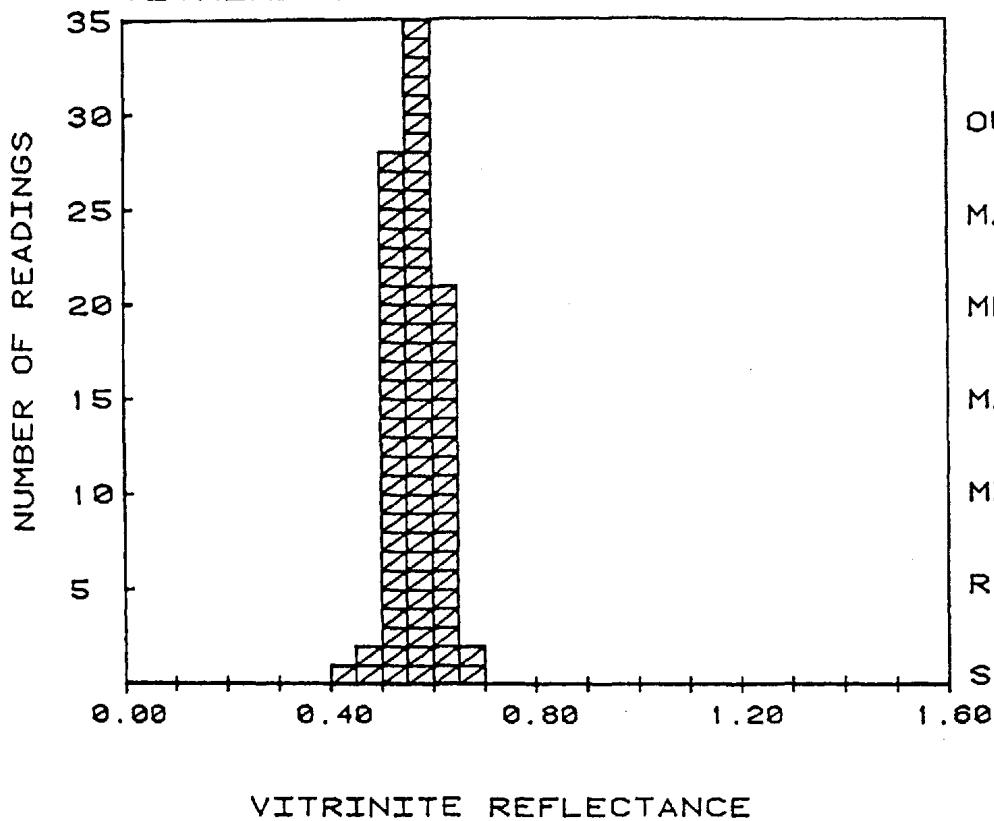


VITRINITE REFLECTANCE DATA

ON

34 ALASKAN COAL SAMPLES

VITRINITE REFLECTANCE HISTOGRAM



OUTCROP

MAT. COAL MIX

MEAN REF. : 0.56%

MAX. REF. : 0.65%

MIN. REF. : 0.44%

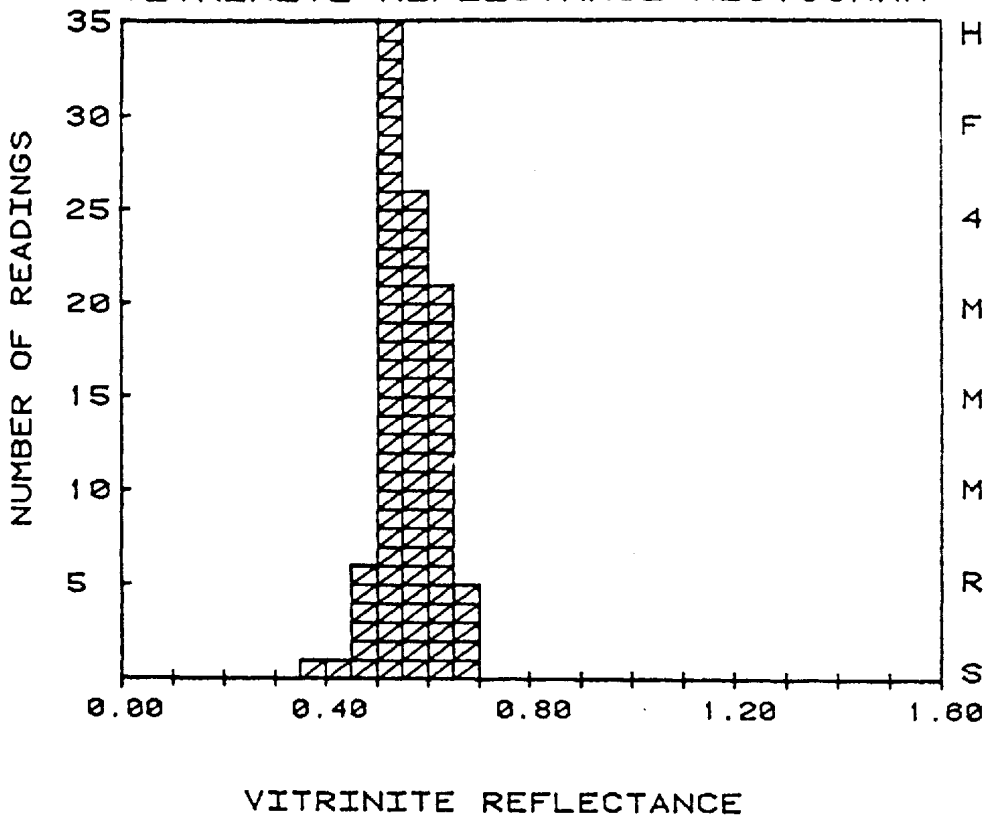
READINGS : 99

SAMPLE : COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.40	0	0.41	0	0.42	0	0.43	0	0.44	1	0.45	0
0.46	0	0.47	0	0.48	0	0.49	2	0.50	2	0.51	5
0.52	7	0.53	9	0.54	5	0.55	13	0.56	8	0.57	14
0.58	5	0.59	5	0.60	5	0.61	4	0.62	5	0.63	3
0.64	4	0.65	2	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



HILL PRODUCTION

FISHOOK NO. 1

460-480 FEET

MEAN REF. : 0.55%

MAX. REF. : 0.72%

MIN. REF. : 0.39%

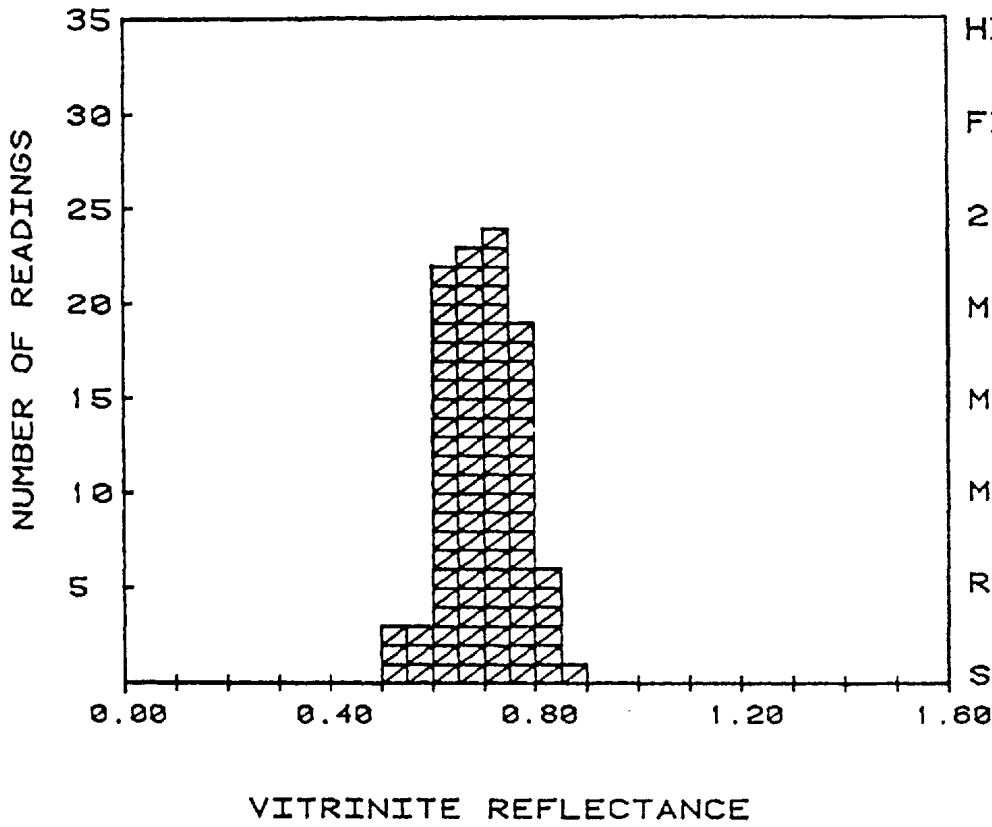
READINGS: 96

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.
0.35	0	0.36	0	0.37	0	0.38	0	0.39	1	0.40	0
0.41	0	0.42	0	0.43	0	0.44	1	0.45	1	0.46	0
0.47	1	0.48	1	0.49	3	0.50	8	0.51	8	0.52	5
0.53	5	0.54	10	0.55	8	0.56	7	0.57	5	0.58	2
0.59	4	0.60	8	0.61	6	0.62	4	0.63	1	0.64	2
0.65	2	0.66	2	0.67	0	0.68	0	0.69	1	0.70	0
0.71	0	0.72	0	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



HILL PRODUCTION

FISHOOK NO. 1

2220-2240 FEET

MEAN REF. : 0.69%

MAX. REF. : 0.85%

MIN. REF. : 0.50%

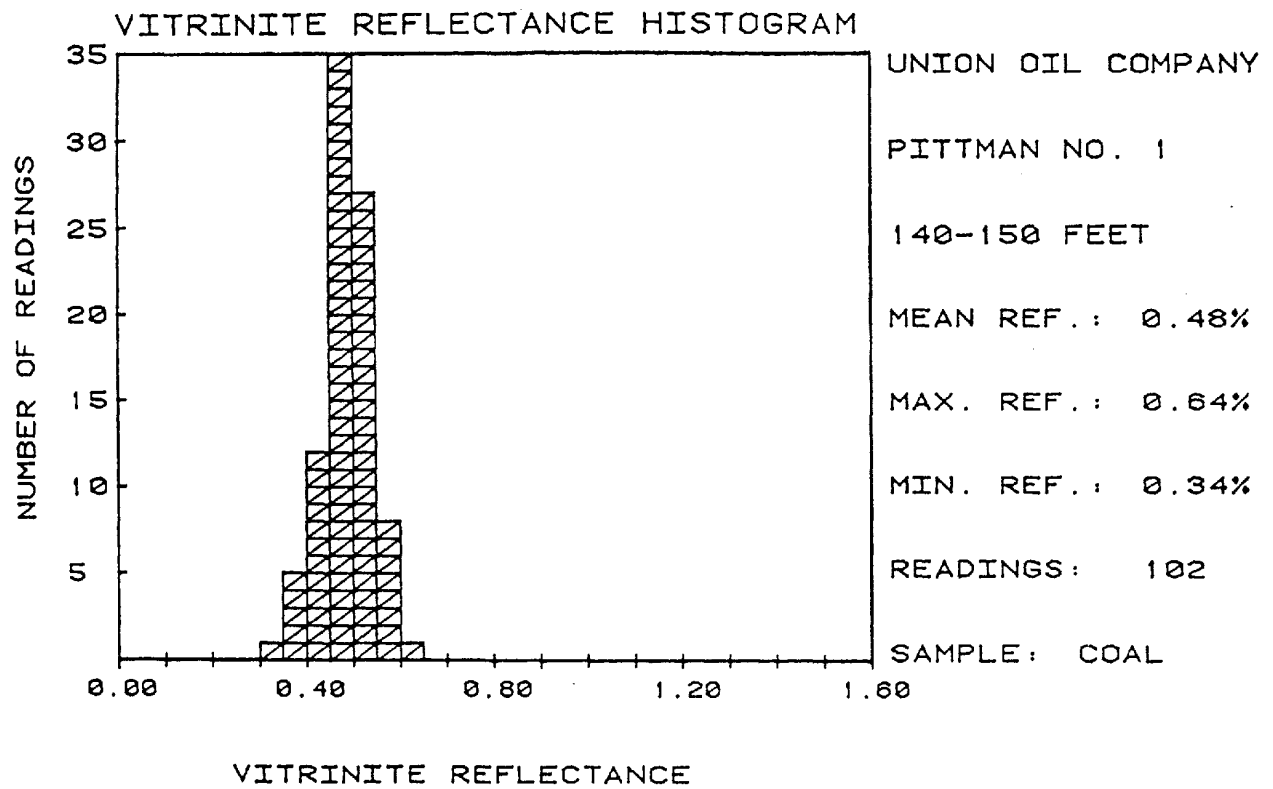
READINGS: 101

SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

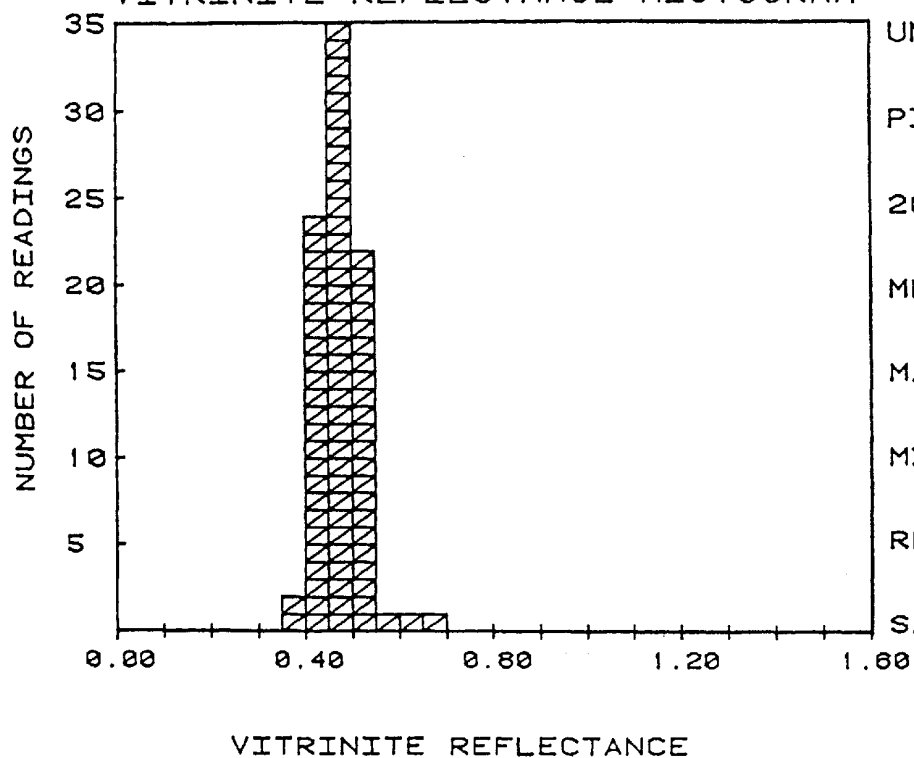
Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.45	0	0.46	0	0.47	0	0.48	0	0.49	0	0.50	2
0.51	0	0.52	0	0.53	0	0.54	1	0.55	0	0.56	0
0.57	0	0.58	0	0.59	3	0.60	5	0.61	1	0.62	6
0.63	5	0.64	5	0.65	3	0.66	4	0.67	7	0.68	7
0.69	2	0.70	4	0.71	7	0.72	6	0.73	5	0.74	2
0.75	7	0.76	5	0.77	3	0.78	0	0.79	4	0.80	3
0.81	0	0.82	1	0.83	2	0.84	0	0.85	1	0.00	0



VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.30	0	0.31	0	0.32	0	0.33	0	0.34	1	0.35	0
0.36	1	0.37	0	0.38	2	0.39	2	0.40	1	0.41	4
0.42	1	0.43	3	0.44	3	0.45	7	0.46	10	0.47	11
0.48	9	0.49	11	0.50	7	0.51	7	0.52	3	0.53	5
0.54	5	0.55	3	0.56	4	0.57	0	0.58	1	0.59	0
0.60	0	0.61	0	0.62	0	0.63	0	0.64	1	0.00	0

VITRINITE REFLECTANCE HISTOGRAM

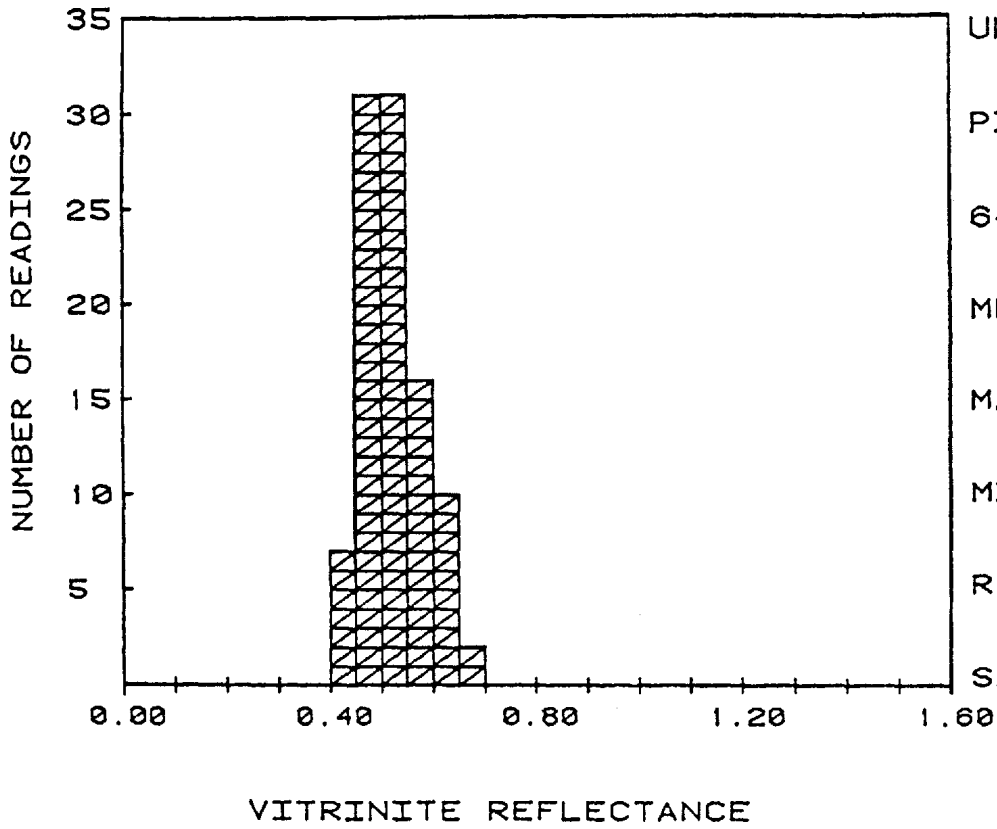


UNION OIL COMPANY
 PITTMAN NO. 1
 200-210 FEET
 MEAN REF. : 0.47%
 MAX. REF. : 0.65%
 MIN. REF. : 0.35%
 READINGS: 102
 SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.30	0	0.31	0	0.32	0	0.33	0	0.34	0	0.35	1
0.36	0	0.37	0	0.38	0	0.39	1	0.40	0	0.41	2
0.42	5	0.43	5	0.44	12	0.45	16	0.46	12	0.47	8
0.48	9	0.49	6	0.50	10	0.51	3	0.52	4	0.53	4
0.54	1	0.55	0	0.56	0	0.57	1	0.58	0	0.59	0
0.60	0	0.61	0	0.62	1	0.63	0	0.64	0	0.65	1

VITRINITE REFLECTANCE HISTOGRAM

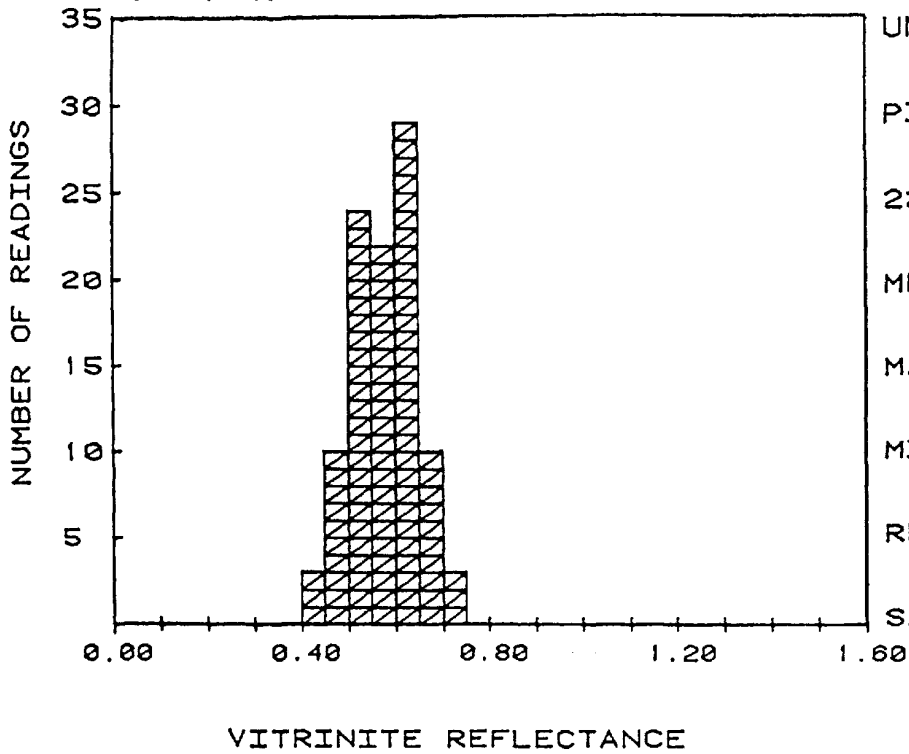


UNION OIL COMPANY
 PITTMAN NO. 1
 640-650 FEET
 MEAN REF. : 0.52%
 MAX. REF. : 0.69%
 MIN. REF. : 0.40%
 READINGS : 97
 SAMPLE : COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.35	0	0.36	0	0.37	0	0.38	0	0.39	0	0.40	1
0.41	0	0.42	3	0.43	1	0.44	2	0.45	10	0.46	5
0.47	5	0.48	5	0.49	6	0.50	7	0.51	9	0.52	5
0.53	5	0.54	5	0.55	4	0.56	6	0.57	3	0.58	1
0.59	2	0.60	4	0.61	2	0.62	1	0.63	2	0.64	1
0.65	1	0.66	0	0.67	0	0.68	0	0.69	1	0.00	0

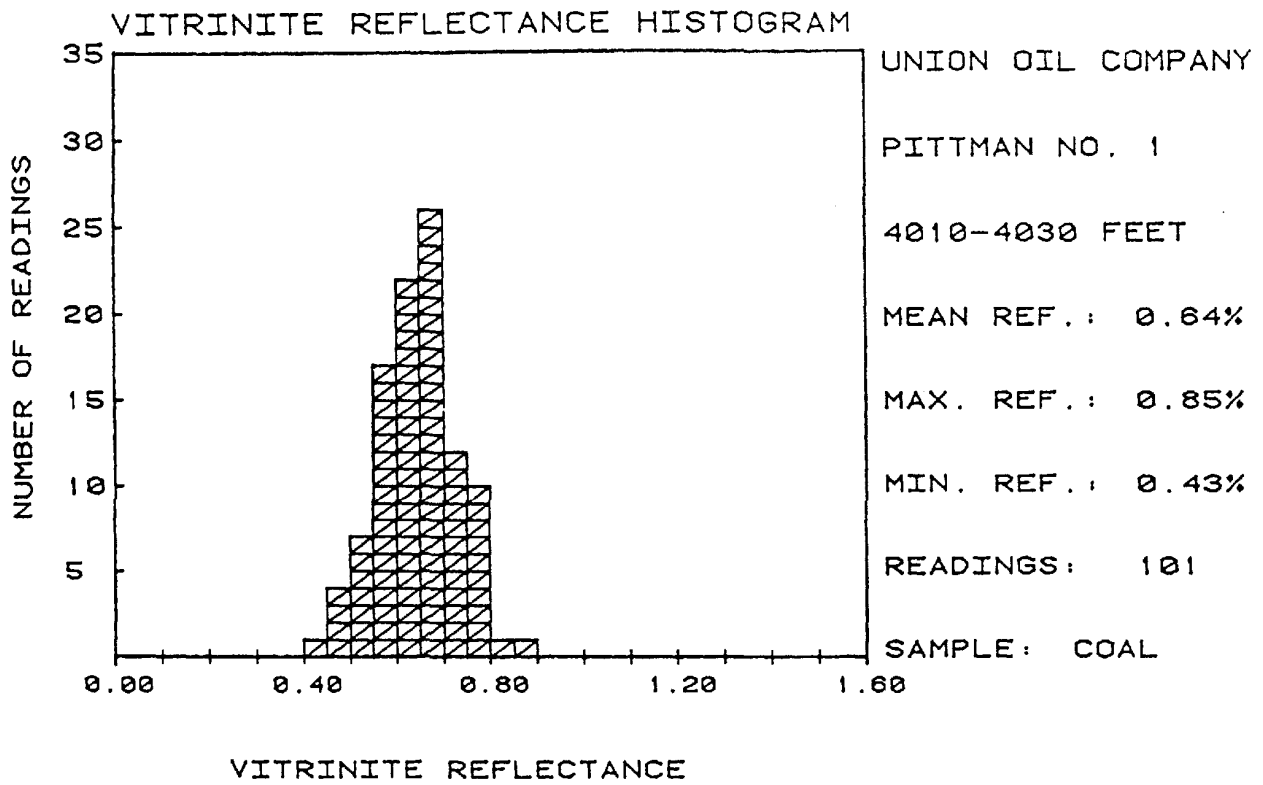
VITRINITE REFLECTANCE HISTOGRAM



UNION OIL COMPANY
 PITTMAN NO. 1
 2240-2250 FEET
 MEAN REF. : 0.57%
 MAX. REF. : 0.72%
 MIN. REF. : 0.40%
 READINGS: 101
 SAMPLE: COAL

VITRINITE REFLECTANCE DATA

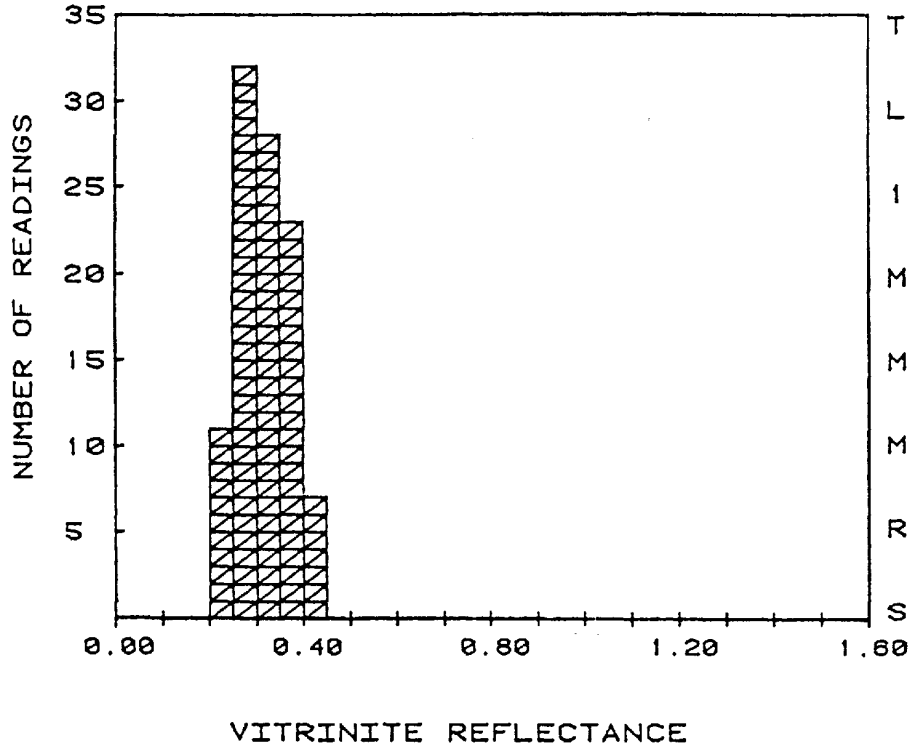
R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	
0.35	0	0.36	0	0.37	0	38	0.38	0	0.39	0	0.40	1
0.41	0	0.42	1	0.43	0	44	0.44	1	0.45	1	0.46	4
0.47	0	0.48	0	0.49	5	50	0.50	6	0.51	2	0.52	5
0.53	4	0.54	7	0.55	8	56	0.56	2	0.57	1	0.58	8
0.59	3	0.60	10	0.61	5	62	0.62	5	0.63	6	0.64	3
0.65	2	0.66	5	0.67	1	68	0.68	2	0.69	0	0.70	2
0.71	0	0.72	1	0.00	0	74	0.00	0	0.00	0	0.00	0



VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.40	0	0.41	0	0.42	0	0.43	1	0.44	0	0.45	1
0.46	0	0.47	0	0.48	0	0.49	3	0.50	1	0.51	0
0.52	3	0.53	2	0.54	1	0.55	1	0.56	3	0.57	5
0.58	5	0.59	3	0.60	6	0.61	3	0.62	4	0.63	4
0.64	5	0.65	10	0.66	5	0.67	2	0.68	4	0.69	5
0.70	6	0.71	4	0.72	0	0.73	1	0.74	1	0.75	1
0.76	3	0.77	3	0.78	3	0.79	0	0.80	1	0.81	0
0.82	0	0.83	0	0.84	0	0.85	1	0.00	0	0.00	0

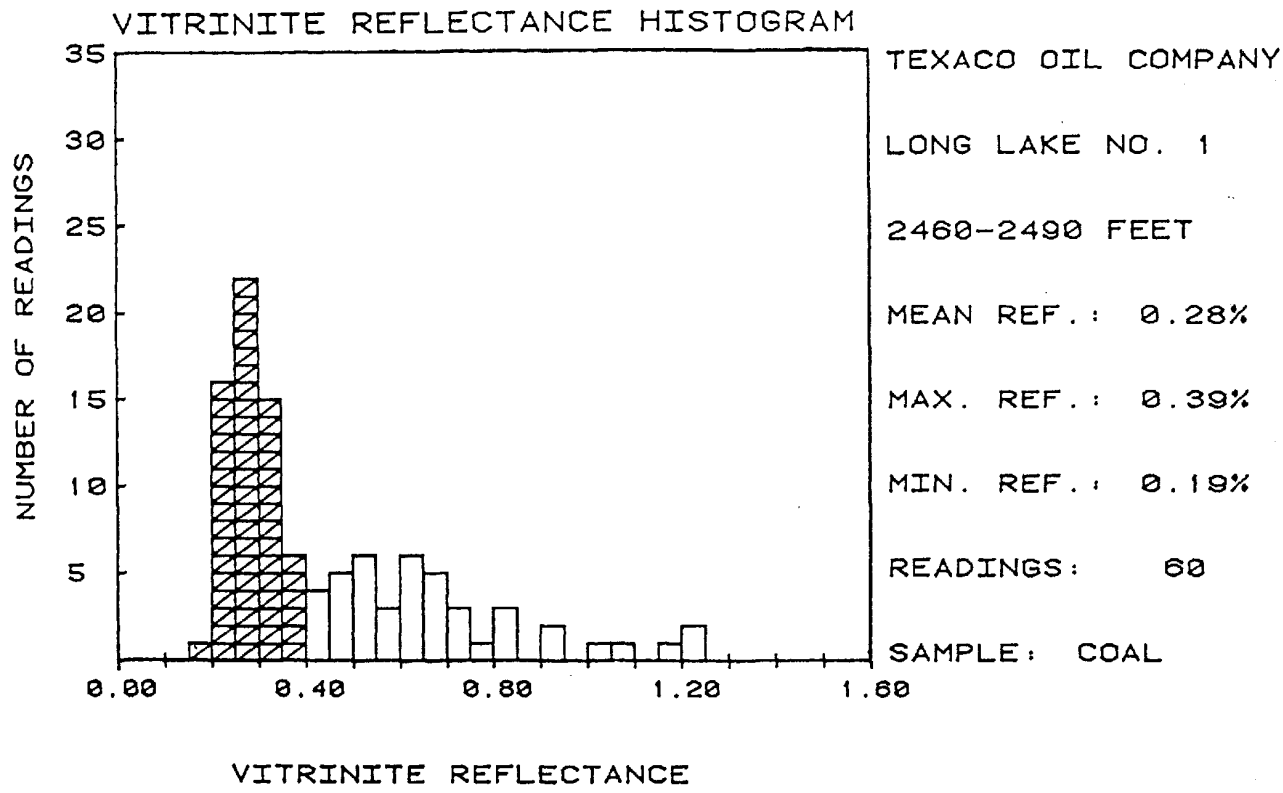
VITRINITE REFLECTANCE HISTOGRAM



TEXACO OIL COMPANY
 LONG LAKE NO. 1
 1230-1260 FEET
 MEAN REF.: 0.31%
 MAX. REF.: 0.44%
 MIN. REF.: 0.20%
 READINGS: 101
 SAMPLE: COAL

VITRINITE REFLECTANCE DATA

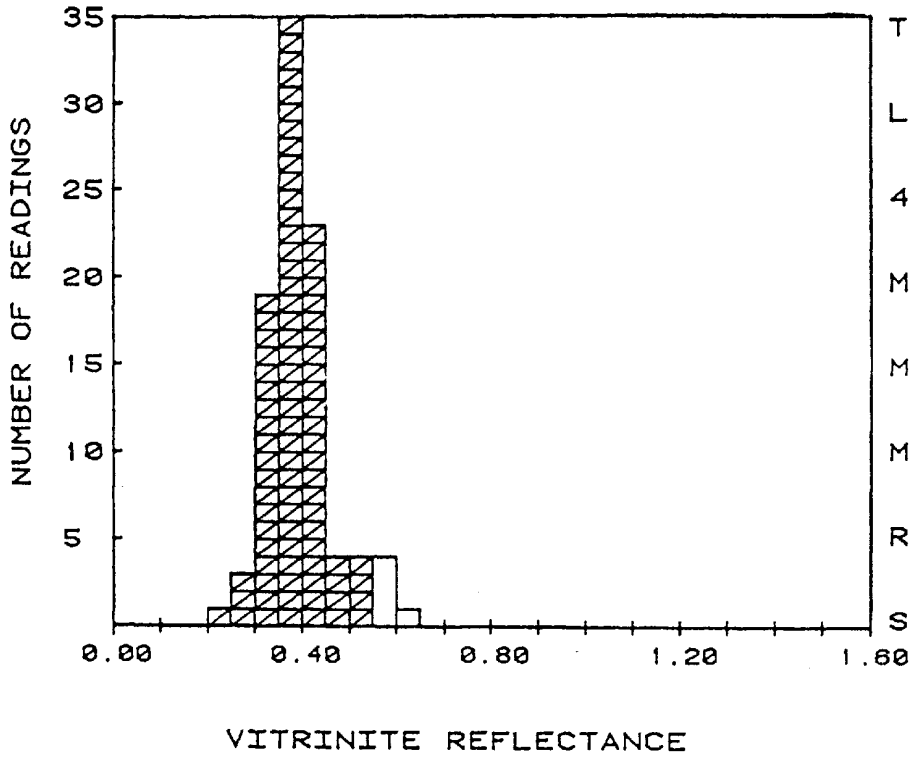
R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.
0.15	0	0.16	0	0.17	0	0.18	0	0.19	0	0.20	5
0.21	2	0.22	0	0.23	2	0.24	2	0.25	2	0.26	4
0.27	6	0.28	5	0.29	13	0.30	6	0.31	10	0.32	4
0.33	4	0.34	4	0.35	5	0.36	2	0.37	9	0.38	5
0.39	3	0.40	4	0.41	1	0.42	0	0.43	1	0.44	1



VITRINITE REFLECTANCE DATA

0.15	0	0.16	0	0.17	0	0.18	0	0.19	1	0.20	1
0.21	2	0.22	3	0.23	6	0.24	4	0.25	4	0.26	6
0.27	5	0.28	5	0.29	2	0.30	2	0.31	6	0.32	1
0.33	3	0.34	3	0.35	1	0.36	2	0.37	1	0.38	1
0.39	1	0.40	0	0.41	0	0.42	1	0.43	1	0.44	2
0.45	0	0.46	0	0.47	1	0.48	2	0.49	2	0.50	0
0.51	3	0.52	0	0.53	1	0.54	2	0.55	1	0.56	1
0.57	0	0.58	1	0.59	0	0.60	1	0.61	2	0.62	1
0.63	0	0.64	2	0.65	1	0.66	3	0.67	0	0.68	1
0.69	0	0.70	0	0.71	0	0.72	2	0.73	0	0.74	1
0.75	0	0.76	0	0.77	0	0.78	0	0.79	1	0.80	1
0.81	0	0.82	2	0.83	0	0.84	0	0.85	0	0.86	0
0.87	0	0.88	0	0.89	0	0.90	1	0.91	0	0.92	0
0.93	0	0.94	0	0.95	0	0.96	0	0.97	0	0.98	0
0.99	0	1.00	1	1.01	0	1.02	0	1.03	0	1.04	0
1.05	0	1.06	0	1.07	1	1.08	0	1.09	0	1.10	0
1.11	0	1.12	0	1.13	0	1.14	0	1.15	0	1.16	1
1.17	0	1.18	0	1.19	0	1.20	0	1.21	0	1.22	2

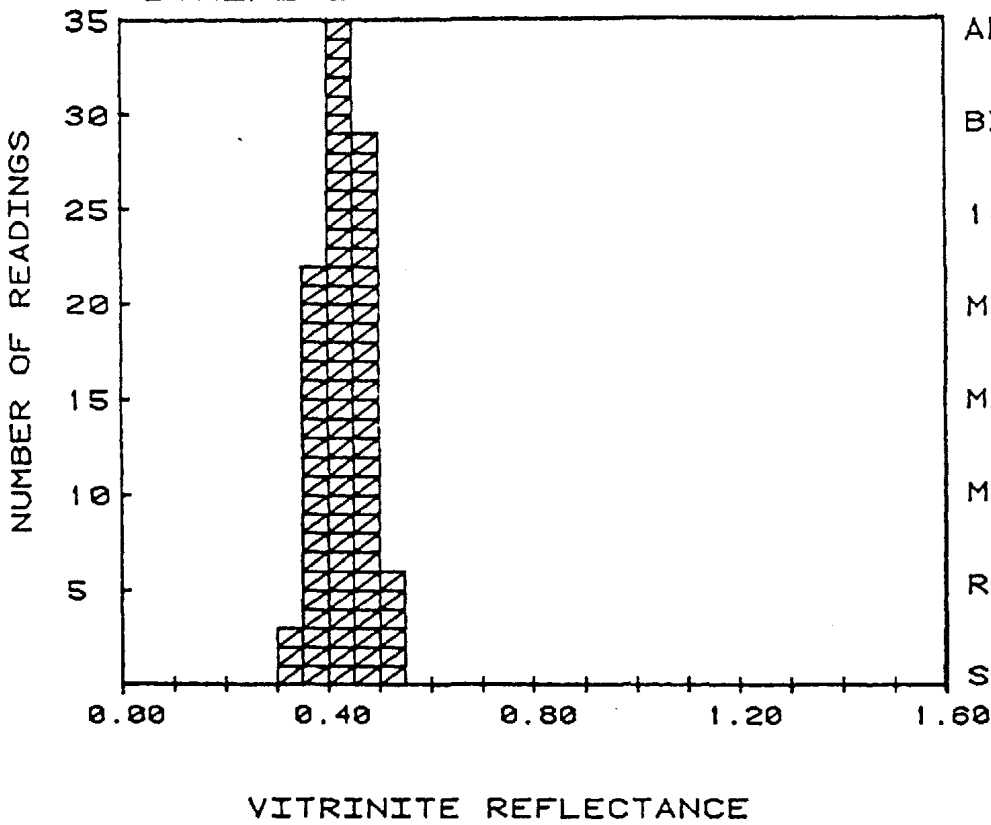
VITRINITE REFLECTANCE HISTOGRAM



VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.15	0	0.16	0	0.17	0	0.18	0	0.19	0	0.20	0
0.21	0	0.22	1	0.23	0	0.24	0	0.25	1	0.26	0
0.27	1	0.28	0	0.29	1	0.30	2	0.31	4	0.32	3
0.33	4	0.34	6	0.35	6	0.36	6	0.37	7	0.38	13
0.39	9	0.40	6	0.41	4	0.42	4	0.43	4	0.44	5
0.45	0	0.46	3	0.47	0	0.49	0	0.49	1	0.50	2
0.51	1	0.52	1	0.53	0	0.54	0	0.55	1	0.56	1
0.57	2	0.59	0	0.59	0	0.60	0	0.61	0	0.62	1

VITRINITE REFLECTANCE HISTOGRAM



AMERICAN QUAZAR

BIG LAKE NO. 1

1450-1480 FEET

MEAN REF.: 0.42%

MAX. REF.: 0.53%

MIN. REF.: 0.31%

READINGS: 102

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.25	0	0.26	0	0.27	0	0.28	0	0.29	0
0.31	1	0.32	1	0.33	0	0.34	1	0.35	2
0.37	3	0.38	4	0.39	8	0.40	9	0.41	13
0.43	10	0.44	5	0.45	10	0.46	5	0.47	4
0.49	3	0.50	4	0.51	1	0.52	0	0.53	1
								0.30	0
								0.36	5
								0.42	5
								0.48	7
								0.00	0

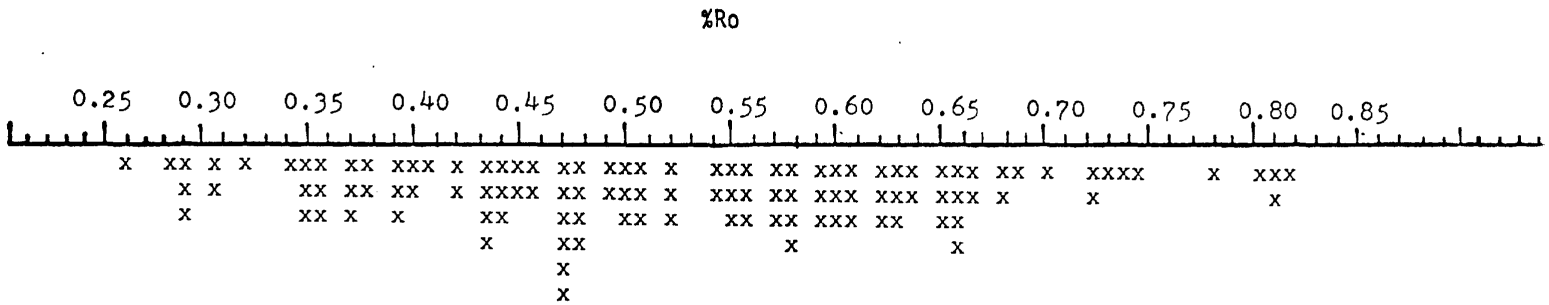
WAL Batch: # 8423-110-06

Report of Analysis on Sample: Mobil - Salmonberry Lake #1 180 - 190 ft

REFLECTANCE ANALYSIS

Mean-Maximum Vitrinite R_c : 0.52

Distribution of Vitrinite Reflectance Readings:

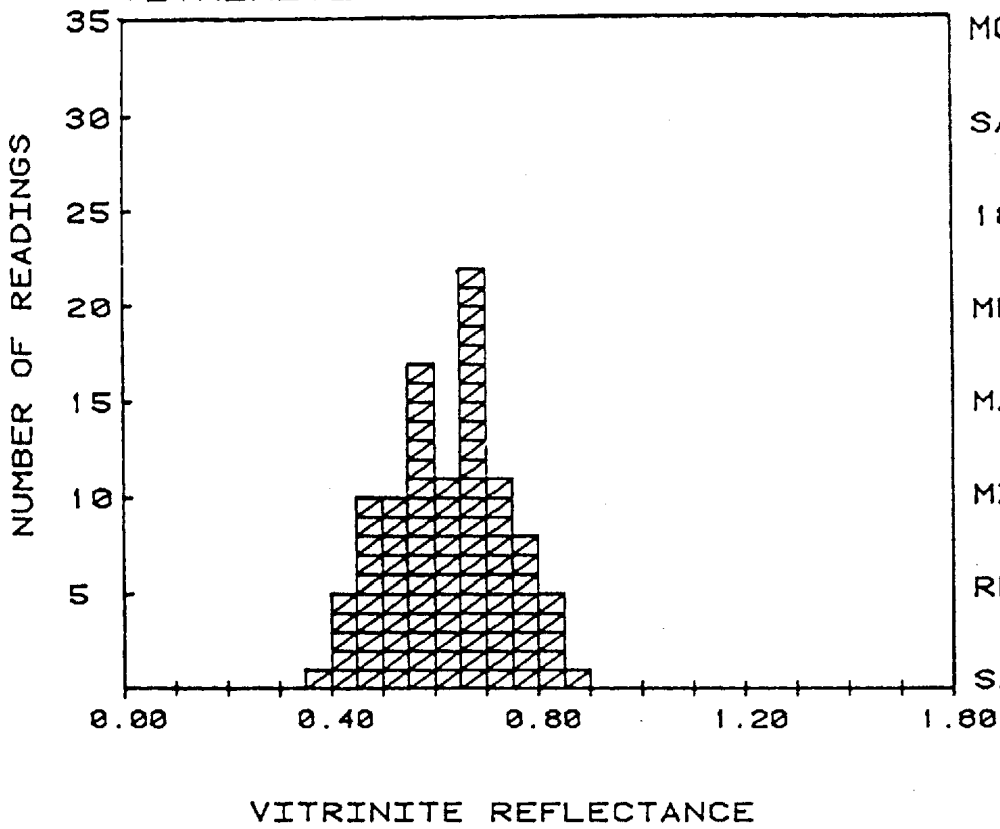


Number
of
Counts
(Total=
115)

V-Type Table for Vitrinites (=100%)

<u>V-2</u>	<u>V-3</u>	<u>V-4</u>	<u>V-5</u>	<u>V-6</u>	<u>V-7</u>	<u>V-8</u>
1.7	18.3	24.3	23.5	22.6	6.1	3.5

VITRINITE REFLECTANCE HISTOGRAM



MOBIL OIL COMPANY

SALMONBERRY LAKE NO.

180-190 FEET

MEAN REF. : 0.62%

MAX. REF. : 0.86%

MIN. REF. : 0.39%

READINGS: 101

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.
0.35	0	0.36	0	0.37	0	0.38	0	0.39	1	0.40	1
0.41	0	0.42	1	0.43	2	0.44	1	0.45	3	0.46	1
0.47	2	0.48	3	0.49	1	0.50	1	0.51	1	0.52	3
0.53	1	0.54	4	0.55	5	0.56	5	0.57	4	0.58	2
0.59	1	0.60	0	0.61	2	0.62	4	0.63	4	0.64	1
0.65	1	0.66	7	0.67	6	0.68	5	0.69	3	0.70	3
0.71	4	0.72	0	0.73	3	0.74	1	0.75	3	0.76	0
0.77	2	0.78	2	0.79	1	0.80	2	0.81	2	0.82	0
0.83	1	0.84	0	0.85	0	0.86	1	0.00	0	0.00	0

REFLECTANCE ANALYSIS

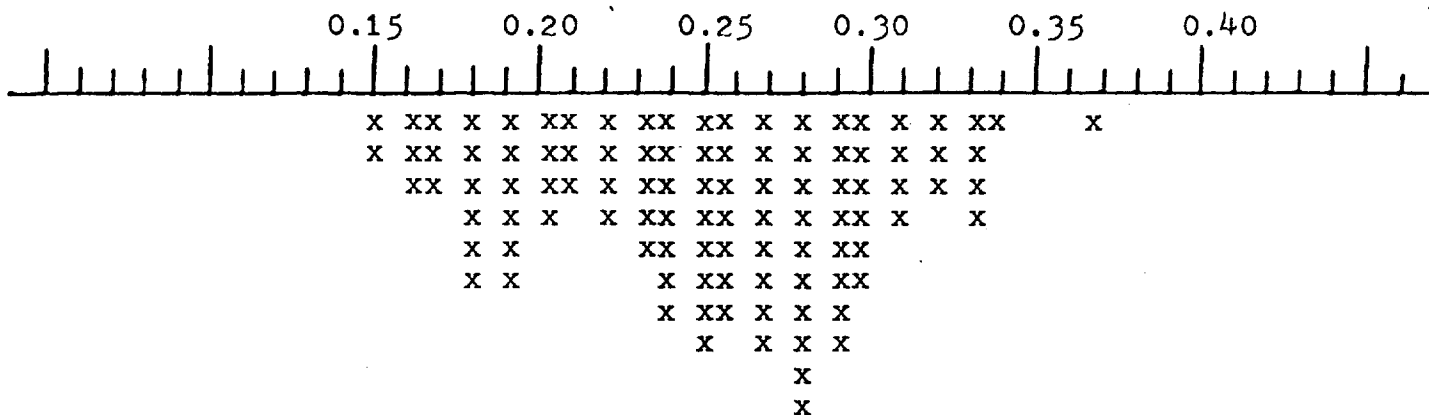
WAL Batch: 8423-110-06

Report of Analysis on Sample: Mobil Salmonberry Lake #1 550 - 560 ft.

Mean-Maximum Vitrinite Ro: 0.25

Distribution of Vitrinite Reflectance Readings:

%Ro



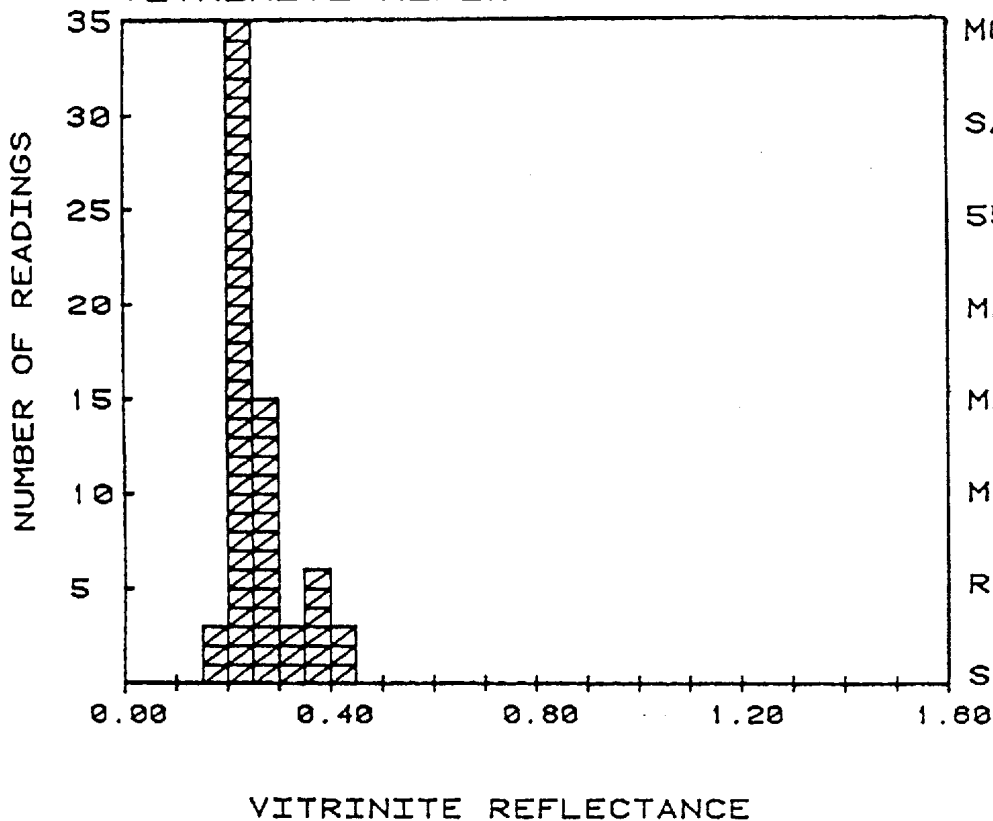
Number of
Counts

(Total = 104)

V-Type Table for Vitrinites (=100%)

<u>V-1</u>	<u>V-2</u>	<u>V-3</u>	<u>V-</u>
19.2	62.5	18.3	

VITRINITE REFLECTANCE HISTOGRAM

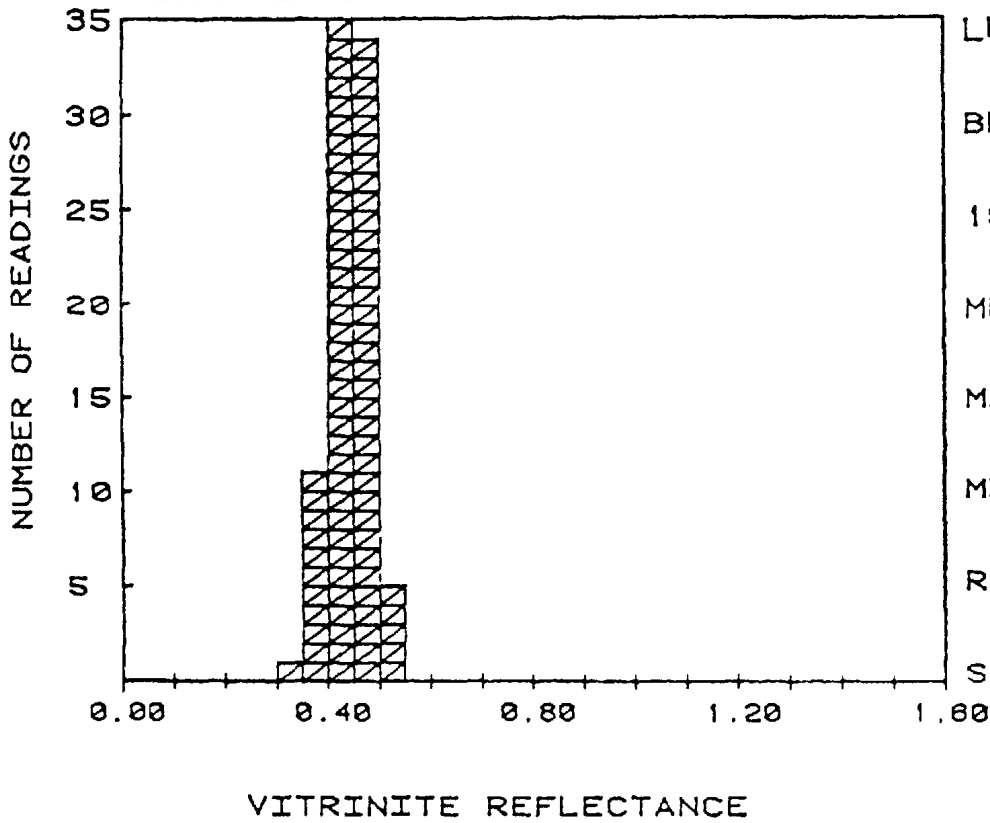


MOBIL OIL COMPANY
 SALMONBERRY LAKE NO. 1
 550-560 FEET
 MEAN REF.: 0.24%
 MAX. REF.: 0.42%
 MIN. REF.: 0.19%
 READINGS: 98
 SAMPLE: COAL

VITRINITE REFLECTANCE DATA

R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.	R _o	Ct.
0.15	0	0.16	0	0.17	0	0.18	0	0.19	3	0.20	19
0.21	13	0.22	13	0.23	18	0.24	5	0.25	3	0.26	3
0.27	5	0.28	2	0.29	2	0.30	0	0.31	0	0.32	1
0.33	1	0.34	1	0.35	2	0.36	0	0.37	2	0.38	1
0.39	1	0.40	0	0.41	0	0.42	3	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



LUM LOVELY

BEAVER LAKES STATE NO.

1990-2020 FEET

MEAN REF. : 0.44%

MAX. REF. : 0.54%

MIN. REF. : 0.34%

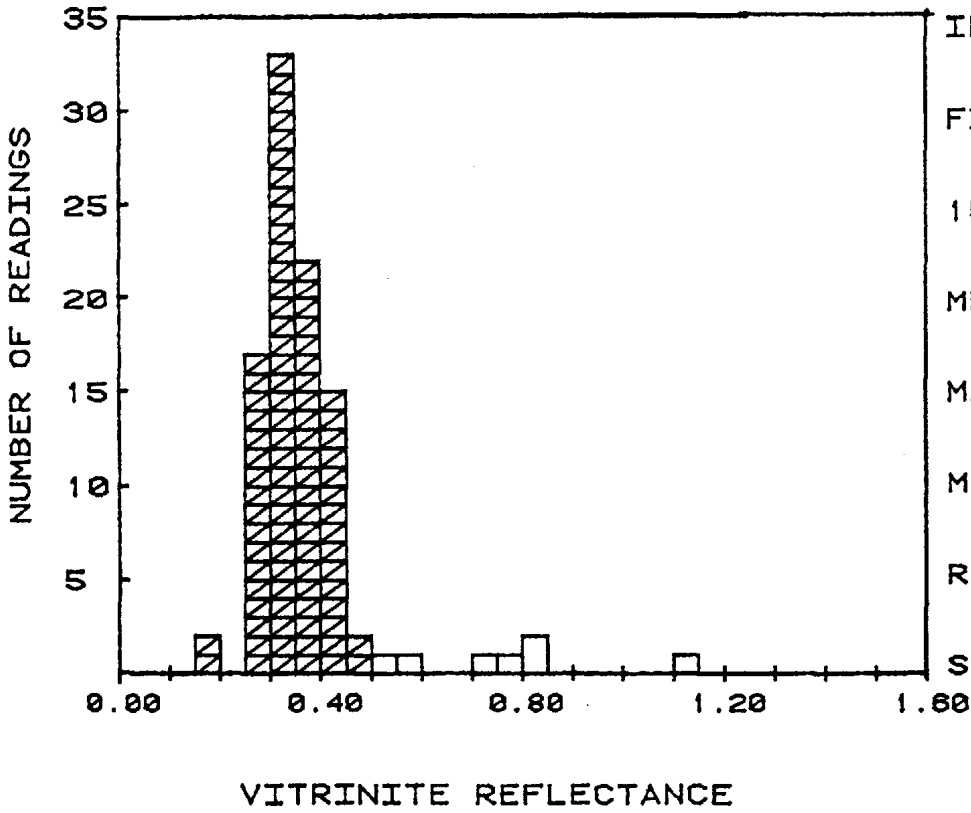
READINGS: 100

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	
0.30	0	0.31	0	32	0.32	0	0.33	0	0.34	1	0.35	0
0.36	2	0.37	4	38	0.38	3	0.39	2	0.40	5	0.41	6
0.42	10	0.43	15	44	0.44	13	0.45	11	0.46	9	0.47	6
0.48	2	0.49	6	50	0.50	1	0.51	1	0.52	2	0.53	0
0.54	1	0.00	0	56	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



INLET OIL COMPANY

FISHCREEK NO. 1

150-180 FEET

MEAN REF.: 0.34%

MAX. REF.: 0.46%

MIN. REF.: 0.18%

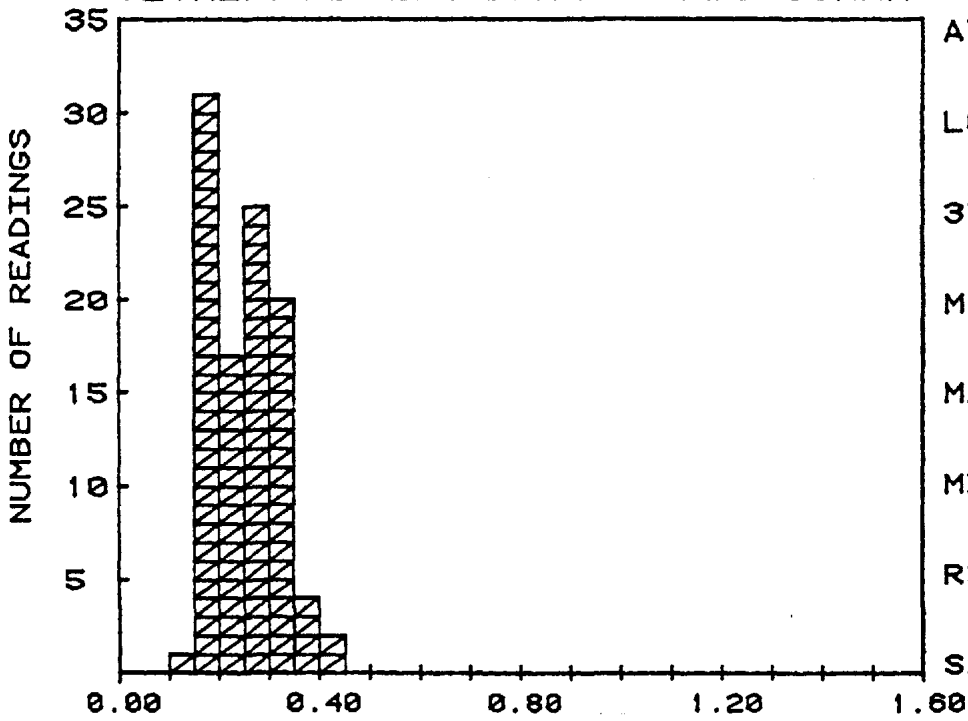
READINGS: 91

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.10	0	0.11	0	0.12	0	0.13	0	0.14	0	0.15	0
0.16	0	0.17	0	0.18	1	0.19	1	0.20	0	0.21	0
0.22	0	0.23	0	0.24	0	0.25	4	0.26	0	0.27	3
0.28	4	0.29	6	0.30	4	0.31	6	0.32	4	0.33	11
0.34	8	0.35	5	0.36	3	0.37	6	0.38	3	0.39	5
0.40	7	0.41	3	0.42	2	0.43	2	0.44	1	0.45	1
0.46	1	0.47	0	0.48	0	0.49	0	0.50	0	0.51	1
0.52	0	0.53	0	0.54	0	0.55	0	0.56	0	0.57	1
0.58	0	0.59	0	0.60	0	0.61	0	0.62	0	0.63	0
0.64	0	0.65	0	0.66	0	0.67	0	0.68	0	0.69	0
0.70	0	0.71	0	0.72	0	0.73	1	0.74	0	0.75	0
0.76	0	0.77	1	0.78	0	0.79	0	0.80	0	0.81	0
0.82	1	0.83	1	0.84	0	0.85	0	0.86	0	0.87	0
0.88	0	0.89	0	0.90	0	0.91	0	0.92	0	0.93	0
0.94	0	0.95	0	0.96	0	0.97	0	0.98	0	0.99	0
1.00	0	1.01	0	1.02	0	1.03	0	1.04	0	1.05	0
1.06	0	1.07	0	1.08	0	1.09	0	1.10	0	1.11	1

VITRINITE REFLECTANCE HISTOGRAM



ATLANTIC RICHFIELD CO.

LORRAINE ST. NO. 1

370-400 FEET

MEAN REF.: 0.25%

MAX. REF.: 0.44%

MIN. REF.: 0.14%

READINGS: 100

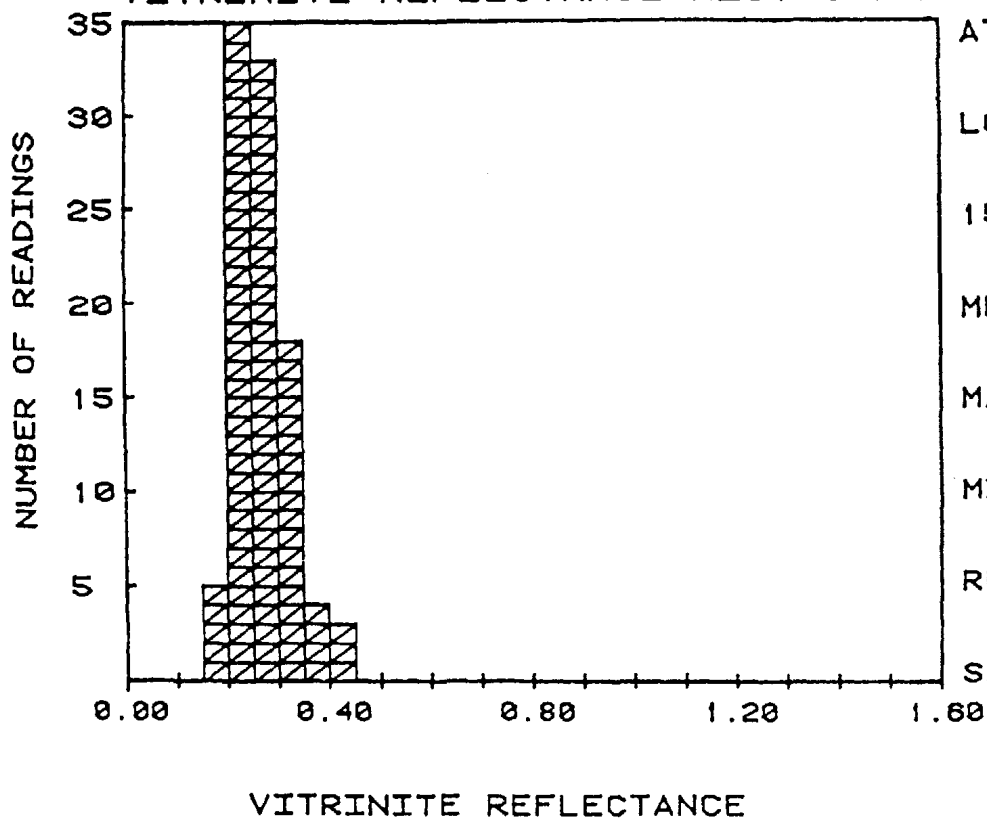
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.10	0	0.11	0	0.12	0	0.13	0	0.14	1	0.15	2
0.16	8	0.17	8	0.18	5	0.19	8	0.20	4	0.21	1
0.22	1	0.23	6	0.24	5	0.25	7	0.26	2	0.27	9
0.28	4	0.29	3	0.30	5	0.31	11	0.32	1	0.33	1
0.34	2	0.35	1	0.36	1	0.37	1	0.38	1	0.39	0
0.40	1	0.41	0	0.42	0	0.43	1	0.44	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



ATLANTIC RICHFIELD CO.

LORRAINE ST. NO. 1

1570-1600 FEET

MEAN REF. : 0.26%

MAX. REF. : 0.43%

MIN. REF. : 0.14%

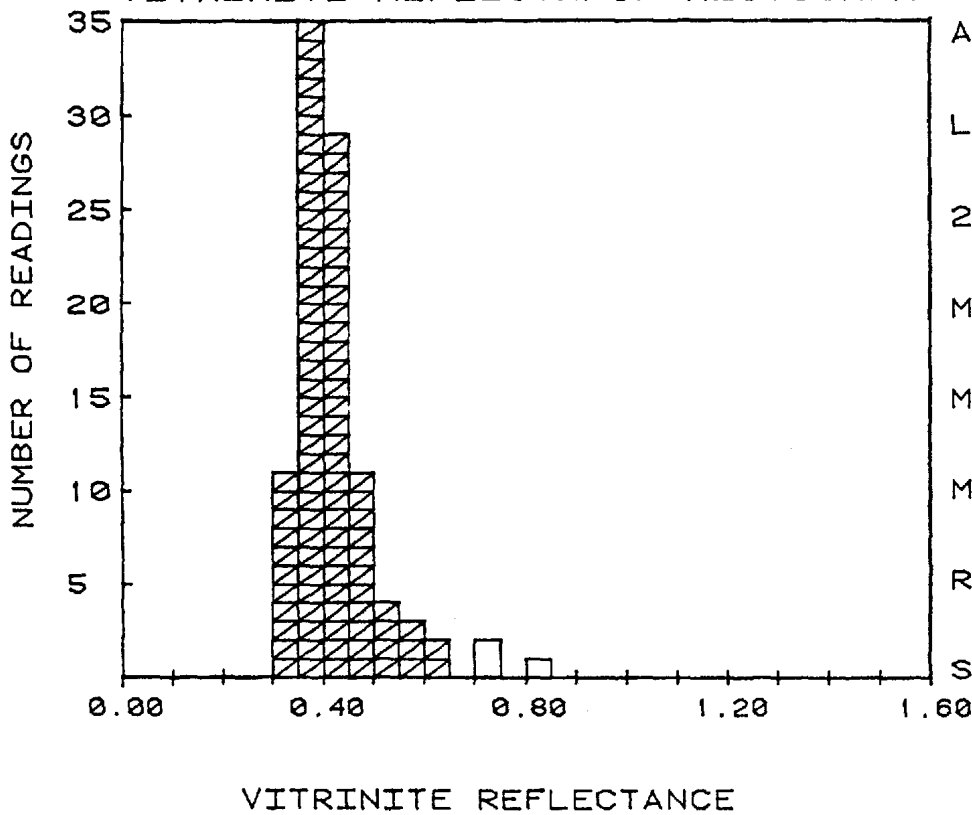
READINGS: 99

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.10	0	0.11	0	0.12	0	0.13	0	0.14	0	0.15	1
0.16	1	0.17	1	0.18	0	0.19	2	0.20	4	0.21	8
0.22	6	0.23	9	0.24	9	0.25	7	0.26	9	0.27	8
0.28	4	0.29	5	0.30	7	0.31	2	0.32	5	0.33	2
0.34	2	0.35	2	0.36	2	0.37	0	0.38	0	0.39	0
0.40	2	0.41	0	0.42	0	0.43	1	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



ATLANTIC RICHFIELD CO.

LORRAINE ST. NO. 1

2800-2830 FEET

MEAN REF.: 0.41%

MAX. REF.: 0.62%

MIN. REF.: 0.31%

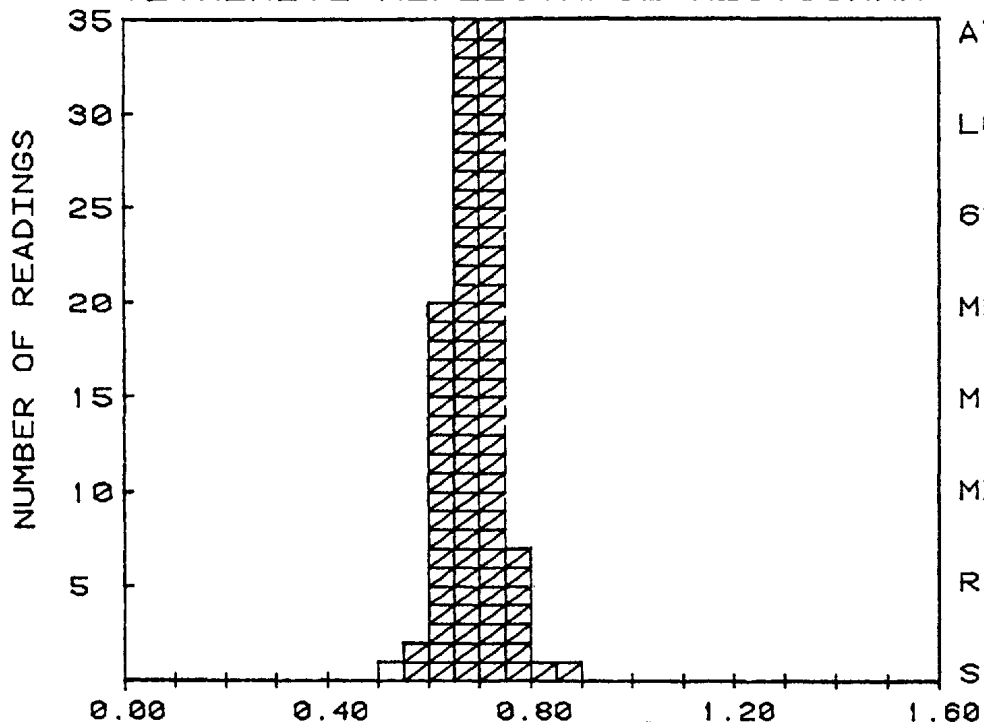
READINGS: 95

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.25	0	0.26	0	0.27	0	0.28	0	0.29	0	0.30	0
0.31	1	0.32	4	0.33	2	0.34	4	0.35	3	0.36	10
0.37	8	0.38	7	0.39	7	0.40	10	0.41	1	0.42	7
0.43	5	0.44	6	0.45	2	0.46	4	0.47	0	0.48	3
0.49	2	0.50	0	0.51	1	0.52	0	0.53	2	0.54	1
0.55	1	0.56	0	0.57	1	0.58	0	0.59	1	0.60	1
0.61	0	0.62	1	0.63	0	0.64	0	0.65	0	0.66	1
0.67	0	0.68	0	0.69	1	0.70	0	0.71	0	0.72	1
0.73	1	0.74	0	0.75	0	0.76	0	0.77	0	0.78	0
0.79	0	0.80	0	0.81	0	0.82	1	0.83	0	0.84	0
0.85	0	0.86	0	0.87	0	0.88	0	0.89	0	0.90	0
0.91	0	0.92	0	0.93	0	0.94	0	0.95	0	0.96	0
0.97	0	0.98	0	0.99	0	1.00	0	1.01	0	1.02	1

VITRINITE REFLECTANCE HISTOGRAM



ATLANTIC RICHFIELD CO.

LORRAINE ST. NO. 1

6340-6350 FEET

MEAN REF.: 0.68%

MAX. REF.: 0.85%

MIN. REF.: 0.57%

READINGS: 110

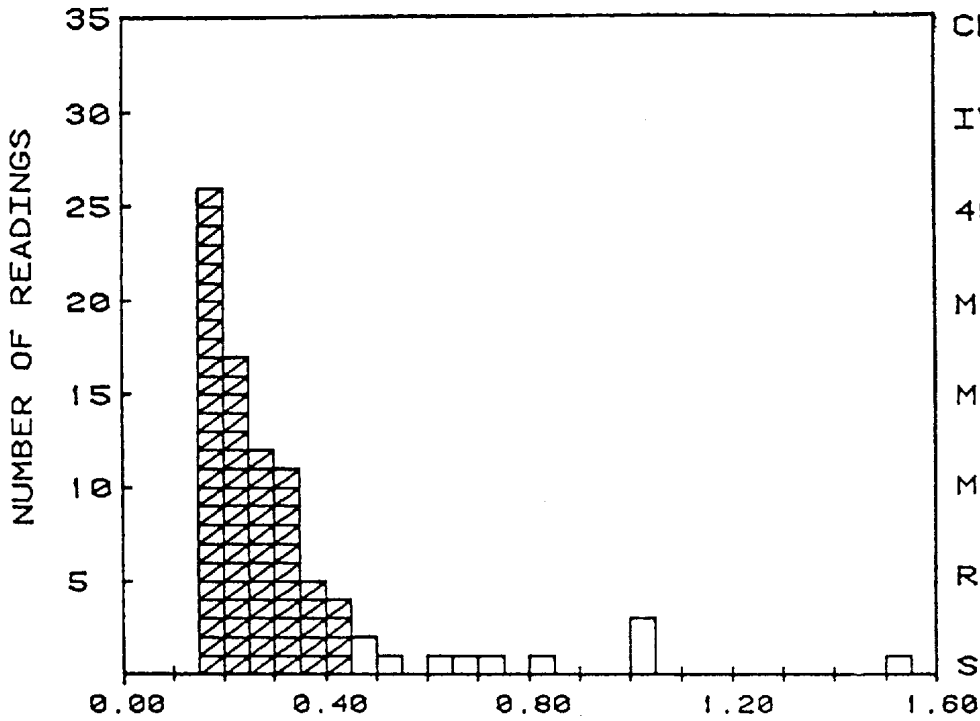
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.55	0	0.56	0	0.57	1	0.58	0	0.59	1	0.60	4
0.61	4	0.62	2	0.63	6	0.64	4	0.65	6	0.66	11
0.67	10	0.68	6	0.69	11	0.70	8	0.71	5	0.72	10
0.73	10	0.74	2	0.75	2	0.76	0	0.77	1	0.78	2
0.79	2	0.80	0	0.81	0	0.82	0	0.83	1	0.84	0
0.85	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



CHEVRON OIL CO.

IVAN RIVER UNIT 44-1

4900-4960 FEET

MEAN REF.: 0.25%

MAX. REF.: 0.44%

MIN. REF.: 0.15%

READINGS: 75

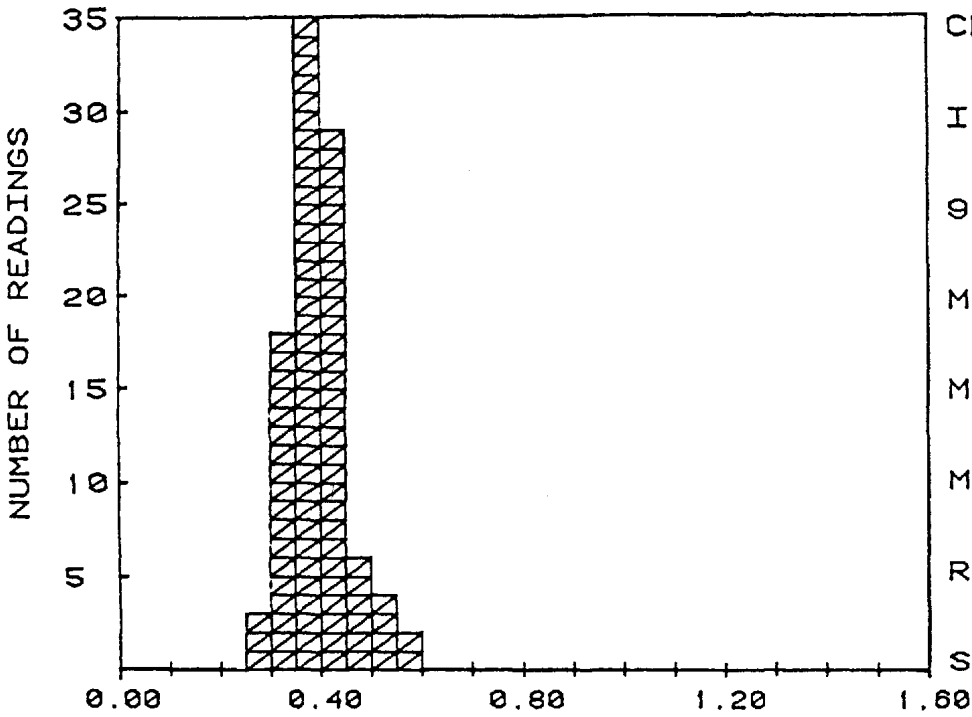
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.10	0	0.11	0	0.12	0	0.13	0	0.14	0	0.15	2
0.16	3	0.17	8	0.18	8	0.19	5	0.20	5	0.21	3
0.22	4	0.23	4	0.24	1	0.25	1	0.26	6	0.27	3
0.28	0	0.29	2	0.30	4	0.31	2	0.32	2	0.33	2
0.34	1	0.35	2	0.36	0	0.37	1	0.38	0	0.39	2
0.40	0	0.41	1	0.42	1	0.43	1	0.44	1	0.45	0
0.46	1	0.47	1	0.48	0	0.49	0	0.50	0	0.51	0
0.52	1	0.53	0	0.54	0	0.55	0	0.56	0	0.57	0
0.58	0	0.59	0	0.60	0	0.61	1	0.62	0	0.63	0
0.64	0	0.65	0	0.66	1	0.67	0	0.68	0	0.69	0
0.70	1	0.71	0	0.72	0	0.73	0	0.74	0	0.75	0
0.76	0	0.77	0	0.78	0	0.79	0	0.80	0	0.81	0
0.82	1	0.83	0	0.84	0	0.85	0	0.86	0	0.87	0
0.88	0	0.89	0	0.90	0	0.91	0	0.92	0	0.93	0
0.94	0	0.95	0	0.96	0	0.97	0	0.98	0	0.99	0
1.00	1	1.01	0	1.02	0	1.03	1	1.04	1	1.05	0
1.06	0	1.07	0	1.08	0	1.09	0	1.10	0	1.11	0
1.12	0	1.13	0	1.14	0	1.15	0	1.16	0	1.17	0
1.18	0	1.19	0	1.20	0	1.21	0	1.22	0	1.23	0
1.24	0	1.25	0	1.26	0	1.27	0	1.28	0	1.29	0
1.30	0	1.31	0	1.32	0	1.33	0	1.34	0	1.35	0
1.36	0	1.37	0	1.38	0	1.39	0	1.40	0	1.41	0
1.42	0	1.43	0	1.44	0	1.45	0	1.46	0	1.47	0
1.48	0	1.49	0	1.50	1	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



CHEVRON OIL CO.

IVAN RIVER UNIT 44-1

9900-9920 FEET

MEAN REF.: 0.39%

MAX. REF.: 0.58%

MIN. REF.: 0.28%

READINGS: 100

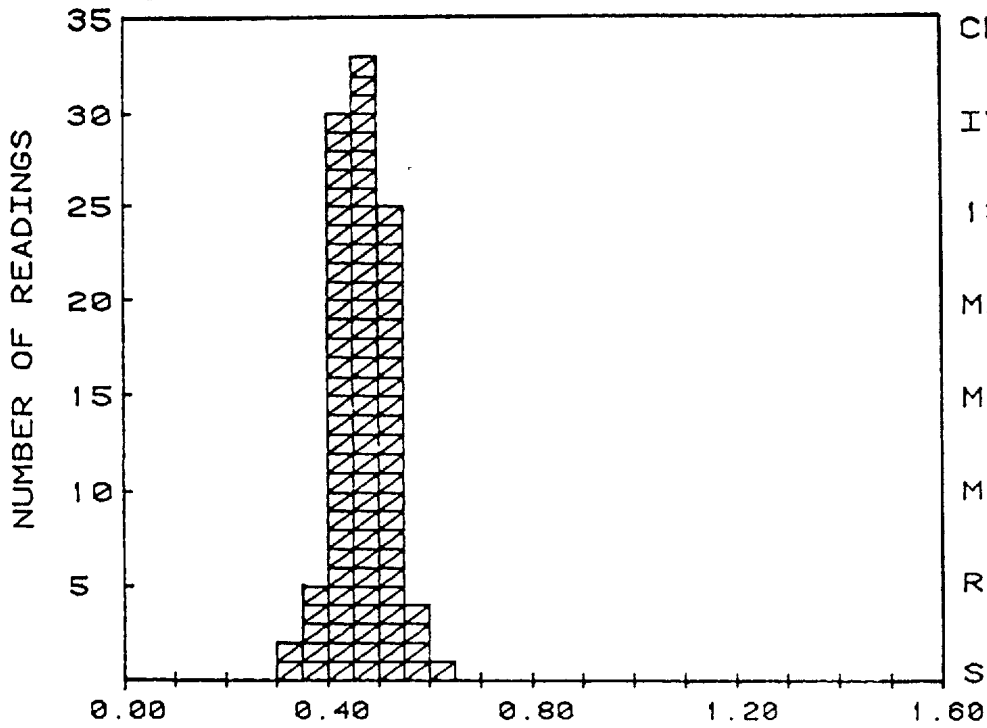
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.25	0	0.26	0	0.27	0	0.28	2	0.29	1	0.30	2
0.31	3	0.32	2	0.33	7	0.34	4	0.35	5	0.36	8
0.37	9	0.38	6	0.39	10	0.40	7	0.41	3	0.42	9
0.43	4	0.44	6	0.45	1	0.46	4	0.47	0	0.48	0
0.49	1	0.50	2	0.51	0	0.52	0	0.53	1	0.54	1
0.55	0	0.56	1	0.57	0	0.58	1	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



CHEVRON OIL CO.

IVAN RIVER UNIT 44-1

13260-13270 FEET

MEAN REF.: 0.46%

MAX. REF.: 0.63%

MIN. REF.: 0.32%

READINGS: 100

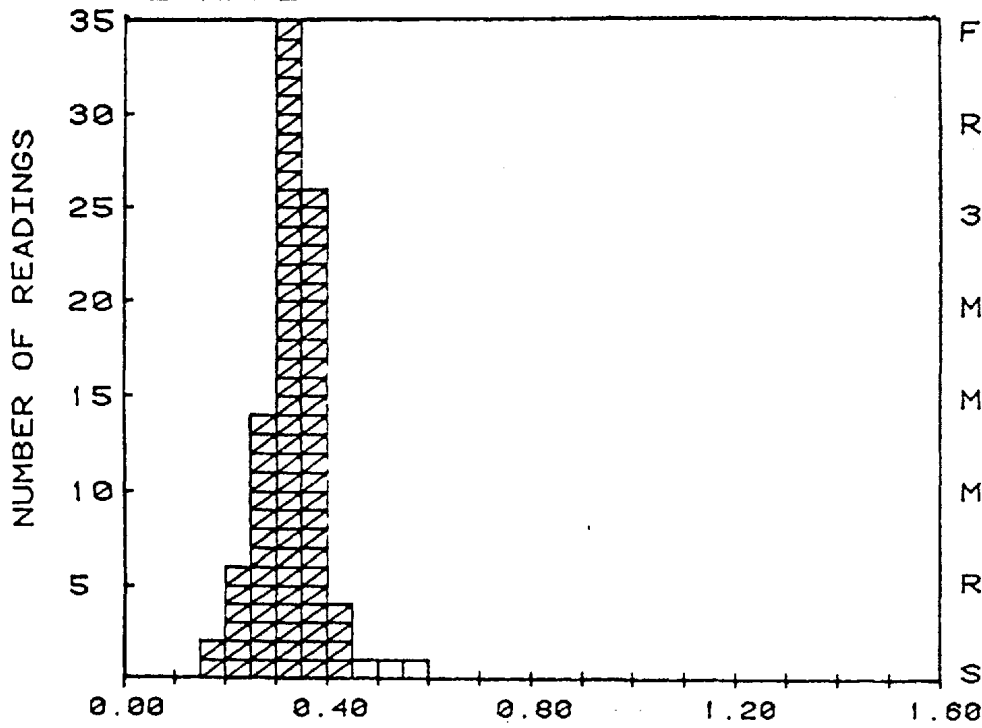
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.30	0	0.31	0	0.32	1	0.33	1	0.34	0	0.35	0
0.36	0	0.37	2	0.38	0	0.39	3	0.40	3	0.41	9
0.42	5	0.43	10	0.44	3	0.45	9	0.46	7	0.47	6
0.48	4	0.49	7	0.50	8	0.51	4	0.52	4	0.53	5
0.54	4	0.55	1	0.56	0	0.57	0	0.58	0	0.59	3
0.60	0	0.61	0	0.62	0	0.63	1	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



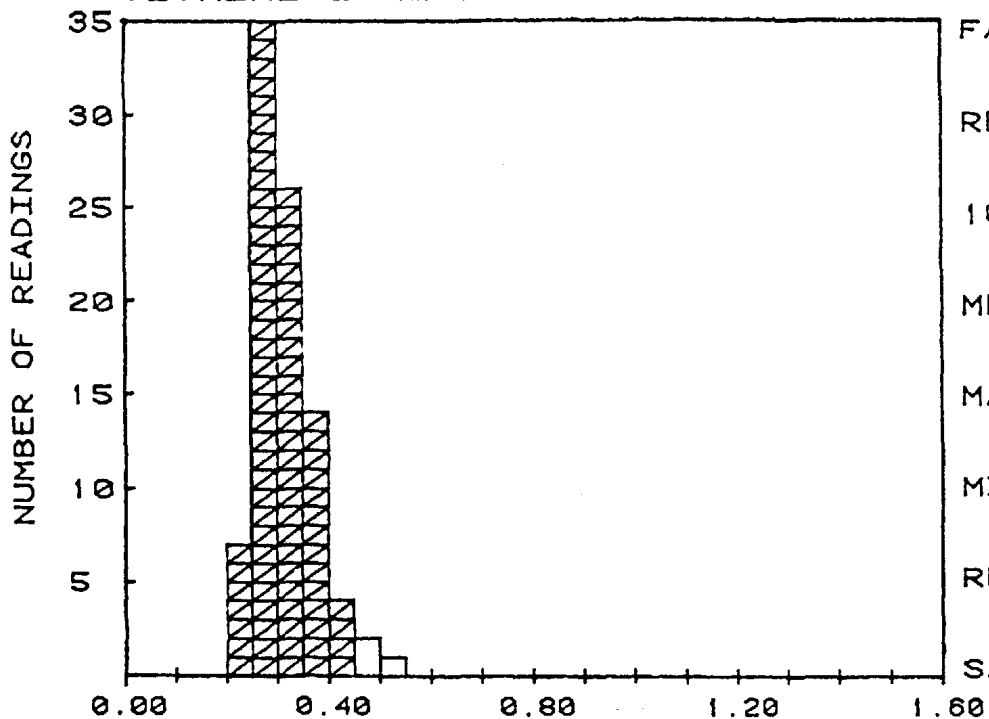
FARM OIL CO.
 RED SHIRT LAKE NO. 1
 380-400 FEET
 MEAN REF.: 0.32%
 MAX. REF.: 0.44%
 MIN. REF.: 0.19%
 READINGS: 97
 SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.15	0	0.16	0	0.17	0	0.18	0	0.19	2	0.20	2
0.21	1	0.22	3	0.23	0	0.24	0	0.25	2	0.26	2
0.27	1	0.28	3	0.29	6	0.30	8	0.31	7	0.32	10
0.33	13	0.34	7	0.35	8	0.36	2	0.37	10	0.38	2
0.39	4	0.40	2	0.41	1	0.42	0	0.43	0	0.44	1
0.45	0	0.46	0	0.47	1	0.48	0	0.49	0	0.50	0
0.51	0	0.52	1	0.53	0	0.54	0	0.55	0	0.56	0
0.57	0	0.58	0	0.59	1	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



FARM OIL CO.

RED SHIRT LAKE NO. 1

1000-1020 FEET

MEAN REF.: 0.30%

MAX. REF.: 0.42%

MIN. REF.: 0.21%

READINGS: 97

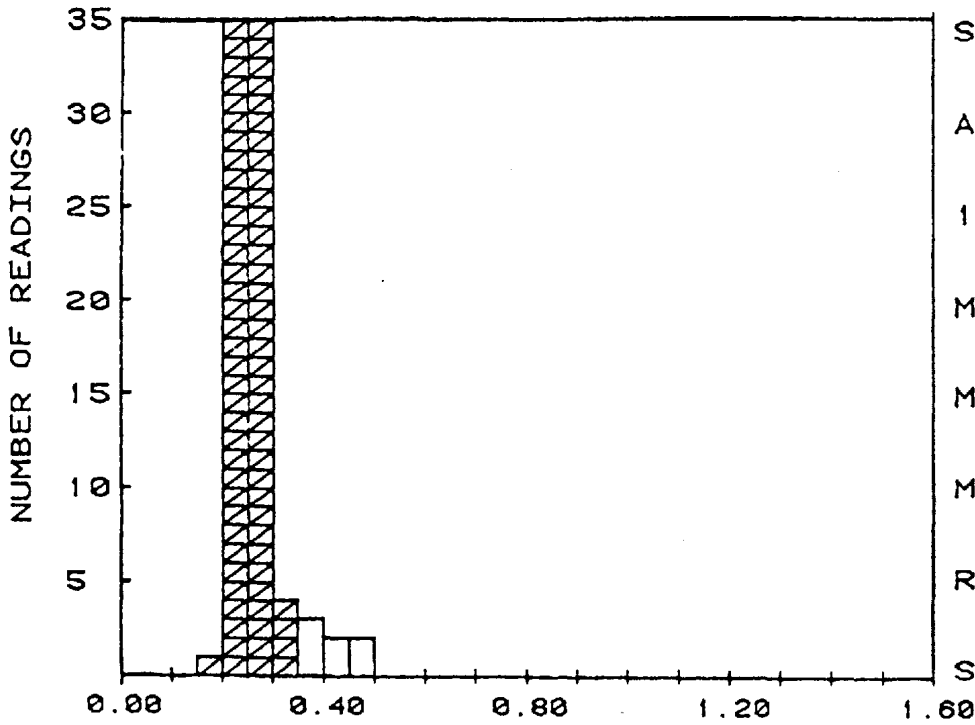
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.20	0	0.21	1	0.22	2	0.23	0	0.24	4	0.25	10
0.26	10	0.27	12	0.28	5	0.29	9	0.30	7	0.31	5
0.32	8	0.33	2	0.34	4	0.35	4	0.36	3	0.37	2
0.38	3	0.39	2	0.40	2	0.41	0	0.42	2	0.43	0
0.44	0	0.45	0	0.46	1	0.47	0	0.48	1	0.49	0
0.50	0	0.51	1	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



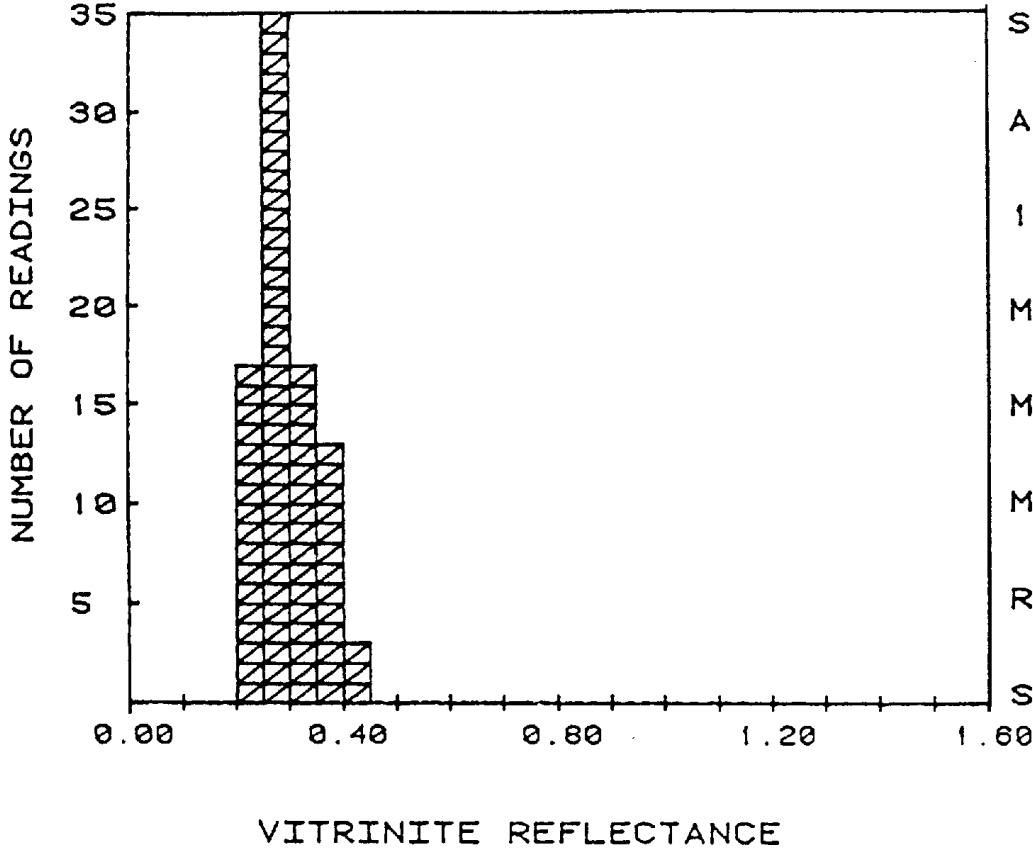
STANDARD OIL CALIF.
 ANCHOR POINT NO. 1
 1170-1180 FEET
 MEAN REF.: 0.25%
 MAX. REF.: 0.31%
 MIN. REF.: 0.18%
 READINGS: 93
 SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.15	0	0.16	0	0.17	0	0.18	1	0.19	0	0.20	2
0.21	3	0.22	7	0.23	21	0.24	14	0.25	13	0.26	11
0.27	8	0.28	6	0.29	4	0.30	2	0.31	1	0.32	0
0.33	0	0.34	1	0.35	0	0.36	1	0.37	0	0.38	1
0.39	1	0.40	0	0.41	1	0.42	0	0.43	0	0.44	1
0.45	2	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM

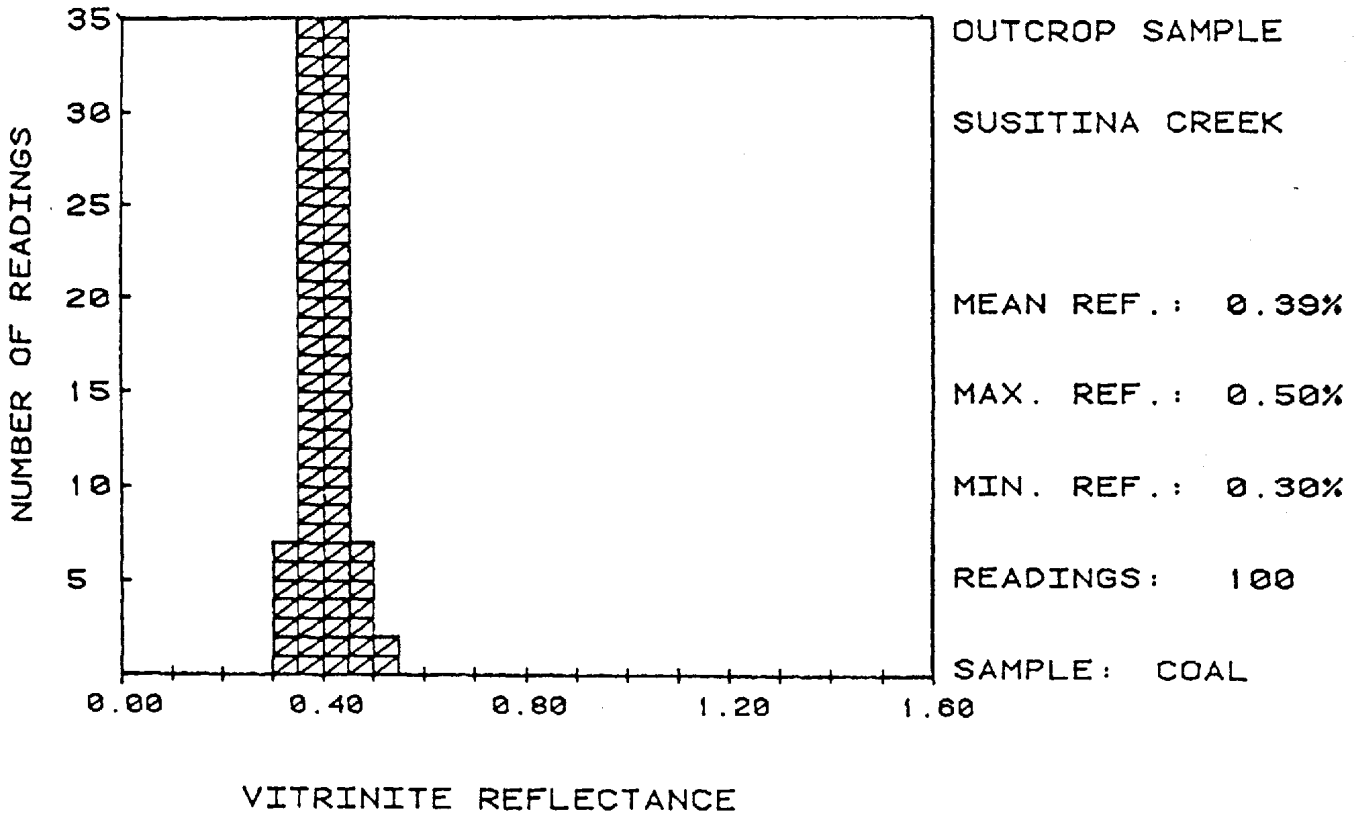


STANDARD OIL CALIF.
 ANCHOR POINT NO. 1
 1450-1480 FEET
 MEAN REF.: 0.29%
 MAX. REF.: 0.44%
 MIN. REF.: 0.20%
 READINGS: 91
 SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.15	0	0.16	0	0.17	0	0.18	0	0.19	0	0.20	1
0.21	3	0.22	5	0.23	4	0.24	4	0.25	9	0.26	13
0.27	5	0.28	9	0.29	5	0.30	5	0.31	5	0.32	3
0.33	2	0.34	2	0.35	3	0.36	4	0.37	3	0.38	2
0.39	1	0.40	0	0.41	1	0.42	0	0.43	0	0.44	2

VITRINITE REFLECTANCE HISTOGRAM



VITRINITE REFLECTANCE DATA

Rc	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.25	0	0.26	0	0.27	0	0.28	0	0.29	0	0.30	1
0.31	0	0.32	1	0.33	2	0.34	3	0.35	8	0.36	7
0.37	13	0.38	8	0.39	11	0.40	9	0.41	9	0.42	4
0.43	10	0.44	5	0.45	3	0.46	0	0.47	1	0.48	3
0.49	0	0.50	2	0.00	0	0.00	0	0.00	0	0.00	0

REFLECTANCE ANALYSIS

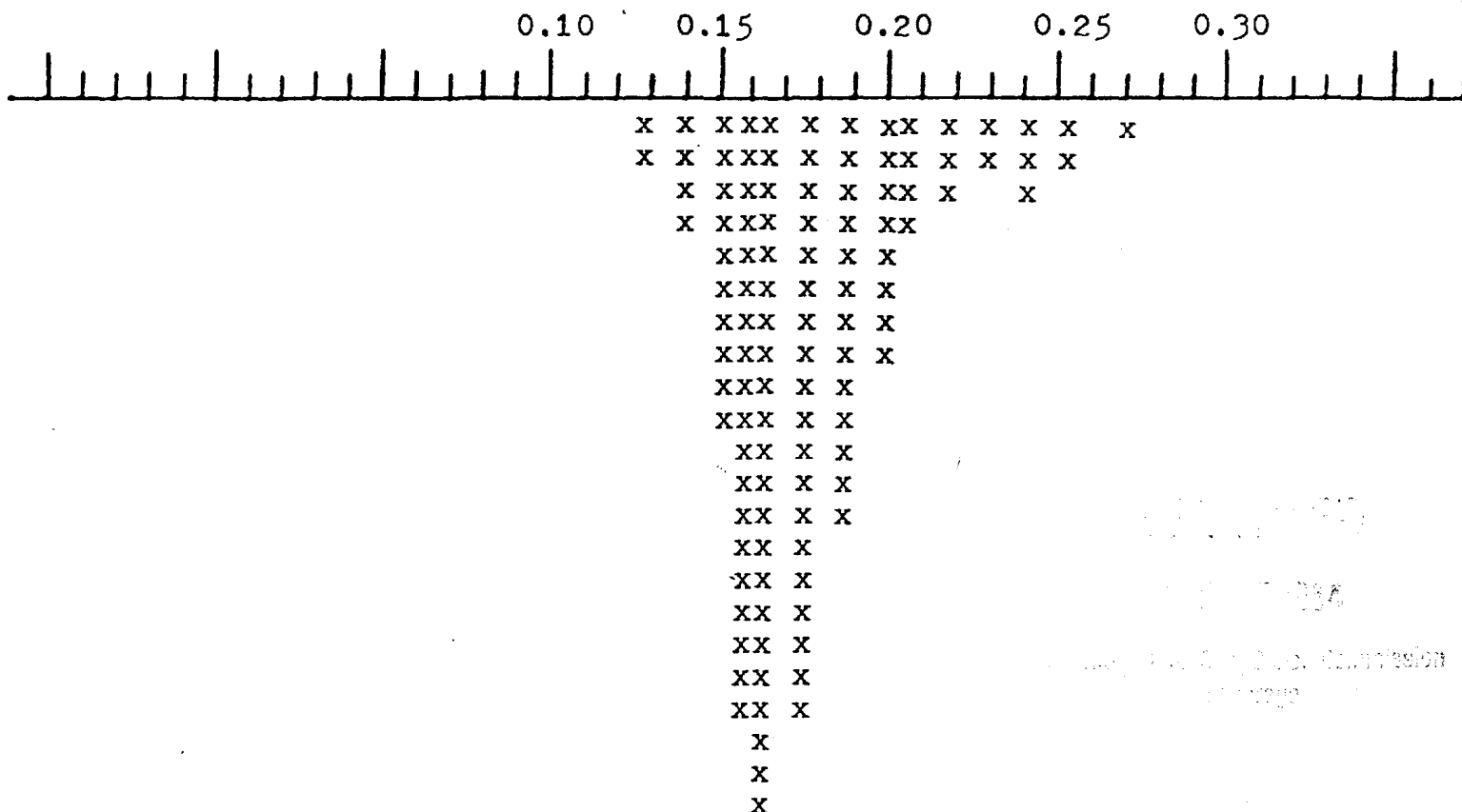
WAL Batch: 8423-110-06

Report of Analysis on Sample: Arco Rainbow #1 1095 - 1124 ft

Mean-Maximum Vitrinite Ro: 0.18

Distribution of Vitrinite Reflectance Readings:

%Ro



Number of

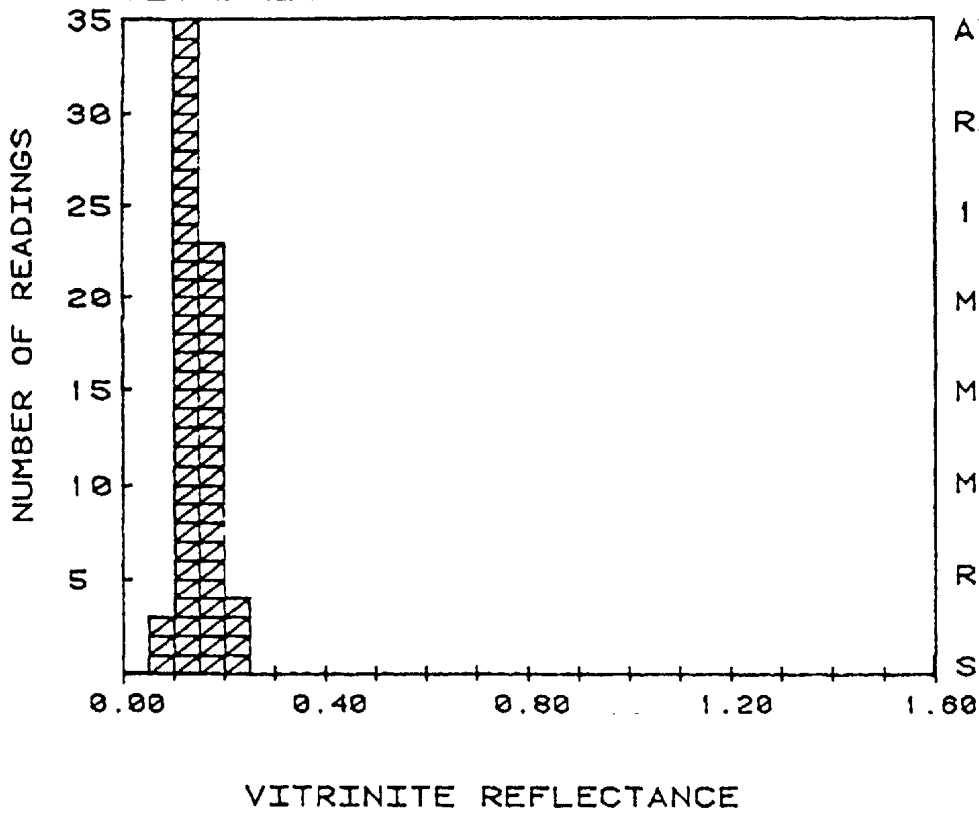
Counts

(Total = 112)

V-Type Table for Vitrinites (=100%)

<u>V- 1</u>	<u>V- 2</u>	<u>V- _____</u>	<u>V- _____</u>
79.5	20.5		

VITRINITE REFLECTANCE HISTOGRAM



ATLANTIC RICHFIELD CO.

RAINBOW

1095-1124 FEET

MEAN REF. : 0.13%

MAX. REF. : 0.21%

MIN. REF. : 0.09%

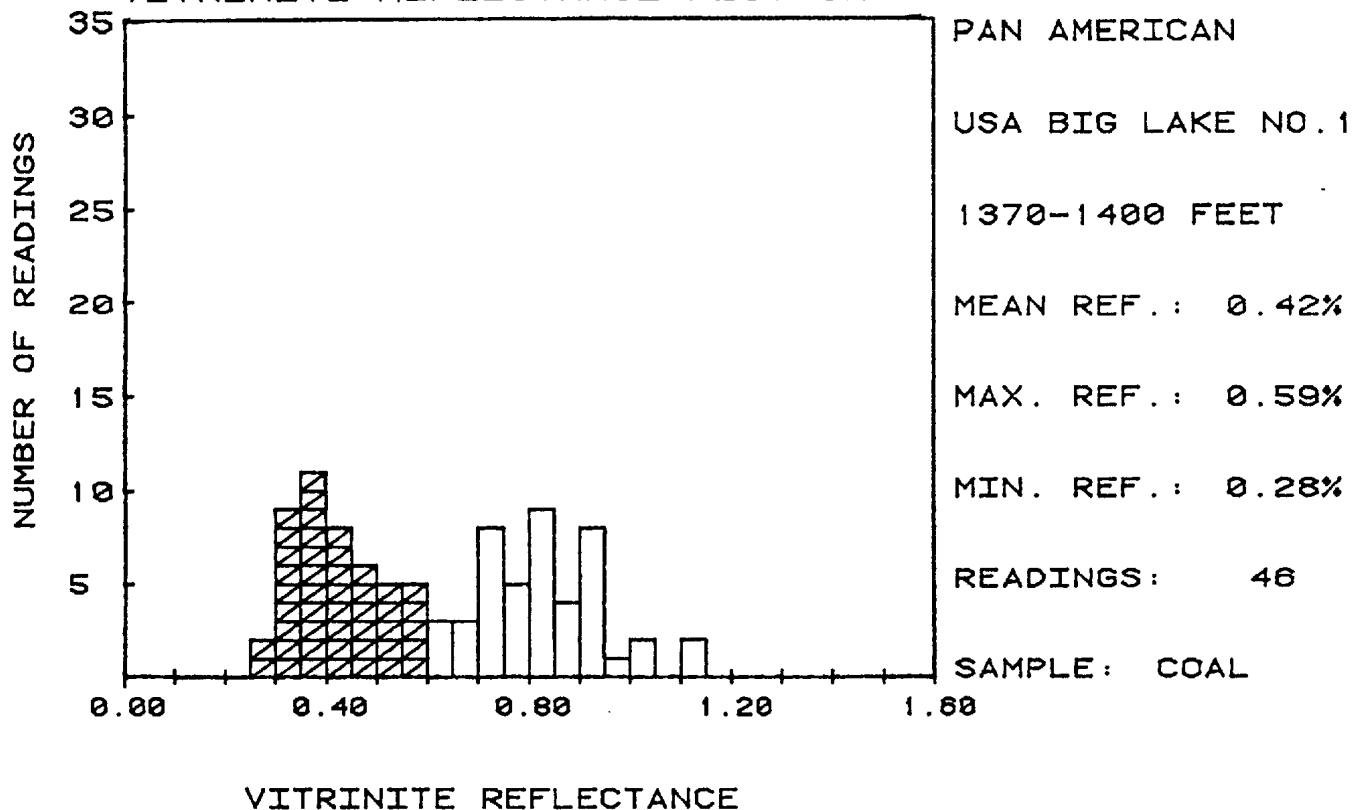
READINGS: 97

SAMPLE: COAL

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.05	0	0.06	0	0.07	0	0.08	0	0.09	3	0.10	15
0.11	14	0.12	18	0.13	11	0.14	9	0.15	5	0.16	5
0.17	6	0.18	4	0.19	3	0.20	2	0.21	2	0.00	0

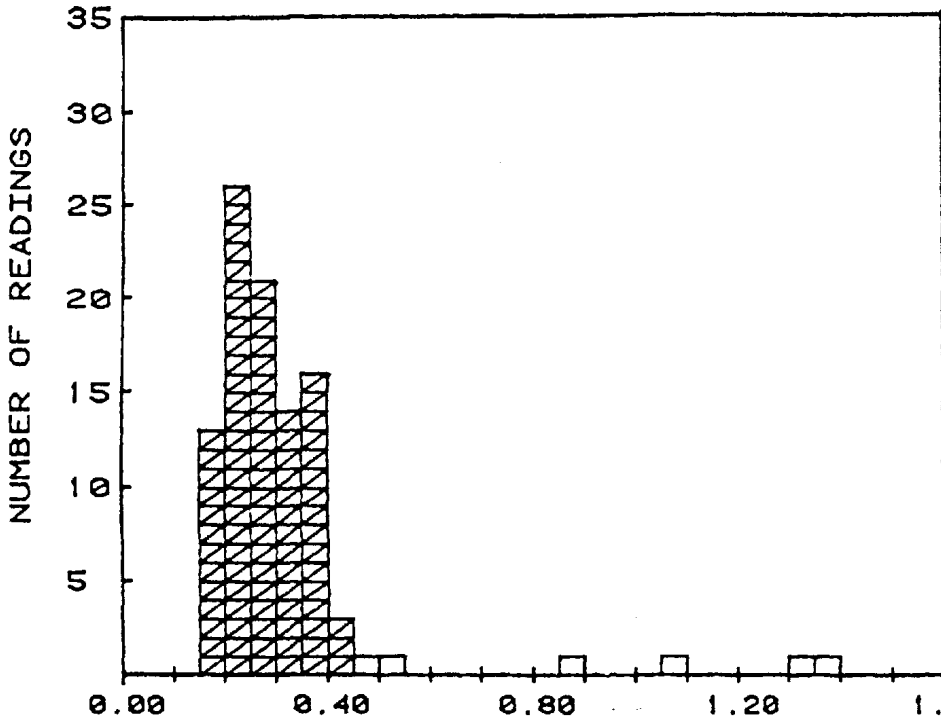
VITRINITE REFLECTANCE HISTOGRAM



VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.25	0	0.26	0	0.27	0	0.28	1	0.29	1	0.30	0
0.31	0	0.32	1	0.33	6	0.34	2	0.35	6	0.36	1
0.37	2	0.38	1	0.39	1	0.40	0	0.41	2	0.42	3
0.43	1	0.44	2	0.45	1	0.46	2	0.47	0	0.48	2
0.49	1	0.50	0	0.51	1	0.52	0	0.53	1	0.54	3
0.55	1	0.56	0	0.57	0	0.58	1	0.59	3	0.60	0
0.61	1	0.62	0	0.63	1	0.64	1	0.65	1	0.66	0
0.67	2	0.68	0	0.69	0	0.70	0	0.71	0	0.72	2
0.73	4	0.74	2	0.75	1	0.76	3	0.77	0	0.78	0
0.79	1	0.80	3	0.81	0	0.82	2	0.83	3	0.84	1
0.85	0	0.86	1	0.87	1	0.88	1	0.89	1	0.90	2
0.91	1	0.92	2	0.93	2	0.94	1	0.95	0	0.96	0
0.97	0	0.98	1	0.99	0	1.00	2	1.01	0	1.02	0
1.03	0	1.04	0	1.05	0	1.06	0	1.07	0	1.08	0
1.09	0	1.10	0	1.11	0	1.12	2	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM



TEXAS INT. PET. CORP.

PRETTY CREEK NO. 1

380-410 FEET

MEAN REF.: 0.27%

MAX. REF.: 0.41%

MIN. REF.: 0.16%

READINGS: 93

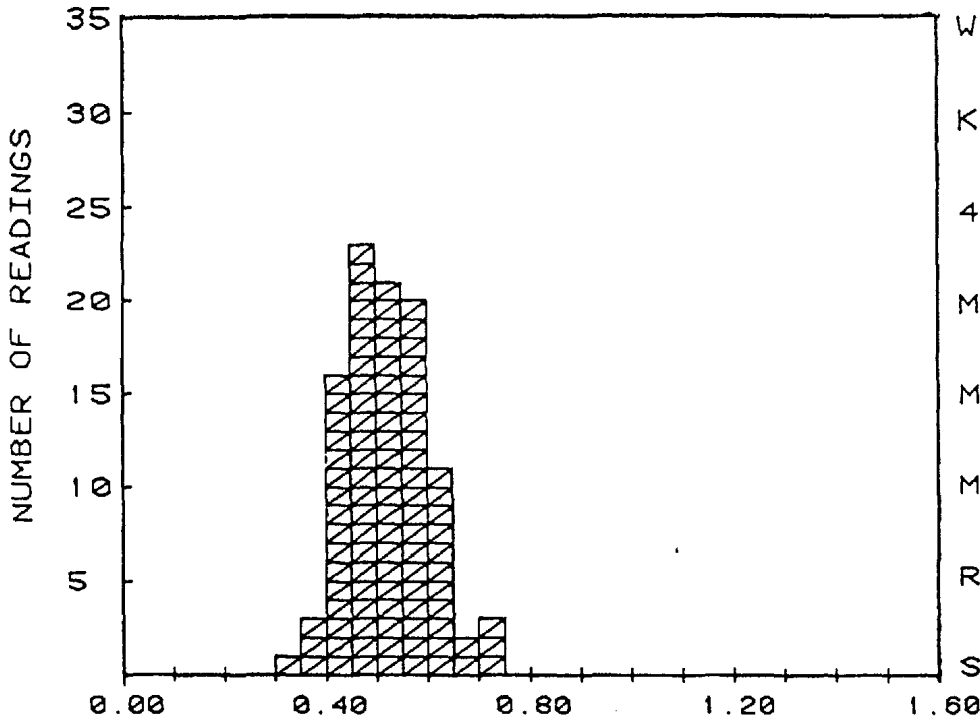
SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.15	0	0.16	2	0.17	3	0.18	5	0.19	3	0.20	3
0.21	4	0.22	3	0.23	7	0.24	9	0.25	4	0.26	5
0.27	5	0.28	4	0.29	3	0.30	4	0.31	3	0.32	2
0.33	2	0.34	3	0.35	3	0.36	9	0.37	2	0.38	1
0.39	1	0.40	1	0.41	2	0.42	0	0.43	0	0.44	0
0.45	0	0.46	1	0.47	0	0.48	0	0.49	0	0.50	1
0.51	0	0.52	0	0.53	0	0.54	0	0.55	0	0.56	0
0.57	0	0.58	0	0.59	0	0.60	0	0.61	0	0.62	0
0.63	0	0.64	0	0.65	0	0.66	0	0.67	0	0.68	0
0.69	0	0.70	0	0.71	0	0.72	0	0.73	0	0.74	0
0.75	0	0.76	0	0.77	0	0.78	0	0.79	0	0.80	0
0.81	0	0.82	0	0.83	0	0.84	0	0.85	0	0.86	1
0.87	0	0.88	0	0.89	0	0.90	0	0.91	0	0.92	0
0.93	0	0.94	0	0.95	0	0.96	0	0.97	0	0.98	0
0.99	0	1.00	0	1.01	0	1.02	0	1.03	0	1.04	0
1.05	1	1.06	0	1.07	0	1.08	0	1.09	0	1.10	0
1.11	0	1.12	0	1.13	0	1.14	0	1.15	0	1.16	0
1.17	0	1.18	0	1.19	0	1.20	0	1.21	0	1.22	0
1.23	0	1.24	0	1.25	0	1.26	0	1.27	0	1.28	0
1.29	0	1.30	0	1.31	0	1.32	0	1.33	1	1.34	0
1.35	0	1.36	1	0.00	0	0.00	0	0.00	0	0.00	0

VITRINITE REFLECTANCE HISTOGRAM

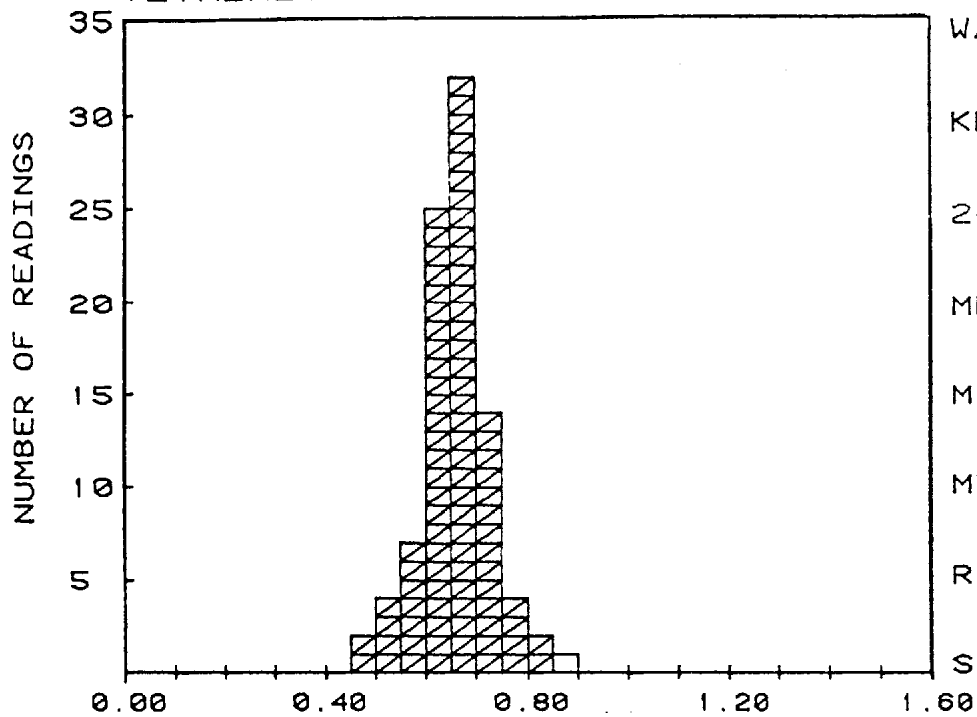


VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.	R _v	Ct.
0.30	0	0.31	0	0.32	0	0.33	1	0.34	0	0.35	0
0.35	0	0.37	2	0.38	0	0.39	1	0.40	5	0.41	1
0.42	2	0.43	3	0.44	5	0.45	3	0.46	3	0.47	6
0.48	8	0.49	3	0.50	4	0.51	7	0.52	3	0.53	2
0.54	5	0.55	4	0.56	7	0.57	3	0.58	4	0.59	2
0.60	4	0.61	1	0.62	1	0.63	3	0.64	2	0.65	0
0.66	0	0.67	1	0.68	0	0.69	1	0.70	0	0.71	3

VITRINITE REFLECTANCE HISTOGRAM



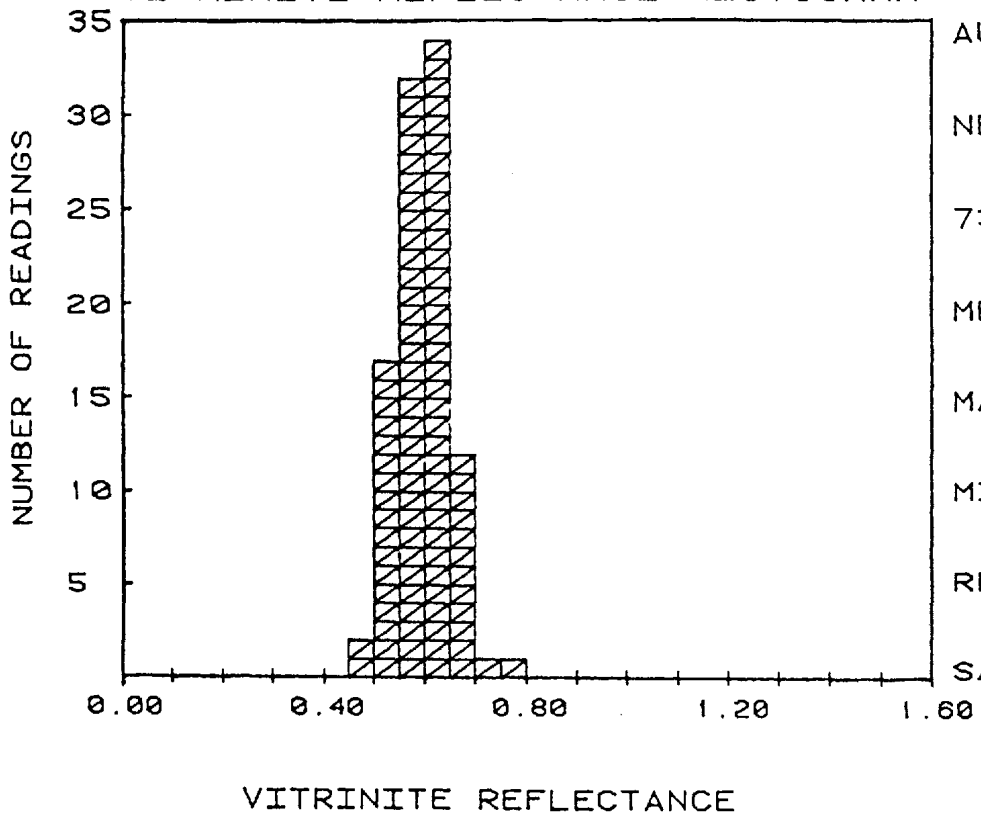
WALLACE MINING CO.
 KNUTSON NO. 1A
 2430-2440 FEET
 MEAN REF.: 0.65%
 MAX. REF.: 0.80%
 MIN. REF.: 0.48%
 READINGS: 90
 SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.45	0	0.46	0	0.47	0	0.48	2	0.49	0	0.50	0
0.51	1	0.52	0	0.53	1	0.54	2	0.55	3	0.56	1
0.57	1	0.58	1	0.59	1	0.60	2	0.61	7	0.62	2
0.63	7	0.64	7	0.65	6	0.66	5	0.67	7	0.68	7
0.69	7	0.70	1	0.71	5	0.72	6	0.73	0	0.74	2
0.75	1	0.76	1	0.77	1	0.78	0	0.79	1	0.80	2
0.81	0	0.82	0	0.83	0	0.84	0	0.85	0	0.86	1

VITRINITE REFLECTANCE HISTOGRAM



AUSTRAL OIL CO.
 NEEDHAM NO. 1
 730-750 FEET
 MEAN REF.: 0.59%
 MAX. REF.: 0.75%
 MIN. REF.: 0.47%
 READINGS: 99
 SAMPLE: COAL

VITRINITE REFLECTANCE

VITRINITE REFLECTANCE DATA

Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.	Ro	Ct.
0.45	0	0.46	0	0.47	1	0.48	0	0.49	1	0.50	2
0.51	2	0.52	4	0.53	1	0.54	8	0.55	5	0.56	3
0.57	9	0.58	5	0.59	10	0.60	12	0.61	7	0.62	9
0.62	4	0.64	7	0.65	2	0.66	2	0.67	3	0.68	2
0.69	3	0.70	1	0.71	0	0.72	0	0.73	0	0.74	0
0.75	1	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0