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report # 2671

Vitrinite reflectance (Ro)
of dispersed organics
from
Mobil et al. Hebron I-13

Report No. EPGS-DOM.1-93MPA

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Vitrinite reflectance (Ro) of dispersed organics from Mobil et al. Hebron I-13.

G.S.C. Locality No.: D196

Location: 46°32'33.95"N, 48°31'45.47"W

R.T. Elevation: 27.3m

Water Depth: 121.3m

Total Depth: 4723m

Sampled Interval: 490 - 4723m

Interval Studied: 490 - 4490m

Depth Units: Metres referenced to R.T.

Rig Release Date: September 13, 1981

Vitrinite reflectance has been determined on 18 rotary cuttings samples and 7 sidewall core samples (Table II, Figure 1) from Mobil et al. Hebron I-13. The well was classified as a new field wildcat and is located on the Grand Banks approximately 335 km east southeast of St. John's, Newfoundland. Well status is plugged and abandoned, oil well.

Sample preparation followed the procedures listed in Appendix I. Data acquisition and manipulation for this report utilized the Zeiss Photometer III system with a custom interface to a microcomputer which provides reliable data acquisition and immediate statistical summaries.

The analysis of the well revealed the thermal maturation intervals given in Table I. The specific maturation levels, as set out in this report, are based on those of Dow (1977) with modified terminology (Appendix II).

Table I
Inferred Thermal Maturation Levels*

121m (sea floor)	0.23	% Ro	immature
1884m	0.4	% Ro	immature approaching maturity
2638m	0.5	% Ro	marginally mature
3255m	0.6	% Ro	onset of significant oil generation
4228m	0.8	% Ro	peak of oil generation
4983m	(1.0)	% Ro	onset of significant wet gas generation
5600m	(1.2)	% Ro	onset of significant dry gas generation
5998m	(1.35)	% Ro	oil floor
7328m	(2.0)	% Ro	wet gas preservation limit
8699m	(3.0)	% Ro	dry gas preservation limit
4723m (T.D.)	0.93	% Ro	maturity at total depth

Note: ()'s indicate Ro has been extrapolated at 0.128 log Ro/km

* Maturation levels are generalized for all types of organic matter. Actual hydrocarbon products depend on type of organic matter present.

Discussion

A vitrinite reflectance report for this well was previously prepared by a contractor (Ervin, 1993). Because of sample availability at the time of that report only two data points could be determined below 2005m. When more samples became available a new set of vitrinite reflectance determinations were made. This new analysis yielded a lower maturation gradient especially for the lower section of the well (Figure 3).

Sample coverage for vitrinite reflectance analysis (Figure 1, Table II) was very good over the section penetrated by Hebron I-13. Samples were obtained from seven sidewall core sections. These provided good control in determining the maturation trend since the significant problem of contamination from cavings is greatly reduced. The data were plotted on a log Ro vs. linear depth scale and a linear regression line was calculated by the least squares method (Figure 1). The 'error bars' plotted on the maturation profile indicate one standard deviation on either side of the mean and may be deceptively small for samples with very few readings. The slope of the maturation line is 0.128 log Ro/km.

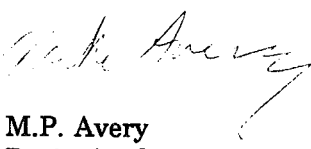
Selection of the reflectance population which represents the maturation of the sediments was aided by the histogram display plot (Figure 2). Plotting the histograms on a log reflectance scale helps reveal linear trends in the Ro data (Dow 1977). It also can demonstrate the effects of cavings, geology, casing points and other factors on the vitrinite reflectance populations.

These vitrinite reflectance data provide evidence that the thermal regime at Hebron I-13, between 2638 and 4723m (T.D.), is suitable for the generation and preservation of hydrocarbons (oil) assuming potential source rocks and traps are present.

References

- Dow, W.G., 1977. Kerogen studies and geological interpretations. *Journal of Geochemical Exploration*, no. 7, p. 77-99
- Ervin, W.B., 1984. Vitrinite reflectance (Ro) on the dispersed organics in Mobil Hebron I-13. Unpublished internal report, EPGs-DOM.11-84WBE.
- McAlpine, K.D., 1990. Lithostratigraphy of fifty-nine wells, Jeanne d'Arc Basin; Geological Survey of Canada, Open File 2201, 97.

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Table II

Summary of kerogen - based vitrinite reflectance

Seq. #	Sample Labels	Depths in metres	Mean Ro (SD) non-rotated	Number of Readings	
				Total	Edited
1	K0540A	490-500	0.22 (±.03)	20	18
2	K0126A	600-610	0.22 (±.04)	15	15
3	K0540B	770-780	0.28 (±.04)	12	12
4	K0126B	1050-1060	0.36 (±.04)	17	17
5	K0127A	1260-1270	0.38 (±.05)	20	20
6	K0127C	1590-1600	0.40 (±.04)	22	22
7	K0128A	1770-1780	0.45 (±.04)	30	17
8	K0603A	1928.00	0.40 (±.08)	15	12
9	K0603B	2027.00	0.42 (±.07)	7	7
10	K0603C	2108.00	0.37 (±.04)	25	19
11	K0604A	2150-2165	0.43 (±.08)	42	42
12	K0540C	2185-2195	0.54 (±.08)	26	22
13	K0604B	2263-2315	0.45 (±.06)	39	33
14	K0604C	2410-2420	0.52 (±.05)	27	19
15	K0605A	2510.00	0.41 (±.04)	23	21
16	K0541B	2625-2635	0.56 (±.10)	30	24
17	K0129A	2785-2795	0.58 (±.08)	19	19
18	K0541C	2975-2985	0.56 (±.04)	13	10
19	K0542A	3185-3195	0.57 (±.06)	38	38
20	K0542B	3390-3400	0.58 (±.05)	31	29
21	K0542C	3600-3610	0.66 (±.06)	28	27
22	K0543A	3800-3810	0.70 (±.06)	16	16
23	K0543B	4000-4010	0.68 (±.05)	37	37
24	K0129B	4175-4185	0.81 (±.10)	29	27
25	K0543C	4480-4490	0.81 (±.05)	17	12

Note: All samples are kerogen concentrate preparations.
 Samples with K06xxx labels were obtained from SWC (side wall core). SWC samples which have a depth range were made by combining more than one SWC sample.

Table III

Formation Tops (McAlpine, 1990)

Formation	Depths
Banquereau	in casing
South Mara unit	1344m
Dawson Canyon	1448m
Petrel Member	1695-1700m
Nautilus Shale	1705m
Ben Nevis	1860m
Avalon	1926m
Eastern Shoals	1990m
WhiteRose Shale	2092m
Catalina	2648m
"B" Marker	2830m
Hibernia	2887m
Hebron Well Mbr	2887-3098m
Fortune Bay Shale	3490m
Jeanne d'Arc	3770m
Rankin	4423m
Total Depth	4723m

Vitrinite Reflectance

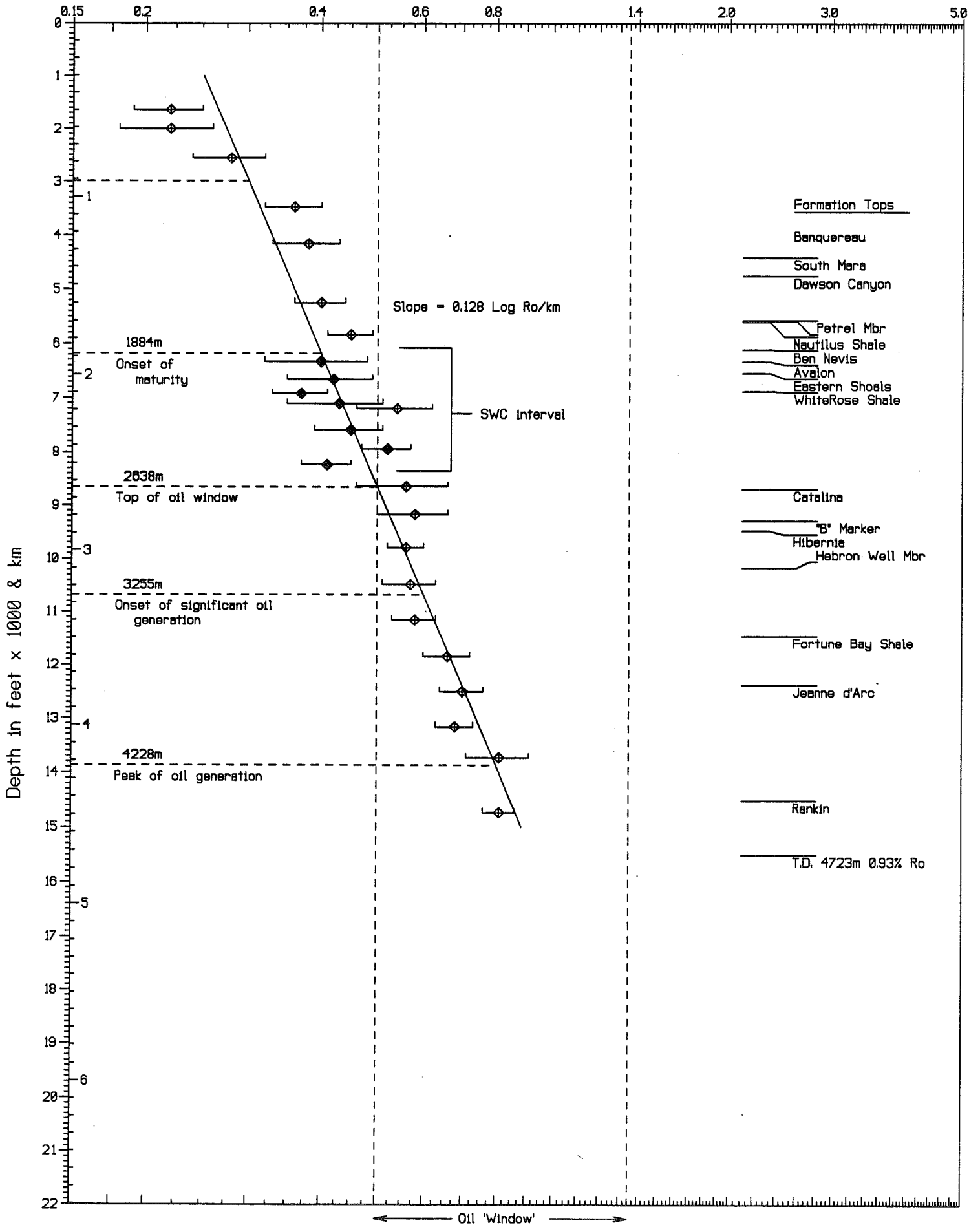


Fig. 1 Hebron I-13

Vitrinite Reflectance

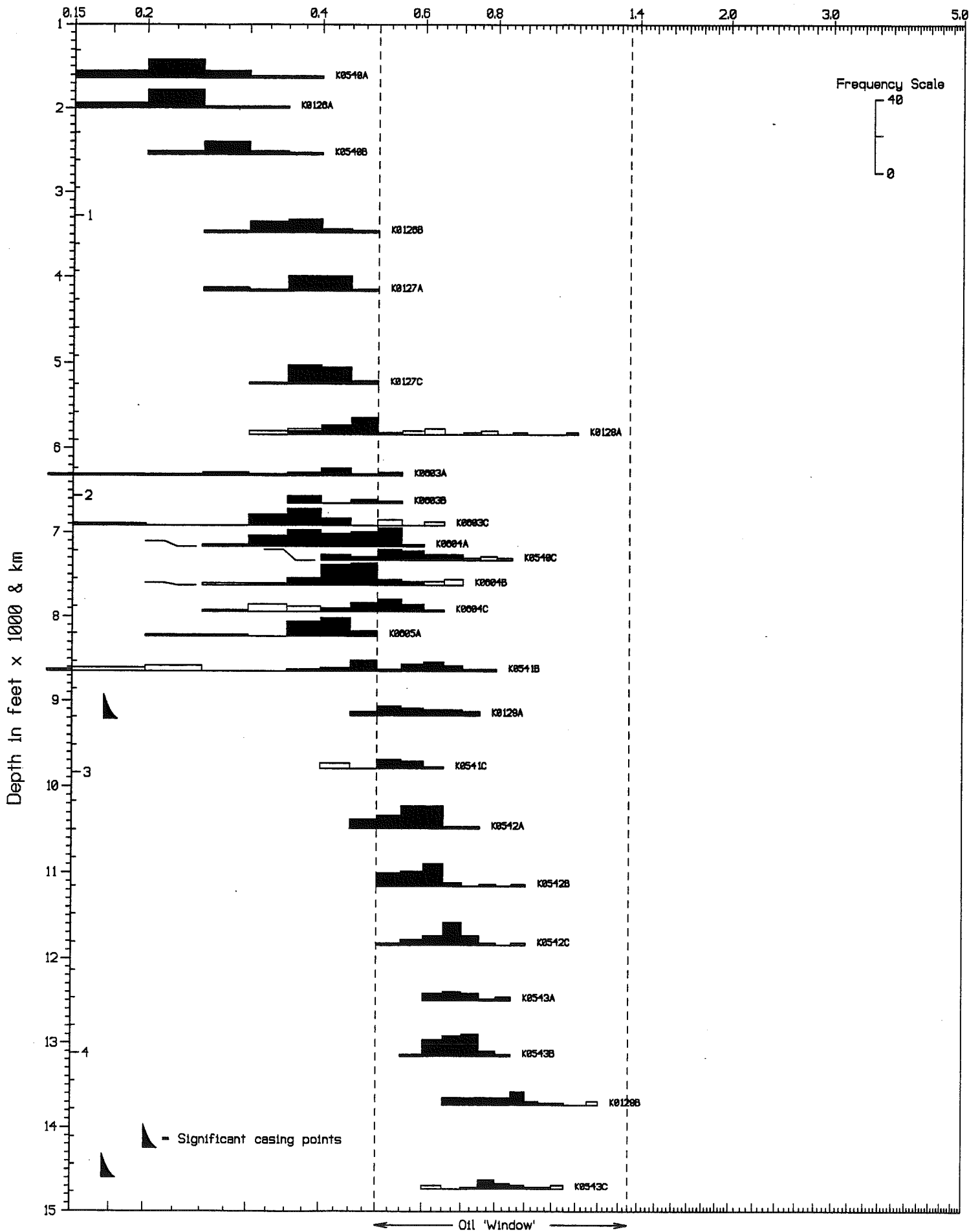


Fig. 2 Hebron I-13 <Histograms>

APPENDIX I

Sample Preparation Method

Kerogen Concentrate

Preliminary wash (preparation for cuttings)

Dry samples in oven

Split: a. all of coarse to Petrology Lab
b. ½ 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:

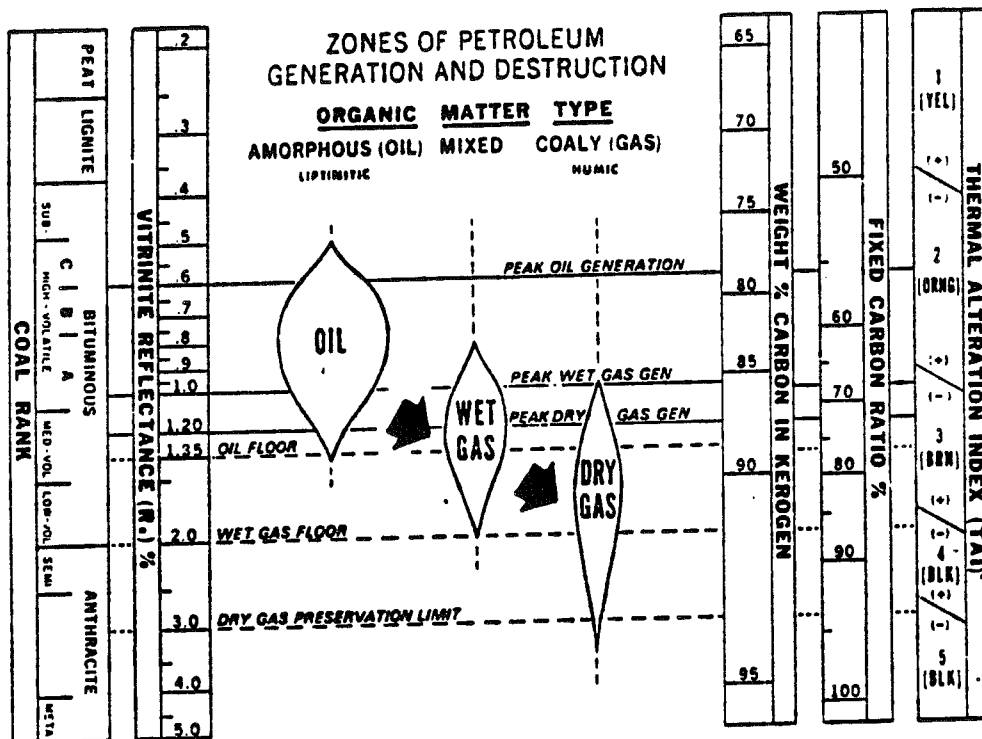
PALYNOLOGY Lab preparation

Place 20-30 grams 250 ml plastic beaker.
Add 10% HC1 till reaction ceases (removes carbonates).
Wash (rinsed) 3 times.
Conc. HF overnight (removes silicates).
Wash (rinsed) 3 times.
Heat (60-65°C) conc. HC1 (remove fluorides caused by HF).
Wash 3 times.
Transfer to 15 ml test tube with 4-5 ml 4% Alconox.
Differential centrifuge at 1500 rpm for 90 sec.
Decant.
Wash 3 times with centrifuging.
Float off organic fraction using 2.0 S.G. Znbr solution.
Centrifuge 1000 rpm, 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

Pipette off excess water and place in plastic stubs (made to fit polisher).
Freeze dry and fix material for polishing with epoxy resin (Struer's EPOFIX).
Polish with diamond based suspension to obtain low relief, scratch free surface.
Examine under oil lens, incident light at approximately 1000x mag'n.

Appendix II (Dow, 1977)



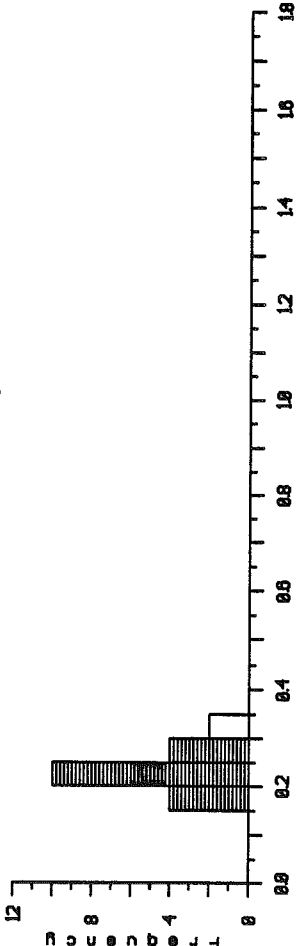
Note: In this report, the terminology used to describe the various maturation levels has been modified. The 'peak' designation, as used in this figure, has been changed to 'onset of significant' and 0.8 Ro is here used as the 'peak of oil generation'

Appendix III
Reflectance Histograms

K0540A, 490-500M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.18<	0.18<	0.18<	0.19<	0.20<	0.20<	0.21<	0.21<	0.21<	0.22<
1	0.23<	0.24<	0.24<	0.24<	0.25<	0.25<	0.25<	0.25<	0.31	0.35
2										

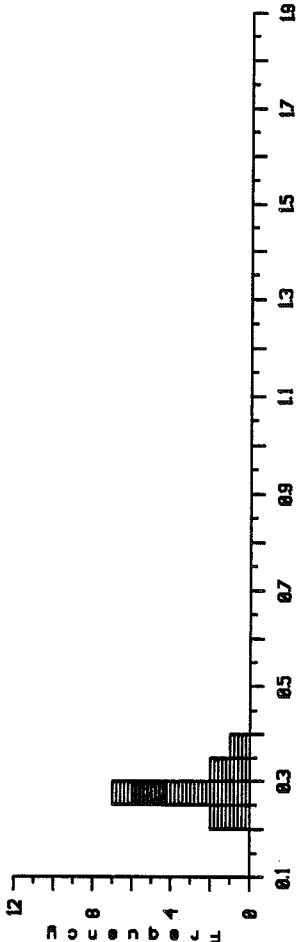
Total	Mean	Stand Dev	Pts	Min	Max	Sum
EditK	0.22	0.03	18	0.18	0.25	3.93



K0540B, 770-780M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.23<	0.23<	0.25<	0.26<	0.27<	0.28<	0.28<	0.28<	0.28<	0.30<
1	0.31<	0.37<								

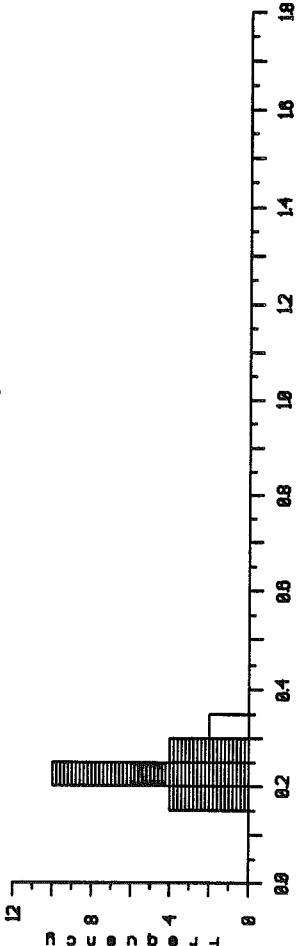
Total	Mean	Stand Dev	Pts	Min	Max	Sum
EditK	0.28	0.04	12	0.23	0.37	3.36
	0.28	0.04	12	0.23	0.37	3.36



K0540A, 490-500M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.17<	0.19<	0.19<	0.20<	0.20<	0.20<	0.20<	0.21<	0.21<	0.22<
1	0.23<	0.23<	0.24<	0.27<	0.31<					

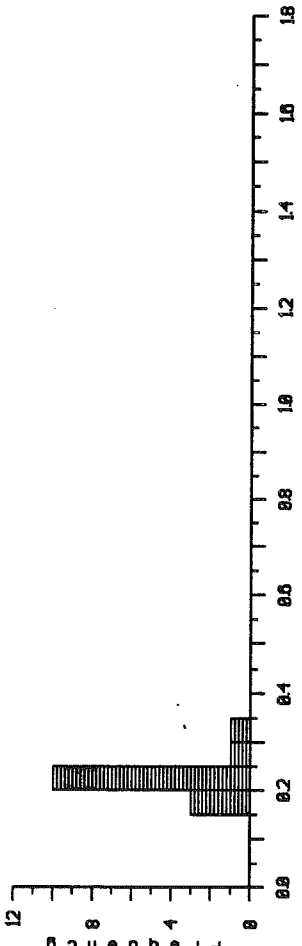
Total	Mean	Stand Dev	Pts	Min	Max	Sum
EditK	0.22	0.04	15	0.17	0.31	3.26
	0.22	0.04	15	0.17	0.31	3.26



K0126A, 600-610M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.17<	0.19<	0.19<	0.20<	0.20<	0.20<	0.20<	0.21<	0.21<	0.22<
1	0.23<	0.23<	0.24<	0.27<	0.31<					

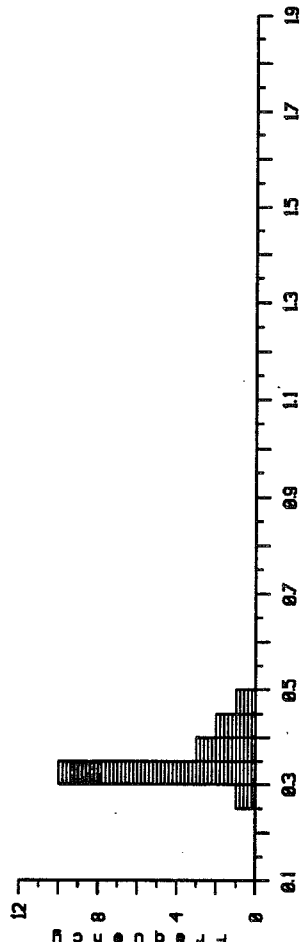
Total	Mean	Stand Dev	Pts	Min	Max	Sum
EditK	0.22	0.04	15	0.17	0.31	3.26
	0.22	0.04	15	0.17	0.31	3.26



K0126B, 1050-1060M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.27<	0.32<	0.33<	0.34<	0.34<	0.34<	0.34<	0.35<	0.35<	0.35<
1	0.35<	0.37<	0.39<	0.39<	0.40<	0.40<	0.46<	0.46<		

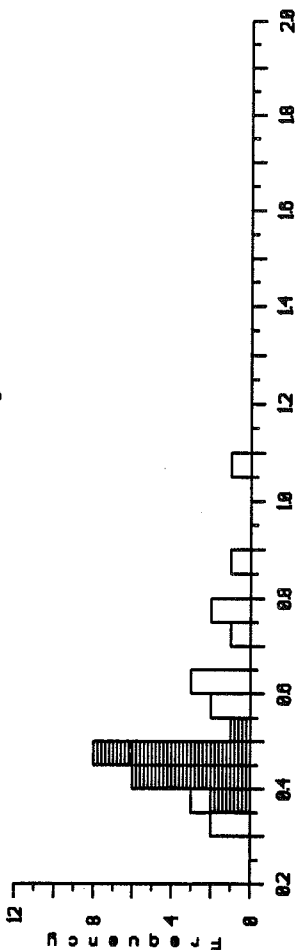
Total	Mean	Stand Dev	Pts	Min	Max	Sum
EditK	0.36	0.04	17	0.27	0.46	0.89
	0.36	0.04	17	0.27	0.46	0.89



K0128A, 1778-1788M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.31	0.34	0.36	0.39<	0.39<	0.48<	0.48<	0.43<	0.44<	0.44<
1	0.45<	0.47<	0.47<	0.47<	0.48<	0.48<	0.48<	0.49<	0.49<	0.58<
2	0.50	0.50	0.60	0.60	0.61	0.74	0.76	0.79	0.88	1.00
3										

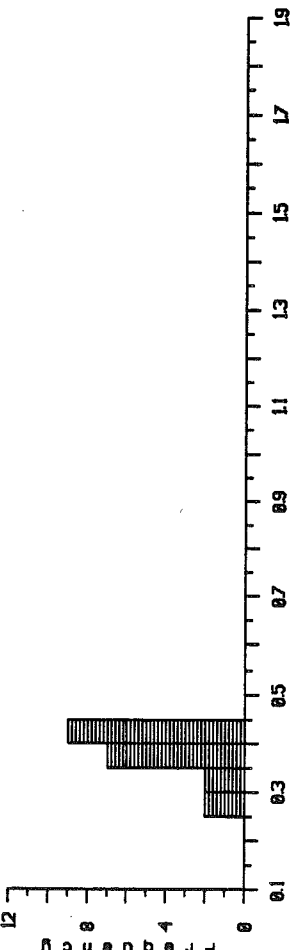
Mean	Stand Dev	Pts	Min	Max	Sum
Total	0.53	36	0.31	1.69	15.90
Edit<	0.45	17	0.39	0.58	7.78



K0127A, 1288-1270M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.28<	0.28<	0.31<	0.35<	0.36<	0.36<	0.37<	0.38<	0.38<	0.45<
1	0.38<	0.40<	0.40<	0.40<	0.40<	0.41<	0.43<	0.44<	0.44<	0.45<
2										

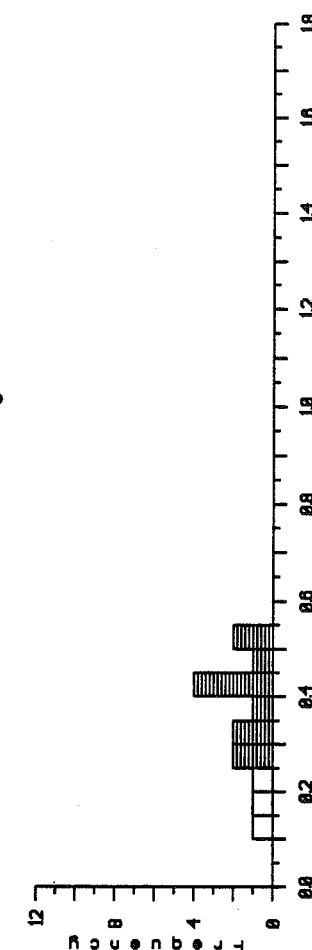
Mean	Stand Dev	Pts	Min	Max	Sum
Total	0.38	28	0.26	0.45	7.56
Edit<	0.38	20	0.26	0.45	7.56



K0083A, 1928-08M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.14	0.19	0.23	0.26<	0.28<	0.32<	0.35<	0.37<	0.41<	0.42<
1	0.44<	0.44<	0.49<	0.50<	0.50<	0.50<	0.50<	0.50<	0.50<	0.50<
2										

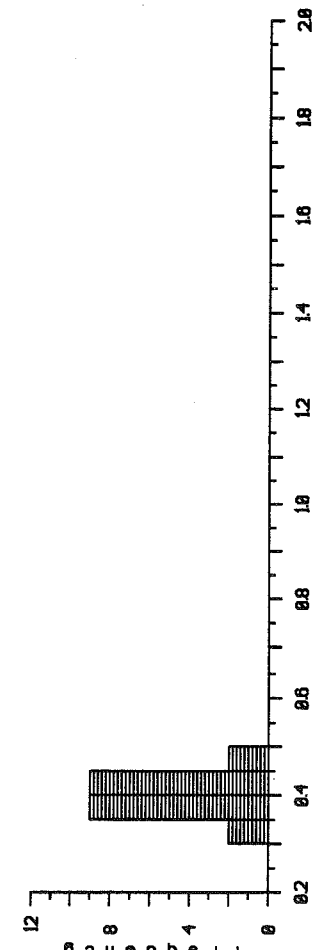
Mean	Stand Dev	Pts	Min	Max	Sum
Total	0.36	15	0.14	0.58	5.34
Edit<	0.40	12	0.26	0.58	4.78



K0127C, 1598-1600M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.32<	0.35<	0.36<	0.37<	0.38<	0.38<	0.38<	0.39<	0.39<	0.41<
1	0.38<	0.40<	0.41<	0.41<	0.41<	0.42<	0.42<	0.43<	0.43<	0.44<
2	0.40<	0.40<	0.48<	0.48<	0.48<	0.48<	0.48<	0.48<	0.48<	0.48<

Mean	Stand Dev	Pts	Min	Max	Sum
Total	0.40	22	0.32	0.48	8.80
Edit<	0.40	22	0.32	0.48	8.80

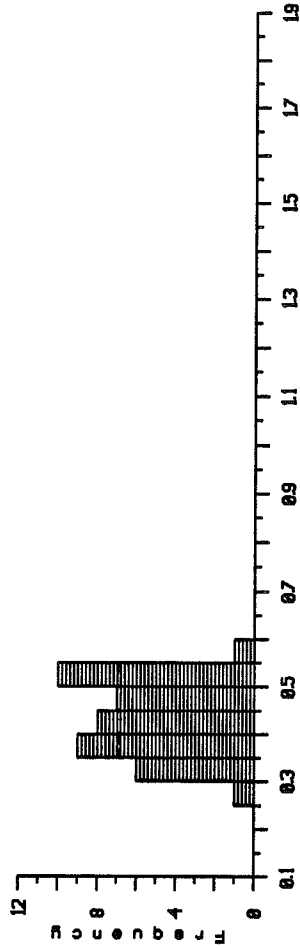


K0661A, 2150-2165M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.25<	0.32<	0.33<	0.33<	0.34<	0.34<	0.34<	0.36<	0.37<	0.37<
1	0.37<	0.38<	0.38<	0.38<	0.38<	0.38<	0.41<	0.41<	0.43<	0.43<
2	0.43<	0.43<	0.44<	0.45<	0.46<	0.46<	0.46<	0.46<	0.47<	0.49<
3	0.48<	0.50<	0.51<	0.51<	0.53<	0.53<	0.54<	0.54<	0.54<	0.54<
4	0.54<	0.58<								

Total	Mean	Stand Dev	Pts	Min	Max	Sum
42	0.43	0.08	42	0.25	0.56	18.18
18.18	0.43	0.08		0.25	0.56	18.18

Reflectance Histogram

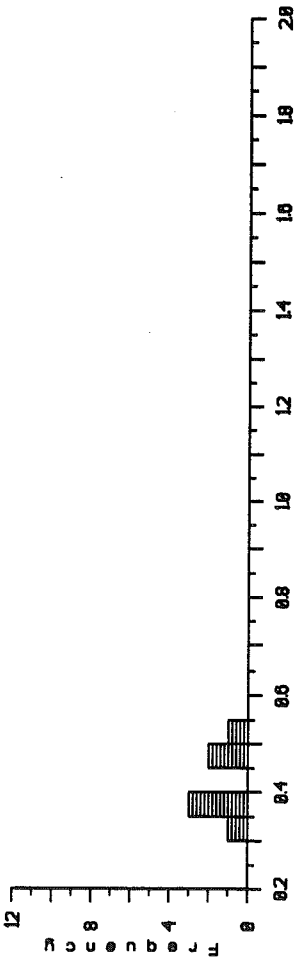


K0663B, 2027.00M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.35<	0.38<	0.38<	0.38<	0.46<	0.48<	0.53<			

Total	Mean	Stand Dev	Pts	Min	Max	Sum
7	0.42	0.07	7	0.35	0.53	2.98
2.98	0.42	0.07		0.35	0.53	2.98

Reflectance Histogram

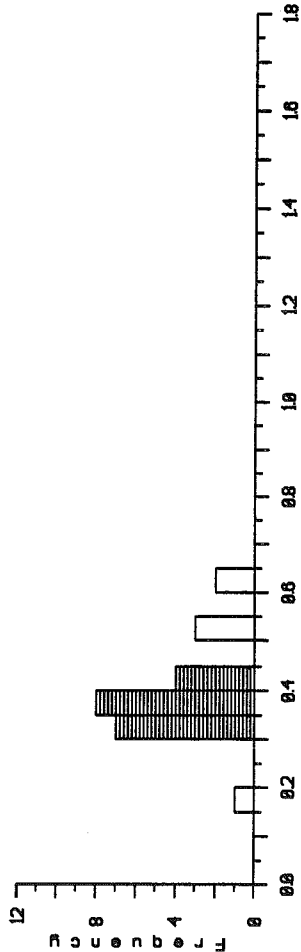


K0663C, 2100.00M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.17	0.31<	0.31<	0.33<	0.34<	0.34<	0.34<	0.36<	0.36<	0.36<
1	0.37<	0.38<	0.38<	0.39<	0.39<	0.39<	0.42<	0.42<	0.43<	0.44<
2	0.50	0.52	0.53	0.60	0.62					

Total	Mean	Stand Dev	Pts	Min	Max	Sum
19	0.40	0.10	19	0.17	0.62	9.99
7.85	0.37	0.04		0.31	0.44	7.85

Reflectance Histogram

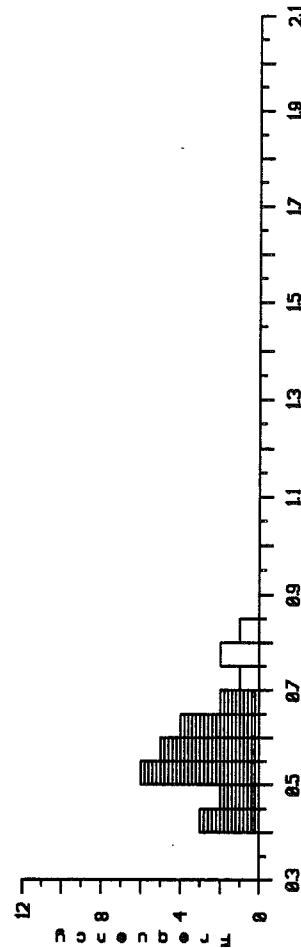


K0510C, 2165-2165M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.42<	0.42<	0.43<	0.46<	0.47<	0.50<	0.51<	0.51<	0.53<	0.54<
1	0.51<	0.53<	0.55<	0.55<	0.58<	0.59<	0.60<	0.62<	0.63<	0.65<
2	0.66<	0.67<	0.73	0.77	0.79	0.80				

Total	Mean	Stand Dev	Pts	Min	Max	Sum
22	0.58	0.11	22	0.42	0.80	15.07
11.98	0.54	0.08		0.42	0.87	11.98

Reflectance Histogram

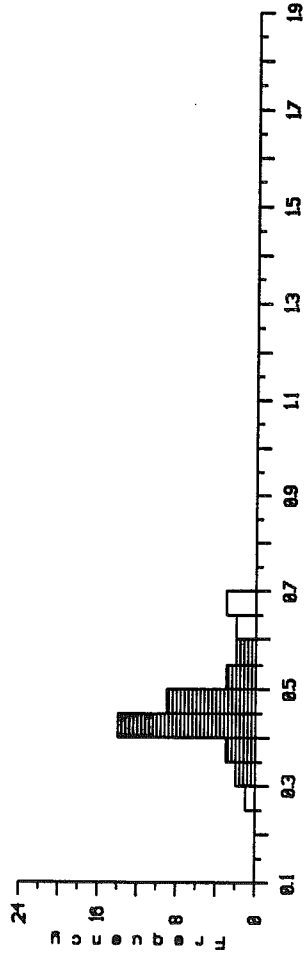


K0604B, 2203-2315M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.28	0.33	0.35	0.36	0.37	0.39	0.41	0.41	0.42	0.42
1	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
2	0.48	0.48	0.47	0.47	0.48	0.49	0.49	0.49	0.49	0.49
3	0.53	0.54	0.56	0.56	0.61	0.64	0.66	0.68	0.68	0.68

Total	Mean	Stand Dev	Pts	Min	Max	Sum
EdItK	0.47	0.09	39	0.28	0.68	18.40
	0.45	0.06	33	0.33	0.58	14.85

Reflectance Histogram

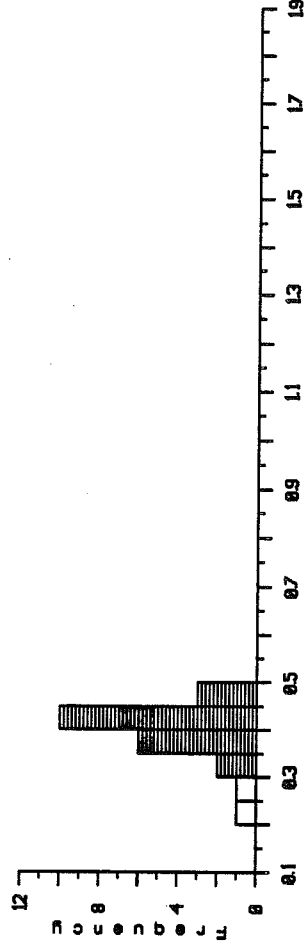


K0605A, 251000M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.21	0.25	0.35	0.35	0.36	0.36	0.37	0.38	0.39	0.39
1	0.40	0.41	0.42	0.42	0.42	0.43	0.43	0.44	0.44	0.44
2	0.46	0.46	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48

Total	Mean	Stand Dev	Pts	Min	Max	Sum
EdItK	0.41	0.04	23	0.21	0.48	9.08
	0.41	0.04	21	0.35	0.48	8.62

Reflectance Histogram

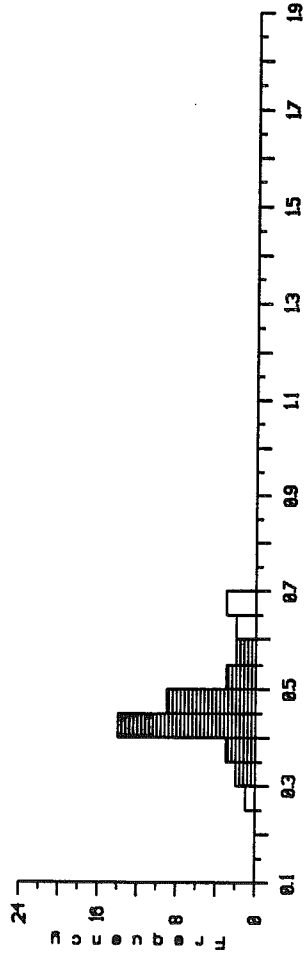


K0604C, 2410-2420M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.27	0.31	0.33	0.34	0.34	0.36	0.38	0.38	0.42	0.42
1	0.46	0.47	0.47	0.48	0.48	0.48	0.52	0.53	0.54	0.54
2	0.54	0.54	0.55	0.55	0.58	0.58	0.60	0.60	0.60	0.60

Total	Mean	Stand Dev	Pts	Min	Max	Sum
EdItK	0.46	0.09	27	0.27	0.60	12.50
	0.52	0.05	19	0.42	0.60	9.79

Reflectance Histogram

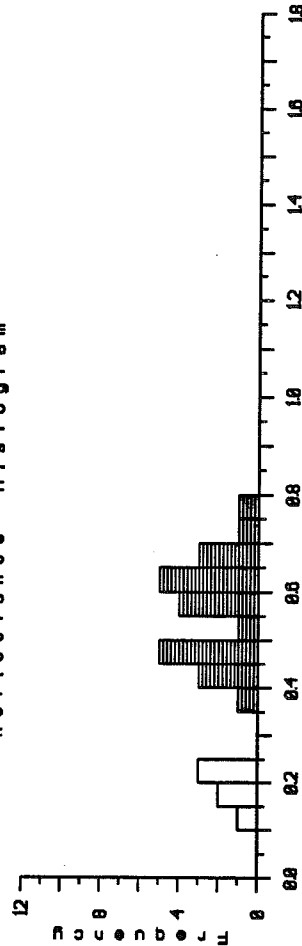


K0604B, 2625-2635M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.14	0.16	0.19	0.20	0.21	0.22	0.21	0.20	0.22	0.22
1	0.48	0.48	0.48	0.48	0.49	0.49	0.49	0.49	0.49	0.49
2	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68

Total	Mean	Stand Dev	Pts	Min	Max	Sum
EdItK	0.48	0.16	30	0.14	0.76	14.50
	0.56	0.10	24	0.37	0.76	13.44

Reflectance Histogram

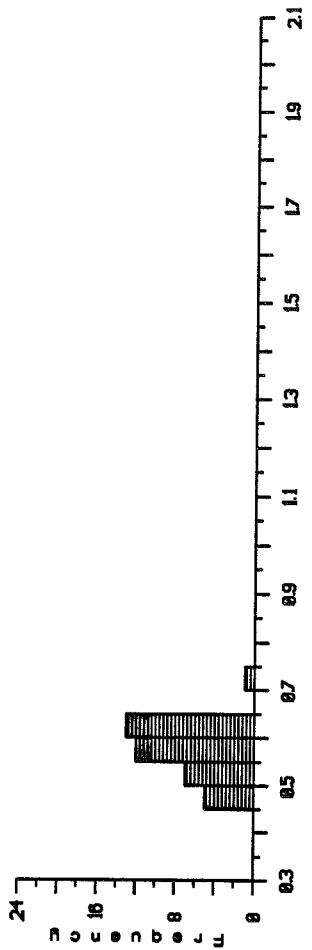


K0542A, 3185-3185M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.46K	0.47K	0.46K	0.48K	0.49K	0.50K	0.51K	0.52K	0.52K	0.54K
1	0.54K	0.54K	0.55K	0.56K	0.58K	0.57K	0.57K	0.58K	0.58K	0.58K
2	0.58K	0.58K	0.59K	0.59K	0.60K	0.60K	0.60K	0.61K	0.61K	0.61K
3	0.61K	0.62K	0.62K	0.62K	0.64K	0.64K	0.65K	0.61K	0.61K	0.61K

Mean	Stand Dev	Pts	Min	Max	Sum
0.57	0.06	38	0.46	0.72	21.69
0.57	0.06	38	0.46	0.72	21.69

Reflectance Histogram

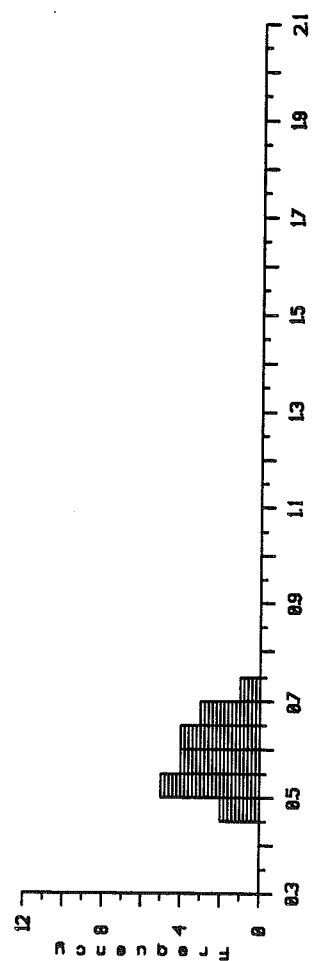


K0129A, 2785-2785M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.46K	0.48K	0.50K	0.52K	0.52K	0.52K	0.52K	0.55K	0.56K	0.58K
1	0.59K	0.60K	0.62K	0.62K	0.65K	0.66K	0.68K	0.70K	0.71K	0.71K

Mean	Stand Dev	Pts	Min	Max	Sum
0.58	0.08	19	0.46	0.71	11.04
0.58	0.08	19	0.46	0.71	11.04

Reflectance Histogram

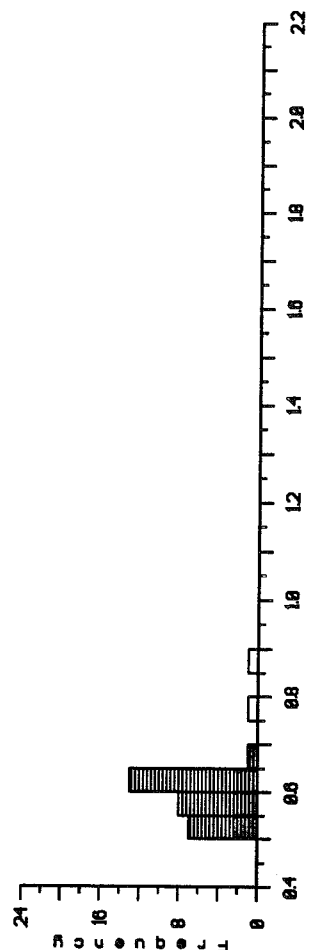


K0542B, 3398-3400M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.50K	0.50K	0.50K	0.51K	0.54K	0.54K	0.54K	0.56K	0.56K	0.56K
1	0.57K	0.58K	0.58K	0.59K	0.59K	0.60K	0.60K	0.60K	0.60K	0.60K
2	0.61K	0.61K	0.61K	0.62K	0.62K	0.63K	0.64K	0.65K	0.67K	0.67K

Mean	Stand Dev	Pts	Min	Max	Sum
0.60	0.08	31	0.50	0.68	18.52
0.58	0.05	29	0.50	0.67	16.87

Reflectance Histogram

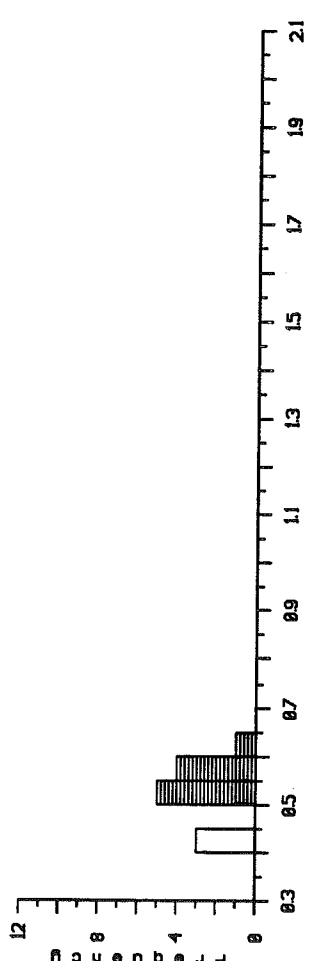


K051C, 2975-2985M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.43	0.44	0.44	0.51K	0.52K	0.53K	0.54K	0.54K	0.56K	0.56K
1	0.58K	0.59K	0.64K	0.64K	0.64K	0.64K	0.64K	0.64K	0.64K	0.64K

Mean	Stand Dev	Pts	Min	Max	Sum
0.53	0.06	13	0.43	0.68	6.88
0.50	0.04	10	0.51	0.64	5.57

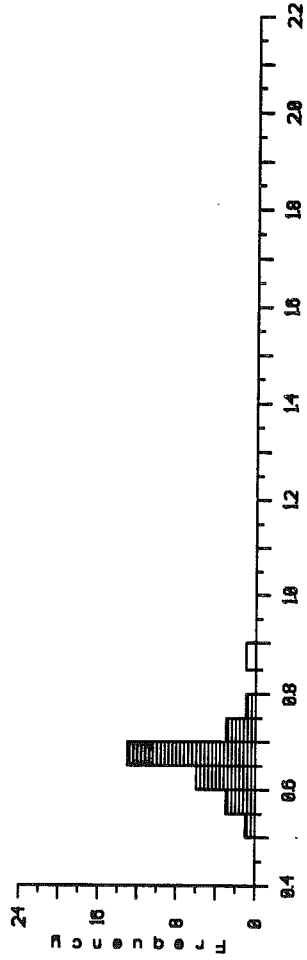
Reflectance Histogram



K0542C, 3000-3010M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.59K	0.55K	0.57K	0.59K	0.60K	0.61K	0.63K	0.64K	0.64K	0.65K
1	0.66K	0.66K	0.66K	0.66K	0.67K	0.67K	0.67K	0.67K	0.68K	0.68K
2	0.69K	0.78K	0.78K	0.72K	0.72K	0.74K	0.75K	0.65	0.69K	0.69K
Total	0.66	0.67	0.28	0.59	0.65	0.65	0.65	0.65	0.65	0.65
EdItK	0.66	0.66	0.27	0.59	0.75	17.78				
Mean		0.67								
Stand Dev		0.06								
Pts		28								
Min		0.59								
Max		0.75								
Sum		18.55								

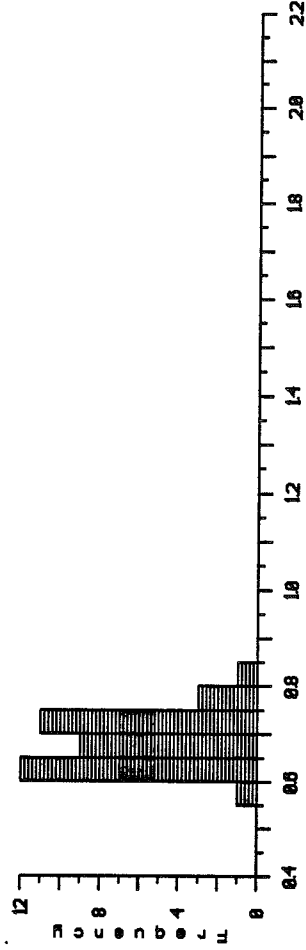
Reflectance Histogram



K0543B, 4000-4010M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.55K	0.61K	0.62K	0.63K	0.63K	0.63K	0.63K	0.63K	0.64K	0.64K
1	0.65K	0.65K	0.65K	0.66K	0.66K	0.67K	0.67K	0.67K	0.68K	0.68K
2	0.69K	0.78K	0.71K	0.71K	0.71K	0.71K	0.72K	0.72K	0.73K	0.73K
3	0.73K	0.74K	0.74K	0.75K	0.77K	0.77K	0.80K	0.80K	0.80K	0.80K
Total	0.68	0.65	0.37	0.55	0.68	0.68	0.68	0.68	0.68	0.68
EdItK	0.68	0.65	0.37	0.55	0.68	25.29				
Mean		0.65								
Stand Dev		0.05								
Pts		37								
Min		0.55								
Max		0.80								
Sum		25.29								

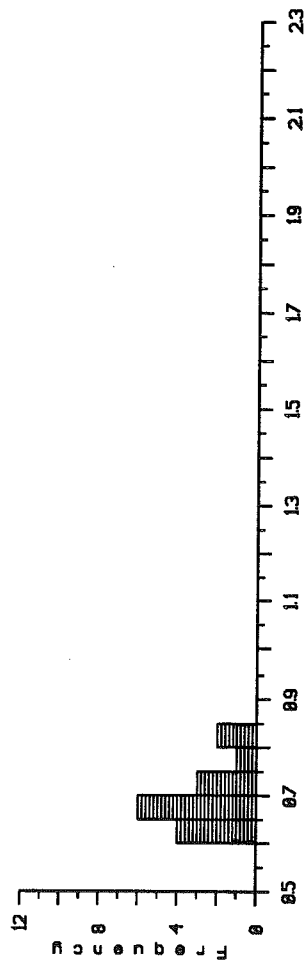
Reflectance Histogram



K0543A, 3000-3010M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.62K	0.63K	0.64K	0.64K	0.66K	0.67K	0.67K	0.68K	0.69K	0.70K
1	0.71K	0.71K	0.71K	0.77K	0.81K	0.83K	0.83K	0.83K	0.83K	0.83K
Total	0.78	0.66	0.66	0.82	0.83	11.14				
EdItK	0.78	0.66	0.66	0.82	0.83	11.14				
Mean		0.66								
Stand Dev		0.06								
Pts		16								
Min		0.62								
Max		0.83								
Sum		11.14								

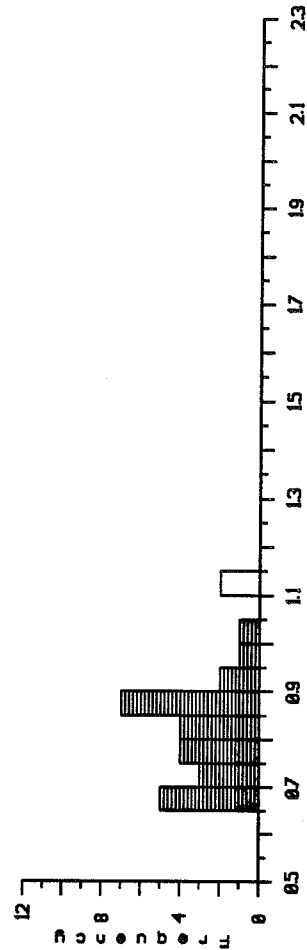
Reflectance Histogram



K0129B, 4175-4185M, HEBRON I-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.68K	0.68K	0.69K	0.69K	0.70K	0.71K	0.72K	0.72K	0.75K	0.76K
1	0.78K	0.79K	0.80K	0.82K	0.82K	0.84K	0.85K	0.85K	0.86K	0.87K
2	0.87K	0.88K	0.88K	0.93K	0.94K	0.99K	1.04K	1.15	1.15	1.15
Total	0.83	0.83	0.29	0.68	1.15	2.19				
EdItK	0.81	0.86	0.27	0.68	1.04	2.188				
Mean		0.83								
Stand Dev		0.13								
Pts		29								
Min		0.68								
Max		1.15								
Sum		24.19								

Reflectance Histogram



K0513C, 4180-4490M, FEBRON 1-13

Col >	1	2	3	4	5	6	7	8	9	0
Row	0.01	0.63	0.74	0.76	0.77	0.77	0.78	0.78	0.81	0.82
1	0.84	0.85	0.85	0.90	0.98	1.02	1.02			

	Mean	Stand Dev	Fits	Min	Max	Sum
Total	0.62	0.12	17	0.01	1.02	13.93
Edit	0.81	0.05	12	0.74	0.98	9.67

Reflectance Histogram

