ROCK WITH LARGE VESICLES (FRACTURED)	
130		REDDISH BROWN DECOMPOSED CLINKER	
140		BLUE, FRACTURED LAVA ROCK	
150		REDDISH BROWN & GRAY CLINKER	
160		BLUE, DENSE LAVA ROCK (HARD ROCK)	
170		REDDISH BROWN & GRAY CLINKER	
180		BLUE, DENSE LAVA ROCK WITH MANY LARGE VESICLES	
190		GRAY PARTIALLY DECOMPOSED PUKA PUKA LAVA ROCK	
200		REDDISH GRAY CLINKER	
210		BLUE, FRACTURED LAVA ROCK WITH CLAY & DECOMPOSED	
220		REDDISH GRAY CLINKER WITH YELLOW & BLACK VOLCANIC GLASS	
230		END OF BORING @ 125'	

DEPTH	SOIL SYMBOL	BORING NO. 40 ELEVATION WATER LEVEL WATER ELEVATION	DATE
DESCRIPTION			
10		SOFT, BROWN CLAYEY SILT	
20		STIFF, BROWN WITH TRACES OF MOTTLED CLAYEY SILT	
30		DECOMPOSED ROCK WITH MOTTLED BROWN CLAYEY SILT	
40		STIFF, MOTTLED BROWN CLAYEY SILT WITH DECOMPOSED ROCK	
50		ROCK	
60		DECOMPOSED ROCK	
70		BLUE, FRACTURED LAVA ROCK WITH DECOMPOSED ROCK ZONES	
80		BLUE, DENSE LAVA ROCK WITH SOME TAN CLAY ALONG FRACTURES	
90		STIFF, MOTTLED BROWN CLAYEY SILT & CLINKER	
100		REDDISH BROWN PUKA PUKA ROCK & CLINKER PARTIALLY DECOMPOSED	
110		BLUE, LAVA ROCK WITH SOME VESICLES & TAN CLAY	
120		GRAY, FRACTURED LAVA ROCK PARTIALLY DECOMPOSED WITH TAN CLAY	
130		REDDISH BROWN & GRAY PUKA PUKA LAVA ROCK PARTIALLY DECOMPOSED WITH TAN CLAY	
140		BLUE, LAVA ROCK FRACTURED	
150		GRAY, DECOMPOSED ROCK & CLAY	
160		BLUE, DENSE LAVA ROCK	
170		GRAY, PUKA PUKA ROCK & CLINKERS WITH CLAY?	
180		VOID OR LOOSE CLINKERS	
190		BLuish-GRAY LAVA ROCK WITH FILLED VESICLES	
200		BLUE-GRAY LAVA ROCK & CLINKERS? WITH TRACES OF BROWN CLAY	
210		FRACTURED GRAY LAVA ROCK & CLINKERS?	
220		END OF BORING @ 123.5'	

ORIGINAL	DATE
PLAN	
NOTED	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(57)
F.A.I. PROJECT NO. I-H3-1(58)
SCALE: AS NOTED DATE: SEPT. 1988

SHEET NO. B28 OF 32 SHEETS

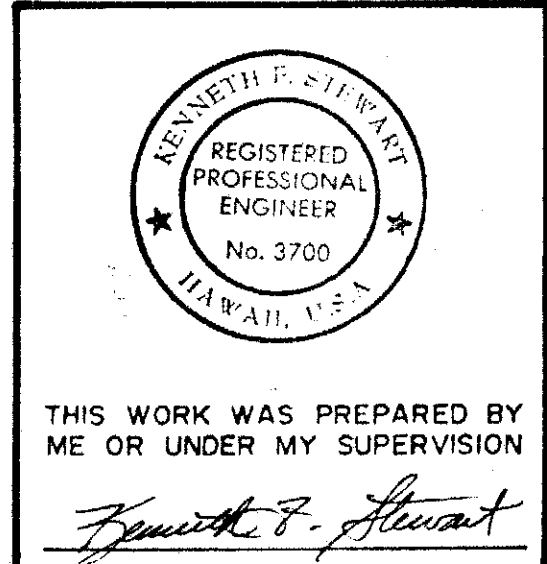
258
251

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	252	274

BORING RW-1 PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHE, OAHU, HAWAII									
FILE 433-4 SURFACE ELEV. 560± DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T. H	CLASSIFICATION			
	34	68	9	1	5	BROWN SILT WITH DECOMPOSED ROCK FRAGMENTS, <u>VERY STIFF</u> , MOIST (RESIDUAL)			
	50	48	13	2					
	40	61	19	3					
	32	73	24	4	10	BLACK AND BROWN SILT WITH DECOMPOSED ROCK FRAGMENTS, <u>HARD</u> , MOIST (RESIDUAL)			
	45	71	47	5	15				
	43	65	28	6	20				
	R	7	8		25	GRAY BASALT, FRACTURED, <u>HARD</u> (BASALT)			
	98% RECOV. CORE				30				
	97% RECOV. CORE				35				
	95% RECOV. CORE				40	GRAY BASALT, <u>VERY HARD</u> , OCCASIONALLY BROKEN TO MASSIVE (BASALT)			
	95% RECOV. CORE				45				
	95% RECOV. CORE				50				
	98% RECOV. CORE				55	BOH @ 74.0'			
	98% RECOV. CORE				60				
	98% RECOV. CORE				65				
	97% RECOV. CORE				70				
					75				

BORING RW-2 PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHE, OAHU, HAWAII									
FILE 433-4 SURFACE ELEV. 540± DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T. H	CLASSIFICATION			
LL=67, PI=0	60	53	4	1	5	BROWN SILT (ML) W/ORGANICS, <u>STIFF</u> , MOIST (COLLUVIUM)			
			6	2					
	56	59	29	3					
	60	59	23	4	10	BROWN CLAYEY SILT (ML) W/TRACE SAND, <u>VERY STIFF</u> , DAMP (DECOMPOSED COLLUVIUM)			
C=900 P.S.F. @=40"	56	65	29	5	15				
NON PLASTIC	48	72	57	6	20				
	41	66	88	7	25	BROWN CLAYEY SILT (ML) WITH ROCK FRAGMENTS, <u>VERY STIFF TO HARD</u> , DAMP (RESIDUAL)			
	40	79	104/9"	8	30				
	14	50/3"	9		35				
	12	66	10		40	BROWN AND GRAY SANDY SILT (ML), <u>HARD</u> , DAMP (RESIDUAL)			
			100/5"	11	45				
	R	12			50				
	100% RECOV. CORE				55	GRAY VESICULAR WEATHERED BASALT, <u>HARD</u> , BROKEN (WEATHERED ROCK)			
	100% RECOV. CORE				60				
	100% RECOV. CORE				65				
	100% RECOV. CORE				70	GRAY BASALT, <u>VERY HARD</u> , OCCASIONALLY BROKEN TO MASSIVE (BASALT)			
	100% RECOV. CORE				75				
					80				
					85	BOH @ 59.0'			
					90				
					95				

BORING RW-3 PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHE, OAHU, HAWAII									
FILE 433-4 SURFACE ELEV. 536± DEPTH TO WATER NONE ENCOUNTERED									
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S.A.M. P.L.E.	D.E.P.T. H	CLASSIFICATION			
C=850 P.S.F. @=29"	56	63	8	1	5	BROWN CLAYEY SILT (ML) W/ORGANICS, <u>VERY STIFF</u> , DAMP (COLLUVIUM)			
	54	59	19	2					
	56	63	34	3					
LL=79, PI=4	59	63	26	4	10	REDDISH BROWN CLAYEY SILT (ML), <u>HARD</u> , DAMP (DECOMPOSED COLLUVIUM)			
	63	61	31	5	15				
	67	62	37	6	20				
	52	65	37	7	25	REDDISH BROWN CLAYEY SILT (ML), <u>HARD</u> , DAMP (RESIDUAL)			
	49	69	43	8	30				
					35				
					40	GRAY VESICULAR BASALT, <u>HARD</u> , BROKEN (BASALT)			
	50% RECOV. CORE				45				
	100% RECOV. CORE				50				
	100% RECOV. CORE				55	GRAY HIGHLY POROUS BASALT, <u>MEDIUM HARD</u> , OCCASIONALLY BROKEN TO MASSIVE (BASALT)			
	100% RECOV. CORE				60				
	100% RECOV. CORE				65				
					70	BOH @ 66.0'			
					75				
					80				



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1 (57) F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET NO. B29 OF 32 SHEETS	

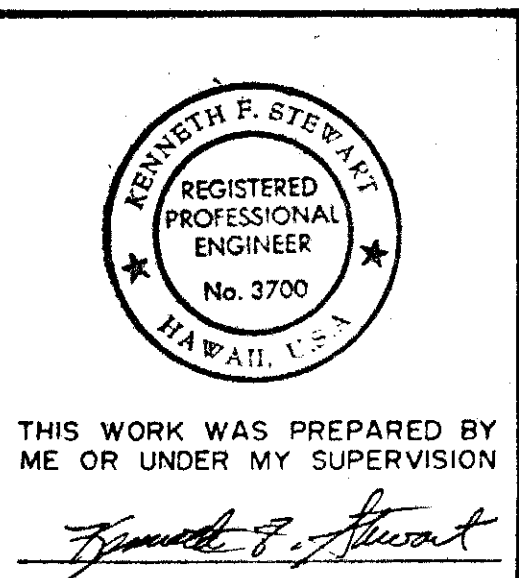
259
252

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	253	274

BORING RW-4		PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHOE,			
FILE 433-4		SURFACE ELEV. 516'±			
DATE 5-2-88		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH FT.	CLASSIFICATION
	40	65	8	1	BROWN SILTY CLAY (CL), HARD, DRY (COLLUVIUM)
	48	56	22	2	
	55	68	22	3	
				4	BROWN CLAYEY SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, HARD, MOIST
				5	
				6	
	47	76	44	5	BROWN CLAYEY SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, HARD, MOIST
	20	88	35	6	
	21	85	70	7	
NON PLASTIC				8	(RESIDUAL)
				9	GRAY AND BROWN SANDY SILT (ML), HARD, DAMP (RESIDUAL)
	15	80	91/6"	9	GRAY BASALT, HARD, VERY BROKEN TO BROKEN
			95% NX RECOV. CORE		BROWN SILTY GRAVEL (GM), W/COBBLES, MEDIUM DENSE, DRY (CLINKER)
			20% NX RECOV. CORE		
			85% NX RECOV. CORE		
			100% NX RECOV. CORE		GRAY VESICULAR BASALT, HARD, MASSIVE
					GRADES TO VERY HARD
					BOH @ 49.0'

BORING RW-5		PROJECT H-3 WINDWARD VIADUCT-PHASE II KANEHOE			
FILE 433-4		SURFACE ELEV. 485'±			
DATE 5-5-88		DEPTH TO WATER NONE ENCOUNTERED			
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	SAMPLE DEPTH FT.	CLASSIFICATION
	59	69	17	1	BROWN CLAYEY SILT (MH), VERY STIFF, MOIST (COLLUVIUM)
	45	54	9	2	
	49	67	36	3	
	60	62	24	4	BROWN CLAYEY SILT (MH) WITH DECOMPOSED ROCK FRAGMENTS, HARD, DAMP
	57	62	36	5	
	60	66	44	6	
	54	68	35	7	(RESIDUAL)
	63	63	66	8	GRAY AND BROWN CLAYEY SILT (ML), VERY HARD, DAMP
				9	(RESIDUAL)
	25	97	90/4"	10	GRAY BASALT, HARD (BASALT)
					BOH @ 41.5'

DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
DATE	_____



STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3	
F.A.I. PROJECT NO. I-H3-1 (57)	
F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET No. B30 OF 32 SHEETS	

DATE	REVISION
------	----------

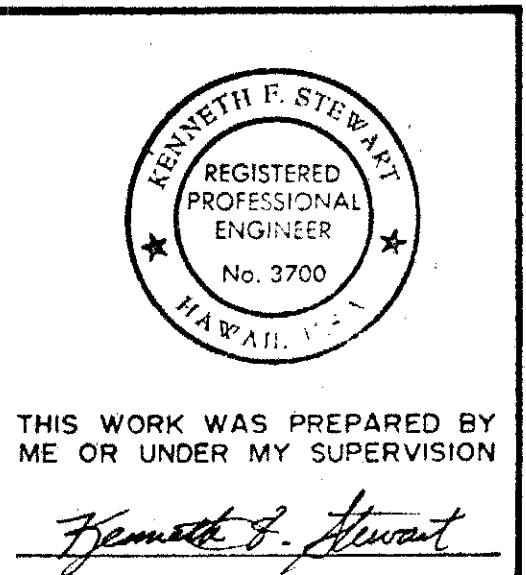
260
253

DATE	DATE
ORIGINAL PLAN	DATE
NOTE BOOK	DATE
NO.	DATE

BORING R-1		PROJECT H-3 WINDWARD VIADUCT KANELOE, OAHU, HAWAII	
FILE	433-2	SURFACE ELEV.	850±
DATE	5-4-84	DEPTH TO WATER	CAVED
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.
NON-PLASTIC	57	61	14
			11
	68	56	9
NON-PLASTIC	67	60	10
	49	69	18
	62	62	14
NON-PLASTIC	42	79	24
	41	73	40
	39	78	43
NON-PLASTIC	32	100	75
	32	103	99
	20	107	R
NON-PLASTIC	10	118	14
			R
	12	194	16
NON-PLASTIC	7	99	17

BORING R-2		PROJECT H-3 WINDWARD VIADUCT KANELOE, OAHU, HAWAII	
FILE	433-2	SURFACE ELEV.	867±
DATE	5-2-84	DEPTH TO WATER	CAVED
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.
NON-PLASTIC	50	30	1
	38	84	58
	41	73	29
NON-PLASTIC	68	4	4
	48	5	5
	23	101	68
NON-PLASTIC	7	51	7
	R	R	8
	22	150	10
NON-PLASTIC	45	71	12
	71	13	13
	70	14	14
NON-PLASTIC	27	93	15
	R	R	16
	R	R	17
NON-PLASTIC	7	59	18
			19

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	254	274

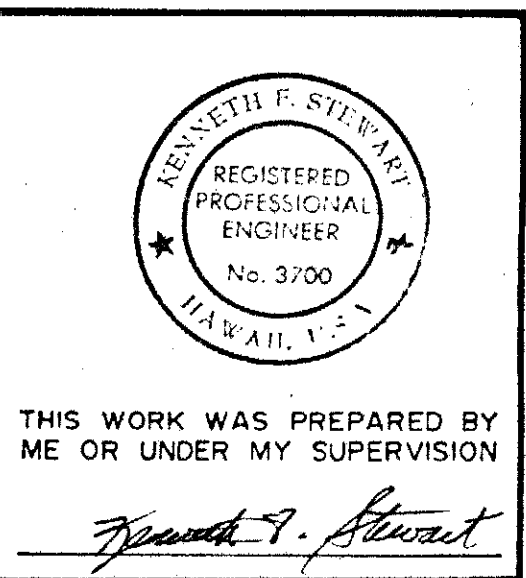


STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
BORING LOGS	
INTERSTATE ROUTE H-3	
F.A.I. PROJECT NO. I-H3-1 (57)	
F.A.I. PROJECT NO. I-H3-1 (58)	
SCALE: NONE	DATE: SEPT. 1988
SHEET No. B31 OF 32 SHEETS	

DATE REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (57)	1988	255	274

BORING 0A-2		PROJECT H-3 PRELIMINARY RECOMMENDATION				
FILE 433-2		SURFACE ELEV. 460±				
DATE 10-10-84		DEPTH TO WATER NONE ENCOUNTERED				
LAB TEST RESULTS	MOIST. CONT. %	DRY WT. PCF	BLOWS PER FT.	S A M P L E	D E P T H	CLASSIFICATION
	54	61	20	1		REDDISH BROWN SILT (ML) WITH DECOMPOSED ROCK FRAGMENTS, <u>VERY STIFF</u> , MOIST
	56	65	19	2		
	60	52	31	3		
	57	66	37	4		
	52	70	42	5		(RESIDUAL)
	46	71	35	6		DARK BROWN SILT (ML), <u>HARD</u> , MOIST
	29	88	R	7		(DECOMPOSED ROCK)
			R	8		DARK GRAY WEATHERED BASALT, <u>HARD</u> , DAMP
						(WEATHERED BASALT)
			98% NX RECOV. CORE			GRAY BASALT, <u>HARD</u> , FRACTURED
			97% NX RECOV. CORE			
			100% NX RECOV. CORE			
			100% NX RECOV. CORE			(BASALT)
						GRAY BASALT, <u>HARD</u> , OCCASIONALLY FRACTURED
						(BASALT)
						BOH @ 55.0'



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1 (57)
F.A.I. PROJECT NO. I-H3-1 (58)
SCALE: NONE DATE: SEPT. 1988
SHEET NO. B32 OF 32 SHEETS

DATE REVISION

262
255