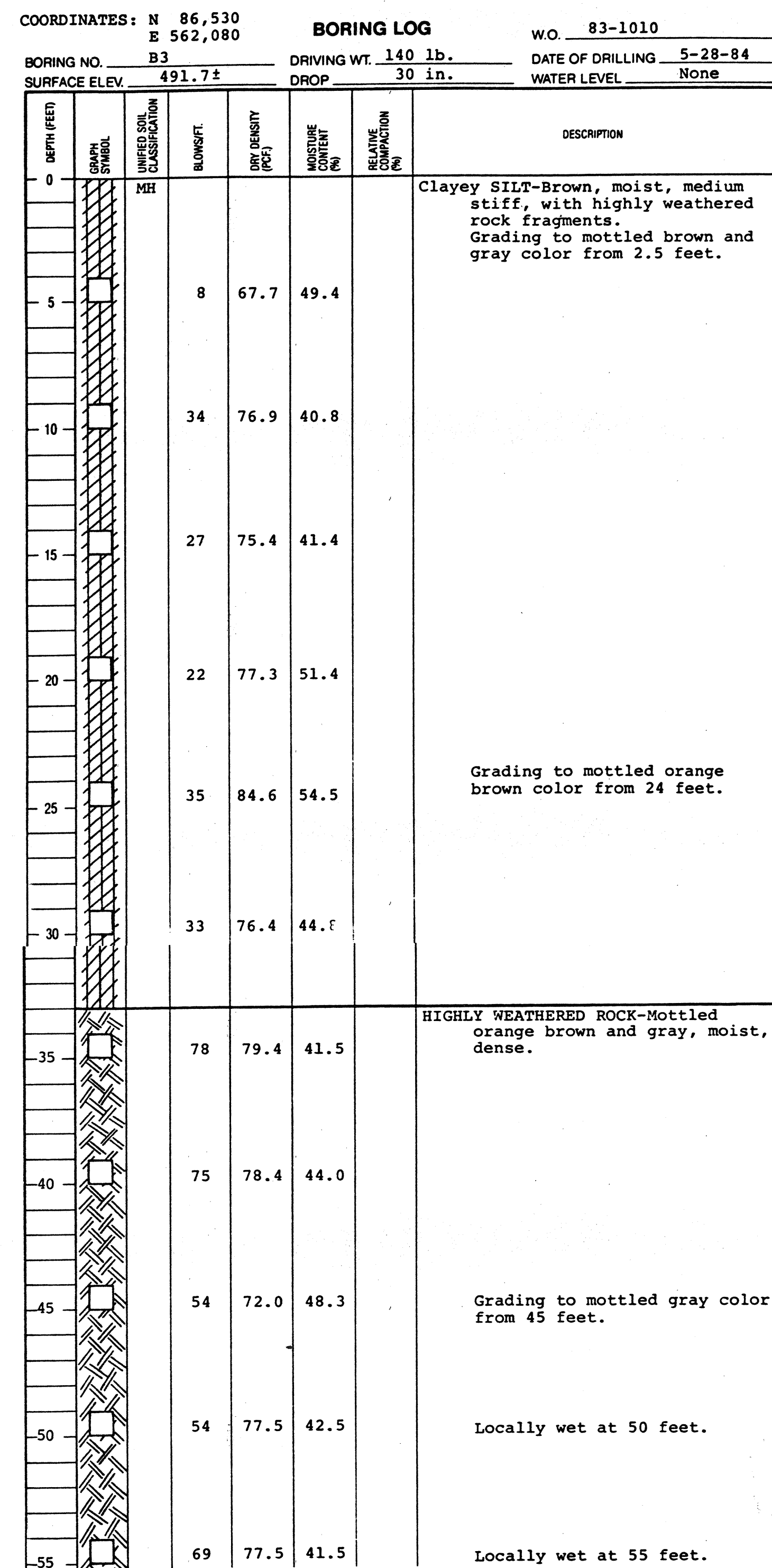
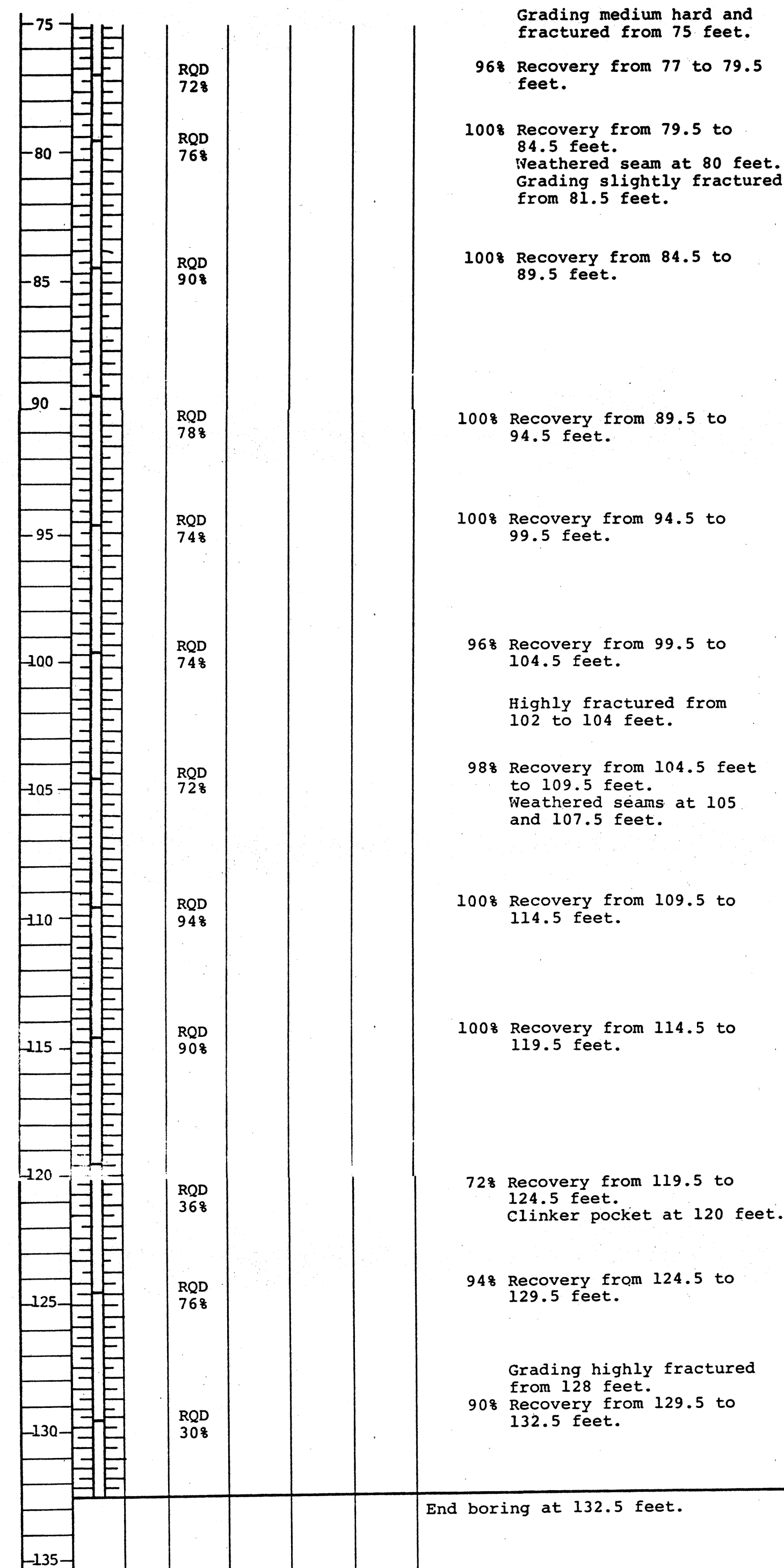
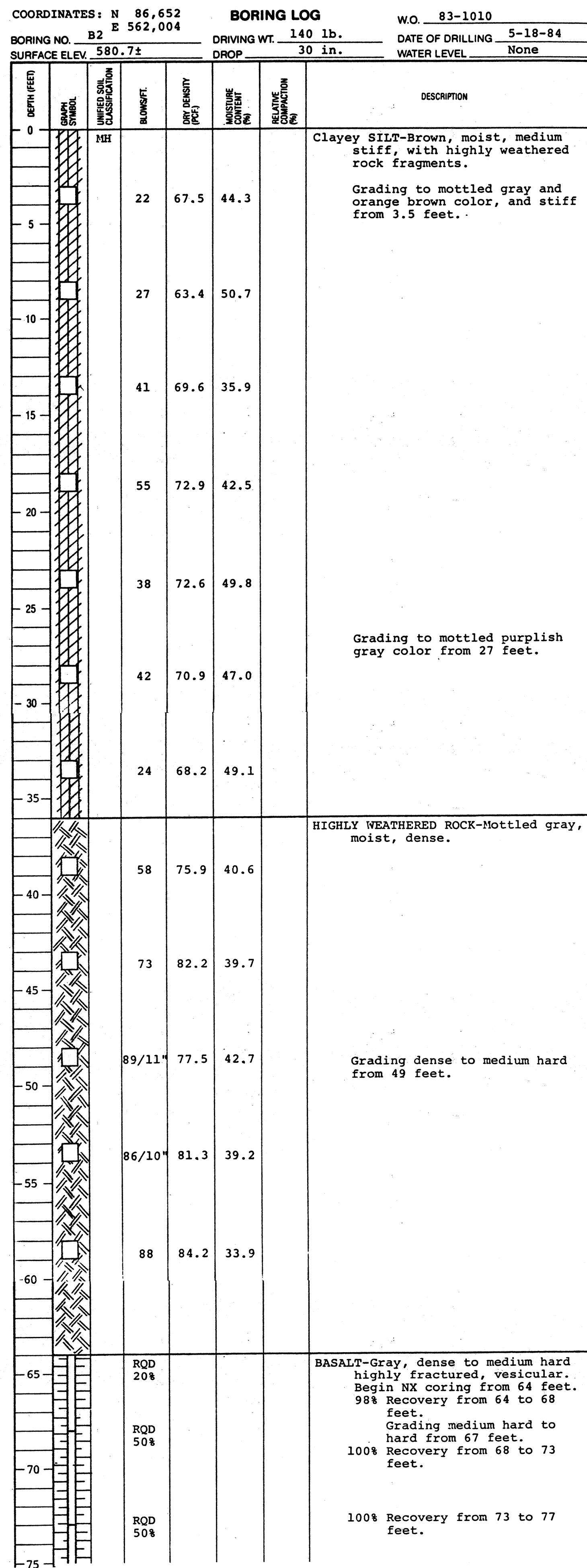
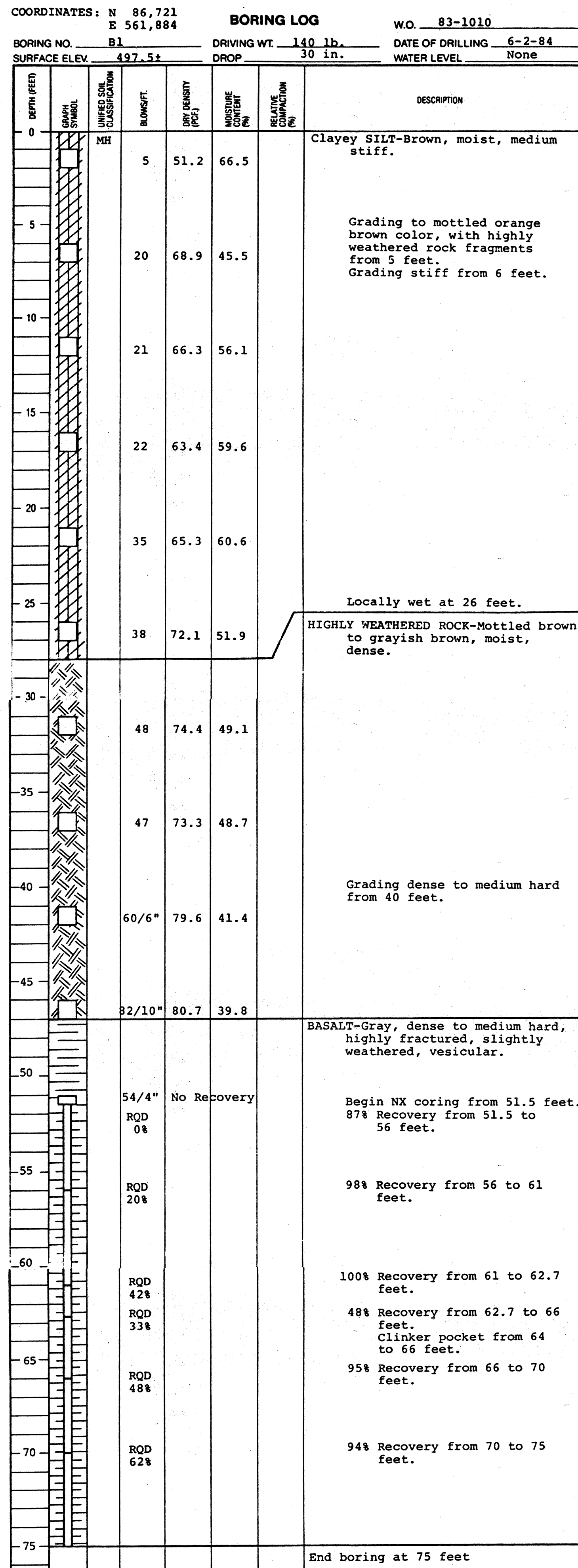


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

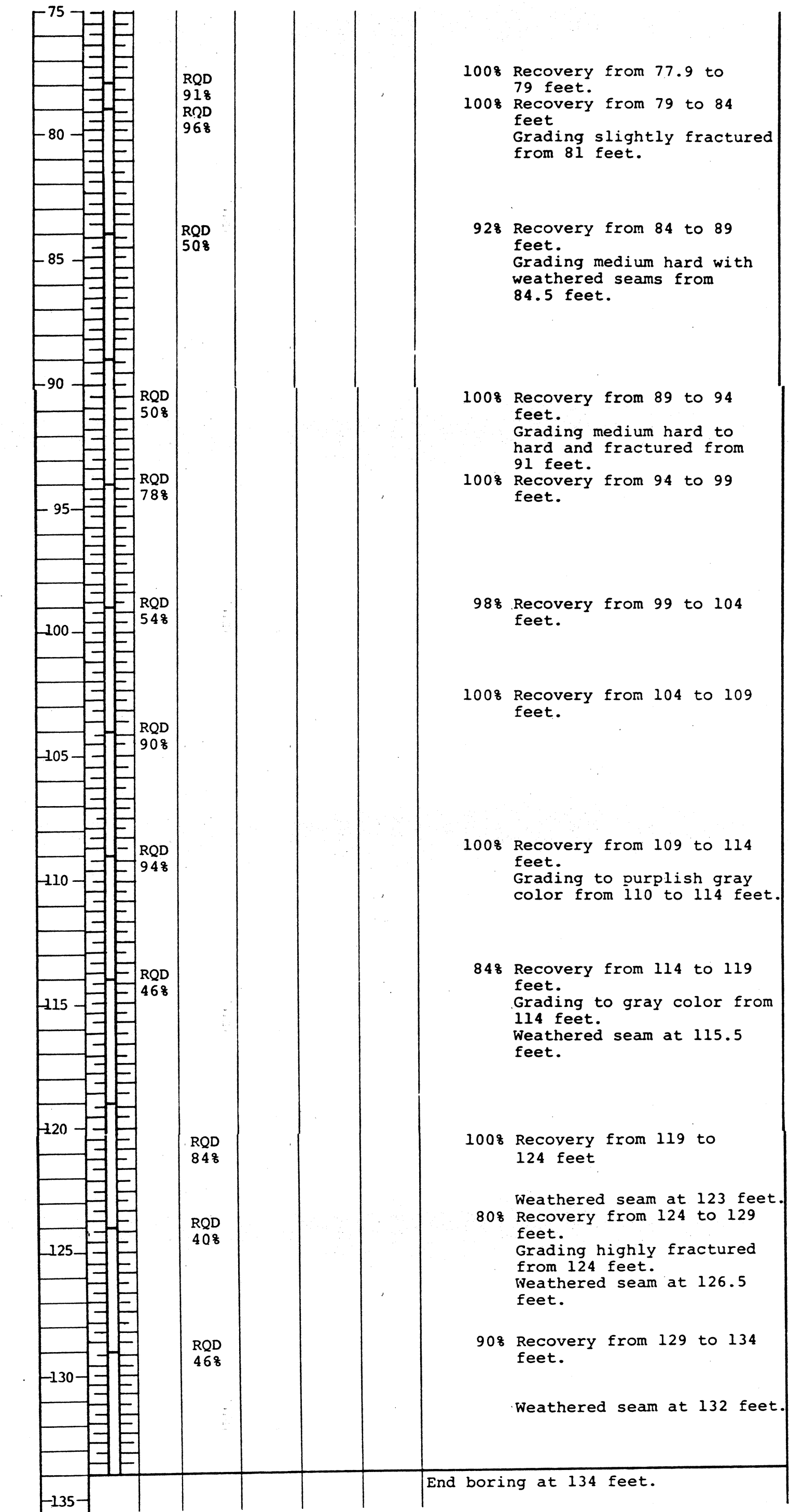
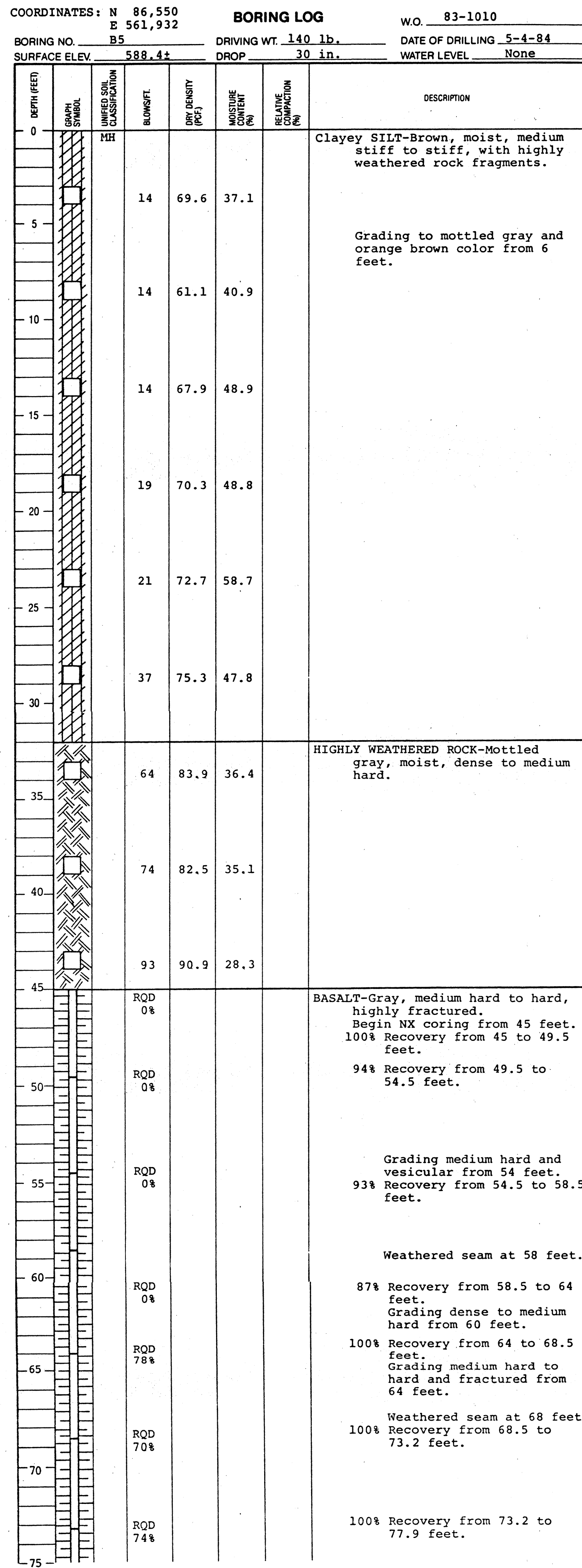
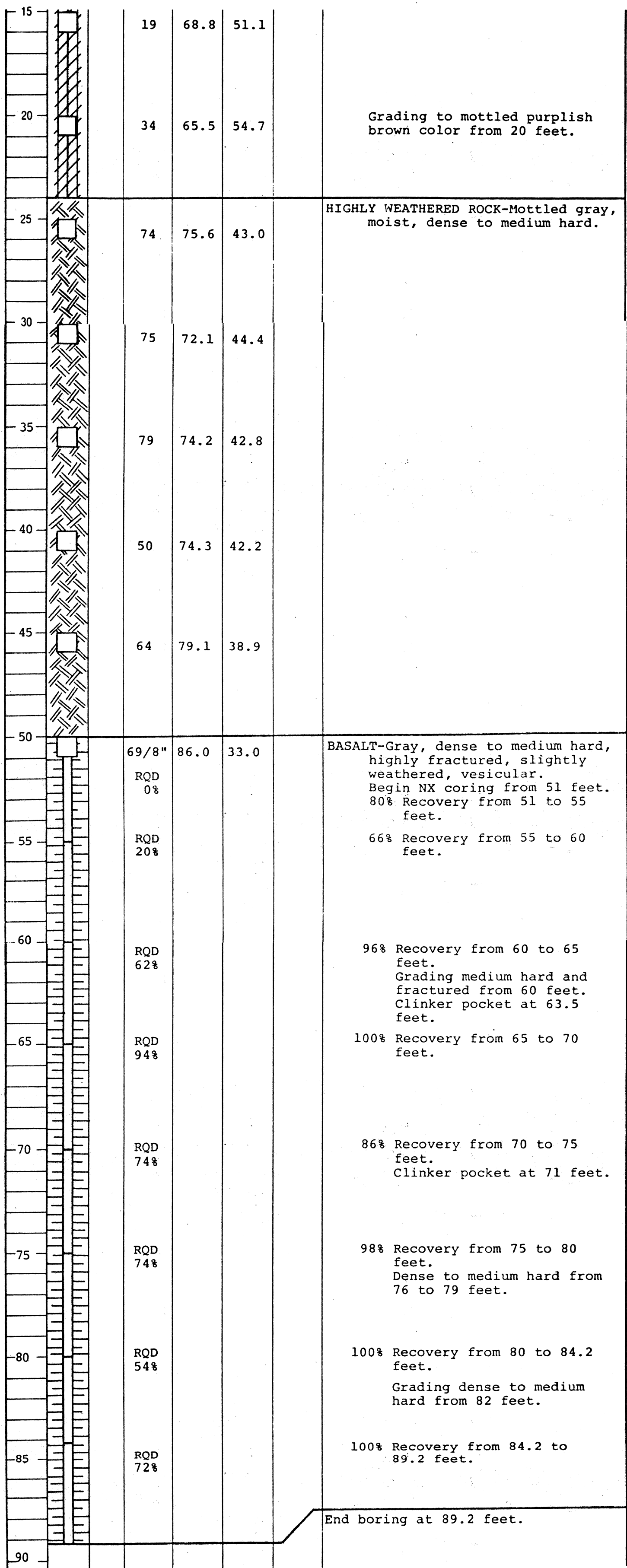
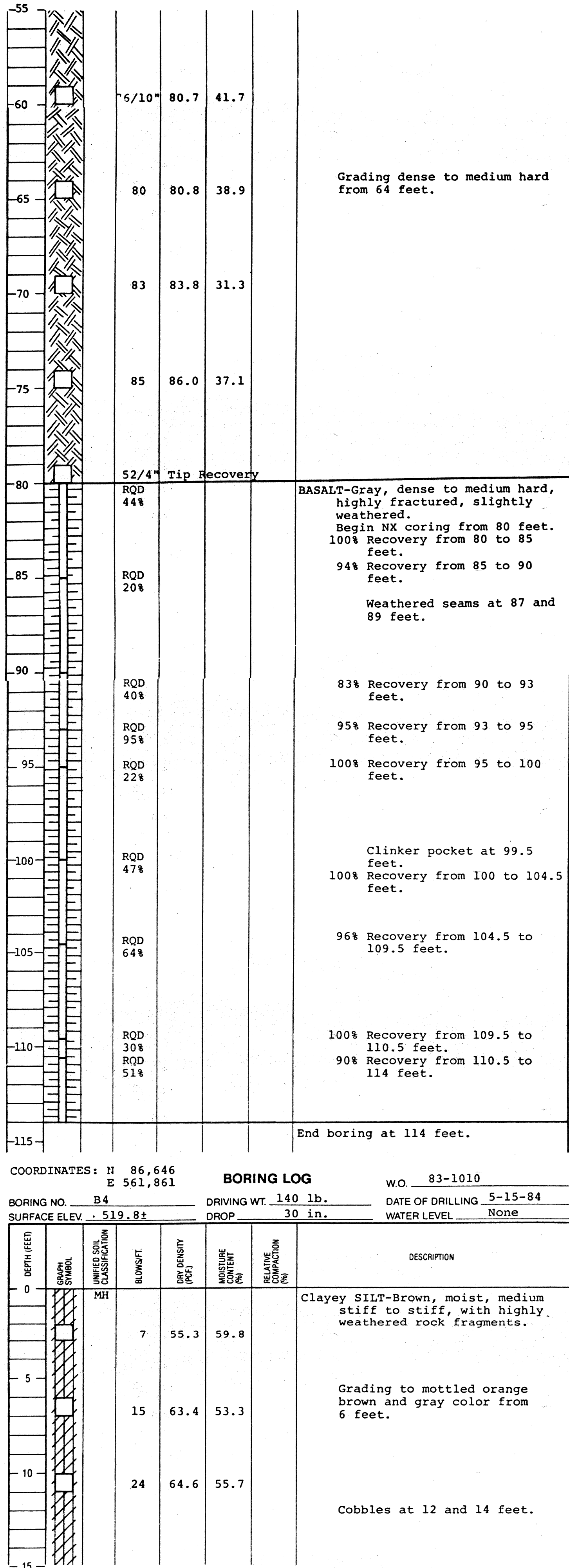
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(53)

SCALE: AS NOTED DATE: AUG., 1988

SHEET NO. OF SHEETS

Scale: Vert. 1" = 4'

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTE: DRAWN BY: _____
No. _____



Ernest K. Hirao
REGISTERED PROFESSIONAL ENGINEER
No. 5083
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BORING LOGS

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(53)

SCALE: AS NOTED DATE: AUG, 1988
SHEET NO. OF SHEETS

Scale: Vert. 1" 4'

46

COORDINATES: N 86,462 E 562,045		BORING LOG		W.O. 83-1010	
BORING NO. B6		DRIVING WT. 140 lb.		DATE OF DRILLING 5-24-84	
SURFACE ELEV. 508.9±		DROP 30 in.		WATER LEVEL None	
DEPTH (FEET)	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH	10	54.9	50.5	Clayey SILT-Brown, moist, medium stiff, with highly weathered rock fragments.
5		12	65.7	50.8	Grading to mottled orange brown color and stiff from 5.5 feet.
10		44	69.4	49.2	
15		39	69.8	52.3	Grading to mottled reddish brown and brown color from 15 feet.
20		45	66.9	54.4	
25		35	63.7	53.9	
30		35	67.8	52.2	Locally wet at 31 feet.
35		27	68.7	52.8	
40		18	68.2	49.8	
45		69	70.5	50.5	HIGHLY WEATHERED ROCK-Mottled grayish brown, moist, dense.
50		81	72.7	49.2	
55		89/9"	80.6	41.8	
60		102/9"	78.2	42.2	Grading to mottled gray color from 60 feet.
65		83	81.4	41.1	
70		62	77.4	41.9	Grading dense to medium hard from 73 feet.
75					

75	73/7"	78.8	42.8	Begin NX coring from 76.5 feet. 80% Recovery from 76.5 to 80 feet.
80	RQD 0%			80% Recovery from 80 to 85 feet.
85	RQD 20%			74% Recovery from 85 to 90 feet.
90	RQD 19%			BASALT-Gray, medium hard, highly fractured. 88% Recovery from 90 to 94.3 feet. Clinker pocket at 91.5 feet. 55% Recovery from 94.3 to 96.5 feet. 55% Recovery from 96.5 to 98.5 feet.
95	RQD 0%			100% Recovery from 98.5 to 99.7 feet. 61% Recovery from 99.7 to 103 feet.
100	RQD 0%			89% Recovery from 103 to 106 feet.
105	RQD 0%			End boring at 106 feet.

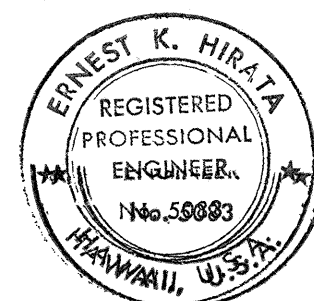
COORDINATES: N 86,327 E 562,122		BORING LOG		W.O. 83-1010	
BORING NO. B7		DRIVING WT. 140 lb.		DATE OF DRILLING 6-6-84	
SURFACE ELEV. 487.6±		DROP 30 in.		WATER LEVEL None	
DEPTH (FEET)	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH				Clayey SILT-Brown, moist, medium stiff, with highly weathered rock fragments. Grading to mottled brown color and stiff from 3 feet.
5		40	74.0	43.3	
10		28	69.5	34.4	
15		33	83.6	41.7	
20		41	74.4	48.6	Grading to mottled purplish brown color from 19 feet.
25		59	72.1	51.5	
30		24/6"	71.6	50.8	HIGHLY WEATHERED ROCK-Mottled grayish brown, moist, dense.
35		55/6"			Grading to mottled gray color from 33 feet.
40		74	74.2	47.4	
45		75	76.5	45.2	End boring at 40 feet.

COORDINATES: N 85,104 E 562,730		BORING LOG		W.O. 83-1010	
BORING NO. B8		DRIVING WT. 140 lb.		DATE OF DRILLING 6-13-84	
SURFACE ELEV. 453.1±		DROP 30 in.		WATER LEVEL None	
DEPTH (FEET)	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)
0	MH				Clayey SILT-Mottled orange brown, moist, stiff. Grading to mottled purplish brown color from 18 inches.
5		18	56.6	64.0	
10		24	67.2	56.0	
15		15	66.3	65.1	
20		17	61.8	61.8	
25		17	60.6	66.2	
30		16	66.8	58.3	
35		26	70.5	53.7	
40		10	56.5	75.2	Grading medium stiff to stiff from 38 feet.
45		14	58.7	69.1	
50		20	59.4	64.3	Grading to mottled grayish brown color from 50 feet.
55		27	66.2	58.1	
60		23	64.5	59.2	
65		28	65.7	60.4	
70		87/10"	76.5	45.2	HIGHLY WEATHERED ROCK-Mottled gray and orange brown, moist, dense.
75		82	85.8	38.5	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(53)	1988	47	104

75					
80		58	71.0	50.0	
85		47	68.4	54.2	
90		95/11"	81.8	37.8	
95		73/9"	80.8	37.4	
100		30/2"	Tip Recovery		BASALT-Gray, medium hard to dense.
					End boring at 98.5 feet.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
TRACED BY		
DESIGNED BY		
CHECKED BY		
NO.		



Ernest K. Hirt
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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(53)	
SCALE: AS NOTED	DATE: AUG, 1988
SHEET NO. 47	OF 104 SHEETS

Scale: Vert. 1" = 4'

COORDINATES: N 85,039
E 562,381
BORING NO. B9
SURFACE ELEV. 594.1±

BORING LOG
DRIVING WT. 140 lb.
DROP 30 in.

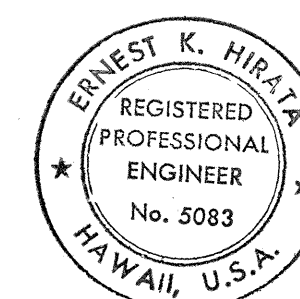
W.O. 83-1010
DATE OF DRILLING 6-8-84
WATER LEVEL None

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(53)	1988	48	124

DEPTH (FEET)	GRAPH SYMBOL	UNITS & SOIL CLASSIFICATION	BLANKET	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	SOIL TYPE CLASSIFICATION (%)	DESCRIPTION
0		MH	11	69.9	43.0		Clayey SILT-Mottled orange brown, moist, stiff, with highly weathered rock fragments.
5			14	72.8	47.3		
10			15	64.8	59.0		Grading to mottled brown color from 10 feet.
15			23	70.5	47.7		
20			26	67.1	52.6		
25			29	73.2	50.4		
30			69/8"	81.1	40.4		Grading to mottled grayish brown color from 30 feet.
35			16	65.4	52.4		
40			100	76.0	38.0		HIGHLY WEATHERED ROCK-Mottled gray, moist, dense to medium hard.
45			99/11"	77.7	39.3		
50			68/11"	82.5	30.2		
55			50/4"	91.2	17.5		BASALT-Gray, dense, slightly weathered, vesicular.
60			17/1" RQD 20%	No Recovery			Begin NX coring from 60 feet. 64% Recovery from 60 to 65 feet. Highly fractured medium hard basalt.
65			RQD 38%				88% Recovery from 65 to 70 feet.
70			RQD 74%				98% Recovery from 70 to 75 feet. Grading medium hard to hard from 70 feet.
75							

75	RQD 90%	100% Recovery from 75 to 80 feet. Slightly fractured from 75 feet.
80	RQD 90%	100% Recovery from 80 to 85 feet.
85	RQD 94%	100% Recovery from 85 to 90 feet.
90	RQD 90%	100% Recovery from 90 to 95 feet. Weathered seam at 92 feet
95	RQD 100%	100% Recovery from 95 to 100 feet. Weathered seam at 96.5 feet.
100	RQD 100%	100% Recovery from 100 to 105 feet.
105	RQD 52%	68% Recovery from 105 to 110 feet. Clinker from 108 feet.
110		End boring at 110 feet.

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



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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(53)

SCALE: AS NOTED DATE: AUG, 1988

SHEET NO. OF SHEETS

Scale: Vert. 1" 4'