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Report No. EPGs-DOM.30-84PHH

Vitrinite reflectance (Ro) on the
dispersed organics in the Amoco-IOE
A-1 Murre G-67

GSC OF 1168

Vitrinite reflectance (Ro) on the dispersed organics in the Amoco-IOE A-1 Murre G-67

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GSC Locality No.: D31

Location: 46°06'20.4"N; 49°09'38.2"W

R.T. Elevation: 98'

Sample Interval: 900-10950'

Total Depth: 10949'

Water Depth: 212'

Release Date: September 20, 1973

Interval Studied: 1490-9908'

In this study vitrinite reflectance has been determined on 12 samples from Amoco-IOE A-1 Murre G-67 well, which is classified as a New Field Wildcat and was drilled in 1971 on the Grand Banks (approximately 175 nautical miles southeast of St. John's, Newfoundland). Vitrinite reflectance has been determined previously on 6 samples (Report No. EPGS-DOM.13-84WBE), of which 2 samples were reanalyzed for this report. Vitrinite reflectance values for 18 depth intervals are presented here.

Statistical analysis and data acquisition from the Zeiss Photomultiplier 01 system utilized a Vic-20 microcomputer which acquires the digital display signal directly. The selected values are stored, statistically analyzed and a sample report printed.

Sample preparation was carried out as given in Appendix I. The analysis of this well suggested the thermal maturation intervals as listed in Table I. These maturation levels are those proposed by Dow (1977).

TABLE I
Inferred Thermal Maturation Levels

<u>Projected:</u>			
500-3000'	0.3 - 0.4	% Ro	immature
<u>Determined:</u>			
3000-4900'	0.4 - 0.5	% Ro	immature, approaching maturity
4900-6500'	0.5 - 0.6	% Ro	marginally mature for oil generation
6500'	0.6	% Ro	peak of oil generation
10850'	1.0	% Ro	peak of wet gas generation
10950' (T.D.)	1.01	% Ro	within oil window
<u>Projected:</u>			
12450'	1.2	% Ro	peak of dry gas generation
13450'	1.35	% Ro	oil floor
16850'	2.0	% Ro	wet gas floor
20000'	3.06	% Ro	dry gas floor

Remarks

The data for this well (Table II) were obtained from the analysis of 18 samples, 4 of which were analyzed previously (Report No. EPGs-DOM.13-84WBE). These data cover the 1500 to 9908' K.B. interval.

Between 3260 to 9908' K.B. the Ro measurements reveal a normal thermal maturation profile. Above 3260' K.B. there are anomalous Ro values which probably result from measurements of reworked material (D. McAlpine, pers. comm.).

The thermal maturation profile as determined for Murre G-67 suggests the interval from 4900 to 13000' K.B. would generate liquid petroleum if source rocks were present in the section. According to kerogen type studies (Report No. EPGs-DOM.32-76JPB) amorphogen is present and both the Well History Report and the Composite Well History Log also record oil stains within this interval (Figure 1).

References

- Amoco-IOE A-1, Murre G-67, 1973. Composite Well History Log, Austin Exploration Limited, Calgary, Alberta.
- Amoco-IOE A-1, Murre G-67, 1971. Well History Report, Open File Report, Department of Energy, Mines and Resources, Ottawa.
- Avery, M.P., 1984. Vitrinite reflectance (Ro) on the dispersed organics in the Mobil-Texaco-Pex Olympia A-12. Report No. EPGs-DOM.17-84MPA.
- Bujak, J.P., 1976. Kerogen Type and Thermal Alteration Index of Amoco-IOE Murre G-67, Grand Banks. Report No. EPGs-DOM.32-76JPB.
- Dow, W.G., 1977. Kerogen studies and geological interpretations. Journal of Geochemical Exploration, no. 7, p. 79-99.
- Ervine, W.B., 1984. Vitrinite reflectance (Ro) on the dispersed organics in Amoco A-1 Murre G-67. Report No. EPGs-DOM.13-84WBE.

October 17, 1984

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PHH/nk

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Art Jackson, E.P.G.S., Dartmouth
Central Technical Files, Ottawa
E.P.G.S. Files, Dartmouth

TABLE II

Data Summary

SEQ	DEPTH (ft)	Ro (S.D.)	NUMBER OF READINGS	
			MEASURED	AFTER EDITING
1	1500	.26 (.04)	36	4
2	2010	.50 (.01)	16	2
3	2560	.44 (.05)	80	3
4	3260	.35 (.03)	50	13
5	4010	.42 (.05)	99	19
6	4510	.53 (.02)	42	3
7	5010	.50 (.05)	99	32
8	5510	.56 (.05)	99	28
9	6010	.58 (.05)	99	43
10	6496*	.67 (.05)	99	94
11	6643*	.66 (.06)	77	73
12	7103*	.67 (.03)	57	53
13	7497*	.68 (.04)	99	94
14	8301	.72 (.06)	84	22
15	8760	.76 (.04)	55	15
16	9410	.78 (.09)	54	18
17	9760	.92 (.06)	99	26
18	9908	.81 (.02)	44	8

*Ro obtained from Report No. EPGS-DOM.13-84WBE.

S.D. - Standard Deviation

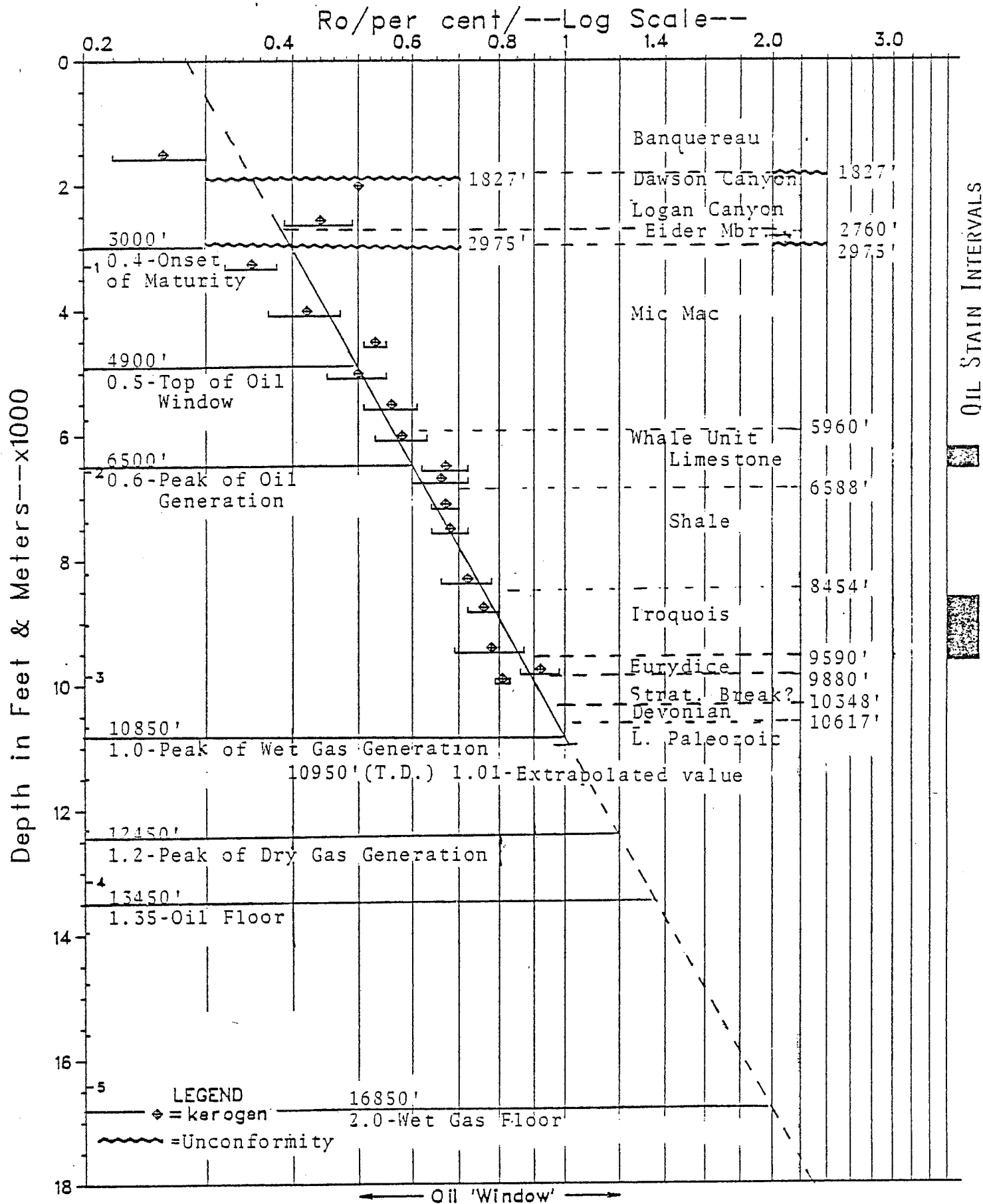


Fig. 1 Murre G-67

(NOTE: Location of Oil Stains obtained from Composite Well History Log.)

APPENDIX I

Sample Preparation Method

COGLA Lab preparation

Preliminary Wash

Samples dried in oven

Split: a. all of coarse to Petrology Lab

b. $\frac{1}{2}$ medium to Palynology Lab

c. rest of medium and all of fine combined for Micropaleo Lab

Split "b" is delivered to Palynology Lab and treated as follows:

PALYNOLOGY Lab preparation

20-30 grams placed in 250ml plastic beaker.

Add 10% HCl till reaction ceases (removes carbonates).

Washed (rinsed) 3 times.

Conc. HF overnight (removes silicates).

Washed (rinsed) 3 times.

Heated (60-65°C) conc. HCl (remove fluorides caused by HF).

Washed 3 times.

Then put into 15ml test tube with 4-5ml 4% Alconox.

Differential centrifuge at 1500rpm for 90 sec.

Decant.

Wash 3 times with centrifuging.

Float off organic fraction using 2.0 S.G. ZnBr solution.

Centrifuge 1000rpm, 8 min.

Float fraction into second test tube.

Wash 3 times with centrifuging.

Kerogen smear slide made.

Remaining kerogen material delivered to Vitrinite Reflectance Lab.

VITRINITE REFLECTANCE Lab preparation

Excess water pipetted off.

Freeze dried.

Mounted using epoxy resin (EPO-TEK 301) in predrilled plastic stubs.

Polished using modified coal petrology polishing methods.

Examined under oil lens at approximately 800x mag'n.

APPENDIX II

Vitrinite Reflectance Histograms

Total Population

FILE >>K0524A

DEPTH 1500' - MURRE 6-67- TRISH HARRISON- AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.22	.24	.29	.29	.35	.4	.56	.62	.67	.68
1	.73	.78	.81	.81	.83	.84	.84	.84	.85	.87
2	.87	.88	.88	.9	.9	.9	.9	.94	.97	1.01
3	1.01	1.06	1.13	1.15	1.18	1.19				

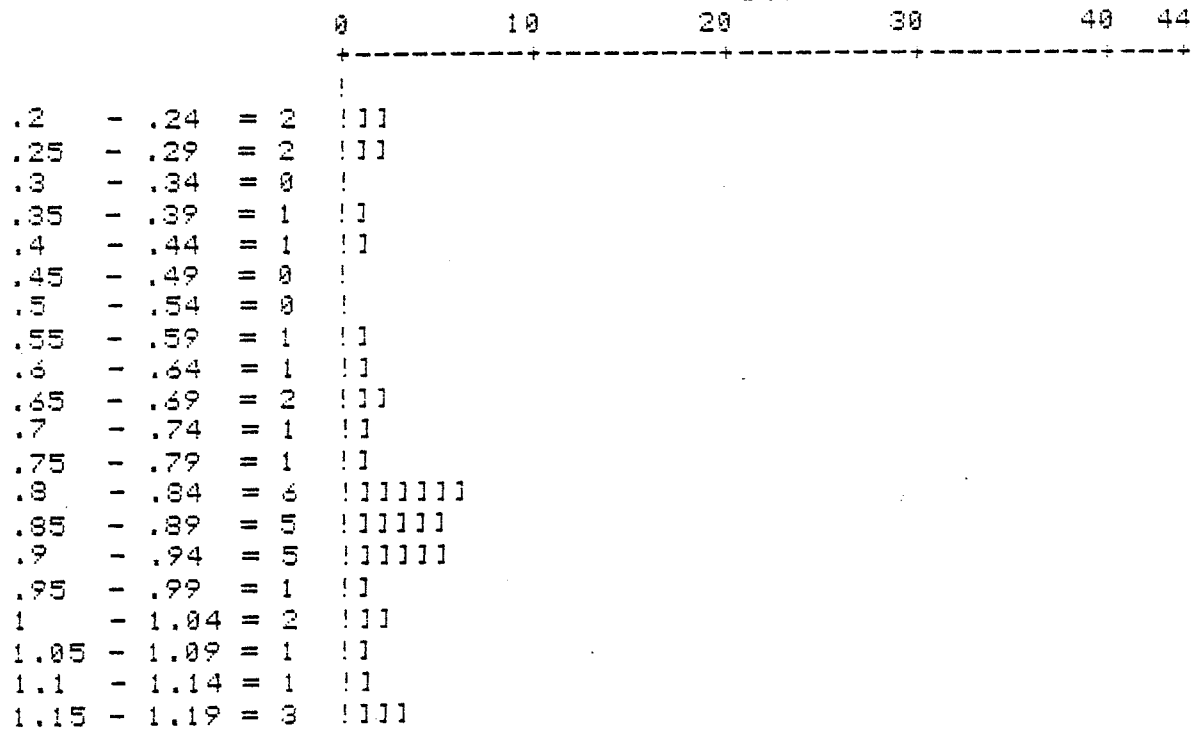
NUMBER OF READINGS = 36

MINIMUM = .22 MAXIMUM = 1.19

MEAN = .79

STANDARD DEVIATION = .26

REFLECTOGRAM



FILE >>K05248

DEPTH 2910' - MURRE G-67- TRISH HARRISON- AUG-10-84

COL	1	2	3	4	5	6	7	8	9	0
ROW	.49	.51	.84	.88	.89	.92	.94	.98	.98	.99
1	1.06	1.06	1.15	1.18	1.27	1.35				

NUMBER OF READINGS = 16

MINIMUM = .49 MAXIMUM = 1.35

MEAN = .97

STANDARD DEVIATION = .23

REFLECTOGRAM

	0	10	20	30	40	44
	+-----+-----+-----+-----+-----+					
.45 - .49 = 1						
.5 - .54 = 1						
.55 - .59 = 0						
.6 - .64 = 0						
.65 - .69 = 0						
.7 - .74 = 0						
.75 - .79 = 0						
.8 - .84 = 1						
.85 - .89 = 2						
.9 - .94 = 2						
.95 - .99 = 3						
1 - 1.04 = 0						
1.05 - 1.09 = 2						
1.1 - 1.14 = 0						
1.15 - 1.19 = 2						
1.2 - 1.24 = 0						
1.25 - 1.29 = 1						
1.3 - 1.34 = 0						
1.35 - 1.39 = 1						

FILE >>K05240

DEPTH 2560' - MURRE G-67- TRISH HARRISON- AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.4	.44	.49	.5	.5	.5	.57	.59	.6	.6
1	.61	.63	.63	.65	.66	.67	.67	.67	.67	.68
2	.69	.69	.7	.71	.71	.72	.72	.73	.73	.73
3	.74	.74	.74	.75	.75	.75	.76	.76	.76	.77
4	.77	.78	.78	.79	.8	.8	.81	.81	.82	.83
5	.85	.87	.87	.88	.88	.9	.93	.93	.94	.95
6	.95	.96	.96	.97	.97	.98	1	1.04	1.05	1.06
7	1.08	1.08	1.09	1.09	1.09	1.09	1.11	1.12	1.28	1.31

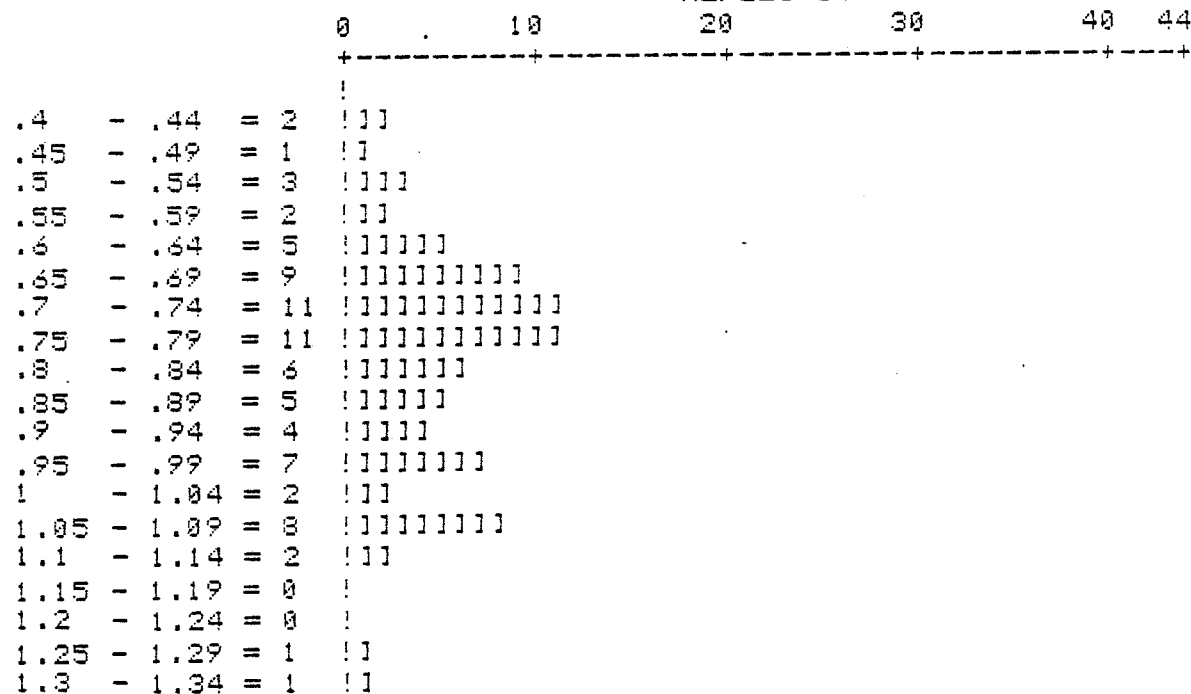
NUMBER OF READINGS = 80

MINIMUM = .4 MAXIMUM = 1.31

MEAN = .81

STANDARD DEVIATION = .19

REFLECTOGRAM



FILE >>K0525A

DEPTH 3260' - MURRE G-67- TRISH HARRISON- AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.16	.18	.19	.32	.33	.33	.33	.34	.34	.34
1	.35	.36	.36	.37	.4	.41	.6	.62	.66	.72
2	.76	.78	.8	.83	.83	.84	.85	.85	.85	.86
3	.89	.89	.89	.89	.89	.9	.9	.92	.92	.93
4	.94	.94	.95	.95	.98	.99	.99	1.07	1.13	1.26

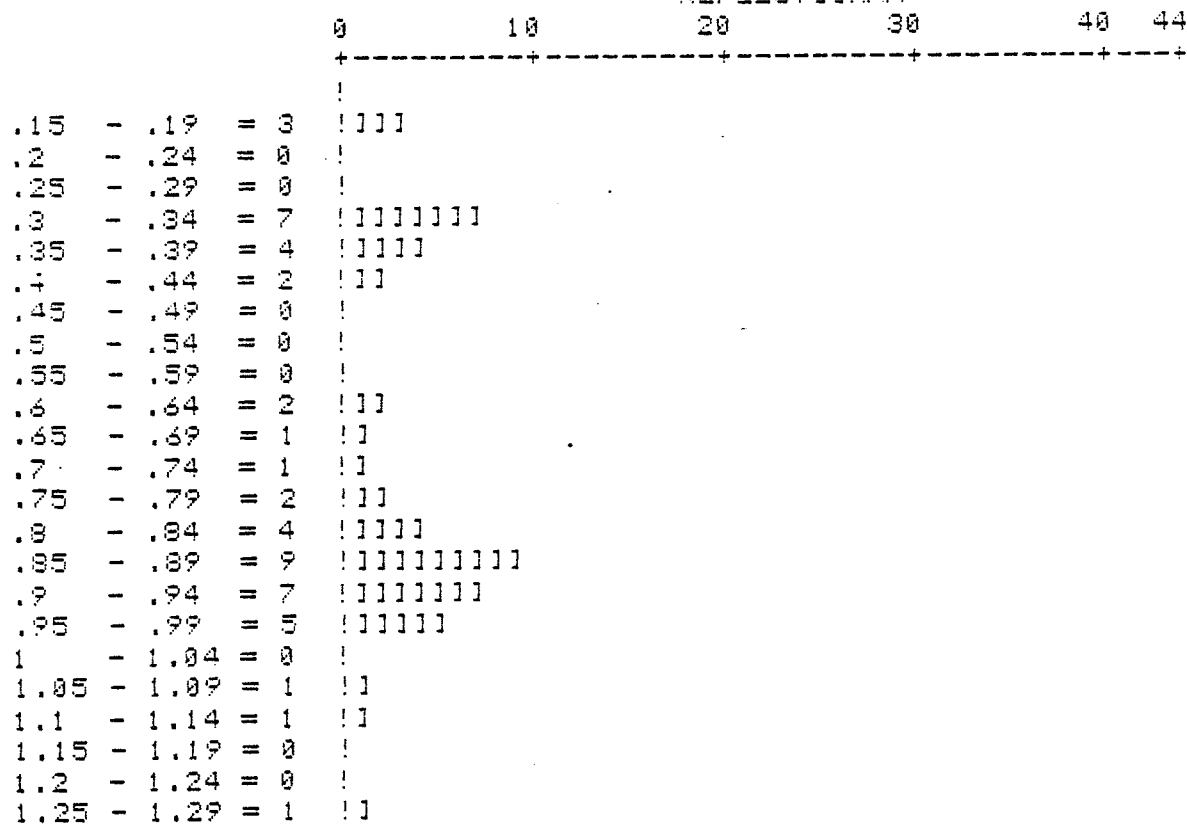
NUMBER OF READINGS = 50

MINIMUM = .16 MAXIMUM = 1.26

MEAN = .7

STANDARD DEVIATION = .29

REFLECTOGRAM



FILE >>K05258

DEPTH 4010' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	9
ROW	.22	.24	.26	.27	.29	.3	.31	.31	.33	.33
1	.34	.34	.34	.35	.35	.36	.36	.37	.38	.4
2	.41	.42	.42	.43	.43	.43	.44	.45	.47	.48
3	.49	.49	.55	.55	.57	.58	.58	.59	.59	.59
4	.6	.6	.61	.61	.62	.62	.63	.65	.68	.68
5	.68	.68	.69	.71	.72	.73	.73	.73	.75	.76
6	.78	.78	.79	.8	.82	.83	.83	.83	.84	.84
7	.84	.85	.85	.85	.86	.86	.87	.87	.88	.89
8	.9	.9	.91	.91	.91	.91	.94	.95	.95	.99
9	1	1.01	1.03	1.07	1.09	1.11	1.12	1.14	1.35	

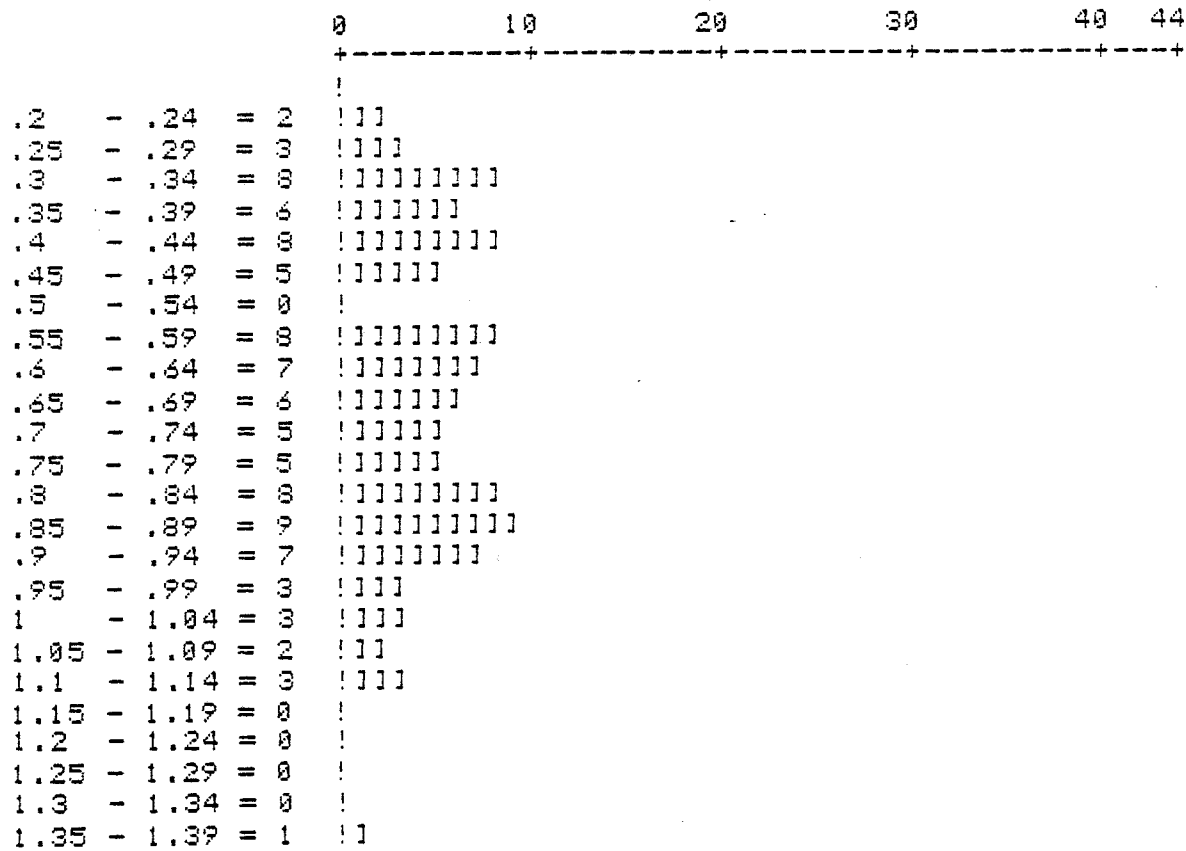
NUMBER OF READINGS = 99

MINIMUM = .22 MAXIMUM = 1.35

MEAN = .67

STANDARD DEVIATION = .25

REFLECTOGRAM



FILE >>K05250

DEPTH 4510' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.21	.25	.28	.3	.3	.31	.31	.31	.33	.34
1	.35	.35	.51	.53	.54	.6	.6	.61	.62	.62
2	.62	.64	.76	.77	.78	.78	.8	.84	.84	.84
3	.84	.85	.88	.92	.93	.97	1.03	1.05	1.08	1.11
4	1.17	1.2								

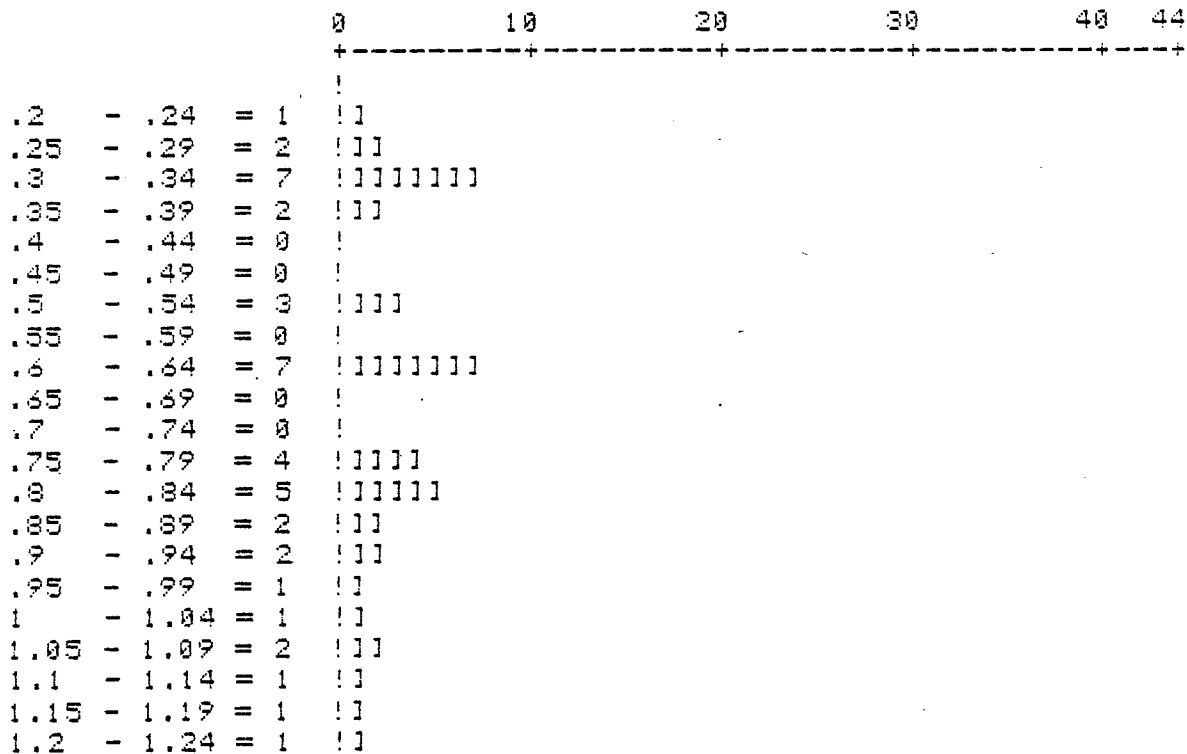
NUMBER OF READINGS = 42

MINIMUM = .21 MAXIMUM = 1.2

MEAN = .67

STANDARD DEVIATION = .29

REFLECTOGRAM



FILE >>K0526A

DEPTH 5010' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.33	.33	.34	.35	.39	.4	.4	.43	.43	.43
1	.43	.43	.44	.47	.47	.47	.48	.48	.48	.48
2	.49	.49	.5	.5	.51	.51	.52	.53	.53	.53
3	.54	.54	.54	.55	.56	.57	.57	.57	.57	.59
4	.6	.6	.61	.61	.61	.62	.62	.63	.64	.64
5	.64	.65	.65	.66	.66	.66	.67	.67	.68	.69
6	.69	.69	.7	.7	.7	.7	.7	.72	.73	.76
7	.76	.76	.79	.8	.81	.82	.83	.86	.87	.87
8	.88	.88	.88	.89	.89	.9	.9	.91	.92	.94
9	.95	.96	.96	.96	.99	1.06	1.07	1.19	1.26	

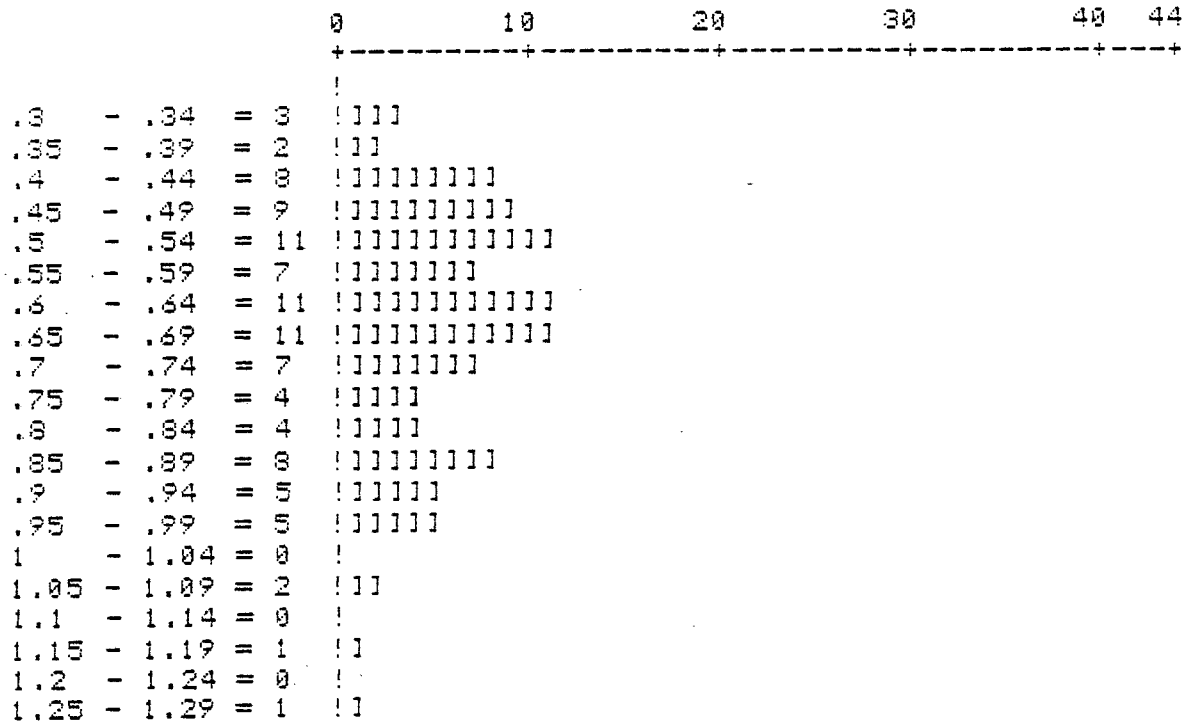
NUMBER OF READINGS = 99

MINIMUM = .33 MAXIMUM = 1.26

MEAN = .66

STANDARD DEVIATION = .2

REFLECTOGRAM



FILE >>K0526B

DEPTH 5310' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.33	.36	.37	.37	.37	.37	.39	.39	.39	.39
1	.41	.41	.42	.42	.42	.42	.43	.44	.44	.44
2	.44	.45	.45	.45	.48	.48	.48	.5	.5	.5
3	.51	.54	.54	.54	.54	.54	.55	.55	.55	.56
4	.56	.58	.59	.59	.59	.6	.61	.62	.62	.63
5	.63	.64	.65	.65	.65	.65	.66	.66	.66	.66
6	.67	.67	.67	.67	.68	.69	.69	.69	.7	.71
7	.71	.72	.74	.74	.75	.75	.76	.76	.76	.76
8	.77	.79	.79	.79	.81	.81	.86	.88	.88	.89
9	.91	.93	.93	.94	.96	.98	1.02	1.04	1.05	

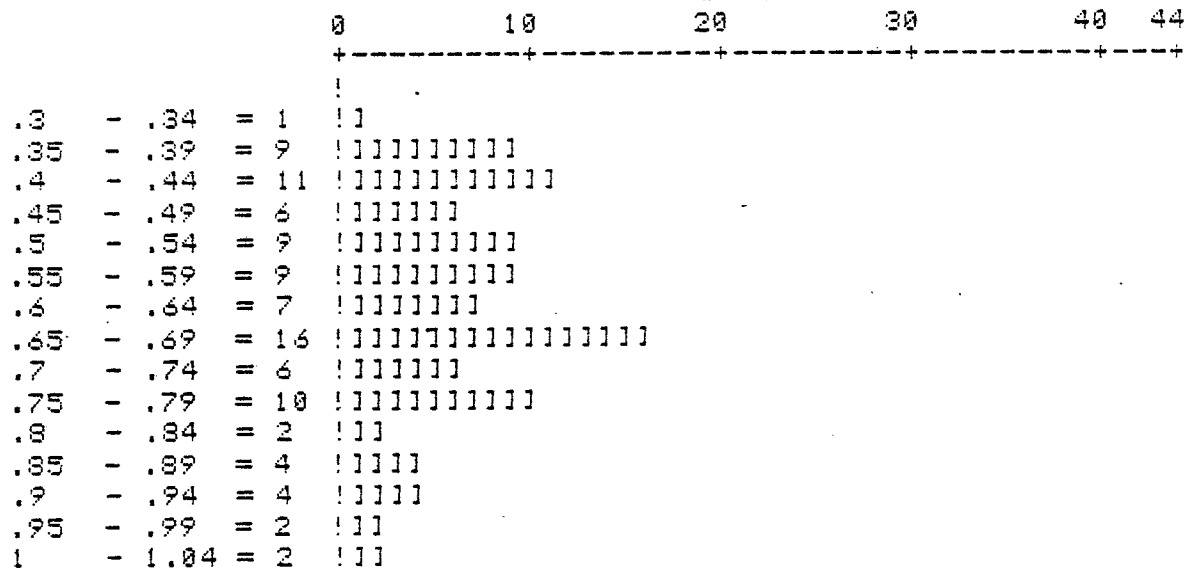
NUMBER OF READINGS = 99

MINIMUM = .33 MAXIMUM = 1.05

MEAN = .63

STANDARD DEVIATION = .18

REFLECTOGRAM



FILE >>K05260

DEPTH 6010' - MURRE - TRISH HARRISON - AUG-14-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.32	.33	.37	.37	.37	.38	.39	.39	.39	.39
1	.39	.4	.41	.42	.43	.44	.44	.45	.45	.45
2	.46	.46	.48	.49	.49	.49	.5	.51	.51	.52
3	.52	.52	.53	.54	.54	.54	.54	.56	.56	.56
4	.56	.57	.57	.58	.58	.58	.59	.59	.59	.6
5	.6	.61	.61	.62	.63	.63	.63	.63	.64	.64
6	.65	.65	.66	.66	.67	.68	.69	.69	.7	.72
7	.72	.72	.73	.73	.74	.75	.76	.77	.77	.77
8	.78	.78	.8	.82	.82	.83	.84	.85	.88	.89
9	.92	.92	.96	.99	1	1	1.05	1.13	1.16	

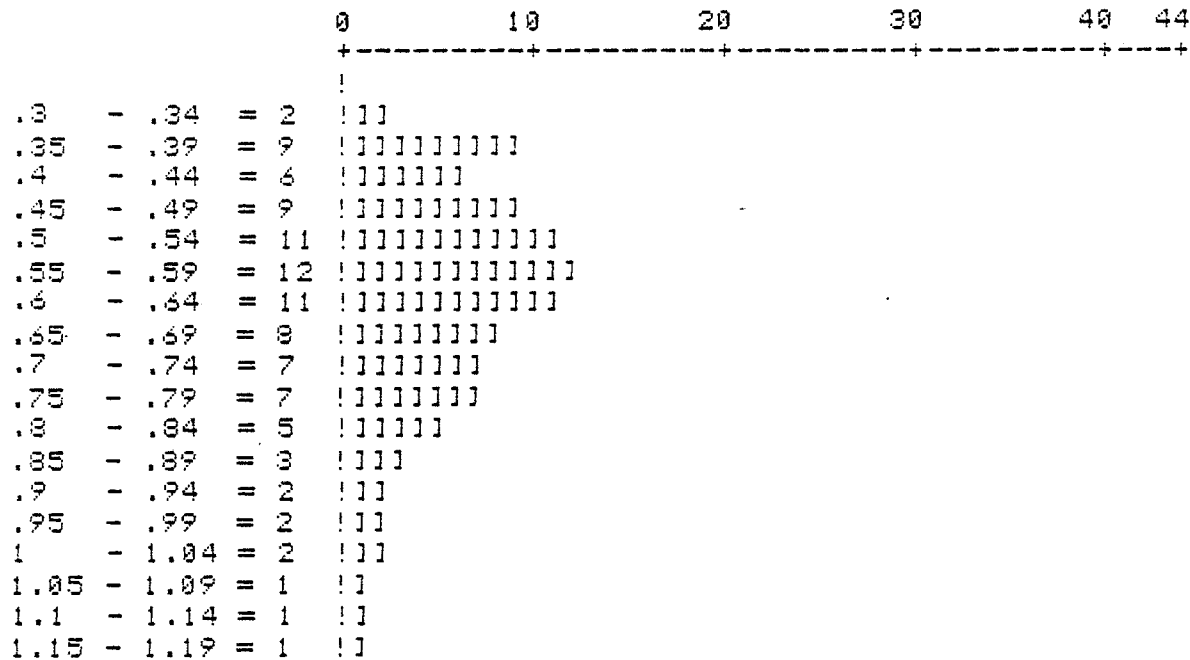
NUMBER OF READINGS = 99

MINIMUM = .32 MAXIMUM = 1.16

MEAN = .63

STANDARD DEVIATION = .19

REFLECTOGRAM



FILE >>K01258

DEPTH 8301' - MURRE- TRISH HARRISON- AUG-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.41	.44	.47	.49	.52	.59	.62	.64	.66	.66
1	.67	.68	.69	.69	.69	.7	.71	.73	.73	.75
2	.75	.76	.76	.78	.79	.82	.83	.83	.85	.87
3	.89	.89	.9	.9	.9	.91	.94	.95	.96	.98
4	.99	1	1	1	1.01	1.01	1.03	1.04	1.05	1.05
5	1.07	1.1	1.11	1.12	1.14	1.15	1.17	1.17	1.18	1.18
6	1.2	1.21	1.21	1.21	1.22	1.23	1.23	1.23	1.26	1.26
7	1.27	1.28	1.29	1.29	1.32	1.33	1.37	1.37	1.37	1.38
8	1.39	1.39	1.4	1.43	1.44	1.44	1.45	1.46	1.46	1.54
9	1.62									

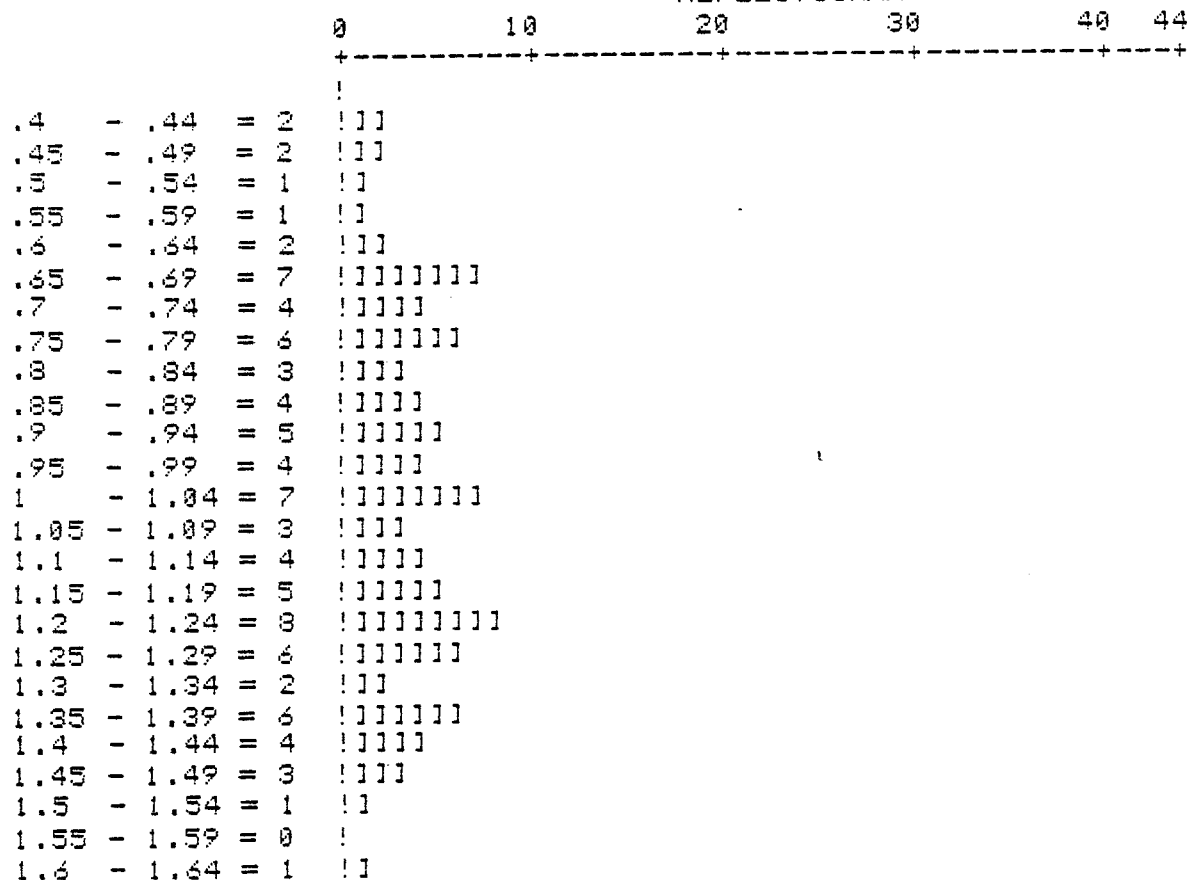
NUMBER OF READINGS = 91

MINIMUM = .41 MAXIMUM = 1.62

MEAN = 1.02

STANDARD DEVIATION = .29

REFLECTOGRAM



FILE >>K0527A

DEPTH 8760' - MURRE- TRISH HARRISON- AUG-14-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.55	.55	.55	.59	.6	.62	.7	.7	.73	.73
1	.74	.74	.76	.76	.77	.78	.79	.8	.81	.82
2	.83	.85	.86	.9	.92	.92	.94	.94	.95	.96
3	.97	.98	1	1.01	1.03	1.05	1.07	1.07	1.1	1.11
4	1.11	1.16	1.16	1.18	1.2	1.21	1.23	1.24	1.25	1.27
5	1.27	1.32	1.35	1.37	1.62					

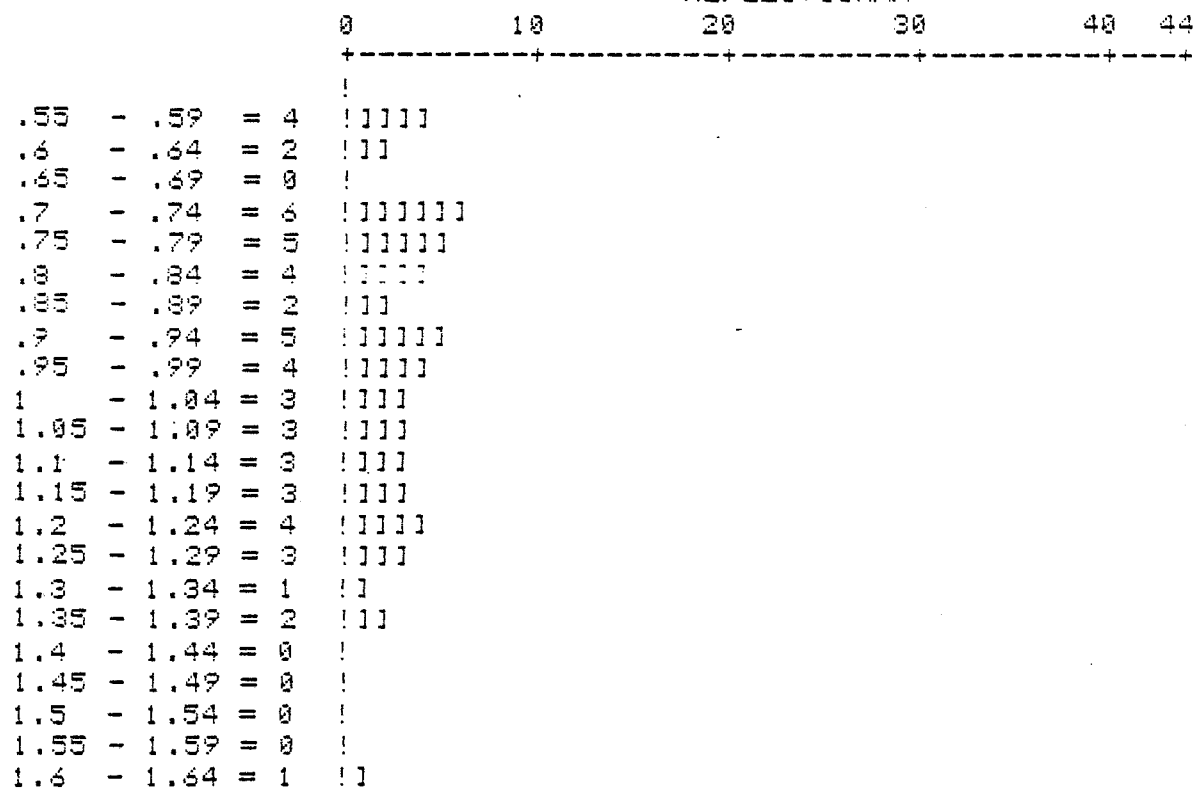
NUMBER OF READINGS = 55

MINIMUM = .55 MAXIMUM = 1.62

MEAN = .95

STANDARD DEVIATION = .24

REFLECTOGRAM



FILE >>K05278

DEPTH 9410' - MURRE- TRISH HARRISON- AUG-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.49	.59	.64	.67	.67	.7	.71	.71	.72	.75
1	.76	.77	.79	.79	.85	.86	.88	.88	.91	.92
2	.97	.98	.98	.98	.99	1	1	1	1.04	1.06
3	1.06	1.06	1.06	1.1	1.1	1.1	1.16	1.16	1.17	1.19
4	1.19	1.2	1.22	1.23	1.24	1.26	1.26	1.27	1.28	1.29
5	1.36	1.37	1.5	1.78						

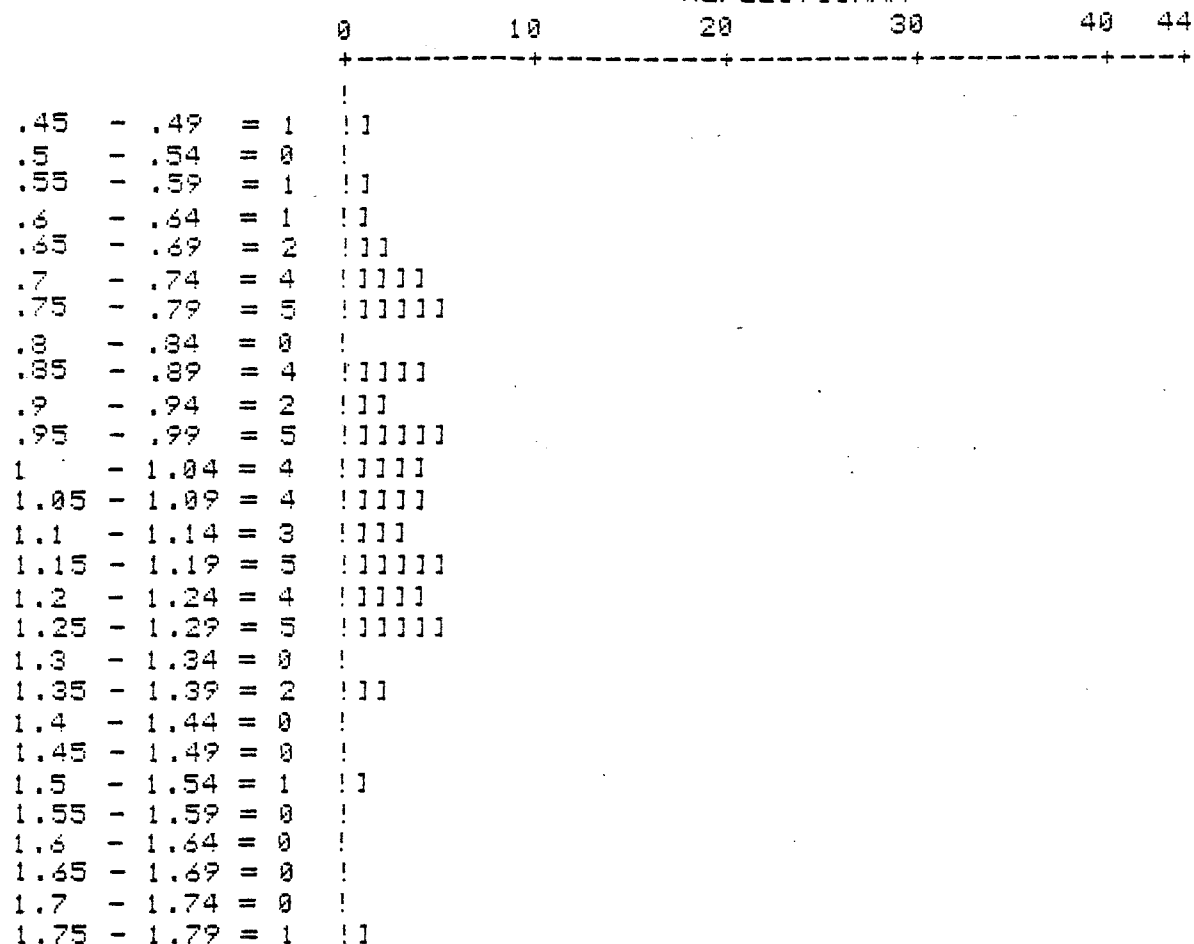
NUMBER OF READINGS = 54

MINIMUM = .49 MAXIMUM = 1.78

MEAN = 1.01

STANDARD DEVIATION = .25

REFLECTOGRAM



FILE >>K05270

DEPTH 9760' - MURRE- TRISH HARRISON- AUG-15-84

COL	1	2	3	4	5	6	7	8	9	0
ROW	.55	.56	.71	.72	.72	.74	.74	.75	.75	.76
1	.76	.77	.77	.77	.8	.8	.81	.81	.81	.82
2	.83	.84	.85	.85	.86	.87	.87	.89	.9	.9
3	.91	.91	.92	.92	.94	.96	.97	.98	.98	.99
4	.99	1	1	1	1	1.02	1.04	1.05	1.05	1.07
5	1.07	1.07	1.09	1.1	1.11	1.11	1.11	1.11	1.12	1.13
6	1.15	1.16	1.17	1.18	1.19	1.19	1.2	1.22	1.23	1.23
7	1.23	1.24	1.25	1.25	1.25	1.25	1.25	1.26	1.26	1.27
8	1.27	1.29	1.3	1.3	1.32	1.33	1.35	1.36	1.37	1.37
9	1.37	1.39	1.4	1.41	1.41	1.42	1.47	1.5	1.58	

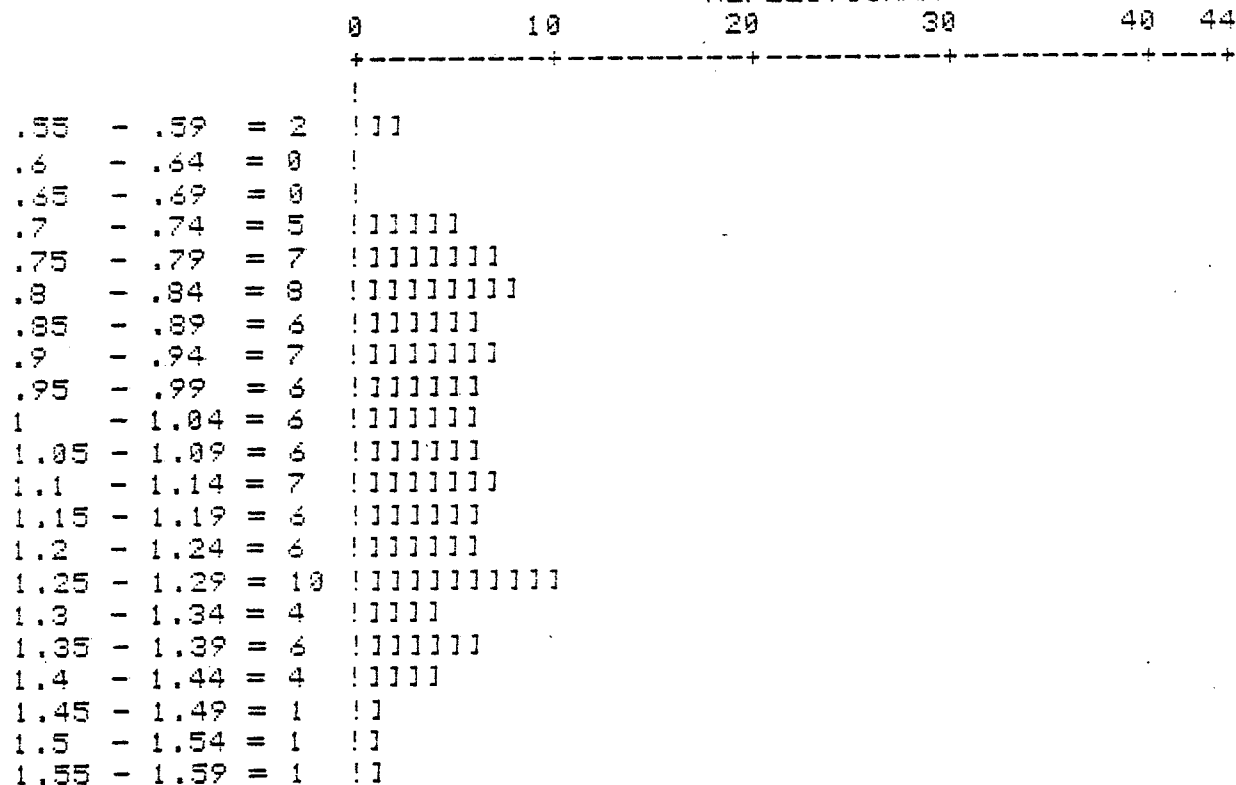
NUMBER OF READINGS = 99

MINIMUM = .55 MAXIMUM = 1.58

MEAN = 1.06

STANDARD DEVIATION = .23

REFLECTOGRAM



FILE >>K0125C

DEPTH 9908' - MURRE- TRISH HARRISON- AUG-16-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.42	.56	.59	.59	.65	.79	.79	.8	.8	.81
1	.81	.83	.86	.91	.92	.92	.96	.96	.97	.99
2	1.01	1.03	1.04	1.05	1.08	1.08	1.08	1.09	1.12	1.13
3	1.13	1.15	1.15	1.15	1.17	1.18	1.2	1.25	1.26	1.26
4	1.28	1.32	1.38	1.38						

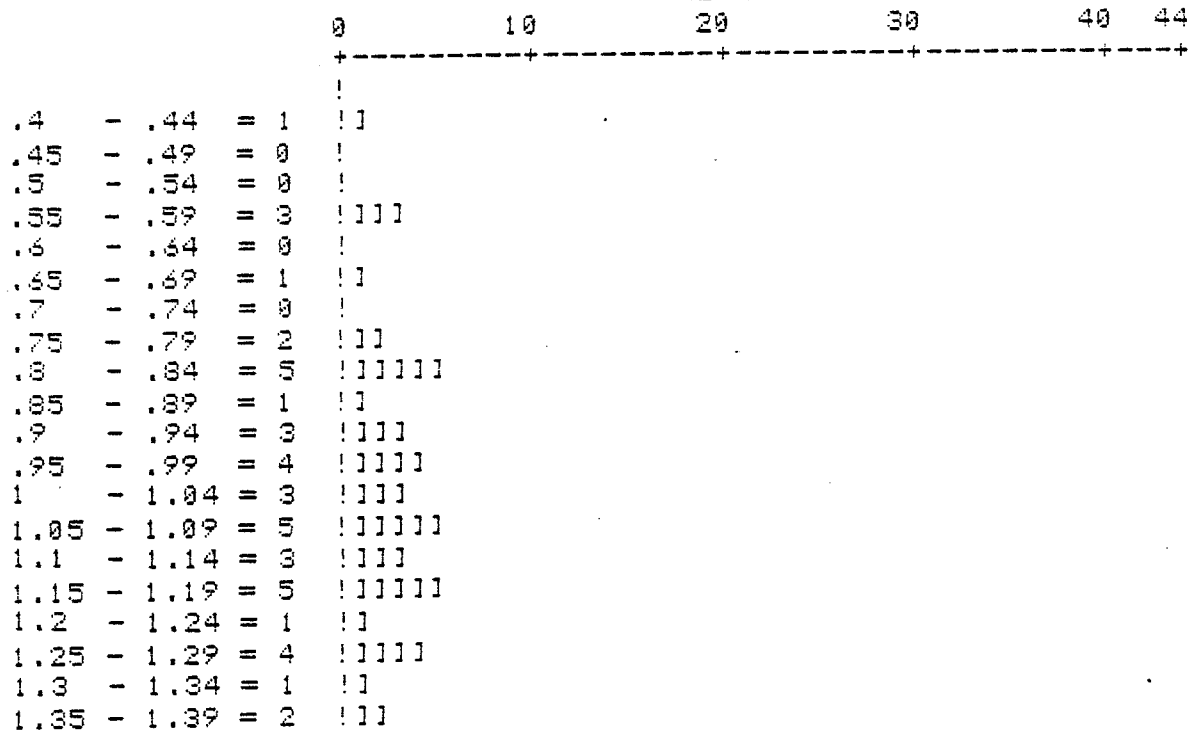
NUMBER OF READINGS = 44

MINIMUM = .42 MAXIMUM = 1.38

MEAN = 1

STANDARD DEVIATION = .23

REFLECTOGRAM



APPENDIX III

Vitrinite Reflectance Histograms

Edited Population

FILE >>E0524A

DEPTH 1500' - MURRE G-67 - TRISH HARRISON - AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.22	.24	.29	.29						

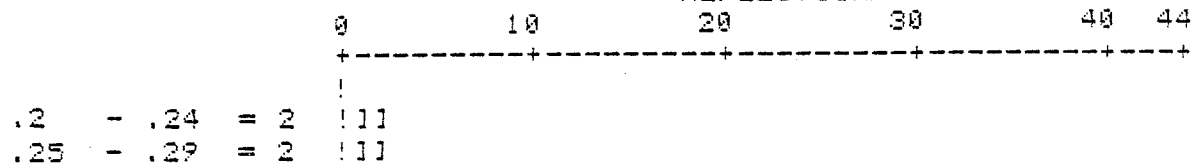
NUMBER OF READINGS = 4

MINIMUM = .22 MAXIMUM = .29

MEAN = .26

STANDARD DEVIATION = .04

REFLECTOGRAM



FILE >>E05248

DEPTH 2910'- MURRE G-67- TRISH HARRISON- AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.49	.51								

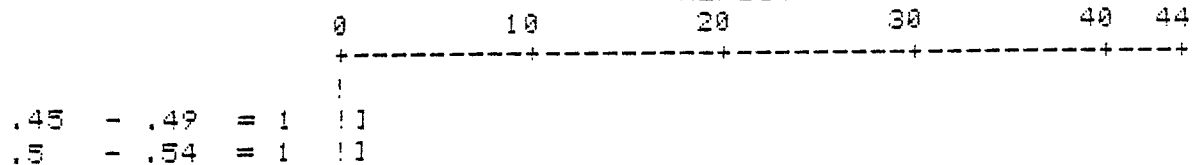
NUMBER OF READINGS = 2

MINIMUM = .49 MAXIMUM = .51

MEAN = .5

STANDARD DEVIATION = .01

REFLECTOGRAM



FILE >>E05240

DEPTH 2560' - MURRE G-67- TRISH HARRISON- AUG-18-84

COL> 1 2 3 4 5 6 7 8 9 0

ROW .4 .44 .49

NUMBER OF READINGS = 3

MINIMUM = .4 MAXIMUM = .49

MEAN = .44

STANDARD DEVIATION = .05

REFLECTOGRAM

0 10 20 30 40 44
+-----+-----+-----+-----+-----+

.4 - .44 = 2 !|
.45 - .49 = 1 !|

FILE >>E0525A

DEPTH 3260' - MURRE G-67- TRISH HARRISON- AUG-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.32	.33	.33	.33	.34	.34	.34	.35	.36	.36
1	.37	.4	.41							

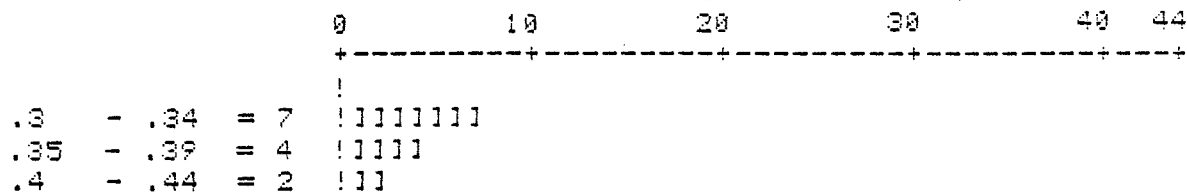
NUMBER OF READINGS = 13

MINIMUM = .32 MAXIMUM = .41

MEAN = .35

STANDARD DEVIATION = .03

REFLECTOGRAM



FILE >>E05258

DEPTH 4010' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.35	.35	.36	.36	.37	.38	.4	.41	.42	.42
1	.43	.43	.43	.44	.45	.47	.48	.49	.49	

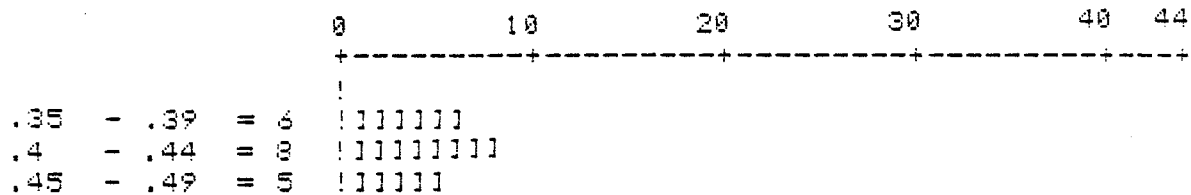
NUMBER OF READINGS = 19

MINIMUM = .35 MAXIMUM = .49

MEAN = .42

STANDARD DEVIATION = .05

REFLECTOGRAM



FILE >>E05250

DEPTH 4510' - MURRE- TRISH HARRISON- AUG-13-84

COL> 1 2 3 4 5 6 7 8 9 0

ROW .51 .53 .54

NUMBER OF READINGS = 3

MINIMUM = .51 MAXIMUM = .54

MEAN = .53

STANDARD DEVIATION = .02

REFLECTOGRAM

0 10 20 30 40 44
+-----+-----+-----+-----+

.5 - .54 = 3 !111

FILE >>E05268

DEPTH 5510' - MURRE- TRISH HARRISON- AUG-13-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.48	.48	.48	.5	.5	.5	.51	.54	.54	.54
1	.54	.54	.55	.55	.55	.56	.56	.58	.59	.59
2	.59	.6	.61	.62	.62	.63	.63	.64		

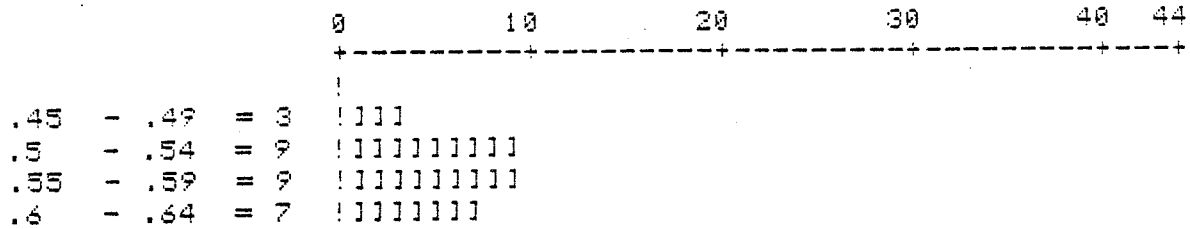
NUMBER OF READINGS = 28

MINIMUM = .48 MAXIMUM = .64

MEAN = .56

STANDARD DEVIATION = .05

REFLECTOGRAM



FILE >>E05260

DEPTH 6010' - MURRE- TRISH HARRISON- AUG-14-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.48	.49	.49	.49	.5	.51	.51	.52	.52	.52
1	.53	.54	.54	.54	.54	.56	.56	.56	.56	.57
2	.57	.58	.58	.58	.59	.59	.59	.6	.6	.61
3	.61	.62	.63	.63	.63	.63	.64	.64	.65	.65
4	.66	.66	.67							

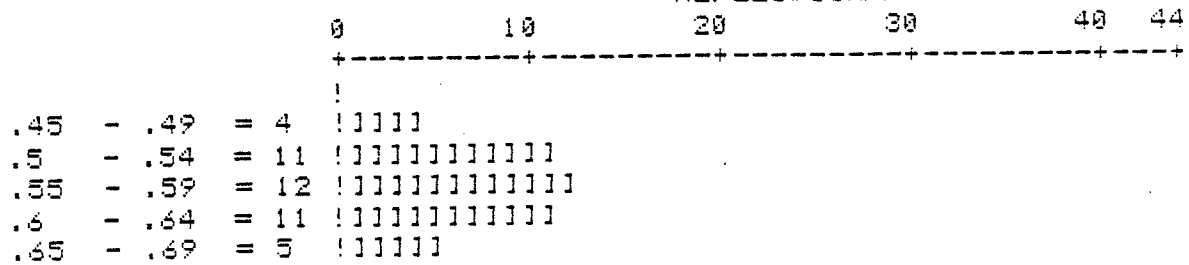
NUMBER OF READINGS = 43

MINIMUM = .48 MAXIMUM = .67

MEAN = .58

STANDARD DEVIATION = .05

REFLECTOGRAM



FILE >>E0125B

DEPTH 8301' - MURRE- TRISH HARRISON- AUG-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.62	.64	.66	.66	.67	.68	.69	.69	.69	.7
1	.71	.73	.73	.75	.75	.76	.76	.78	.79	.82
2	.83	.83								

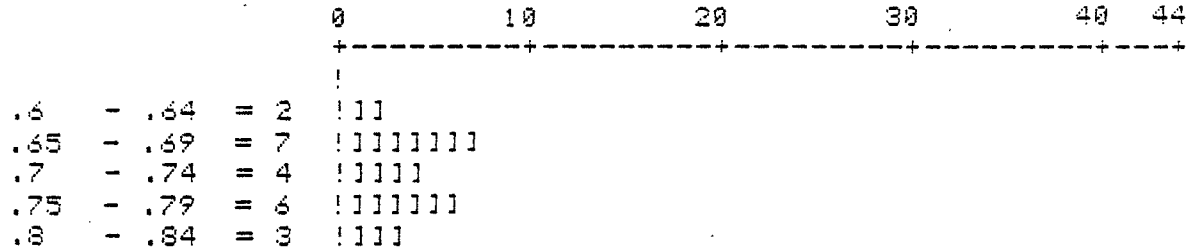
NUMBER OF READINGS = 22

MINIMUM = .62 MAXIMUM = .83

MEAN = .72

STANDARD DEVIATION = .06

REFLECTOGRAM



FILE >>E0527A

DEPTH 8760' - MURRE- TRISH HARRISON- AUG-14-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.7	.7	.73	.73	.74	.74	.76	.76	.77	.78
1	.79	.8	.81	.82	.83					

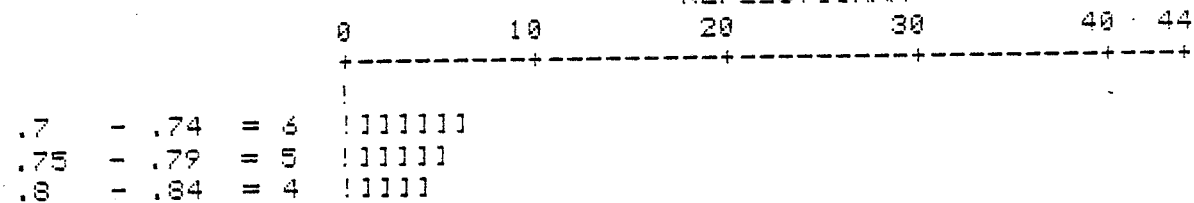
NUMBER OF READINGS = 15

MINIMUM = .7 MAXIMUM = .83

MEAN = .76

STANDARD DEVIATION = .04

REFLECTOGRAM



FILE >>E05278

DEPTH 9410' - MURRE- TRISH HARRISON- AUG-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.64	.67	.67	.7	.71	.71	.72	.75	.76	.77
1	.79	.79	.85	.86	.88	.88	.91	.92		

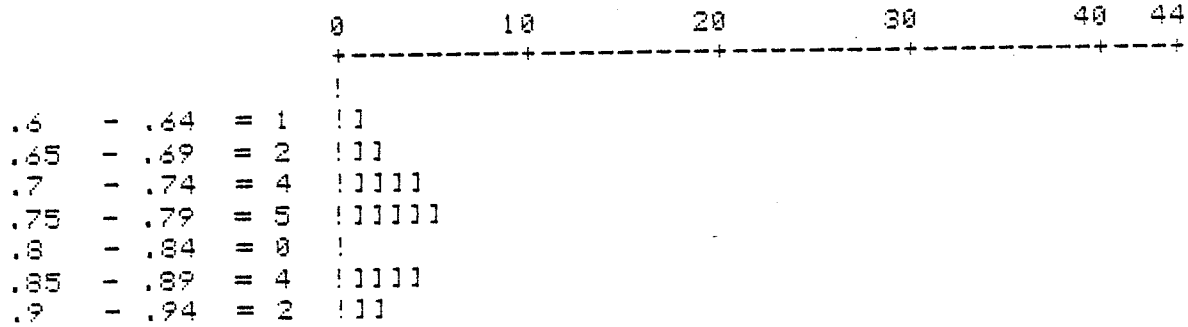
NUMBER OF READINGS = 18

MINIMUM = .64 MAXIMUM = .92

MEAN = .78

STANDARD DEVIATION = .09

REFLECTOGRAM



FILE >>805270

DEPTH 9760' - MURRE- TRISH HARRISON- AUG-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.82	.83	.84	.85	.85	.86	.87	.87	.89	.9
1	.9	.91	.91	.92	.92	.94	.96	.97	.98	.98
2	.99	.99	1	1	1	1				

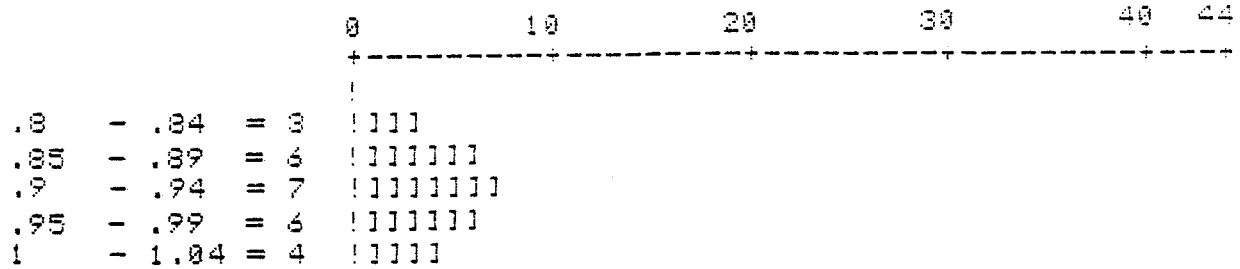
NUMBER OF READINGS = 26

MINIMUM = .82 MAXIMUM = 1

MEAN = .92

STANDARD DEVIATION = .06

REFLECTOGRAM



FILE >>E0125C

DEPTH 9908' - MURRE- TRISH HARRISON- AUG-16-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.79	.79	.8	.8	.81	.81	.83	.86		

NUMBER OF READINGS = 8

MINIMUM = .79 MAXIMUM = .86

MEAN = .81

STANDARD DEVIATION = .02

REFLECTOGRAM

