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Report No. EPGs-DOM.17-85MPA

Vitrinite reflectance (Ro) on the
dispersed organics in the Mobil-
Texaco-Pex Olympia A-12.

GSC O.F. 1171

Vitrinite reflectance (Ro) on the dispersed organics in the Mobil-Texaco-Pex Olympia A-12.

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GSC Locality No.: D213

Location: 44°01'03.27"N; 59°46'44.09"W

RT Elevation: 38m

Sample Interval: 520-6060m

Total Depth: 6064m

Water Depth: 40m

Release Date: January 10, 1985

Interval Studied: 840-6060m

Vitrinite reflectance has been determined on 34 samples (42 samples available) from the Mobil-Texaco-Pex Olympia A-12 well, which is classified as a wildcat well and is located on the Scotian Shelf (approximately 315km east southeast of Halifax, Nova Scotia). Data acquisition and manipulation for this report utilized the Zeiss Photomultiplier III Zonax microcomputer system. Sample preparation was carried out as given in Appendix 1. The analysis of the well revealed the thermal maturation intervals given in Table I. Specific maturation levels as set out were based on those proposed by Dow (1977) (see also Report No. EPGS-DOM.9-83MPA).

Table I
Inferred Thermal maturation levels

Determined

840 - 1750m	0.3 - 0.4	% Ro	immature
1750 - 2500m	0.4 - 0.5	% Ro	immature approaching maturity
2500 - 3116m	0.5 - 0.6	% Ro	marginally mature
3116m	0.6	% Ro	peak of oil generation
4724m	1.0	% Ro	peak of wet gas generation
4962m	1.2	% Ro	peak of dry gas generation
5191m	1.35	% Ro	oil floor
5760m	2.0	% Ro	wet gas floor
6064m (T.D.)	2.46	% Ro	still in dry gas window

Projected

6325m	3.0	% Ro	dry gas floor
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Remarks

This well, as with Venture B-43 and South Venture O-59, has yielded a very complete coverage of vitrinite reflectance data (Table II). The quite regular distribution of the samples with depth gives a comprehensive plot of the thermal maturation curves in the well (Figure 1). Again, as in the Venture wells, two distinct rank/depth gradients were interpreted. The upper interval is from 840 to 4650m and the lower is from 4650 to 6064m (T.D.). The upper has a normal slope for this area of the shelf and can be projected to the 0.2% Ro proposed minimum (Dow, 1977) at surface. The lower shows a marked increase in the rate of maturation. No explanation is cited as a possible reason for this phenomenon, but it is noted that it occurs more than 300 metres below the top of overpressuring. The two Venture wells mentioned above also exhibit similar maturation configurations.

The scatter of data about the best fit line is not always random but would seem to follow a stepwise pattern. These steps are characterized by intervals which begin with one or two samples that show a significant increase in maturation followed by a number of samples that show little or no increase (Figure 1). This phenomenon also occurs in samples from Venture B-43 and may be present in other wells.

Histograms (reflectograms) of the raw Ro data taken on the vitrinites from this well are included in appendix 2 of this report. Averaged Ro values (Figure 1, Table II), however, are derived from reflectance readings taken on the interpreted indigenous vitrinite population from each sample examined. Unequivocal identification of indigenous vitrinite particles in kerogen material that has been chemically segregated (Appendix 2) presents difficulties, because the original rock texture has been destroyed. Many indigenous vitrinite grains tend to be relatively long, narrow, wisp-like particles that often have outlines similar to splinters of wood. Other apparently indigenous grains exhibit outlines which suggest that they originally wrapped around or partially enclosed harder grains. On some indigenous grains one can observe translucent edges, as well as the original cellular texture. Where the grains are translucent, one frequently observes pinpoints of very high reflectivity, which may be caused by inclusions of minerals such as pyrite in the body of the vitrinite grain. This feature is characteristic of indigenous vitrinite.

In contrast, reworked vitrinite particles tend to be relatively small, rounded in outline and to have corroded, serrated, edges. Many of these grains appear to have greater hardness variations within them than indigenous vitrinite, because equivalent polishing leaves a visible, and characteristic, surface relief. It is also necessary to exclude from the indigenous vitrinite population, any grains of lignitic material derived from drilling fluids.

Information was available from the well history report on the intervals over which 'turbo' drilling was employed (Table III). These intervals are plotted as vertical bars to the right of the rank/depth curves (Figure 1). In the writers opinion, the data from this well add some support to the conclusion proposed in the South Venture O-59 report that the effect of 'turbo' drilling on the analysis of thermal maturation using vitrinite reflectance is negligible.

The maturation data provides evidence indicating that the thermal regime at Olympia A-12 was suitable for the generation of oil and gas within the drilled section.

References

- Avery, M.P., 1983: Vitrinite reflectance (Ro) on the dispersed organics in Mobil-Texaco-Pex Venture B-43. Report No. EPGs-DOM.9-83MPA, 2p., 1 table, 3 figures.
- Avery, M.P., 1984: Vitrinite reflectance (Ro) on the dispersed organics in Mobil-Texaco-Pex South Venture O-59. Report No. EPGs-DOM.2-84MPA, 2p. 2 tables, 1 figure.
- Dow, W.G., 1977: Kerogen studies and geological interpretations. Journal of Geochemical Exploration, no.7, p.79-99.
- Mobil Oil Canada Ltd., 1983: Well History Report Mobil-Texaco-Pex Olympia A-12. Open File report, Department of Energy, Mines and Resources, Ottawa.

May 29, 1984

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E.P.G.S. Files, Dartmouth

Table II
Data Summary

Seq.	Depth(m)	Ro (S.D.)*	Number of readings		Type
			Measured	After editing	
1	840-850	.28 (.05)	32	32	Kerogen
2	920-970	.3 (.03)	11	11	Kerogen
3	1040-1090	.34 (.08)	11	11	Kerogen
4	1160-1170	.32 (.05)	16	11	Kerogen
5	1280-1330	.34 (.05)	51	11	Kerogen
6	1440-1450	.37 (.04)	64	19	Kerogen
7	1520-1530	.4 (.06)	66	17	Kerogen
8	1640-1650	.41 (.04)	75	57	Kerogen
9	1750-1760	.44 (.05)	75	37	Kerogen
10	1905-1955	.43 (.05)	86	20	Kerogen
11	2065-2075	.43 (.06)	62	22	Kerogen
12	2185-2235	.45 (.04)	99	37	Kerogen
13	2305-2355	.5 (.07)	99	50	Kerogen
14	2465-2525	.5 (.04)	83	30	Kerogen
15	2635-2685	.56 (.08)	99	45	Kerogen
16	2795-2845	.58 (.06)	99	37	Kerogen
17	2965-3015	.55 (.04)	99	24	Kerogen
18	3085-3095	.57 (.04)	99	24	Kerogen
19	3205-3255	.61 (.03)	99	19	Kerogen
20	3325-3375	.67 (.07)	99	30	Kerogen
21	3445-3455	.72 (.04)	99	23	Kerogen
22	3565-3575	.73 (.06)	99	34	Kerogen
23	3840-3850	.71 (.06)	99	50	Kerogen
24	4130-4175	.77 (.06)	99	36	Kerogen
25	4365-4415	.83 (.05)	99	37	Kerogen
26	4605-4655	.97 (.07)	99	33	Kerogen
27	4725-4735	.96 (.06)	99	44	Kerogen
28	4885-4935	1.2 (.08)	99	32	Kerogen
29	5005-5055	1.21 (.06)	99	46	Kerogen
30	5125-5165	1.31 (.12)	47	19	Kerogen
31	5405-5415	1.51 (.15)	82	58	Kerogen
32	5685-5735	1.94 (.2)	48	36	Kerogen
33	5915-5950	2.3 (.13)	47	41	Kerogen
34	6020-6060	2.46 (.14)	99	73	Kerogen

*Ro values were measured without rotating the vitrinite grains.

Table III
Turbo-drilled intervals (from Well History Report)

Depth interval in meters below R.T.	Bit type	Bit Model	R.P.M.	interval thickness (m)
2625-2662	UDDS	LX-17	800-900	37
2812-2966	ACC Diamond	Shark Tooth II	870	154
3468-3469	Trimax	S-22	690	1
3469-3753	Smith S27	F-2	70-80	284
5091-5289	UDDS	LX-17	30	198
5412-5610	Christiansen	MT197P	735	198
5610-5879	UDDS	LX-13	735	269
5879-5889	Christiansen	MD501P	740	10
5914-5996	UDDS	LX-13	50	82
5996-6064	Christiansen	MT501P	52	68

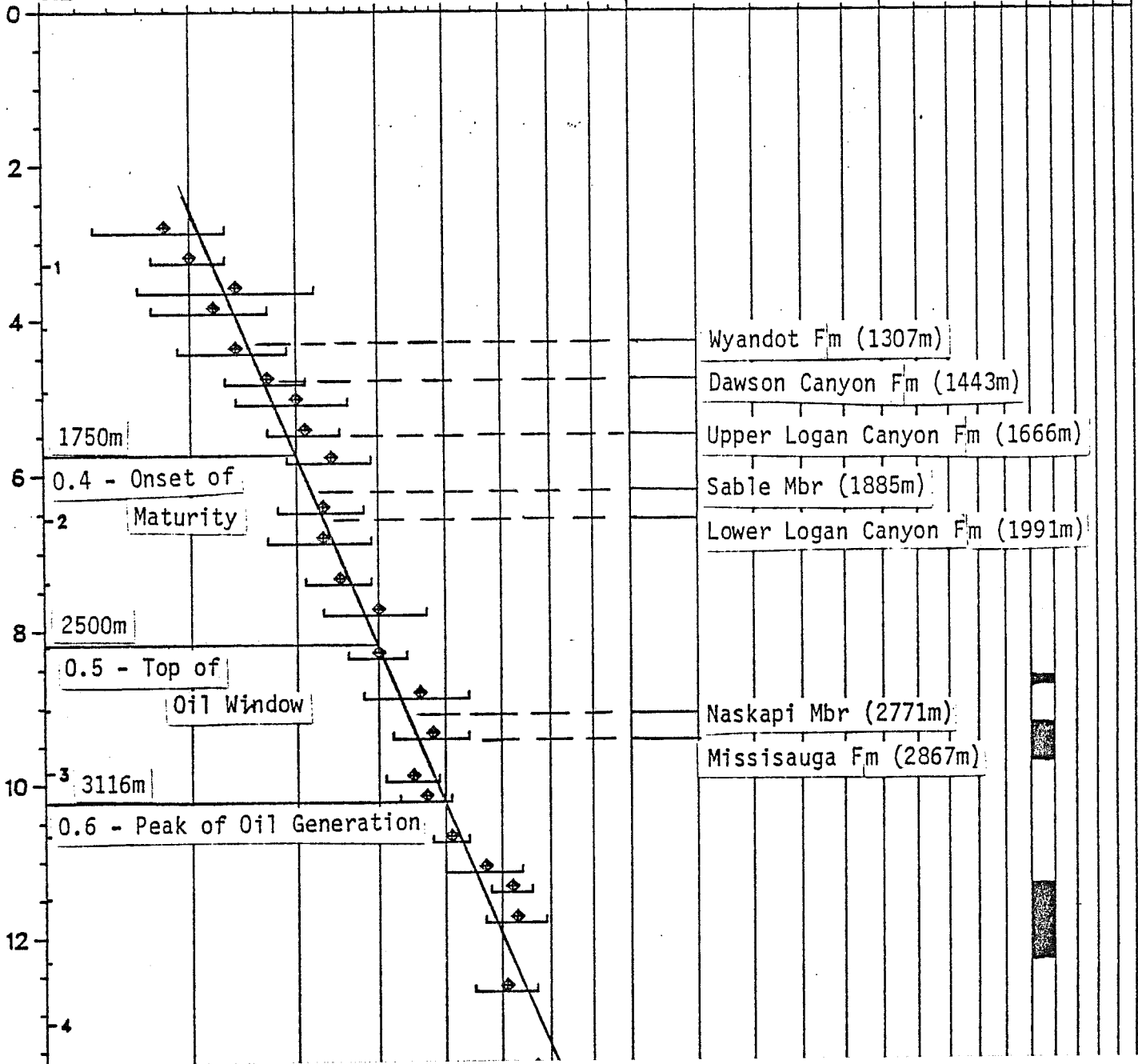
Table IV
Formation Picks (from J. Wade, pers. comm.)

Formation	Depth to top (in meters below R.T.)
Wyandot Formation	1307.2
Dawson Canyon Formation	1442.5
Upper Logan Canyon Formation	1666
Sable Member	1885
Lower Logan Canyon Formation	1990.5
Naskapi Member	2771.1
Missisauga Formation	2867
Mic Mac Formation	5292

Ro/per cent/---Log Scale---

0.2 0.4 0.6 0.8 1 1.4 2.0 3.0 4.0

Depth in Feet & Meters--x1000



1750m

2500m

3116m

0.4 - Onset of Maturity

0.5 - Top of Oil Window

0.6 - Peak of Oil Generation

Wyandot Fm (1307m)

Dawson Canyon Fm (1443m)

Upper Logan Canyon Fm (1666m)

Sable Mbr (1885m)

Lower Logan Canyon Fm (1991m)

Naskapi Mbr (2771m)

Missisauga Fm (2867m)

Appendix 1
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 2

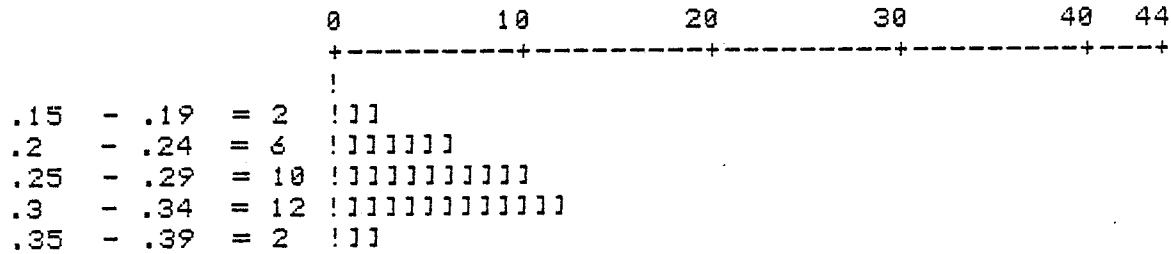
Vitrinite Reflectance Histograms

FILE >> K00838 DESCRIPTION FOLLOWS :
 DEPTH 850M, OLYMPIA A-12, MIKE AVERY, FEB-22-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.17	.17	.22	.22	.22	.23	.23	.23	.25	.25
1	.26	.26	.27	.28	.28	.29	.29	.29	.3	.31
2	.31	.31	.31	.32	.32	.32	.33	.33	.33	.34
3	.35	.37								

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 32
 MINIMUM = .17 MAXIMUM = .37 MEAN = .28
 STANDARD DEVIATION = .05

REFLECTOGRAM



FILE >> K0083C DESCRIPTION FOLLOWS :
DEPTH 920-970M, OLYMPIA A-12, MIKE AVERY, FEB-23-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.25	.25	.28	.3	.3	.31	.31	.31	.32	.33
1	.34									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
MINIMUM = .25 MAXIMUM = .34 MEAN = .3
STANDARD DEVIATION = .03

REFLECTOGRAM

	0	10	20	30	40	44
	+-----+-----+-----+-----+-----+					
	!					
.25 - .29 = 3	!	!	!	!		
.3 - .34 = 8	!	!	!	!	!	!

FILE >> K0084A DESCRIPTION FOLLOWS :
DEPTH 1040-1090M, OLYMPIA A-12, MIKE AVERY, FEB-23-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.24	.25	.27	.29	.32	.33	.35	.4	.4	.42
1	.48									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
MINIMUM = .24 MAXIMUM = .48 MEAN = .34
STANDARD DEVIATION = .08

REFLECTOGRAM

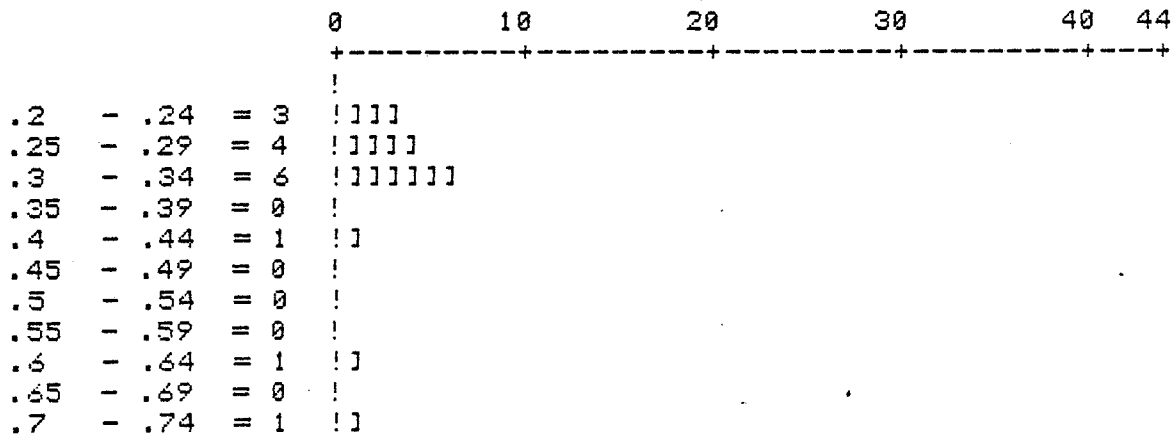
			0	10	20	30	40	44	
			+-----+-----+-----+-----+						
.2	-	.24	=	1	!]				
.25	-	.29	=	3	!]]]				
.3	-	.34	=	2	!]]				
.35	-	.39	=	1	!]]				
.4	-	.44	=	3	!]]]				
.45	-	.49	=	1	!]]				

FILE >> K0084B DESCRIPTION FOLLOWS :
 DEPTH 1160-1170M, OLYMPIA A-12, MIKE AVERY, FEB-23-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.21	.22	.24	.26	.28	.29	.29	.3	.3	.31
1	.33	.33	.33	.44	.61	.74				

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 16
 MINIMUM = .21 MAXIMUM = .74 MEAN = .34
 STANDARD DEVIATION = .14

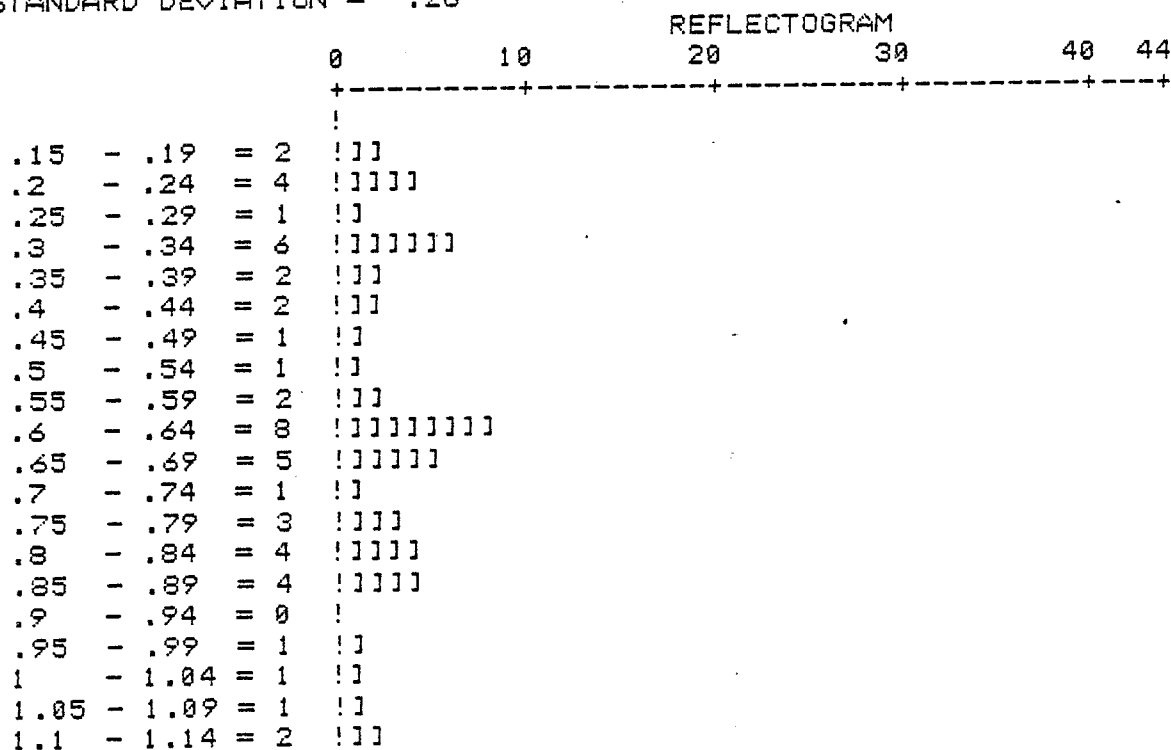
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FILE >> K0084C DESCRIPTION FOLLOWS :
 DEPTH 1280-1330M, OLYMPIA A-12, MIKE AVERY, MAY-1-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.16	.18	.2	.21	.22	.24	.26	.3	.31	.31
1	.32	.32	.34	.36	.38	.4	.43	.49	.52	.57
2	.57	.6	.6	.6	.6	.62	.62	.63	.64	.65
3	.65	.66	.68	.69	.7	.78	.78	.79	.8	.8
4	.8	.83	.85	.85	.85	.88	.96	1.05	1.09	1.1
5	1.11									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 51
 MINIMUM = .16 MAXIMUM = 1.11 MEAN = .6
 STANDARD DEVIATION = .26

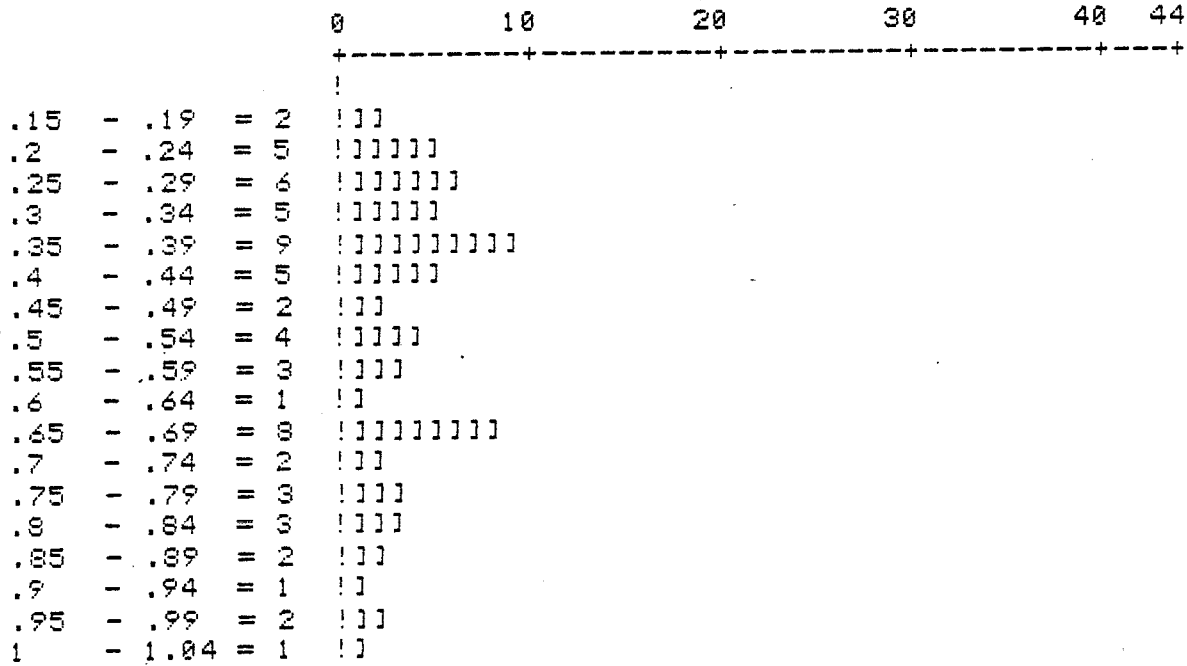


FILE >> K0085A DESCRIPTION FOLLOWS :
 DEPTH 1440-1450M, OLYMPIA A-12, MIKE AVERY, MAY-2-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.17	.17	.21	.22	.22	.24	.24	.27	.27	.28
1	.28	.29	.29	.31	.32	.33	.33	.34	.35	.35
2	.35	.36	.36	.36	.36	.37	.38	.42	.42	.43
3	.43	.44	.45	.49	.5	.5	.51	.53	.55	.57
4	.57	.61	.65	.66	.67	.67	.67	.67	.68	.68
5	.7	.74	.76	.78	.78	.8	.8	.8	.86	.88
6	.94	.99	.99	1.01						

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 64
 MINIMUM = .17 MAXIMUM = 1.01 MEAN = .51
 STANDARD DEVIATION = .23

REFLECTOGRAM

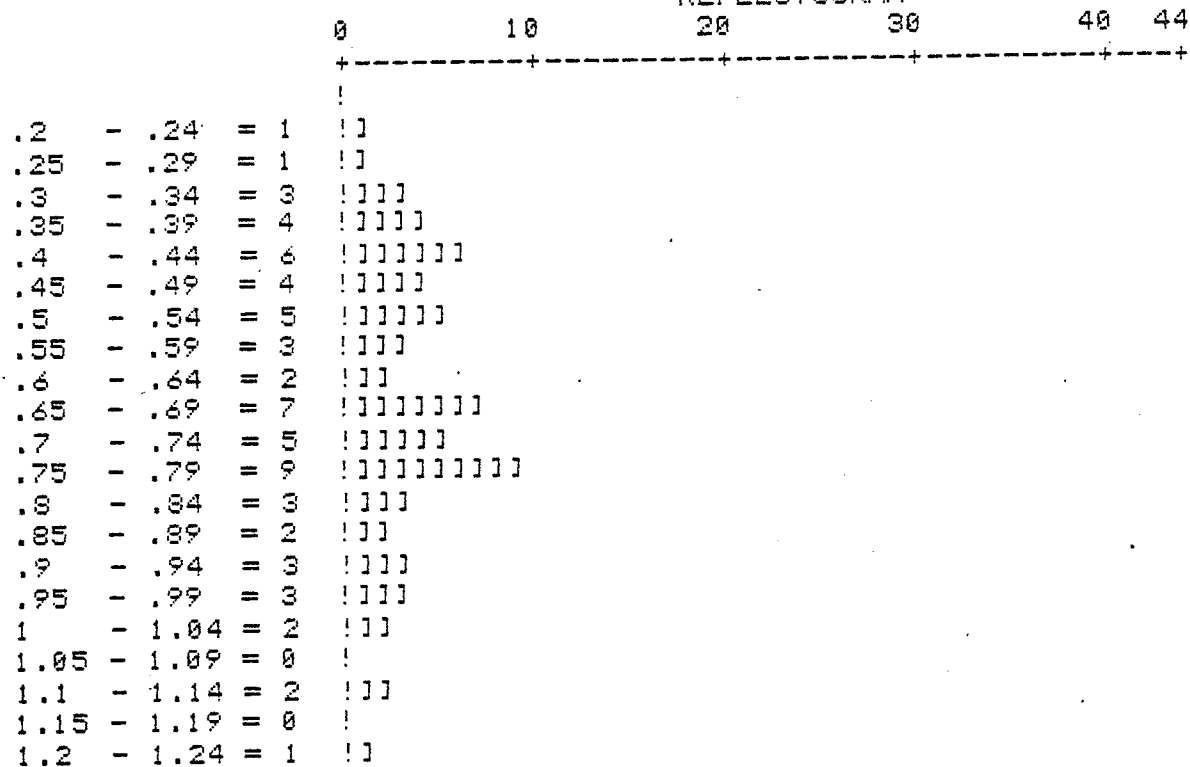


FILE >> K00858 DESCRIPTION FOLLOWS :
 DEPTH 1520-1530M, OLYMPIA A-12, MIKE AVERY, MAY-2-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.22	.27	.3	.32	.34	.35	.36	.38	.38	.4
1	.4	.41	.41	.42	.42	.45	.48	.49	.49	.5
2	.5	.51	.52	.54	.57	.59	.59	.62	.64	.65
3	.65	.67	.67	.67	.68	.69	.7	.7	.7	.71
4	.74	.75	.76	.76	.76	.77	.78	.79	.79	.79
5	.81	.81	.82	.87	.88	.91	.93	.94	.97	.97
6	.99	1	1	1.1	1.13	1.21				

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 66
 MINIMUM = .22 MAXIMUM = 1.21 MEAN = .66
 STANDARD DEVIATION = .23

REFLECTOGRAM

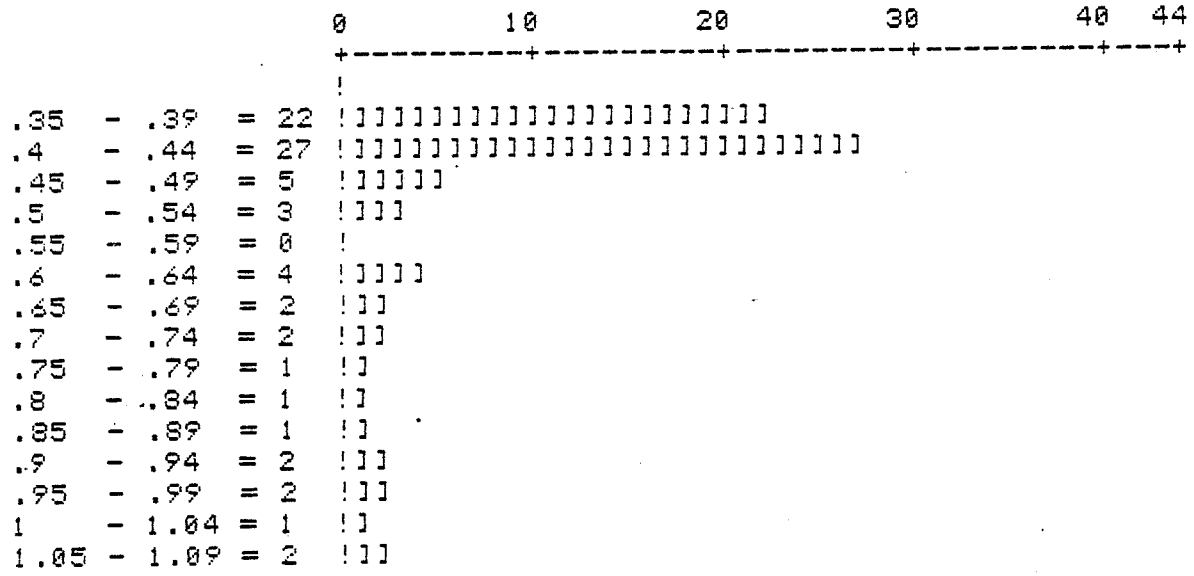


FILE >> K00850 DESCRIPTION FOLLOWS :
 DEPTH 1640-1650M, OLYMPIA A-12, MIKE AVERY, MAY-2-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.35	.35	.36	.36	.36	.36	.36	.36	.36	.37
1	.37	.38	.38	.38	.38	.38	.38	.39	.39	.39
2	.39	.39	.4	.4	.4	.4	.4	.4	.4	.4
3	.41	.41	.41	.41	.41	.41	.42	.42	.42	.42
4	.42	.43	.44	.44	.44	.44	.44	.44	.44	.45
5	.46	.47	.47	.47	.52	.52	.53	.6	.6	.62
6	.63	.65	.65	.71	.72	.76	.8	.85	.9	.93
7	.97	.99	1.05	1.06	1.07					

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 75
 MINIMUM = .35 MAXIMUM = 1.07 MEAN = .51
 STANDARD DEVIATION = .19

REFLECTOGRAM

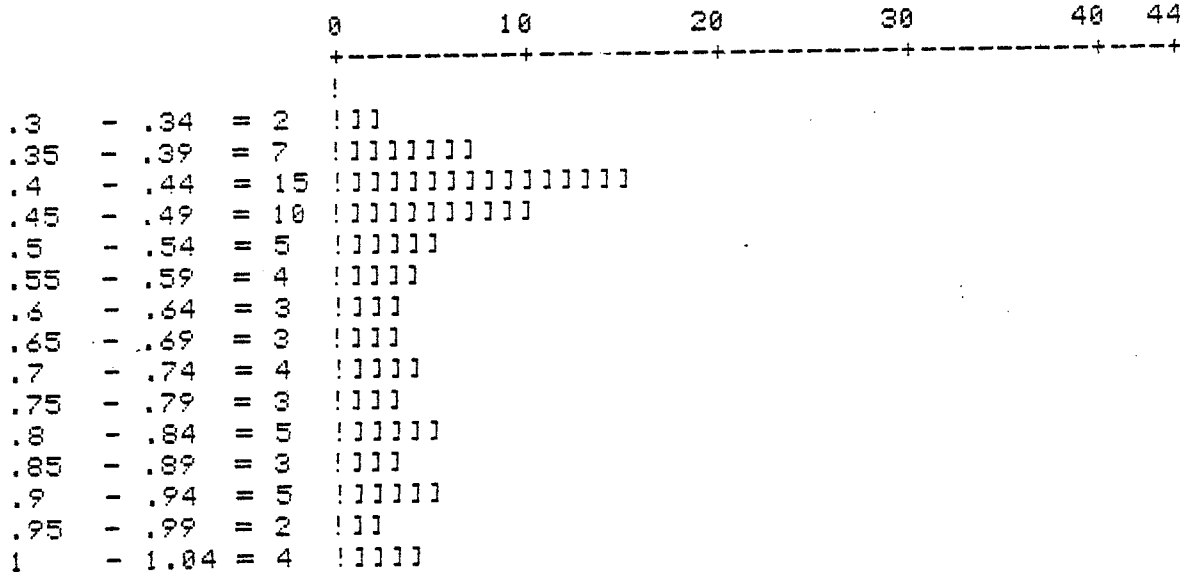


FILE >> K0006A DESCRIPTION FOLLOWS :
 DEPTH 1750-1760M, OLYMPIA A-12, MIKE AVERY, MAY-3-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.3	.33	.35	.36	.38	.38	.39	.39	.39	.41
1	.41	.41	.41	.41	.42	.42	.42	.42	.42	.43
2	.43	.43	.43	.44	.45	.45	.46	.46	.46	.46
3	.46	.47	.47	.48	.51	.51	.53	.54	.54	.57
4	.58	.59	.59	.6	.6	.6	.65	.68	.69	.7
5	.71	.71	.74	.76	.79	.79	.8	.8	.81	.82
6	.84	.86	.87	.88	.9	.9	.9	.93	.93	.96
7	.97	1.01	1.02	1.03	1.05					

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 75
 MINIMUM = .3 MAXIMUM = 1.05 MEAN = .61
 STANDARD DEVIATION = .21

REFLECTOGRAM

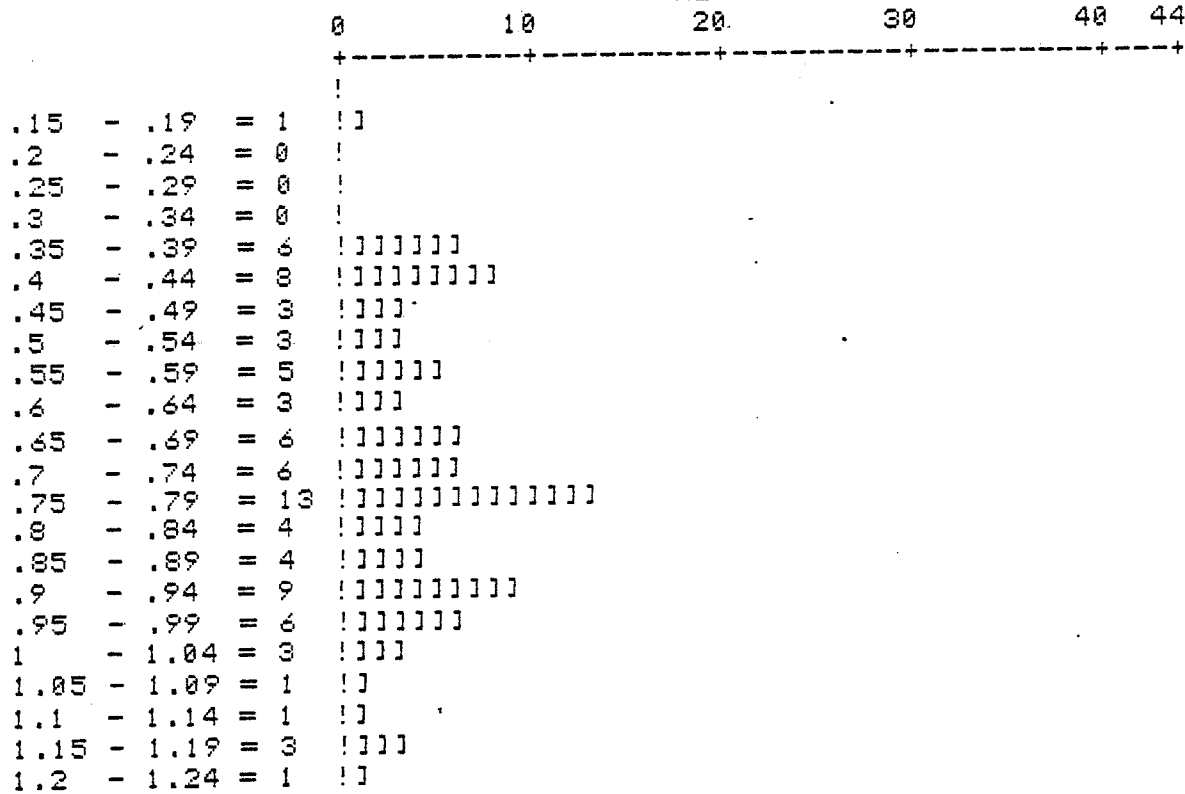


FILE >> K0086B DESCRIPTION FOLLOWS :
 DEPTH 1985-1955M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.18	.36	.36	.36	.38	.38	.39	.4	.42	.42
1	.42	.43	.44	.44	.44	.45	.45	.47	.51	.52
2	.52	.55	.56	.57	.59	.59	.6	.61	.61	.65
3	.65	.66	.67	.67	.69	.7	.7	.72	.73	.74
4	.74	.75	.75	.76	.77	.77	.77	.77	.78	.78
5	.78	.79	.79	.79	.82	.83	.84	.84	.85	.87
6	.88	.89	.9	.9	.9	.9	.91	.92	.92	.93
7	.94	.96	.97	.98	.98	.99	.99	1.05	1.05	1.05
8	1.06	1.13	1.15	1.15	1.18	1.23				

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 86
 MINIMUM = .18 MAXIMUM = 1.23 MEAN = .73
 STANDARD DEVIATION = .23

REFLECTOGRAM

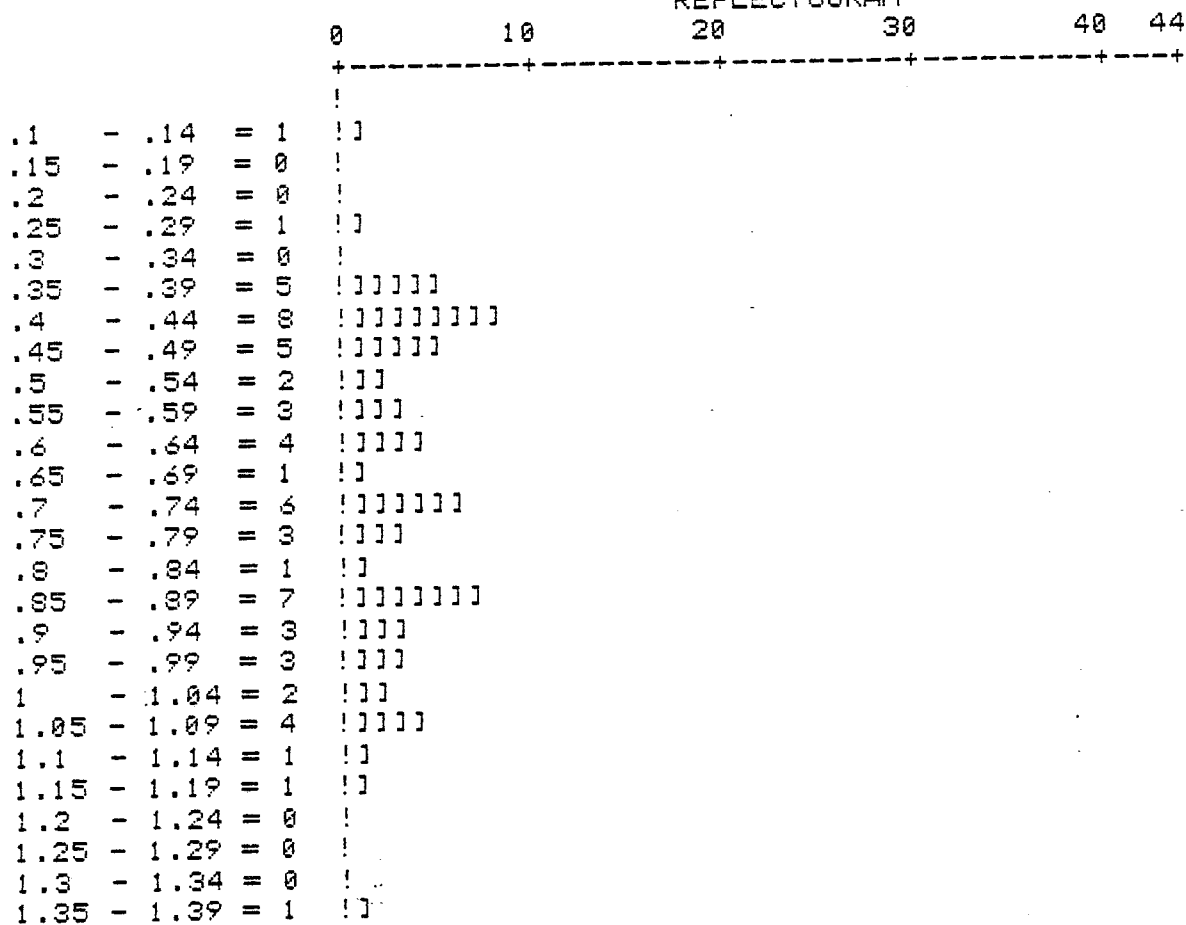


FILE >> K0086C DESCRIPTION FOLLOWS :
 DEPTH 2065-2075M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.12	.20	.38	.39	.39	.39	.39	.41	.41	.41
1	.41	.42	.42	.42	.44	.45	.45	.46	.47	.48
2	.54	.54	.57	.59	.59	.6	.6	.63	.64	.68
3	.7	.71	.72	.73	.74	.74	.75	.76	.77	.84
4	.85	.87	.87	.87	.87	.88	.89	.9	.91	.94
5	.95	.98	.98	1	1.02	1.07	1.08	1.08	1.09	1.11
6	1.16	1.39								

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 62
 MINIMUM = .12 MAXIMUM = 1.39 MEAN = .7
 STANDARD DEVIATION = .26

REFLECTOGRAM

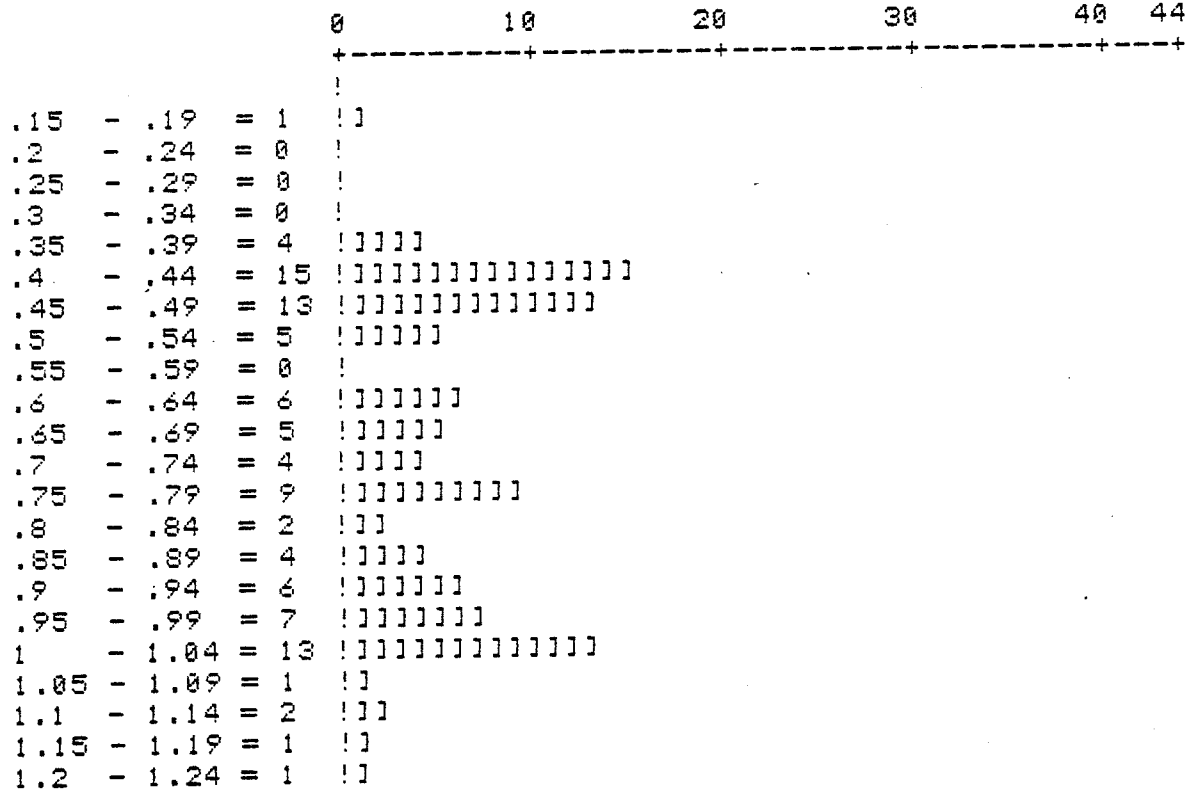


FILE >> K0087A DESCRIPTION FOLLOWS :
 DEPTH 2185-2235M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.17	.38	.38	.39	.39	.4	.4	.4	.4	.41
1	.41	.41	.42	.42	.42	.43	.43	.43	.43	.43
2	.45	.45	.45	.46	.46	.46	.47	.47	.47	.48
3	.48	.48	.49	.52	.52	.53	.53	.54	.6	.62
4	.62	.62	.64	.64	.65	.66	.67	.67	.69	.7
5	.72	.72	.74	.75	.75	.75	.75	.76	.76	.77
6	.77	.77	.82	.83	.85	.87	.87	.89	.9	.91
7	.92	.92	.92	.94	.95	.96	.98	.98	.98	.99
8	.99	1	1.01	1.01	1.01	1.02	1.02	1.02	1.03	1.04
9	1.04	1.04	1.05	1.05	1.07	1.14	1.14	1.16	1.2	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .17 MAXIMUM = 1.2 MEAN = .71
 STANDARD DEVIATION = .25

REFLECTOGRAM

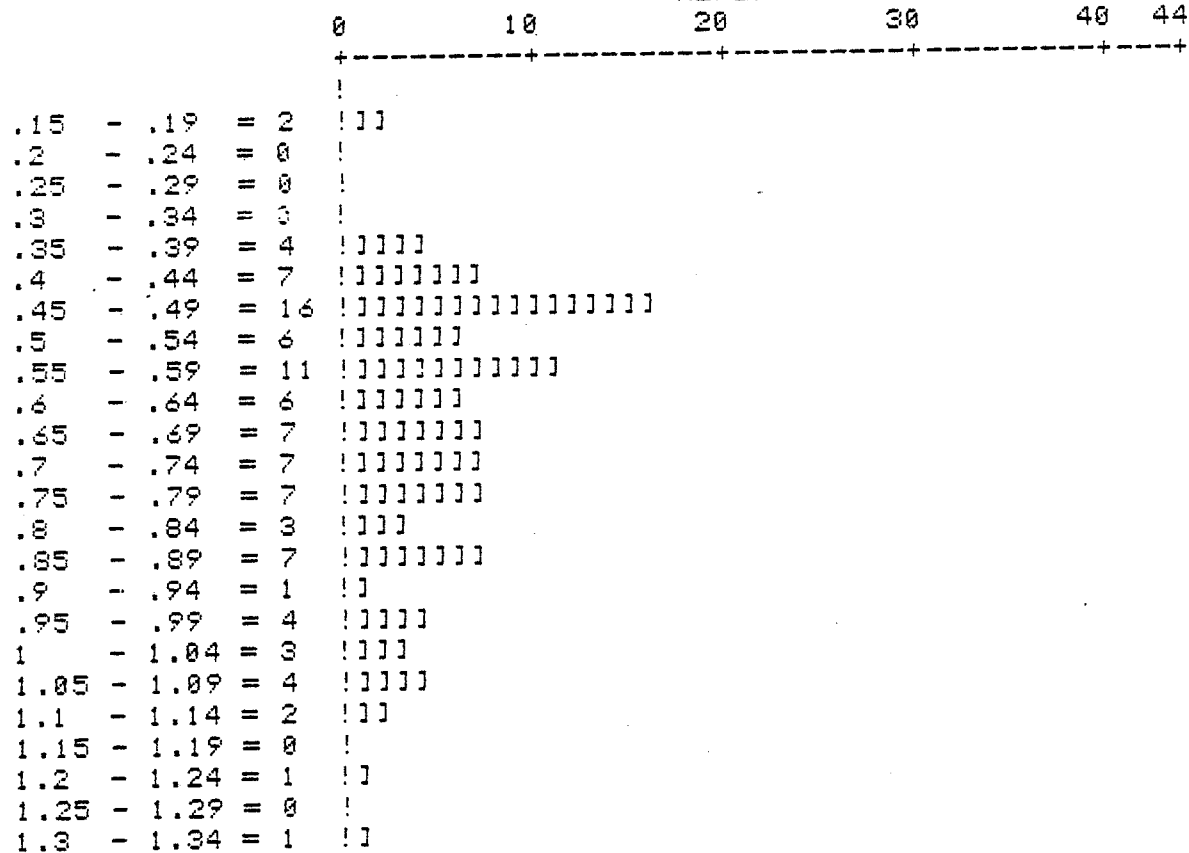


FILE >> K0087B DESCRIPTION FOLLOWS :
 DEPTH 2305-2355M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.16	.19	.35	.38	.39	.39	.4	.4	.42	.43
1	.44	.44	.44	.45	.45	.45	.45	.45	.45	.45
2	.46	.47	.47	.47	.47	.48	.48	.48	.49	.5
3	.51	.51	.52	.52	.52	.55	.56	.57	.58	.58
4	.58	.58	.59	.59	.59	.59	.6	.6	.61	.61
5	.61	.64	.65	.66	.67	.68	.68	.69	.69	.7
6	.7	.72	.72	.73	.73	.74	.75	.75	.77	.77
7	.78	.79	.79	.8	.81	.82	.85	.85	.85	.86
8	.87	.87	.88	.9	.95	.95	.96	.99	1	1.01
9	1.03	1.08	1.08	1.09	1.09	1.12	1.13	1.23	1.32	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .16 MAXIMUM = 1.32 MEAN = .67
 STANDARD DEVIATION = .23

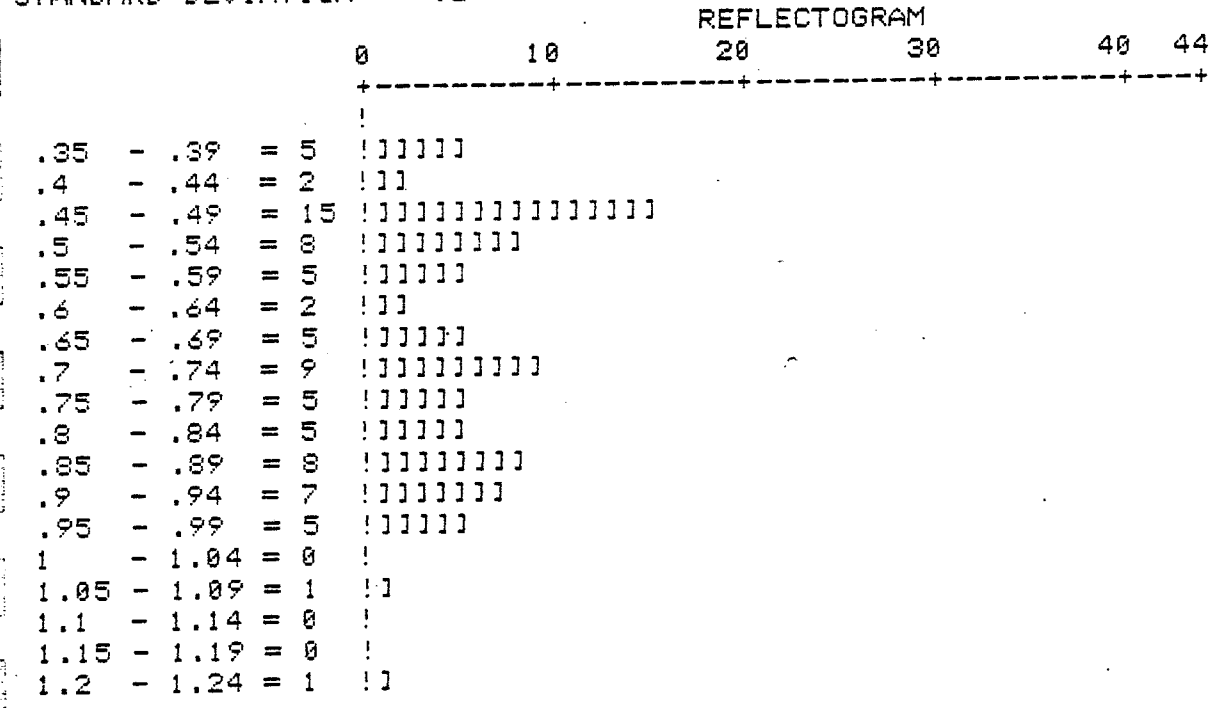
REFLECTOGRAM



FILE >> K0087C DESCRIPTION FOLLOWS :
 DEPTH 2465-2525M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.37	.38	.38	.39	.39	.4	.41	.45	.45	.46
1	.47	.48	.48	.48	.48	.49	.49	.49	.49	.49
2	.49	.49	.5	.51	.52	.52	.52	.53	.54	.54
3	.56	.56	.57	.57	.59	.61	.62	.65	.68	.68
4	.68	.69	.7	.72	.72	.72	.73	.73	.74	.74
5	.74	.75	.76	.78	.79	.79	.8	.81	.81	.81
6	.82	.85	.85	.85	.85	.86	.88	.88	.89	.9
7	.9	.9	.91	.92	.94	.94	.95	.96	.98	.98
8	.99	1.09	1.2							

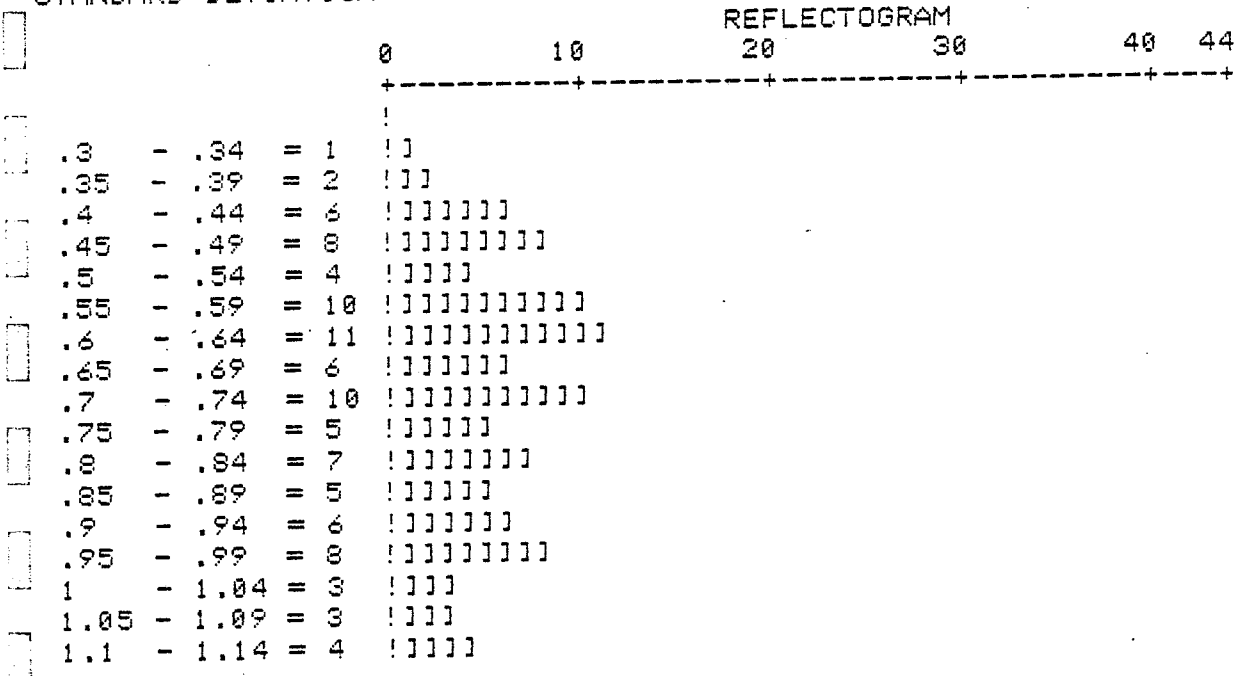
H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 83
 MINIMUM = .37 MAXIMUM = 1.2 MEAN = .68
 STANDARD DEVIATION = .2



FILE >> K0088A DESCRIPTION FOLLOWS :
 DEPTH 2635-2685M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.3	.36	.39	.41	.42	.42	.43	.43	.43	.46
1	.47	.47	.47	.47	.48	.48	.49	.5	.5	.52
2	.53	.55	.56	.56	.57	.57	.57	.58	.58	.59
3	.59	.6	.6	.61	.61	.62	.63	.63	.63	.63
4	.64	.64	.65	.66	.67	.68	.68	.69	.7	.71
5	.71	.72	.72	.73	.73	.74	.74	.74	.76	.77
6	.78	.78	.79	.81	.82	.82	.83	.83	.84	.84
7	.87	.88	.89	.89	.89	.9	.92	.92	.92	.93
8	.94	.95	.95	.95	.96	.96	.98	.98	.99	1.01
9	1.01	1.02	1.06	1.07	1.07	1.1	1.11	1.12	1.12	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .3 MAXIMUM = 1.12 MEAN = .72
 STANDARD DEVIATION = .21

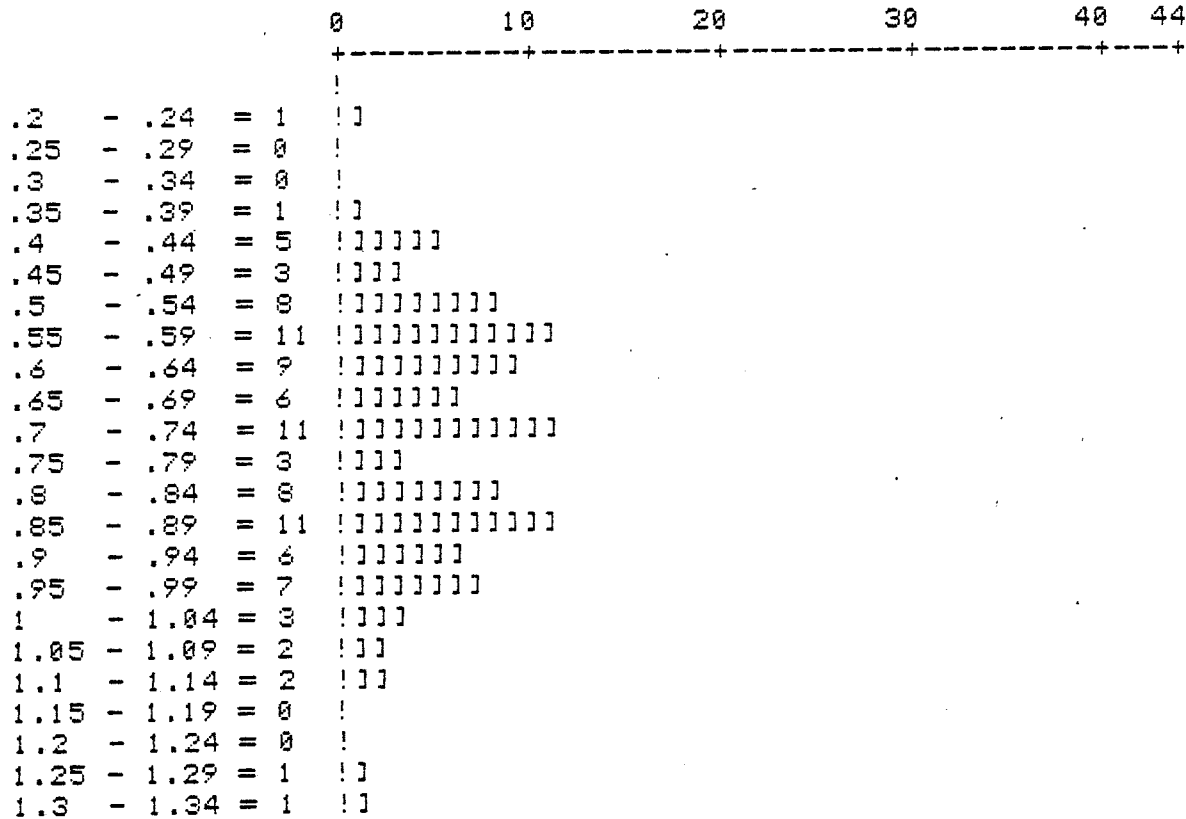


FILE >> K0088B DESCRIPTION FOLLOWS :
 DEPTH 2795-2845M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.24	.35	.4	.42	.43	.44	.44	.46	.48	.48
1	.5	.51	.51	.52	.52	.54	.54	.54	.55	.55
2	.55	.55	.56	.57	.58	.58	.59	.59	.59	.6
3	.6	.6	.61	.61	.61	.62	.62	.63	.65	.66
4	.67	.67	.68	.68	.7	.7	.71	.71	.71	.71
5	.71	.72	.72	.72	.74	.75	.75	.76	.8	.82
6	.83	.83	.83	.83	.84	.84	.85	.85	.85	.86
7	.87	.87	.87	.88	.88	.88	.89	.9	.9	.91
8	.91	.93	.94	.95	.95	.97	.97	.98	.99	.99
9	1	1.03	1.04	1.07	1.09	1.1	1.11	1.25	1.31	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .24 MAXIMUM = 1.31 MEAN = .73
 STANDARD DEVIATION = .21

REFLECTOGRAM

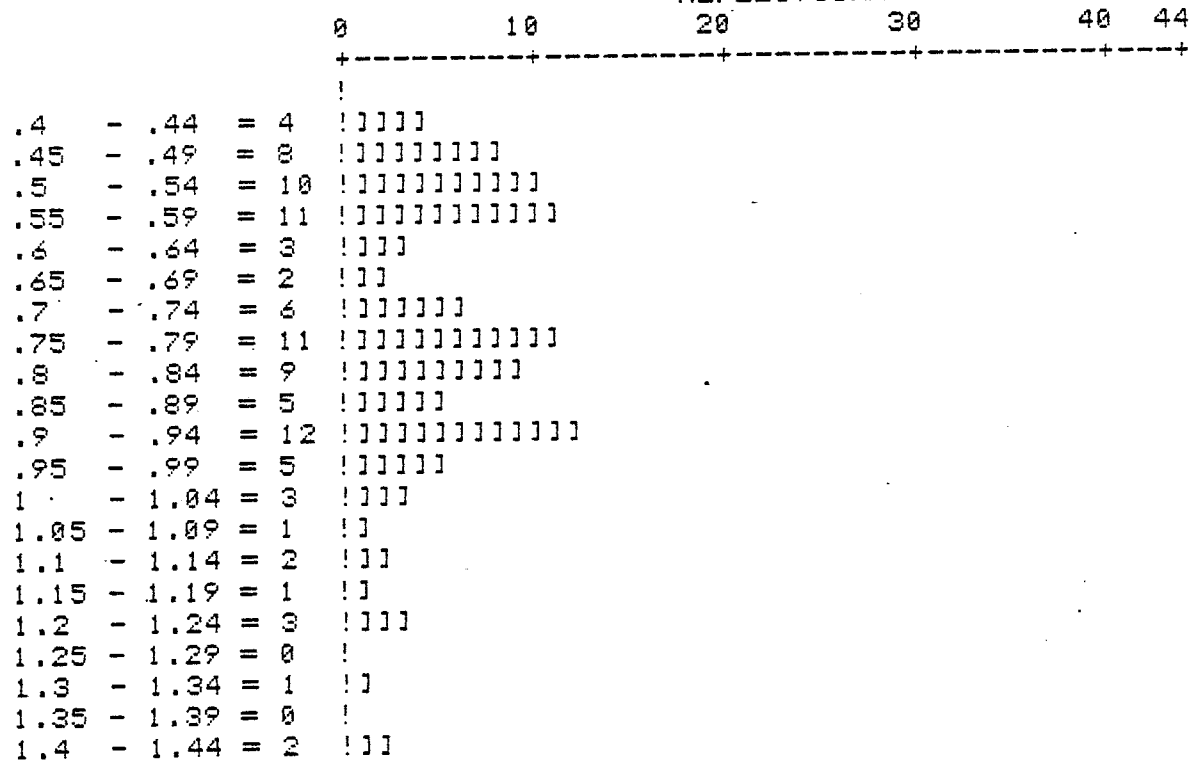


FILE >> K0088C DESCRIPTION FOLLOWS :
 DEPTH 2965-3015M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.41	.43	.44	.44	.45	.47	.47	.47	.47	.48
1	.49	.49	.5	.5	.5	.51	.52	.52	.52	.52
2	.54	.54	.55	.55	.55	.57	.57	.57	.57	.58
3	.58	.58	.59	.6	.61	.61	.65	.68	.7	.72
4	.72	.74	.74	.74	.75	.75	.77	.77	.77	.77
5	.77	.78	.78	.78	.79	.8	.81	.81	.82	.82
6	.82	.82	.84	.84	.85	.87	.88	.88	.89	.9
7	.9	.91	.91	.91	.92	.92	.92	.93	.93	.94
8	.94	.95	.98	.98	.99	.99	1.02	1.03	1.03	1.09
9	1.1	1.12	1.16	1.2	1.2	1.24	1.34	1.4	1.42	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .41 MAXIMUM = 1.42 MEAN = .77
 STANDARD DEVIATION = .23

REFLECTOGRAM

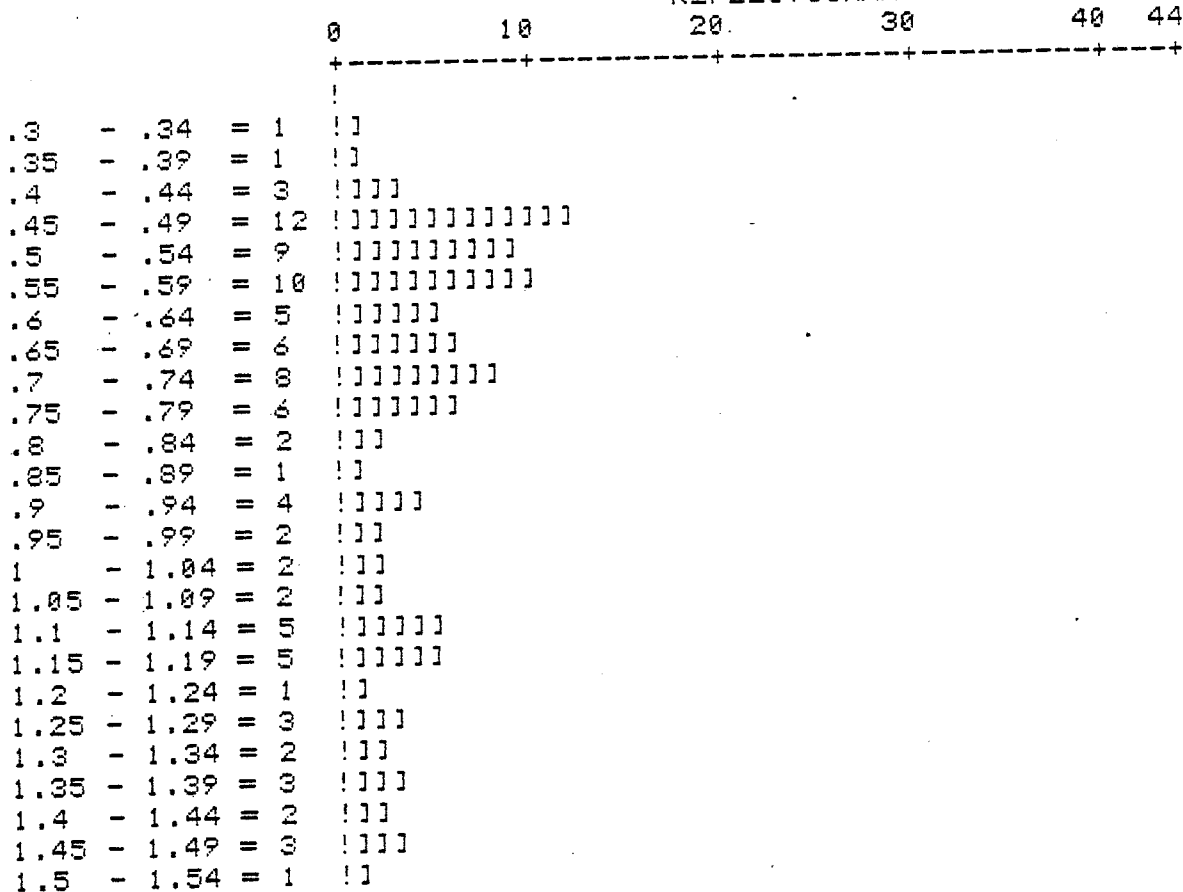


FILE >> K0089A DESCRIPTION FOLLOWS :
 DEPTH 3085-3095M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.33	.39	.42	.42	.42	.45	.46	.46	.47	.47
1	.48	.48	.49	.49	.49	.49	.49	.51	.51	.53
2	.53	.53	.54	.54	.54	.54	.55	.56	.56	.57
3	.57	.58	.58	.58	.59	.59	.6	.61	.63	.63
4	.63	.65	.66	.67	.67	.68	.68	.7	.7	.7
5	.72	.72	.73	.74	.74	.76	.77	.78	.78	.79
6	.79	.8	.82	.87	.91	.91	.93	.94	.99	.99
7	1.02	1.05	1.07	1.07	1.1	1.1	1.11	1.13	1.14	1.15
8	1.16	1.17	1.17	1.17	1.24	1.25	1.25	1.25	1.32	1.32
9	1.35	1.35	1.38	1.44	1.44	1.48	1.49	1.49	1.5	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .33 MAXIMUM = 1.5 MEAN = .81
 STANDARD DEVIATION = .32

REFLECTOGRAM



FILE >> K0089B

DESCRIPTION FOLLOWS :

DEPTH 3205-3255M, OLYMPIA A-12, MIKE AVERY, MAY-6-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.45	.47	.47	.47	.56	.57	.57	.57	.58	.58
1	.6	.6	.61	.62	.62	.62	.62	.63	.63	.64
2	.65	.65	.67	.7	.73	.74	.74	.74	.74	.75
3	.75	.76	.77	.77	.78	.8	.81	.83	.83	.85
4	.85	.85	.85	.86	.88	.88	.89	.9	.92	.96
5	.97	.99	.99	1	1	1.02	1.03	1.04	1.04	1.05
6	1.05	1.06	1.06	1.08	1.1	1.11	1.11	1.12	1.12	1.13
7	1.14	1.17	1.18	1.19	1.21	1.21	1.23	1.23	1.23	1.24
8	1.26	1.38	1.39	1.4	1.42	1.42	1.42	1.44	1.46	1.5
9	1.54	1.57	1.62	1.62	1.67	1.71	1.73	1.75	1.82	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .45 MAXIMUM = 1.82 MEAN = .99
 STANDARD DEVIATION = .34

REFLECTOGRAM

0 10 20 30 40 44

-----+-----+-----+-----+-----+-----+

```

.45 - .49 = 4  |1111|
.5 - .54 = 0  |
.55 - .59 = 6  |111111|
.6 - .64 = 10 |1111111111|
.65 - .69 = 3  |111|
.7 - .74 = 6  |111111|
.75 - .79 = 6  |111111|
.8 - .84 = 4  |1111|
.85 - .89 = 8  |11111111|
.9 - .94 = 2  |11|
.95 - .99 = 4  |1111|
1 - 1.04 = 8  |11111111|
1.05 - 1.09 = 3 |111|
1.1 - 1.14 = 7 |1111111|
1.15 - 1.19 = 3 |111|
1.2 - 1.24 = 6 |111111|
1.25 - 1.29 = 1 |1|
1.3 - 1.34 = 0 |
1.35 - 1.39 = 2 |11|
1.4 - 1.44 = 5 |11111|
1.45 - 1.49 = 1 |1|
1.5 - 1.54 = 2 |11|
1.55 - 1.59 = 1 |1|
1.6 - 1.64 = 2 |11|
1.65 - 1.69 = 1 |1|
1.7 - 1.74 = 2 |11|
1.75 - 1.79 = 1 |1|
1.8 - 1.84 = 1 |1|

```

FILE >> K0089C DESCRIPTION FOLLOWS :
 DEPTH 3325-3375MM, OLYMPIA A-12, MIKE AVERY, MAY-9-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.32	.47	.49	.51	.52	.54	.55	.55	.56	.58
1	.58	.6	.6	.61	.61	.62	.63	.63	.64	.65
2	.66	.68	.69	.69	.69	.7	.7	.7	.71	.71
3	.73	.77	.77	.78	.78	.79	.81	.83	.84	.85
4	.87	.89	.9	.91	.91	.96	.98	1	1.01	1.01
5	1.01	1.02	1.04	1.06	1.08	1.09	1.1	1.11	1.13	1.14
6	1.14	1.17	1.18	1.18	1.19	1.19	1.2	1.21	1.23	1.24
7	1.25	1.26	1.32	1.33	1.34	1.34	1.34	1.35	1.37	1.38
8	1.39	1.4	1.42	1.42	1.42	1.44	1.44	1.45	1.47	1.48
9	1.53	1.58	1.58	1.61	1.68	1.7	1.7	1.7	1.7	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .32 MAXIMUM = 1.7 MEAN = 1.02
 STANDARD DEVIATION = .36

REFLECTOGRAM

0 10 20 30 40 44

.3	-	.34	=	1	!]
.35	-	.39	=	0	!
.4	-	.44	=	0	!
.45	-	.49	=	2	!]]
.5	-	.54	=	3	!]]]
.55	-	.59	=	5	!]]]]]
.6	-	.64	=	8	!]]]]]]]]
.65	-	.69	=	6	!]]]]]]]
.7	-	.74	=	6	!]]]]]]]
.75	-	.79	=	5	!]]]]]]]
.8	-	.84	=	3	!]]]]
.85	-	.89	=	3	!]]]]
.9	-	.94	=	3	!]]]]
.95	-	.99	=	2	!]]]
1	-	1.04	=	6	!]]]]]]]
1.05	-	1.09	=	3	!]]]]
1.1	-	1.14	=	5	!]]]]]]]
1.15	-	1.19	=	5	!]]]]]]]
1.2	-	1.24	=	4	!]]]]]]]
1.25	-	1.29	=	2	!]]]
1.3	-	1.34	=	5	!]]]]]]]
1.35	-	1.39	=	4	!]]]]]]]
1.4	-	1.44	=	6	!]]]]]]]]]
1.45	-	1.49	=	3	!]]]]]
1.5	-	1.54	=	1	!]
1.55	-	1.59	=	2	!]]
1.6	-	1.64	=	1	!]
1.65	-	1.69	=	1	!]
1.7	-	1.74	=	4	!]]]]]

FILE >> K0090A DESCRIPTION FOLLOWS :
 DEPTH 3445-3455M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.24	.5	.62	.66	.67	.67	.68	.69	.69	.69
1	.7	.71	.72	.72	.72	.73	.73	.74	.75	.76
2	.76	.76	.76	.77	.78	.79	.83	.84	.84	.84
3	.86	.86	.86	.86	.87	.89	.89	.9	.94	.95
4	.95	.99	1	1.02	1.03	1.07	1.09	1.09	1.1	1.1
5	1.11	1.16	1.17	1.17	1.21	1.22	1.22	1.24	1.25	1.25
6	1.27	1.27	1.29	1.31	1.31	1.34	1.35	1.35	1.38	1.39
7	1.4	1.41	1.41	1.41	1.44	1.44	1.45	1.47	1.48	1.48
8	1.51	1.51	1.53	1.53	1.54	1.55	1.55	1.56	1.57	1.57
9	1.6	1.6	1.67	1.69	1.69	1.78	1.84	1.92	2.57	

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .24 MAXIMUM = 2.57 MEAN = 1.13
 STANDARD DEVIATION = .38

REFLECTOGRAM

0 10 20 30 40 44

.2	-	.24	=	1	!
.25	-	.29	=	0	!
.45	-	.49	=	0	!
.5	-	.54	=	1	!
.55	-	.59	=	0	!
.6	-	.64	=	1	!
.65	-	.69	=	7	!
.7	-	.74	=	8	!
.75	-	.79	=	8	!
.8	-	.84	=	4	!
.85	-	.89	=	7	!
.9	-	.94	=	2	!
.95	-	.99	=	3	!
1	-	1.04	=	3	!
1.05	-	1.09	=	3	!
1.1	-	1.14	=	3	!
1.15	-	1.19	=	3	!
1.2	-	1.24	=	4	!
1.25	-	1.29	=	5	!
1.3	-	1.34	=	3	!
1.35	-	1.39	=	4	!
1.4	-	1.44	=	6	!
1.45	-	1.49	=	4	!
1.5	-	1.54	=	5	!
1.55	-	1.59	=	5	!
1.6	-	1.64	=	2	!
1.65	-	1.69	=	3	!
1.7	-	1.74	=	0	!
1.75	-	1.79	=	1	!
1.8	-	1.84	=	1	!
1.85	-	1.89	=	0	!
1.9	-	1.94	=	1	!
1.95	-	1.99	=	0	!
2.5	-	2.54	=	0	!
2.55	-	2.59	=	1	!

FILE >> K00908 DESCRIPTION FOLLOWS :
 DEPTH 3565-3575M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.61	.64	.65	.65	.67	.67	.68	.68	.69	.69
1	.7	.7	.7	.71	.72	.72	.73	.73	.74	.75
2	.77	.77	.77	.77	.78	.78	.78	.79	.79	.79
3	.81	.81	.82	.83	.85	.85	.86	.86	.91	.91
4	.92	.94	.98	.99	1	1	1.01	1.01	1.03	1.04
5	1.05	1.06	1.06	1.07	1.08	1.11	1.13	1.15	1.18	1.18
6	1.19	1.19	1.2	1.21	1.21	1.23	1.25	1.26	1.27	1.27
7	1.28	1.28	1.29	1.29	1.29	1.3	1.33	1.34	1.34	1.36
8	1.36	1.36	1.39	1.4	1.42	1.43	1.44	1.44	1.48	1.52
9	1.54	1.55	1.56	1.58	1.59	1.6	1.63	1.63	1.95	

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .61 MAXIMUM = 1.95 MEAN = 1.06
 STANDARD DEVIATION = .31

REFLECTOGRAM

0 10 20 30 40 44

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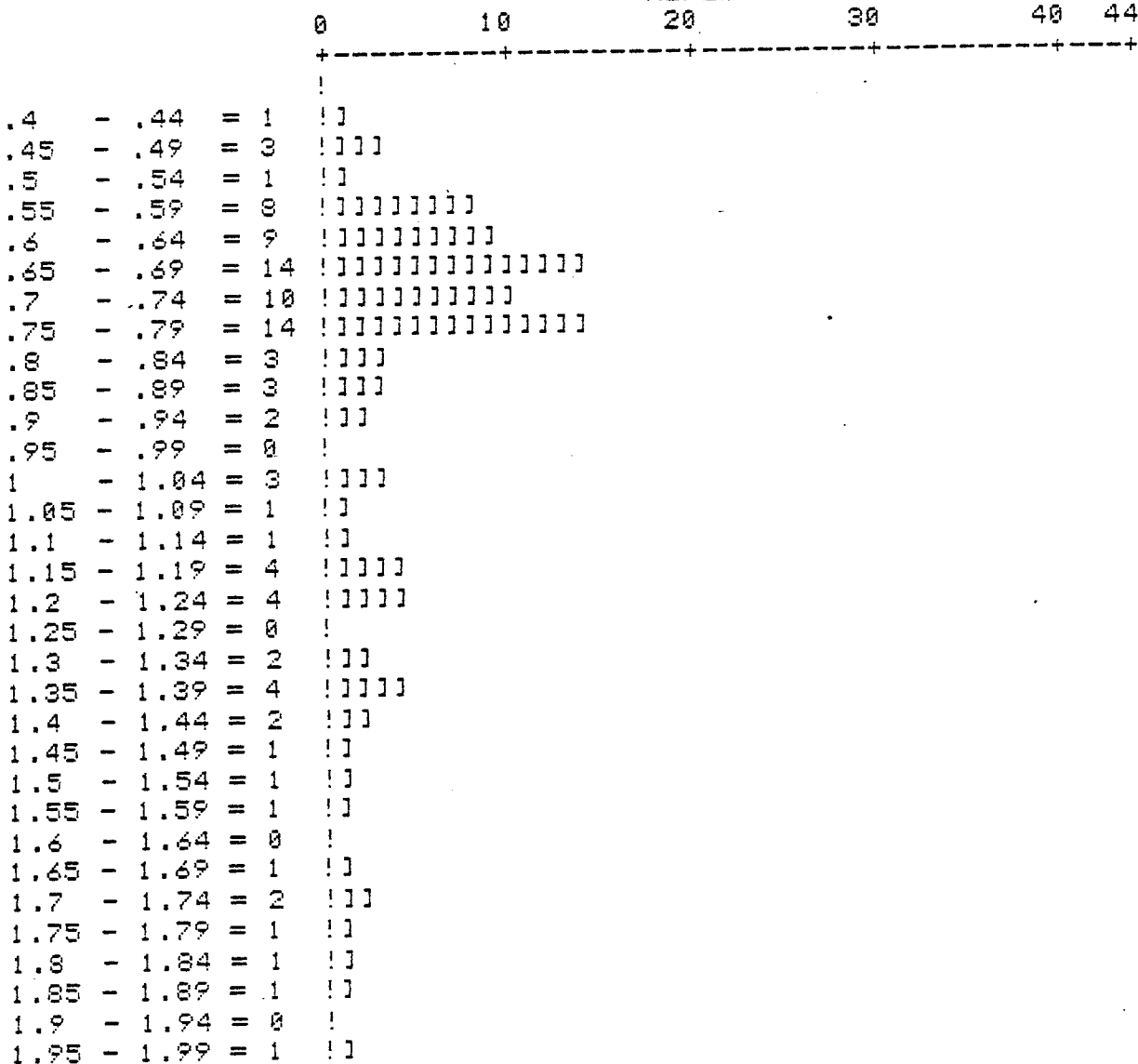
.6 - .64 = 2 []
.65 - .69 = 8 []
.7 - .74 = 9 []
.75 - .79 = 11 []
.8 - .84 = 4 []
.85 - .89 = 4 []
.9 - .94 = 4 []
.95 - .99 = 2 []
1 - 1.04 = 7 []
1.05 - 1.09 = 4 []
1.1 - 1.14 = 2 []
1.15 - 1.19 = 5 []
1.2 - 1.24 = 4 []
1.25 - 1.29 = 9 []
1.3 - 1.34 = 4 []
1.35 - 1.39 = 4 []
1.4 - 1.44 = 5 []
1.45 - 1.49 = 1 []
1.5 - 1.54 = 2 []
1.55 - 1.59 = 4 []
1.6 - 1.64 = 3 []
1.65 - 1.69 = 0 !
1.7 - 1.74 = 0 !
1.75 - 1.79 = 0 !
1.8 - 1.84 = 0 !
1.85 - 1.89 = 0 !
1.9 - 1.94 = 0 !
1.95 - 1.99 = 1 []
  
```

FILE >> K0091A DESCRIPTION FOLLOWS :
 DEPTH 3840-3850M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.4	.46	.47	.49	.52	.55	.56	.56	.56	.56
1	.57	.58	.59	.6	.61	.62	.62	.63	.63	.64
2	.64	.64	.65	.65	.65	.65	.66	.67	.68	.68
3	.68	.68	.68	.69	.69	.69	.7	.71	.72	.72
4	.72	.72	.72	.72	.73	.73	.75	.75	.75	.75
5	.76	.76	.76	.76	.76	.77	.77	.78	.79	.79
6	.81	.83	.83	.86	.86	.89	.91	.93	1	1.02
7	1.04	1.06	1.1	1.15	1.16	1.18	1.18	1.2	1.23	1.23
8	1.23	1.31	1.34	1.35	1.37	1.38	1.39	1.41	1.42	1.49
9	1.53	1.56	1.67	1.7	1.73	1.79	1.84	1.86	1.96	

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .4 MAXIMUM = 1.96 MEAN = .91
 STANDARD DEVIATION = .37

REFLECTOGRAM

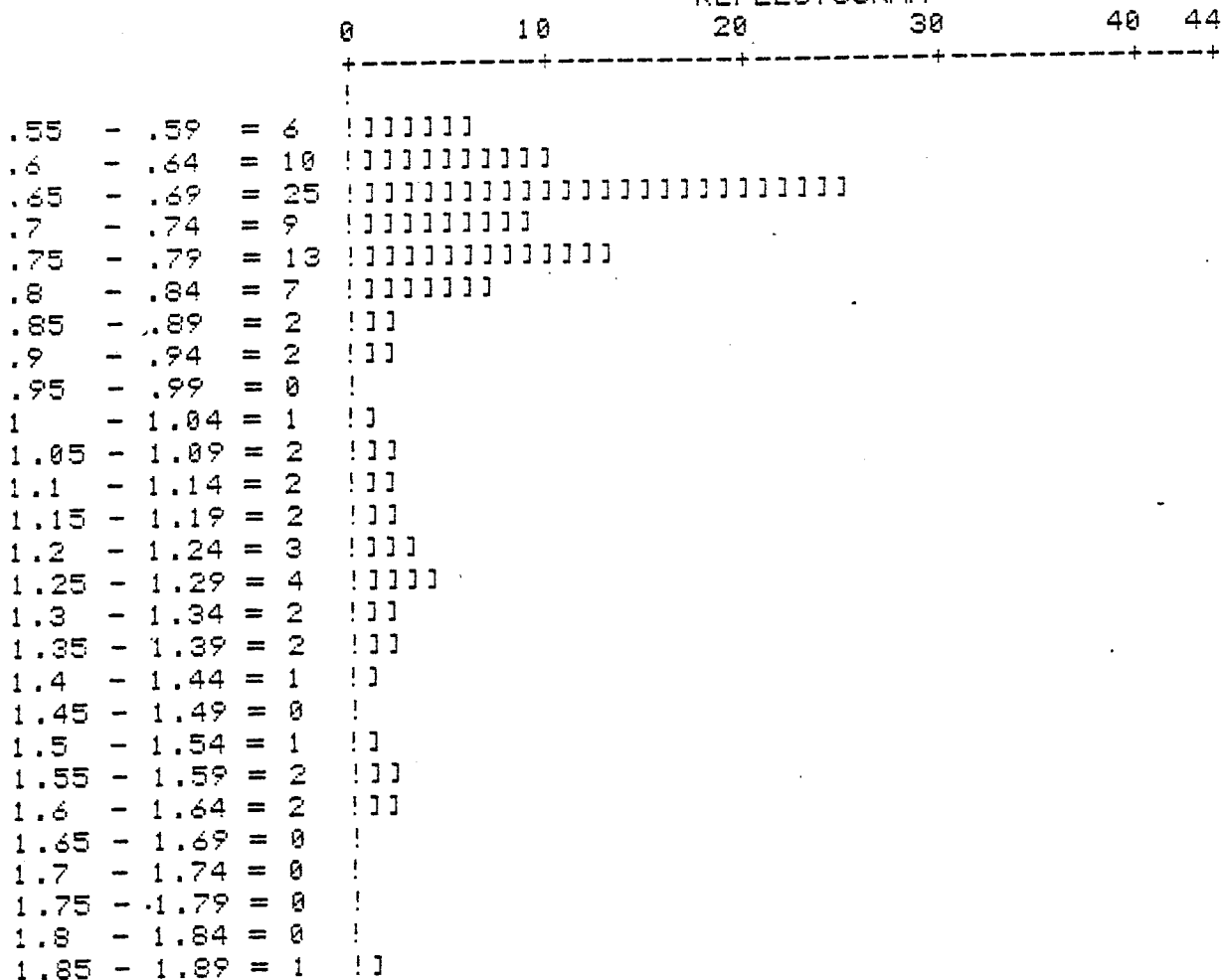


FILE >> K0091C DESCRIPTION FOLLOWS :
 DEPTH 4130-4175M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.57	.57	.58	.59	.59	.59	.62	.62	.62	.63
1	.63	.63	.63	.63	.64	.64	.65	.65	.65	.66
2	.66	.66	.66	.66	.66	.66	.66	.67	.67	.67
3	.67	.67	.68	.68	.68	.68	.68	.68	.69	.69
4	.69	.7	.7	.7	.71	.71	.71	.71	.71	.74
5	.75	.76	.76	.76	.76	.77	.77	.78	.78	.78
6	.78	.79	.79	.8	.8	.8	.8	.81	.82	.83
7	.85	.86	.9	.91	1	1.09	1.09	1.11	1.14	1.16
8	1.17	1.2	1.21	1.22	1.25	1.25	1.26	1.28	1.3	1.33
9	1.38	1.39	1.43	1.51	1.56	1.57	1.6	1.64	1.85	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .57 MAXIMUM = 1.85 MEAN = .86
 STANDARD DEVIATION = .3

REFLECTOGRAM



FILE >> K0092B DESCRIPTION FOLLOWS :
 DEPTH 4365-4415M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.6	.62	.63	.63	.65	.66	.66	.67	.68	.68
1	.68	.69	.69	.7	.7	.71	.72	.73	.73	.75
2	.75	.76	.76	.76	.77	.77	.77	.78	.78	.79
3	.79	.81	.81	.81	.82	.83	.83	.83	.84	.84
4	.84	.84	.85	.87	.87	.87	.88	.88	.88	.88
5	.88	.88	.88	.89	.89	.89	.97	.99	1.01	1.02
6	1.02	1.03	1.06	1.07	1.08	1.08	1.08	1.25	1.29	1.31
7	1.33	1.34	1.36	1.36	1.36	1.37	1.38	1.38	1.39	1.4
8	1.41	1.41	1.41	1.41	1.42	1.42	1.42	1.42	1.46	1.47
9	1.53	1.56	1.57	1.59	1.59	1.61	1.75	1.79	1.97	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .6 MAXIMUM = 1.97 MEAN = 1.03
 STANDARD DEVIATION = .33

REFLECTOGRAM

0 10 20 30 40 44

Value	Count	Bar Chart
.6 - .64 = 4	4	
.65 - .69 = 9	9	
.7 - .74 = 6	6	
.75 - .79 = 12	12	
.8 - .84 = 11	11	
.85 - .89 = 14	14	
.9 - .94 = 0	0	
.95 - .99 = 2	2	
1 - 1.04 = 4	4	
1.05 - 1.09 = 5	5	
1.1 - 1.14 = 0	0	
1.15 - 1.19 = 0	0	
1.2 - 1.24 = 0	0	
1.25 - 1.29 = 2	2	
1.3 - 1.34 = 3	3	
1.35 - 1.39 = 7	7	
1.4 - 1.44 = 9	9	
1.45 - 1.49 = 2	2	
1.5 - 1.54 = 1	1	
1.55 - 1.59 = 4	4	
1.6 - 1.64 = 1	1	
1.65 - 1.69 = 0	0	
1.7 - 1.74 = 0	0	
1.75 - 1.79 = 2	2	
1.8 - 1.84 = 0	0	
1.85 - 1.89 = 0	0	
1.9 - 1.94 = 0	0	
1.95 - 1.99 = 1	1	

FILE >> K0093A DESCRIPTION FOLLOWS :
 DEPTH 4605-4655M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.4	.44	.57	.64	.69	.69	.69	.76	.76	.76
1	.77	.77	.77	.77	.78	.78	.78	.79	.8	.81
2	.81	.81	.82	.82	.83	.84	.84	.87	.88	.88
3	.88	.89	.89	.89	.9	.91	.91	.91	.92	.92
4	.93	.93	.93	.94	.97	.97	1	1.01	1.02	1.02
5	1.02	1.03	1.03	1.03	1.04	1.05	1.06	1.07	1.07	1.08
6	1.15	1.19	1.21	1.27	1.29	1.32	1.35	1.35	1.36	1.37
7	1.39	1.41	1.42	1.43	1.45	1.45	1.49	1.49	1.5	1.52
8	1.57	1.57	1.59	1.59	1.6	1.61	1.61	1.62	1.63	1.64
9	1.66	1.68	1.68	1.77	1.8	1.91	1.94	2.05	2.21	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .4 MAXIMUM = 2.21 MEAN = 1.13
 STANDARD DEVIATION = .38

REFLECTOGRAM

0 10 20 30 40 44

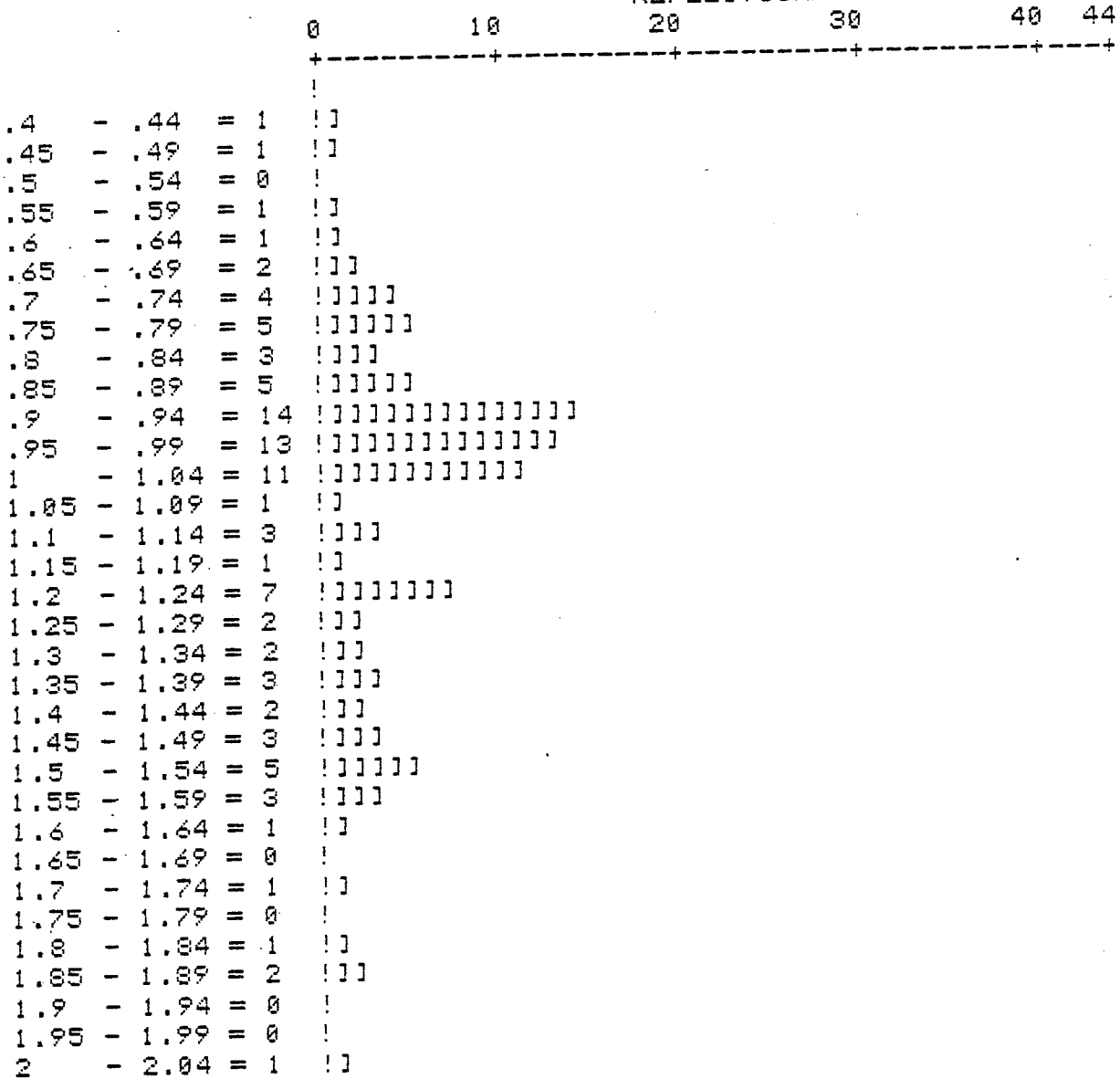
.4 - .44 = 2]]
.45 - .49 = 0	!
.5 - .54 = 0	!
.55 - .59 = 1]]
.6 - .64 = 1]]
.65 - .69 = 3]]]]
.7 - .74 = 0	!
.75 - .79 = 11]]]]]]]]]]]]]]]]]]
.8 - .84 = 9]]]]]]]]]]]]]]]]]]
.85 - .89 = 7]]]]]]]]]]]]]]]]]]
.9 - .94 = 10]]]]]]]]]]]]]]]]]]
.95 - .99 = 2]]]]
1 - 1.04 = 10]]]]]]]]]]]]]]]]]]
1.05 - 1.09 = 4]]]]]]
1.1 - 1.14 = 0	!
1.15 - 1.19 = 2]]]]
1.2 - 1.24 = 1]]]]
1.25 - 1.29 = 2]]]]
1.3 - 1.34 = 1]]]]
1.35 - 1.39 = 5]]]]]]]]
1.4 - 1.44 = 3]]]]]]
1.45 - 1.49 = 4]]]]]]]]
1.5 - 1.54 = 2]]]]]]
1.55 - 1.59 = 4]]]]]]]]
1.6 - 1.64 = 6]]]]]]]]]]]]]]]]]]
1.65 - 1.69 = 3]]]]]]]]
1.7 - 1.74 = 0	!
1.75 - 1.79 = 1]]]]
1.8 - 1.84 = 1]]]]
1.85 - 1.89 = 0	!
1.9 - 1.94 = 2]]]]]]
1.95 - 1.99 = 0	!
2 - 2.04 = 0	!
2.05 - 2.09 = 1]]]]
2.1 - 2.14 = 0	!
2.15 - 2.19 = 0	!
2.2 - 2.24 = 1]]]]

FILE >> K0093B DESCRIPTION FOLLOWS :
 DEPTH 4725-4735M, OLYMPIA A-12, MIKE AVERY, MAY-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.44	.45	.59	.63	.65	.69	.71	.71	.73	.74
1	.77	.77	.77	.77	.79	.8	.8	.82	.85	.85
2	.85	.86	.89	.9	.9	.9	.9	.9	.92	.92
3	.92	.93	.93	.94	.94	.94	.94	.95	.95	.95
4	.96	.97	.97	.97	.97	.97	.97	.98	.99	.99
5	1	1	1	1.01	1.02	1.03	1.04	1.04	1.05	1.05
6	1.05	1.09	1.11	1.14	1.14	1.16	1.2	1.2	1.2	1.22
7	1.22	1.23	1.23	1.27	1.27	1.32	1.34	1.35	1.35	1.35
8	1.4	1.4	1.45	1.45	1.49	1.5	1.51	1.53	1.54	1.54
9	1.55	1.57	1.59	1.6	1.7	1.82	1.86	1.86	2.01	

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .44 MAXIMUM = 2.01 MEAN = 1.09
 STANDARD DEVIATION = .32

REFLECTOGRAM



FILE >> K0093C DESCRIPTION FOLLOWS :
 DEPTH 4885-4935M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.42	.66	.88	.89	.96	1.05	1.07	1.07	1.08	1.1
1	1.12	1.12	1.14	1.14	1.14	1.14	1.15	1.16	1.17	1.18
2	1.19	1.2	1.2	1.22	1.22	1.24	1.24	1.25	1.25	1.26
3	1.26	1.3	1.3	1.3	1.31	1.32	1.36	1.4	1.41	1.41
4	1.41	1.43	1.44	1.45	1.45	1.45	1.47	1.49	1.49	1.49
5	1.5	1.51	1.53	1.56	1.56	1.57	1.57	1.57	1.58	1.58
6	1.58	1.58	1.6	1.6	1.62	1.63	1.63	1.65	1.65	1.65
7	1.67	1.67	1.68	1.69	1.7	1.7	1.7	1.71	1.71	1.72
8	1.75	1.76	1.76	1.79	1.81	1.84	1.85	1.85	1.85	1.93
9	1.94	1.95	2.02	2.04	2.06	2.11	2.14	2.23	2.59	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .42 MAXIMUM = 2.59 MEAN = 1.48
 STANDARD DEVIATION = .34

REFLECTOGRAM

0 10 20 30 40 44

```

.4 - .44 = 1 !]
.45 - .49 = 0 !

.6 - .64 = 0 !
.65 - .69 = 1 !]
.7 - .74 = 0 !

.8 - .84 = 0 !
.85 - .89 = 2 !]]
.9 - .94 = 0 !
.95 - .99 = 1 !]

1 - 1.04 = 1 !]
1.05 - 1.09 = 3 !]]]
1.1 - 1.14 = 7 !]]]]]]]
1.15 - 1.19 = 5 !]]]]]
1.2 - 1.24 = 6 !]]]]]]]
1.25 - 1.29 = 4 !]]]]]
1.3 - 1.34 = 5 !]]]]]]]
1.35 - 1.39 = 1 !]
1.4 - 1.44 = 6 !]]]]]]]
1.45 - 1.49 = 7 !]]]]]]]]]
1.5 - 1.54 = 3 !]]]
1.55 - 1.59 = 9 !]]]]]]]]]]]
1.6 - 1.64 = 5 !]]]]]]]
1.65 - 1.69 = 7 !]]]]]]]]]
1.7 - 1.74 = 6 !]]]]]]]]]
1.75 - 1.79 = 4 !]]]]]
1.8 - 1.84 = 2 !]]]
1.85 - 1.89 = 3 !]]]
1.9 - 1.94 = 2 !]]]
1.95 - 1.99 = 1 !]
2 - 2.04 = 2 !]]]
2.05 - 2.09 = 1 !]
2.1 - 2.14 = 2 !]]]
2.15 - 2.19 = 0 !
2.2 - 2.24 = 1 !]
2.25 - 2.29 = 0 !

2.5 - 2.54 = 0 !
  
```

FILE >> K0094A

DESCRIPTION FOLLOWS :

DEPTH 5005-5055M, OLYMPIA A-12, MIKE AVERY, MAY-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.45	.86	.94	.99	1.05	1.06	1.08	1.09	1.09	1.09
1	1.1	1.11	1.11	1.11	1.12	1.12	1.13	1.15	1.16	1.16
2	1.17	1.17	1.17	1.18	1.18	1.18	1.18	1.19	1.19	1.19
3	1.19	1.19	1.19	1.21	1.21	1.23	1.23	1.24	1.25	1.25
4	1.25	1.25	1.25	1.26	1.26	1.26	1.27	1.28	1.28	1.29
5	1.29	1.29	1.31	1.31	1.32	1.34	1.35	1.36	1.39	1.39
6	1.41	1.43	1.44	1.44	1.48	1.5	1.52	1.52	1.55	1.56
7	1.57	1.58	1.58	1.58	1.59	1.62	1.64	1.66	1.67	1.68
8	1.68	1.69	1.69	1.69	1.72	1.72	1.73	1.74	1.74	1.77
9	1.8	1.88	1.89	1.89	2	2.01	2.02	2.33	2.73	

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = .45 MAXIMUM = 2.73 MEAN = 1.39
 STANDARD DEVIATION = .32

REFLECTOGRAM

0 10 20 30 40 44

```

+-----+-----+-----+-----+-----+
|
|.45 - .49 = 1 | |
|.5 - .54 = 0 |
|
|.8 - .84 = 0 |
|.85 - .89 = 1 | | | | | | | | | | | |
|.9 - .94 = 1 | |
|.95 - .99 = 1 | |
|1 - 1.04 = 1 | |
|1.05 - 1.09 = 5 | | | | |
|1.1 - 1.14 = 7 | | | | | |
|1.15 - 1.19 = 16 | | | | | | | | | | | |
|1.2 - 1.24 = 5 | | | | |
|1.25 - 1.29 = 14 | | | | | | | | | |
|1.3 - 1.34 = 4 | | | |
|1.35 - 1.39 = 4 | | | |
|1.4 - 1.44 = 4 | | | |
|1.45 - 1.49 = 1 | |
|1.5 - 1.54 = 3 | | |
|1.55 - 1.59 = 7 | | | | | |
|1.6 - 1.64 = 2 | |
|1.65 - 1.69 = 7 | | | | | |
|1.7 - 1.74 = 5 | | | | |
|1.75 - 1.79 = 1 | |
|1.8 - 1.84 = 1 | |
|1.85 - 1.89 = 3 | | |
|1.9 - 1.94 = 0 |
|1.95 - 1.99 = 0 |
|2 - 2.04 = 3 | | |
|2.05 - 2.09 = 0 |
|
|2.25 - 2.29 = 0 |
|2.3 - 2.34 = 1 | |
|2.35 - 2.39 = 0 |
|
|2.65 - 2.69 = 0 |
|2.7 - 2.74 = 1 | |

```

FILE >> K0094B DESCRIPTION FOLLOWS :
 DEPTH 5125-5165M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.46	.46	.47	.51	.54	.87	.9	.92	.92	.98
1	1.04	1.05	1.08	1.13	1.14	1.15	1.18	1.18	1.22	1.22
2	1.3	1.32	1.33	1.35	1.35	1.36	1.38	1.4	1.42	1.44
3	1.48	1.49	1.54	1.54	1.55	1.55	1.58	1.59	1.71	1.82
4	1.92	2.04	2.05	2.07	2.1	2.11	2.45			

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 47
 MINIMUM = .46 MAXIMUM = 2.45 MEAN = 1.33
 STANDARD DEVIATION = .47

REFLECTOGRAM

0 10 20 30 40 44

.45	-	.49	=	3	
.5	-	.54	=	2	
.55	-	.59	=	0	
.8	-	.84	=	0	
.85	-	.89	=	1	
.9	-	.94	=	3	
.95	-	.99	=	1	
1	-	1.04	=	2	
1.05	-	1.09	=	1	
1.1	-	1.14	=	2	
1.15	-	1.19	=	3	
1.2	-	1.24	=	2	
1.25	-	1.29	=	0	
1.3	-	1.34	=	3	
1.35	-	1.39	=	4	
1.4	-	1.44	=	3	
1.45	-	1.49	=	2	
1.5	-	1.54	=	2	
1.55	-	1.59	=	4	
1.6	-	1.64	=	0	
1.65	-	1.69	=	0	
1.7	-	1.74	=	1	
1.75	-	1.79	=	0	
1.8	-	1.84	=	1	
1.85	-	1.89	=	0	
1.9	-	1.94	=	1	
1.95	-	1.99	=	0	
2	-	2.04	=	1	
2.05	-	2.09	=	3	
2.1	-	2.14	=	1	
2.15	-	2.19	=	0	
2.4	-	2.44	=	0	
2.45	-	2.49	=	1	

FILE >> K0095A DESCRIPTION FOLLOWS :
 DEPTH 5405-5415M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.88	1.13	1.14	1.15	1.17	1.18	1.19	1.22	1.27	1.27
1	1.27	1.31	1.31	1.33	1.33	1.34	1.34	1.35	1.37	1.38
2	1.39	1.39	1.4	1.41	1.41	1.41	1.42	1.44	1.44	1.44
3	1.44	1.45	1.46	1.47	1.47	1.51	1.52	1.52	1.53	1.53
4	1.54	1.54	1.54	1.55	1.57	1.59	1.6	1.61	1.62	1.63
5	1.63	1.64	1.64	1.65	1.65	1.67	1.67	1.69	1.73	1.74
6	1.74	1.74	1.74	1.77	1.78	1.86	1.93	1.96	1.97	1.97
7	2	2.01	2.08	2.12	2.13	2.19	2.23	2.26	2.3	2.42
8	2.46	2.77								

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 82
 MINIMUM = .88 MAXIMUM = 2.77 MEAN = 1.61
 STANDARD DEVIATION = .34

REFLECTOGRAM

0 10 20 30 40 44

```

+-----+-----+-----+-----+-----+
|
| .85 - .89 = 1 |]
| .9 - .94 = 0 |
|
| 1.05 - 1.09 = 0 |
| 1.1 - 1.14 = 2 |]]
| 1.15 - 1.19 = 4 |]]]]
| 1.2 - 1.24 = 1 |]|
| 1.25 - 1.29 = 3 |]]]
| 1.3 - 1.34 = 6 |]]]]]]
| 1.35 - 1.39 = 5 |]]]]]
| 1.4 - 1.44 = 9 |]]]]]]]]
| 1.45 - 1.49 = 4 |]]]]
| 1.5 - 1.54 = 8 |]]]]]]]]
| 1.55 - 1.59 = 3 |]]]]
| 1.6 - 1.64 = 7 |]]]]]]]]
| 1.65 - 1.69 = 5 |]]]]]
| 1.7 - 1.74 = 5 |]]]]]
| 1.75 - 1.79 = 2 |]]]
| 1.8 - 1.84 = 0 |
| 1.85 - 1.89 = 1 |]|
| 1.9 - 1.94 = 1 |]|
| 1.95 - 1.99 = 3 |]]]
| 2 - 2.04 = 2 |]]]
| 2.05 - 2.09 = 1 |]|
| 2.1 - 2.14 = 2 |]]]
| 2.15 - 2.19 = 1 |]|
| 2.2 - 2.24 = 1 |]|
| 2.25 - 2.29 = 1 |]|
| 2.3 - 2.34 = 1 |]|
| 2.35 - 2.39 = 0 |
| 2.4 - 2.44 = 1 |]|
| 2.45 - 2.49 = 1 |]|
| 2.5 - 2.54 = 0 |
|
| 2.7 - 2.74 = 0 |
| 2.75 - 2.79 = 1 |]|

```


FILE >> K0095C DESCRIPTION FOLLOWS :
 DEPTH 5685-5735M, OLYMPIA A-12, MIKE AVERY, MAY-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.91	1.04	1.05	1.14	1.18	1.19	1.28	1.39	1.55	1.58
1	1.6	1.63	1.66	1.69	1.74	1.74	1.76	1.81	1.84	1.86
2	1.89	1.91	1.91	1.94	1.94	1.97	1.98	1.99	2	2
3	2.02	2.05	2.09	2.1	2.1	2.11	2.12	2.13	2.13	2.17
4	2.17	2.18	2.19	2.28	2.51	2.54	2.55	2.66		

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 48
 MINIMUM = .91 MAXIMUM = 2.66 MEAN = 1.86
 STANDARD DEVIATION = .41

REFLECTOGRAM

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

.9 - .94 = 1 !]
 .95 - .99 = 0 !
 1 - 1.04 = 2 !]]
 1.05 - 1.09 = 0 !
 1.1 - 1.14 = 1 !]
 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 !]
 1.4 - 1.44 = 0 !
 1.45 - 1.49 = 0 !
 1.5 - 1.54 = 0 !
 1.55 - 1.59 = 2 !]]
 1.6 - 1.64 = 2 !]]
 1.65 - 1.69 = 2 !]]
 1.7 - 1.74 = 2 !]]
 1.75 - 1.79 = 1 !]
 1.8 - 1.84 = 2 !]]
 1.85 - 1.89 = 2 !]]
 1.9 - 1.94 = 4 !]]]]
 1.95 - 1.99 = 3 !]]]
 2 - 2.04 = 3 !]]]
 2.05 - 2.09 = 4 !]]]]
 2.1 - 2.14 = 4 !]]]]
 2.15 - 2.19 = 4 !]]]]
 2.2 - 2.24 = 0 !
 2.25 - 2.29 = 1 !]
 2.3 - 2.34 = 0 !
 2.35 - 2.39 = 0 !
 2.4 - 2.44 = 0 !
 2.45 - 2.49 = 0 !
 2.5 - 2.54 = 2 !]]
 2.55 - 2.59 = 1 !]
 2.6 - 2.64 = 0 !
 2.65 - 2.69 = 1 !]

FILE >> K0096B

DESCRIPTION FOLLOWS :

DEPTH 5915-5950M, OLYMPIA A-12, MIKE AVERY, MAY-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.52	1.81	1.85	2.01	2.05	2.09	2.11	2.14	2.14	2.15
1	2.18	2.2	2.21	2.22	2.22	2.22	2.24	2.24	2.25	2.3
2	2.31	2.31	2.32	2.33	2.33	2.33	2.34	2.34	2.34	2.34
3	2.35	2.35	2.38	2.4	2.41	2.41	2.41	2.44	2.44	2.46
4	2.49	2.53	2.55	2.56	2.78	2.79	2.98			

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 47
 MINIMUM = 1.52 MAXIMUM = 2.98 MEAN = 2.3
 STANDARD DEVIATION = .24

REFLECTOGRAM

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

```

1.5 - 1.54 = 1  !!
1.55 - 1.59 = 0  !
1.6 - 1.64 = 0  !
1.65 - 1.69 = 0  !
1.7 - 1.74 = 0  !
1.75 - 1.79 = 0  !
1.8 - 1.84 = 1  !!
1.85 - 1.89 = 1  !!
1.9 - 1.94 = 0  !
1.95 - 1.99 = 0  !
2 - 2.04 = 1  !!
2.05 - 2.09 = 2  !!!
2.1 - 2.14 = 3  !!!!
2.15 - 2.19 = 2  !!!
2.2 - 2.24 = 7  !!!!!!!
2.25 - 2.29 = 1  !!
2.3 - 2.34 = 13 !!!!!!!!!!!
2.35 - 2.39 = 1  !!
2.4 - 2.44 = 6  !!!!!!!
2.45 - 2.49 = 2  !!!
2.5 - 2.54 = 1  !!
2.55 - 2.59 = 2  !!!
2.6 - 2.64 = 0  !
2.65 - 2.69 = 0  !
2.7 - 2.74 = 0  !
2.75 - 2.79 = 2  !!!
2.8 - 2.84 = 0  !
2.85 - 2.89 = 0  !
2.9 - 2.94 = 0  !
2.95 - 2.99 = 1  !!

```

FILE >> K0096C DESCRIPTION FOLLOWS :
 DEPTH 6020-6060M, OLYMPIA A-12, MIKE AVERY, MAY-15-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.8	1.89	1.92	2.03	2.06	2.09	2.1	2.12	2.13	2.15
1	2.16	2.17	2.17	2.18	2.2	2.21	2.21	2.24	2.25	2.25
2	2.27	2.27	2.29	2.3	2.3	2.3	2.3	2.31	2.34	2.34
3	2.35	2.35	2.36	2.37	2.37	2.38	2.41	2.42	2.42	2.42
4	2.43	2.43	2.43	2.43	2.43	2.44	2.44	2.44	2.45	2.45
5	2.46	2.46	2.47	2.47	2.47	2.47	2.48	2.48	2.48	2.49
6	2.5	2.51	2.52	2.52	2.53	2.54	2.55	2.56	2.56	2.57
7	2.58	2.58	2.59	2.61	2.61	2.62	2.62	2.63	2.64	2.64
8	2.65	2.67	2.68	2.69	2.69	2.72	2.74	2.75	2.76	2.77
9	2.82	2.86	2.93	3.02	3.05	3.06	3.14	3.26	3.29	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 99
 MINIMUM = 1.8 MAXIMUM = 3.29 MEAN = 2.47
 STANDARD DEVIATION = .27

REFLECTOGRAM

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

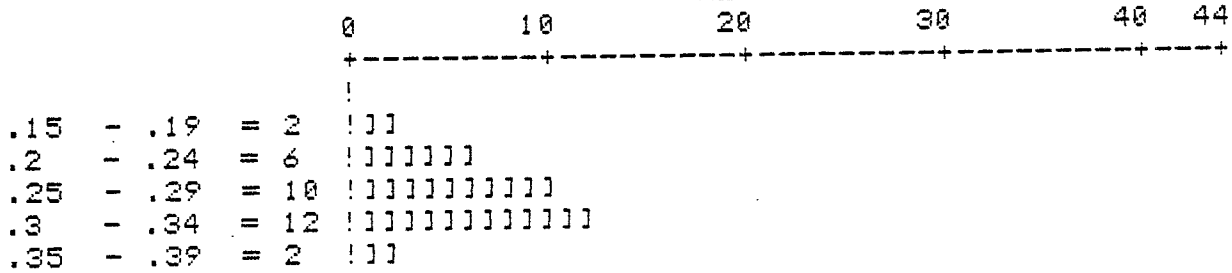
1.8 - 1.84 = 1]]
 1.85 - 1.89 = 1]]
 1.9 - 1.94 = 1]]
 1.95 - 1.99 = 0]]
 2 - 2.04 = 1]]
 2.05 - 2.09 = 3]]]]
 2.1 - 2.14 = 2]]]]
 2.15 - 2.19 = 5]]]]]]
 2.2 - 2.24 = 4]]]]]]
 2.25 - 2.29 = 5]]]]]]
 2.3 - 2.34 = 9]]]]]]]]]]
 2.35 - 2.39 = 4]]]]]]
 2.4 - 2.44 = 12]]]]]]]]]]]]
 2.45 - 2.49 = 12]]]]]]]]]]]]
 2.5 - 2.54 = 6]]]]]]]]
 2.55 - 2.59 = 7]]]]]]]]
 2.6 - 2.64 = 7]]]]]]]]
 2.65 - 2.69 = 5]]]]]]
 2.7 - 2.74 = 2]]]]
 2.75 - 2.79 = 3]]]]
 2.8 - 2.84 = 1]]
 2.85 - 2.89 = 1]]
 2.9 - 2.94 = 1]]
 2.95 - 2.99 = 0]]
 3 - 3.04 = 1]]
 3.05 - 3.09 = 2]]]]
 3.1 - 3.14 = 1]]
 3.15 - 3.19 = 0]]
 3.2 - 3.24 = 0]]
 3.25 - 3.29 = 2]]]]

FILE >> E00838 DESCRIPTION FOLLOWS :
 DEPTH 840-850M, OLYMPIA A-12, MIKE AVERY, FEB-22-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.17	.17	.22	.22	.22	.23	.23	.23	.25	.25
1	.26	.26	.27	.28	.28	.29	.29	.29	.3	.31
2	.31	.31	.31	.32	.32	.32	.33	.33	.33	.34
3	.35	.37								

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 32
 MINIMUM = .17 MAXIMUM = .37 MEAN = .28
 STANDARD DEVIATION = .05

REFLECTOGRAM

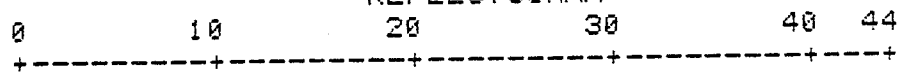


FILE >> E0083C DESCRIPTION FOLLOWS :
 DEPTH 920-970M, OLYMPIA A-12, MIKE AVERY, FEB-22-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.25	.25	.29	.3	.3	.31	.31	.31	.32	.33
1	.34									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
 MINIMUM = .25 MAXIMUM = .34 MEAN = .3
 STANDARD DEVIATION = .03

REFLECTOGRAM



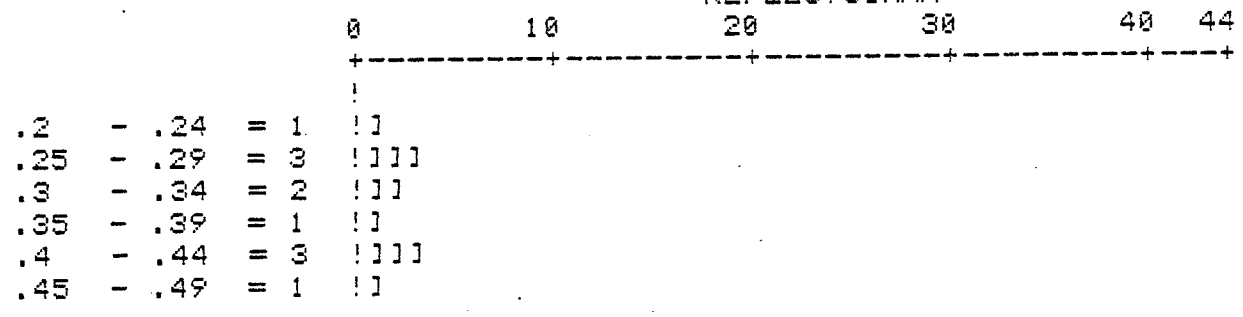
.25 - .29 = 3 !| | | |
 .3 - .34 = 8 !| | | | | | | | |

FILE >> E0084A DESCRIPTION FOLLOWS :
 DEPTH 1040-1090M, OLYMPIA A-12, MIKE AVERY, FEB-23-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.24	.25	.27	.29	.32	.33	.35	.4	.4	.42
1	.48									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
 MINIMUM = .24 MAXIMUM = .48 MEAN = .34
 STANDARD DEVIATION = .08

REFLECTOGRAM

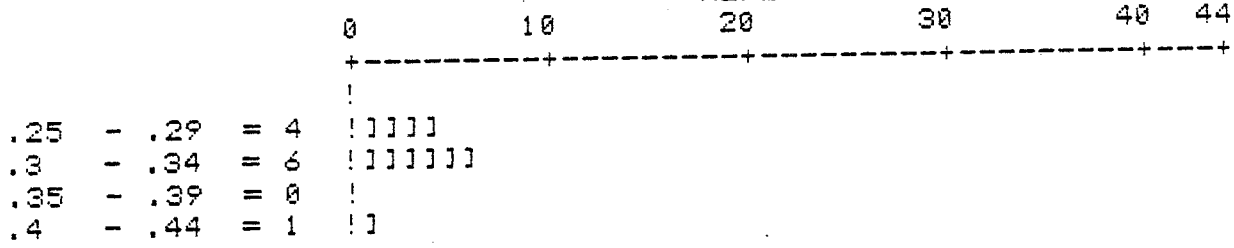


FILE >> E00848 DESCRIPTION FOLLOWS :
 DEPTH 1670M, OLYMPIA A-12, MIKE AVERY, FEB-24-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.26	.28	.29	.29	.3	.3	.31	.33	.33	.33
1	.44									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
 MINIMUM = .26 MAXIMUM = .44 MEAN = .32
 STANDARD DEVIATION = .05

REFLECTOGRAM

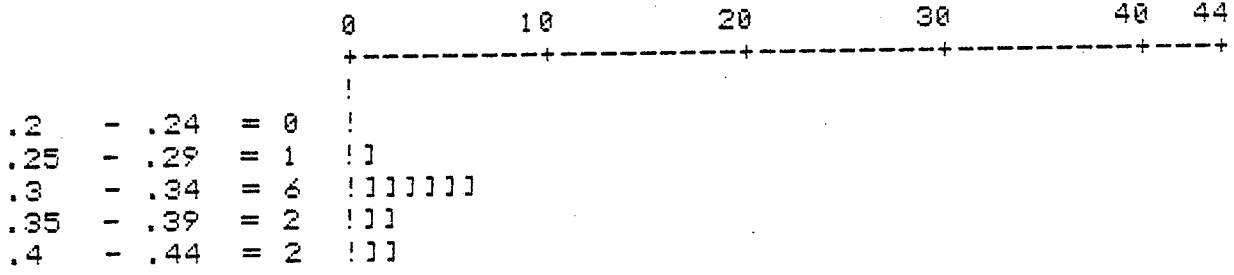


FILE >> E0084C DESCRIPTION FOLLOWS :
 DEPTH 1280-1330M, OLYMPIA A-12, MIKE AVERY, MAY-1-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.26	.3	.31	.31	.32	.32	.34	.36	.38	.4
1	.43									

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 11
 MINIMUM = .24 MAXIMUM = .44 MEAN = .34
 STANDARD DEVIATION = .05

REFLECTOGRAM

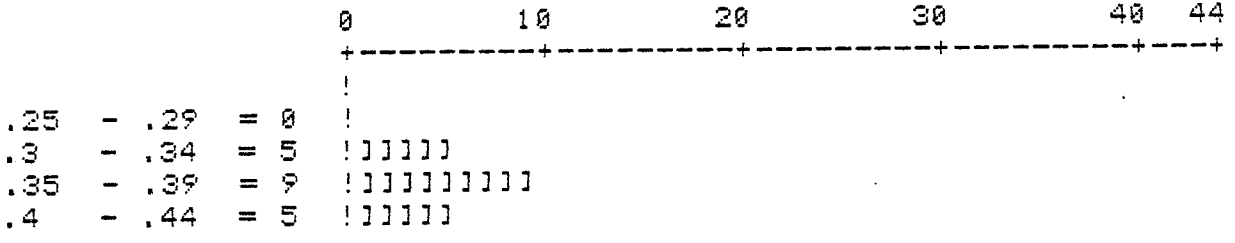


FILE >> E0085A DESCRIPTION FOLLOWS :
 DEPTH 1440-1450M, OLYMPIA A-12, MIKE AVERY, MAY-2-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.31	.32	.33	.33	.34	.35	.35	.35	.36	.36
1	.36	.36	.37	.38	.42	.42	.43	.43	.44	

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 19
 MINIMUM = .29 MAXIMUM = .44 MEAN = .37
 STANDARD DEVIATION = .04

REFLECTOGRAM



FILE >> E0085B DESCRIPTION FOLLOWS :
 DEPTH 1520-1530M, OLYMPIA A-12, MIKE AVERY, MAY-2-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.3	.32	.34	.35	.36	.38	.38	.4	.4	.41
1	.41	.42	.42	.45	.48	.49	.49			

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 17
 MINIMUM = .29 MAXIMUM = .49 MEAN = .4
 STANDARD DEVIATION = .06

REFLECTOGRAM

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

.25	-	.29	=	0	!
.3	-	.34	=	3	!]]]
.35	-	.39	=	4	!]]]]
.4	-	.44	=	6	!]]]]]]
.45	-	.49	=	4	!]]]]

FILE >> E0085C DESCRIPTION FOLLOWS :
 DEPTH 1640-1650M, OLYMPIA A-12, MIKE AVERY, MAY-2-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.35	.35	.36	.36	.36	.36	.36	.36	.36	.37
1	.37	.38	.38	.38	.38	.38	.38	.39	.39	.39
2	.39	.39	.4	.4	.4	.4	.4	.4	.4	.4
3	.41	.41	.41	.41	.41	.41	.42	.42	.42	.42
4	.42	.43	.44	.44	.44	.44	.44	.44	.44	.45
5	.46	.47	.47	.47	.52	.52	.53			

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 57
 MINIMUM = .34 MAXIMUM = .54 MEAN = .41
 STANDARD DEVIATION = .04

REFLECTOGRAM

0 10 20 30 40 44

```

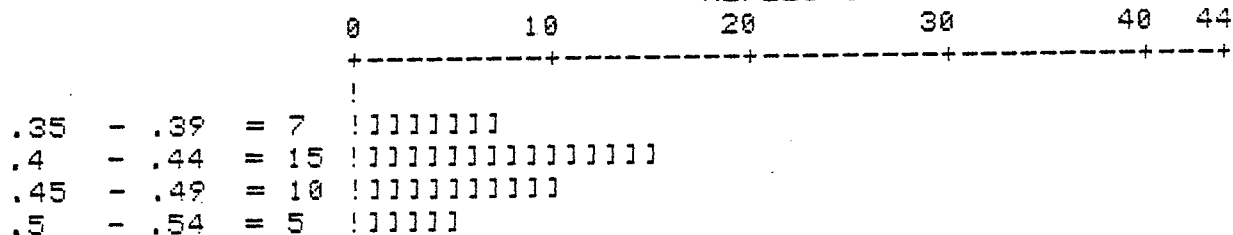
.3 - .34 = 0 |
.35 - .39 = 23 |!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
.4 - .44 = 27 |!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
.45 - .49 = 5 |!!!!!!
.5 - .54 = 3 |!!!!
  
```

FILE >> E0086A DESCRIPTION FOLLOWS :
 DEPTH 1750-1760M, OLYMPIA A-12, MIKE AUERY, MAY-3-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.35	.36	.38	.38	.39	.39	.39	.41	.41	.41
1	.41	.41	.42	.42	.42	.42	.42	.43	.43	.43
2	.43	.44	.45	.45	.46	.46	.46	.46	.46	.47
3	.47	.48	.51	.51	.53	.54	.54			

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 37
 MINIMUM = .35 MAXIMUM = .54 MEAN = .44
 STANDARD DEVIATION = .05

REFLECTOGRAM

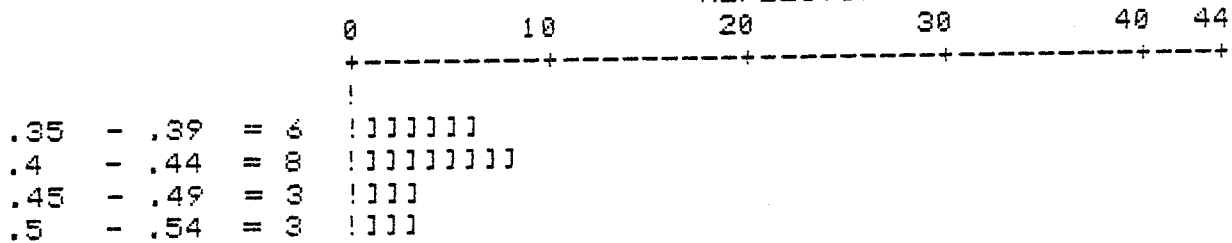


FILE >> E0086B DESCRIPTION FOLLOWS :
 DEPTH 1905-1955M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.36	.36	.36	.38	.38	.39	.4	.42	.42	.42
1	.43	.44	.44	.44	.45	.45	.47	.51	.52	.52
2										

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 20
 MINIMUM = .36 MAXIMUM = .52 MEAN = .43
 STANDARD DEVIATION = .05

REFLECTOGRAM

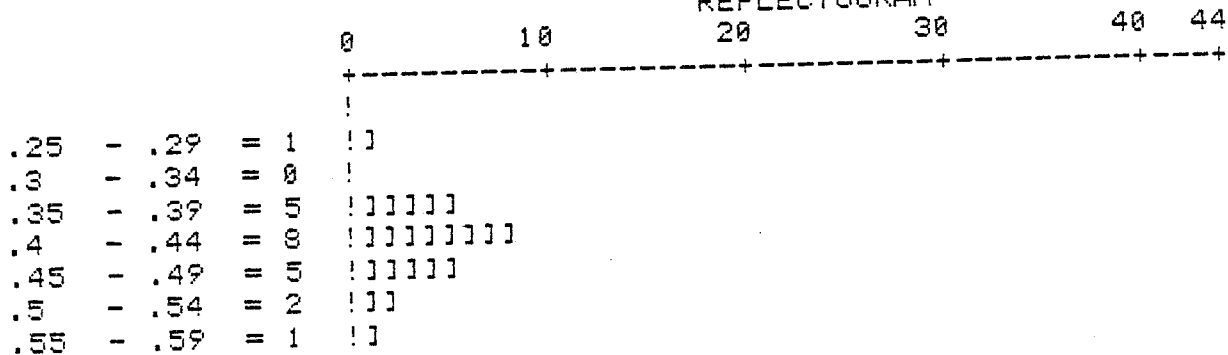


FILE >> E0086C DESCRIPTION FOLLOWS :
 DEPTH 2065-2075M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.28	.38	.39	.39	.39	.39	.41	.41	.41	.41
1	.42	.42	.42	.44	.45	.45	.46	.47	.48	.54
2	.54	.57								

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 22
 MINIMUM = .28 MAXIMUM = .57 MEAN = .43
 STANDARD DEVIATION = .06

REFLECTOGRAM

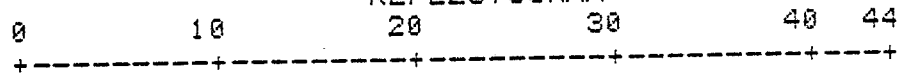


FILE >> E0087A DESCRIPTION FOLLOWS :
 - DEPTH 2185-2235M, OLYMPIA A-12, MIKE AVERY, MAY-12-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.38	.38	.39	.39	.4	.4	.4	.4	.41	.41
1	.41	.42	.42	.42	.43	.43	.43	.43	.43	.45
2	.45	.45	.46	.46	.46	.47	.47	.47	.48	.48
3	.48	.49	.52	.52	.53	.53	.54			

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 37
 - MINIMUM = .38 MAXIMUM = .54 MEAN = .45
 STANDARD DEVIATION = .04

REFLECTOGRAM



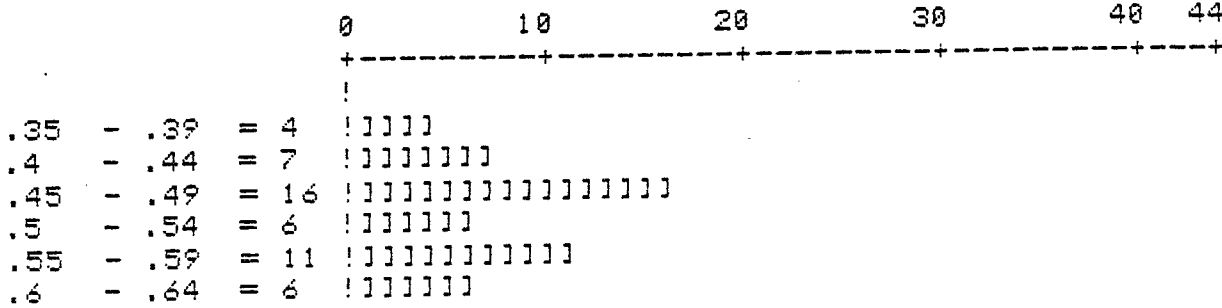
.35 - .39 = 4 !!!!!
 .4 - .44 = 15 !!!!!!!!!!!!!!!!!!!!!
 .45 - .49 = 13 !!!!!!!!!!!!!
 .5 - .54 = 5 !!!!!

FILE >> E00878 DESCRIPTION FOLLOWS :
 DEPTH 2305-2355M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.35	.38	.39	.39	.4	.4	.42	.43	.44	.44
1	.44	.45	.45	.45	.45	.45	.45	.45	.46	.47
2	.47	.47	.47	.48	.48	.48	.49	.5	.51	.51
3	.52	.52	.52	.53	.54	.57	.58	.58	.58	.58
4	.59	.59	.59	.59	.6	.6	.61	.61	.61	.64
5										

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 50
 MINIMUM = .35 MAXIMUM = .64 MEAN = .5
 STANDARD DEVIATION = .07

REFLECTOGRAM

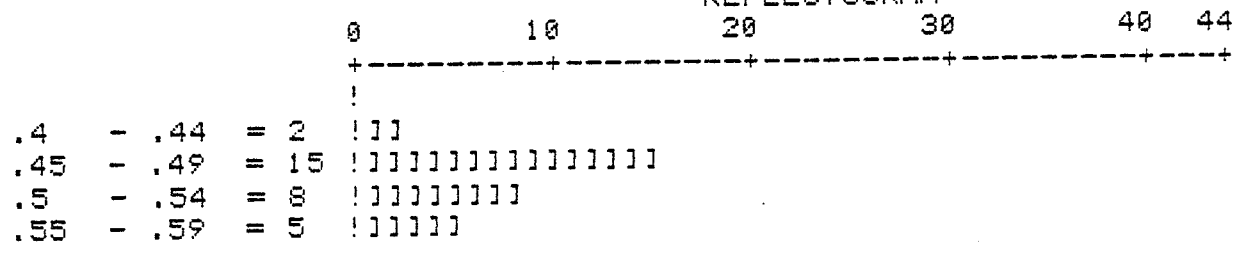


FILE >> E00870 DESCRIPTION FOLLOWS :
 DEPTH 2465-2525M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.4	.41	.45	.45	.46	.47	.48	.48	.48	.48
1	.49	.49	.49	.49	.49	.49	.49	.5	.51	.52
2	.52	.52	.53	.54	.54	.56	.56	.57	.57	.59
3										

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 30
 MINIMUM = .4 MAXIMUM = .59 MEAN = .5
 STANDARD DEVIATION = .04

REFLECTOGRAM

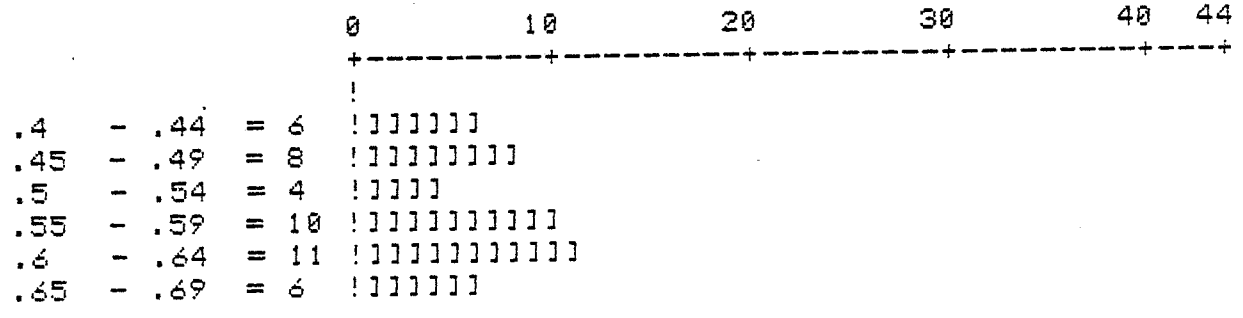


FILE >> E0088A DESCRIPTION FOLLOWS :
 DEPTH 2635-2685M, OLYMPIA A-12, MIKE AVERY, MAY-7-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.41	.42	.42	.43	.43	.43	.46	.47	.47	.47
1	.47	.48	.48	.49	.5	.5	.52	.53	.55	.56
2	.56	.57	.57	.57	.58	.58	.59	.59	.6	.6
3	.61	.61	.62	.63	.63	.63	.63	.64	.64	.65
4	.66	.67	.68	.68	.69					

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 45
 MINIMUM = .41 MAXIMUM = .69 MEAN = .56
 STANDARD DEVIATION = .08

REFLECTOGRAM

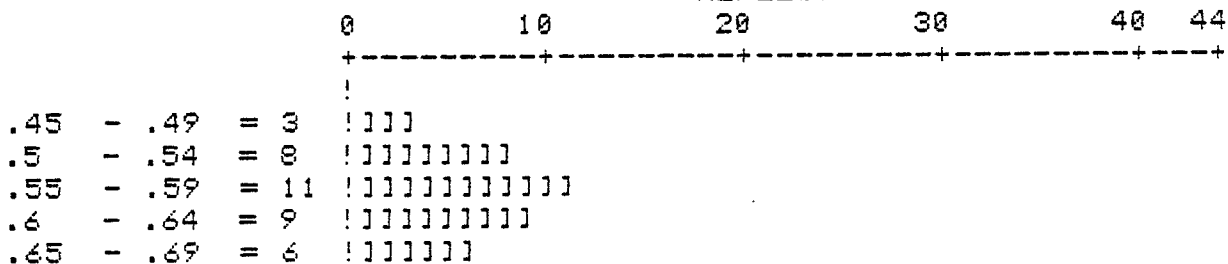


FILE >> E0088B DESCRIPTION FOLLOWS :
 DEPTH 2795-2845M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.46	.48	.48	.5	.51	.51	.52	.52	.54	.54
1	.54	.55	.55	.55	.55	.56	.57	.58	.58	.59
2	.59	.59	.6	.6	.6	.61	.61	.61	.62	.62
3	.63	.65	.66	.67	.67	.68	.68			

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 37
 MINIMUM = .46 MAXIMUM = .68 MEAN = .58
 STANDARD DEVIATION = .06

REFLECTOGRAM

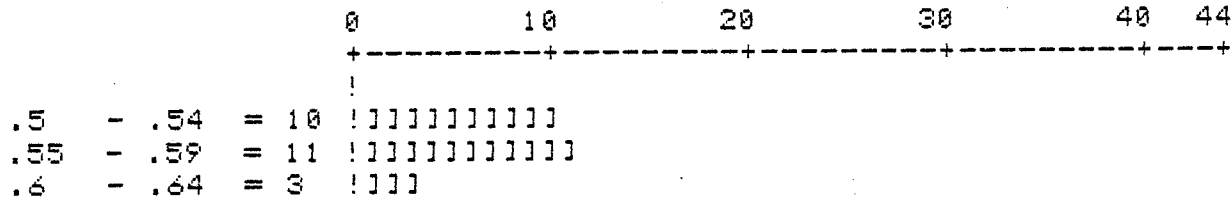


FILE >> E0088C DESCRIPTION FOLLOWS :
 DEPTH 2965-3015M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.5	.5	.5	.51	.52	.52	.52	.52	.54	.54
1	.55	.55	.55	.57	.57	.57	.57	.58	.58	.58
2	.59	.6	.61	.61						

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 24
 MINIMUM = .5 MAXIMUM = .61 MEAN = .55
 STANDARD DEVIATION = .04

REFLECTOGRAM

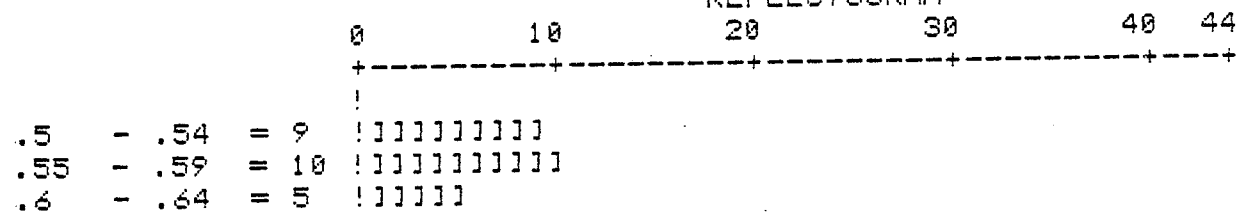


FILE >> E0089A DESCRIPTION FOLLOWS :
 - DEPTH 3085-3095M, OLYMPIA A-12, MIKE AVERY, MAY-8-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.51	.51	.53	.53	.53	.54	.54	.54	.54	.55
1	.56	.56	.57	.57	.58	.58	.58	.59	.59	.6
2	.61	.63	.63	.63						

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 24
 MINIMUM = .51 MAXIMUM = .63 MEAN = .57
 STANDARD DEVIATION = .04

REFLECTOGRAM

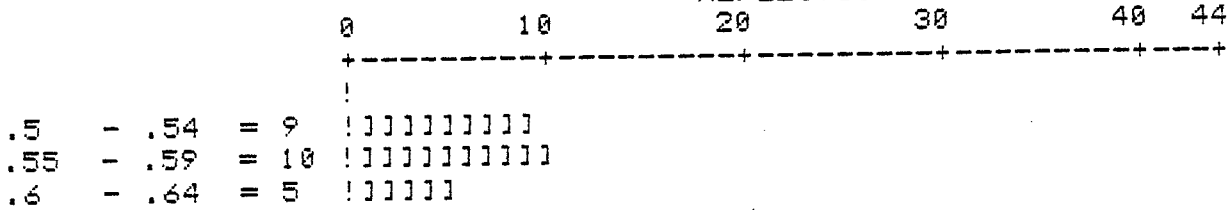


FILE >> E00988 DESCRIPTION FOLLOWS :
 DEPTH 3085-3095M, OLYMPIA A-12, MIKE AVERY, MAY-6-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.51	.51	.53	.53	.53	.54	.54	.54	.54	.55
1	.56	.56	.57	.57	.58	.58	.58	.59	.59	.6
2	.61	.63	.63	.63						

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 24
 MINIMUM = .51 MAXIMUM = .63 MEAN = .57
 STANDARD DEVIATION = .04

REFLECTOGRAM

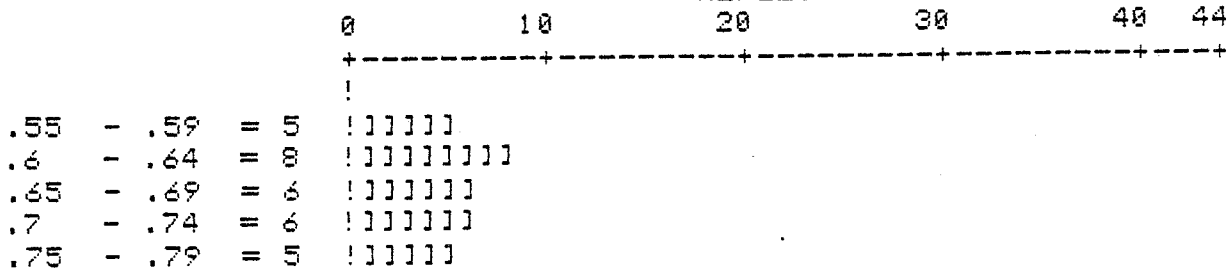


FILE >> E0089C DESCRIPTION FOLLOWS :
 DEPTH 3325-3375MM, OLYMPIA A-12, MIKE AVERY, MAY-9-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.55	.55	.56	.58	.58	.6	.6	.61	.61	.62
1	.63	.63	.64	.65	.66	.68	.69	.69	.69	.7
2	.7	.7	.71	.71	.73	.77	.77	.78	.78	.79
3										

H.V. = 418 GAIN = 1000 NUMBER OF MEASUREMENTS = 30
 MINIMUM = .55 MAXIMUM = .79 MEAN = .67
 STANDARD DEVIATION = .07

REFLECTOGRAM



FILE >> E0090A DESCRIPTION FOLLOWS :
 DEPTH 3445-3455M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.66	.67	.67	.68	.69	.69	.69	.7	.71	.72
1	.72	.72	.73	.73	.74	.75	.76	.76	.76	.76
2	.77	.78	.79							

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 23
 MINIMUM = .66 MAXIMUM = .79 MEAN = .72
 STANDARD DEVIATION = .04

REFLECTOGRAM

0 10 20 30 40 44

+-----+-----+-----+-----+-----+

.65 - .69 = 7 !!!!!!!!
 .7 - .74 = 8 !!!!!!!!
 .75 - .79 = 8 !!!!!!!!

FILE >> E00908 DESCRIPTION FOLLOWS ;
 DEPTH 3565-3575M, OLYMPIA A-12, MIKE AVERY, MAY-10-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.61	.64	.65	.65	.67	.67	.68	.68	.69	.69
1	.7	.7	.7	.71	.72	.72	.73	.73	.74	.75
2	.77	.77	.77	.77	.78	.78	.78	.79	.79	.79
3	.81	.81	.82	.83						

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 34
 MINIMUM = .61 MAXIMUM = .83 MEAN = .73
 STANDARD DEVIATION = .06

REFLECTOGRAM



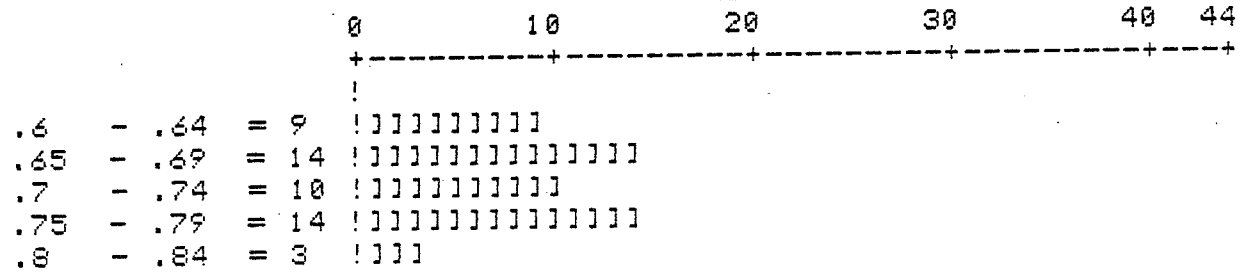
.6	-	.64	=	2	!]]
.65	-	.69	=	8	!]]]]]]]]]]
.7	-	.74	=	9	!]]]]]]]]]]]]
.75	-	.79	=	11	!]]]]]]]]]]]]]]]]]]]]
.8	-	.84	=	4	!]]]]]]

FILE >> E0091A DESCRIPTION FOLLOWS :
 DEPTH 3840-3850M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.6	.61	.62	.62	.63	.63	.64	.64	.64	.65
1	.65	.65	.65	.66	.67	.68	.68	.68	.68	.68
2	.69	.69	.69	.7	.71	.72	.72	.72	.72	.72
3	.72	.73	.73	.75	.75	.75	.75	.76	.76	.76
4	.76	.76	.77	.77	.78	.79	.79	.81	.83	.83
5										

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 50
 MINIMUM = .6 MAXIMUM = .83 MEAN = .71
 STANDARD DEVIATION = .06

REFLECTOGRAM

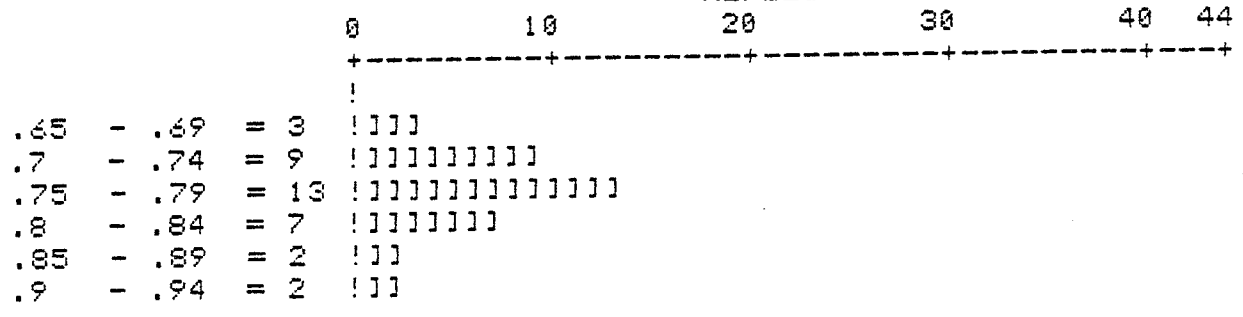


FILE >> E0091C DESCRIPTION FOLLOWS :
 DEPTH 4130-4175M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.69	.69	.69	.7	.7	.7	.71	.71	.71	.71
1	.71	.74	.75	.76	.76	.76	.76	.77	.77	.78
2	.78	.78	.78	.79	.79	.8	.8	.8	.8	.81
3	.82	.83	.85	.86	.9	.91				

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 36
 MINIMUM = .69 MAXIMUM = .91 MEAN = .77
 STANDARD DEVIATION = .06

REFLECTOGRAM

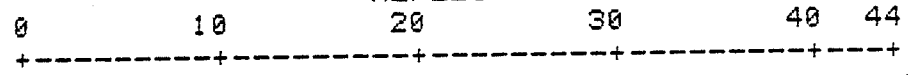


FILE >> E00928 DESCRIPTION FOLLOWS :
 DEPTH 4365-4415M, OLYMPIA A-12, MIKE AVERY, MAY-10-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.75	.75	.76	.76	.76	.77	.77	.77	.78	.78
1	.79	.79	.81	.81	.81	.82	.83	.83	.83	.84
2	.84	.84	.84	.85	.87	.87	.87	.88	.88	.88
3	.88	.88	.88	.88	.89	.89	.89			

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 37
 MINIMUM = .75 MAXIMUM = .89 MEAN = .83
 STANDARD DEVIATION = .05

REFLECTOGRAM



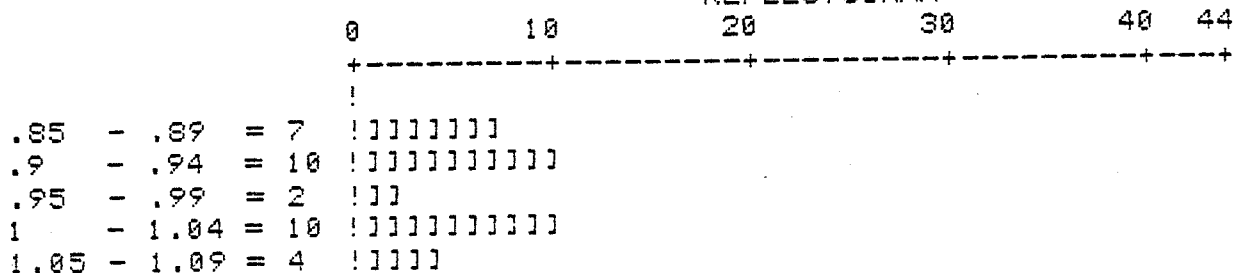
.75 - .79 = 12 !!!!!!!!!!!!!!!!!!!!!
 .8 - .84 = 11 !!!!!!!!!!!!!!!!!!!!!
 .85 - .89 = 14 !!!!!!!!!!!!!!!!!!!!!

FILE >> E0093A DESCRIPTION FOLLOWS :
 -- DEPTH 4605-4655M, OLYMPIA A-12, MIKE AVERY, MAY-10-64

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.87	.88	.88	.88	.89	.89	.89	.9	.91	.91
1	.91	.92	.92	.93	.93	.93	.94	.97	.97	1
2	1.01	1.02	1.02	1.02	1.03	1.03	1.03	1.04	1.05	1.06
3	1.07	1.07	1.08							

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 33
 -- MINIMUM = .87 MAXIMUM = 1.08 MEAN = .97
 STANDARD DEVIATION = .07

REFLECTOGRAM



FILE >> E0093B DESCRIPTION FOLLOWS :
 DEPTH 4725-4735M, OLYMPIA A-12, MIKE AVERY, MAY-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	.85	.85	.85	.86	.89	.9	.9	.9	.9	.9
1	.92	.92	.92	.93	.93	.94	.94	.94	.94	.95
2	.95	.95	.96	.97	.97	.97	.97	.97	.97	.98
3	.99	.99	1	1	1	1.01	1.02	1.03	1.04	1.04
4	1.05	1.05	1.05	1.09						

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 44
 MINIMUM = .85 MAXIMUM = 1.09 MEAN = .96
 STANDARD DEVIATION = .06

REFLECTOGRAM

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

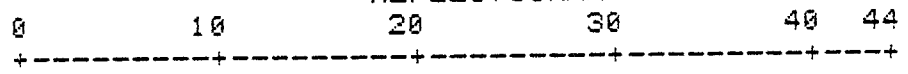
.85 - .89 = 5 !!!!!
 .9 - .94 = 14 !!!!!!!!!!!!!
 .95 - .99 = 13 !!!!!!!!!!!!!
 1 - 1.04 = 11 !!!!!!!!!!!!!
 1.05 - 1.09 = 1 !!

FILE >> E00930 DESCRIPTION FOLLOWS :
 DEPTH 4885-4935M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.05	1.07	1.07	1.08	1.1	1.12	1.12	1.14	1.14	1.14
1	1.14	1.15	1.16	1.17	1.18	1.19	1.2	1.2	1.22	1.22
2	1.24	1.24	1.25	1.25	1.26	1.26	1.3	1.3	1.3	1.31
3	1.32	1.36								

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 32
 MINIMUM = 1.05 MAXIMUM = 1.36 MEAN = 1.2
 STANDARD DEVIATION = .08

REFLECTOGRAM



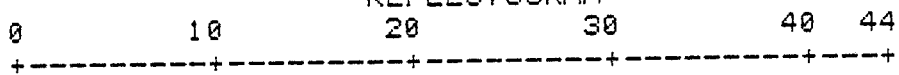
1 - 1.04 = 1 []
 1.05 - 1.09 = 3 []]]
 1.1 - 1.14 = 7 []]]]]]]]]
 1.15 - 1.19 = 5 []]]]]]
 1.2 - 1.24 = 6 []]]]]]]
 1.25 - 1.29 = 4 []]]]]
 1.3 - 1.34 = 5 []]]]]]
 1.35 - 1.39 = 1 []]

FILE >> E0094A DESCRIPTION FOLLOWS :
 DEPTH 5005-5055M, OLYMPIA A-12, MIKE AVERY, MAY-17-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.1	1.11	1.11	1.11	1.12	1.12	1.13	1.15	1.16	1.16
1	1.17	1.17	1.17	1.18	1.18	1.18	1.18	1.19	1.19	1.19
2	1.19	1.19	1.19	1.21	1.21	1.23	1.23	1.24	1.25	1.25
3	1.25	1.25	1.25	1.26	1.26	1.26	1.27	1.28	1.28	1.29
4	1.29	1.29	1.31	1.31	1.32	1.34				

H.V. = 381 GAIN = 1000 NUMBER OF MEASUREMENTS = 46
 MINIMUM = 1.1 MAXIMUM = 1.34 MEAN = 1.21
 STANDARD DEVIATION = .06

REFLECTOGRAM



1.1 - 1.14 = 7 [|||||]
 1.15 - 1.19 = 16 [|||||]
 1.2 - 1.24 = 5 [|||||]
 1.25 - 1.29 = 14 [|||||]
 1.3 - 1.34 = 4 [|||||]

FILE >> E00948 DESCRIPTION FOLLOWS :
 DEPTH 5125-5165M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.13	1.14	1.15	1.18	1.18	1.22	1.22	1.3	1.32	1.33
1	1.35	1.35	1.36	1.38	1.4	1.42	1.44	1.48	1.49	

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 19
 MINIMUM = 1.13 MAXIMUM = 1.49 MEAN = 1.31
 STANDARD DEVIATION = .12

REFLECTOGRAM

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

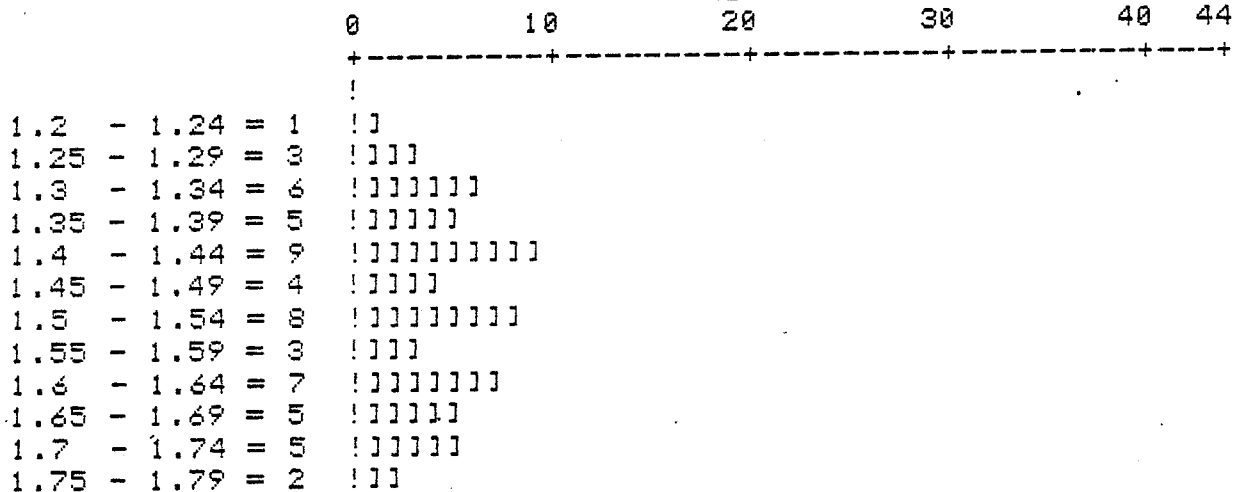
1.1 - 1.14 = 2 !]]
 1.15 - 1.19 = 3 !]]]
 1.2 - 1.24 = 2 !]]
 1.25 - 1.29 = 0 !
 1.3 - 1.34 = 3 !]]]
 1.35 - 1.39 = 4 !]]]]
 1.4 - 1.44 = 3 !]]]
 1.45 - 1.49 = 2 !]]

FILE >> E0095A DESCRIPTION FOLLOWS :
 DEPTH 5405-5415M, OLYMPIA A-12, MIKE AVERY, MAY-11-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.22	1.27	1.27	1.27	1.31	1.31	1.33	1.33	1.34	1.34
1	1.35	1.37	1.38	1.39	1.39	1.4	1.41	1.41	1.41	1.42
2	1.44	1.44	1.44	1.44	1.45	1.46	1.47	1.47	1.51	1.52
3	1.52	1.53	1.53	1.54	1.54	1.54	1.55	1.57	1.59	1.6
4	1.61	1.62	1.63	1.63	1.64	1.64	1.65	1.65	1.67	1.67
5	1.69	1.73	1.74	1.74	1.74	1.74	1.77	1.78		

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 58
 MINIMUM = 1.22 MAXIMUM = 1.78 MEAN = 1.51
 STANDARD DEVIATION = .15

REFLECTOGRAM

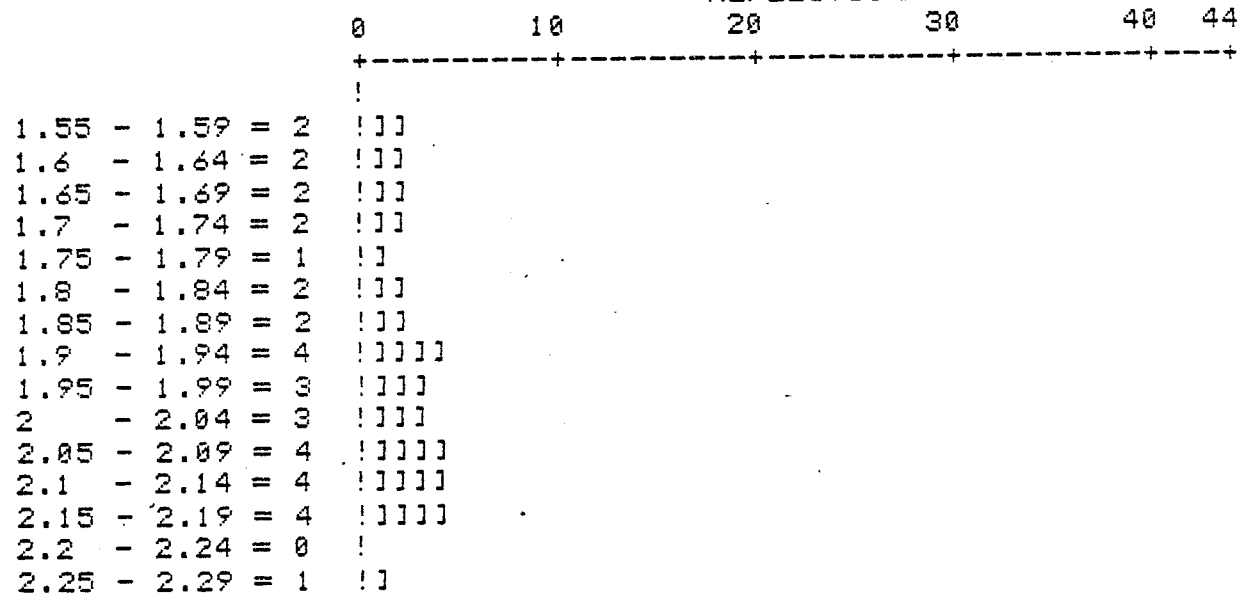


FILE >> E0095C DESCRIPTION FOLLOWS :
 DEPTH 5685-5735M, OLYMPIA A-12, MIKE AVERY, MAY-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	1.55	1.58	1.6	1.63	1.66	1.69	1.74	1.74	1.76	1.81
1	1.84	1.86	1.89	1.91	1.91	1.94	1.94	1.97	1.98	1.99
2	2	2	2.02	2.05	2.09	2.1	2.1	2.11	2.12	2.13
3	2.13	2.17	2.17	2.18	2.19	2.28				

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 36
 MINIMUM = 1.55 MAXIMUM = 2.28 MEAN = 1.94
 STANDARD DEVIATION = .2

REFLECTOGRAM

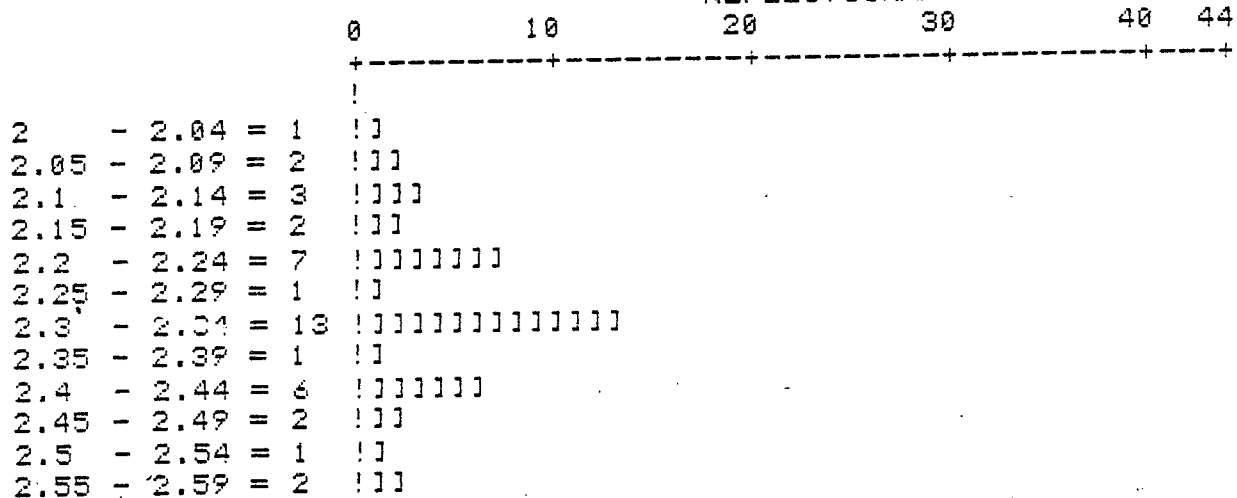


FILE >> E00968 DESCRIPTION FOLLOWS :
 DEPTH 5915-5950M, OLYMPIA A-12, MIKE AVERY, MAY-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	2.01	2.05	2.09	2.11	2.14	2.14	2.15	2.18	2.2	2.21
1	2.22	2.22	2.22	2.24	2.24	2.25	2.3	2.31	2.31	2.32
2	2.33	2.33	2.33	2.34	2.34	2.34	2.34	2.35	2.35	2.38
3	2.4	2.41	2.41	2.41	2.44	2.44	2.46	2.49	2.53	2.55
4	2.56									

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 41
 MINIMUM = 2.01 MAXIMUM = 2.56 MEAN = 2.3
 STANDARD DEVIATION = .13

REFLECTOGRAM



FILE >> E0096C DESCRIPTION FOLLOWS :
 DEPTH 6020-6060M, OLYMPIA A-12, MIKE AVERY, MAY-15-84

COL>	1	2	3	4	5	6	7	8	9	0
ROW	2.2	2.21	2.21	2.24	2.25	2.25	2.27	2.27	2.29	2.3
1	2.3	2.3	2.3	2.31	2.34	2.34	2.35	2.35	2.36	2.37
2	2.37	2.38	2.41	2.42	2.42	2.42	2.43	2.43	2.43	2.43
3	2.43	2.44	2.44	2.44	2.45	2.45	2.46	2.46	2.47	2.47
4	2.47	2.47	2.48	2.48	2.48	2.49	2.5	2.51	2.52	2.52
5	2.53	2.54	2.55	2.56	2.56	2.57	2.58	2.58	2.59	2.61
6	2.61	2.62	2.62	2.63	2.64	2.64	2.65	2.67	2.68	2.69
7	2.69	2.72	2.74							

H.V. = 385 GAIN = 1000 NUMBER OF MEASUREMENTS = 73
 MINIMUM = 2.2 MAXIMUM = 2.74 MEAN = 2.46
 STANDARD DEVIATION = .14

REFLECTOGRAM

