Organic Carbon, Rock-eval Pyrolysis, Kerogen Type, Maturation, and Vitrinite Reflectance Geochemical Data, and a Source Rock Evaluation for the Exxon OCS-Y-0280-1 (Antares No. 1) Well.

31 December 1987 Report contains a total of 10 pages

Geologic Materials Center Data Report 72

TABLE I

ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

EXXON ANTARES #1 WELL
BEAUFORT SEA, ALASKA

EPTD SAMPLE NO.	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	%ORGANIC CARBON	S1	S2	S1+S2	S3	HI S2/OC	OI S3/OC	KTR S1/S1+S2	TMAX DEG C	FORMATION
1093B-001	7250	7259	3.09	0.61	5.88	6.49	0.28	191.	9.	0.09	451	PEBBLE SHALE
1093B-002	7260	7269	3.12	0.65	6.51	7.16	0.57	208.	18.	0.09	450	
1093B-003	7270	7277	3.14	0.72	8.53	9.25	0.42	272.	13.	0.08	450	
1093B-004	7280	7289	3.35	0.50	4.75	5.25	0.31	142.	9.	0.10	454	
1093B-005	7290	7299	2.94	0.60	4.94	5.54	0.32	168.	11.	0.11	453	
1093B-006	7300	7309	2.99	0.54	4.48	5.02	0.30	150.	10.	0.11	451	
1093B-007	7310	7319	2.92	0.52	4.12	4.64	0.16	141.	5.	0.11	453	
1093B-008	7320	7327	2.62	0.42	3.11	3.53	0.29	119.	11.	0.12	452	
1093B-009	7340	7349	3.23	0.43	2.26	2.69	0.20	70.	6.	0.16	457	
1093B-010	7350	7356	2.44	0.31	1.31	1.62	0.32	54.	13.	0.19	449	
1093B-011	7357	7363	2.59	0.39	1.52	1.91	0.68	59.	26.	0.20	450	
1093B-012	7364	7369	2.08	0.28	1.00	1.28	0.18	48.	9.	0.22	I	
1093B-013	7370	7379	2.10	0.35	2.71	3.06	1.60	129.	76.	0.11	435	
1093B-014	7380	7389	1.41	0.18	0.89	1.07	1.75	63.	124.	0.17	I	
1093B-015	7390	7398	1.93	0.28	0.68	0.96	0.45	35.	23.	I	I	
1093B-016	7399	7409	2.20	0.25	0.73	0.98	1.25	33.	57.	0.26	I	
1093B-017	7410	7419	3.59	0.52	1.59	2.11	0.45	44.	13.	0.25	444	
1093B-018	7420	7429	2.99	0.44	1.45	1.89	0.83	48.	28.	0.23	448	
1093B-019	7430	7439	2.17	0.25	0.93	1.18	2.06	43.	95.	0.21	I	
1093B-020	7440	7449	2.11	0.26	0.76	1.02	1.17	36.	55.	0.25	I	
1093B-021	7450	7459	2.08	0.36	0.93	1.29	0.21	45.	10.	0.28	I	
1093B-022	7460	7469	0.69									
1093B-023	7470	7479	0.74									
1093B-024	7480	7489	0.88									
1093B-025	7490	7499	0.73									
1093B-026	7500	7509	0.81									
1093B-027	7510	7519	0.93									
1093B-028	7520	7529	1.00	0.32	1.23	1.55	0.42	123.	42.	0.21	445	
1093B-029	7530	7539	1.24	0.50	1.98	2.48	0.61	160.	49.	0.20	437	
1093B-030	7540	7549	0.90									
1093B-031	7550	7559	1.05	0.45	1.39	1.84	0.40	132.	38.	0.24	438	
1093B-032	7560	7568	1.00	1.05	2.17	3.22	0.39	217.	39.	0.33	447	
1093B-033	7650	7659	0.56									KINGAK
1093B-034	7660	7669	0.65									
1093B-035	7670	7679	0.59									
1093B-036	7680	7689	0.58									
1093B-037	7699	7699	0.50									
1093B-038	7700	7709	0.54									
1093B-039	7710	7719	0.50									
1093B-040	7720	7729	0.49									
1093B-041	7730	7739	0.48									
1093B-042	7740	7749	0.52									

TABLE I

ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

EXXON ANTARES #1 WELL
BEAUFORT SEA, ALASKA

EPTD SAMPLE NO.	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	%ORGANIC CARBON	S1	S2	S1+S2	S3	HI S2/OC	OI S3/OC	KTR S1/S1+S2	TMAX DEG C	FORMATION
1093B-043	7755	7759	0.53									
1093B-044	7760	7769	0.58									
1093B-045	7770	7779	0.58									
1093B-046	7780	7789	0.56									
1093B-047	7790	7799	0.44									
1093B-048	7800	7809	0.50									
1093B-049	7819	7819	0.30									SAG RIVER
1093B-050	7830	7830	0.48									
1093B-051	7819	7819	1.05	0.10	0.36	0.46	0.79	34.	75.	I	I	
1093B-052	7830	7830	0.43									
1093B-053	7858	7858	0.32									SHUBLIK
1093B-054	7875	7875	0.47									
1093B-055	7885	7885	0.23									
1093B-056	7892	7892	0.52									
1093B-057	7909	7909	0.26									
1093B-058	7922	7922	0.85									
1093B-059	7936	7936	0.46									
1093B-060	7946	7946	0.47									
1093B-061	7961	7961	0.68									
1093B-062	7970	7979	1.06	0.27	1.54	1.81	0.28	146.	27.	0.15	439	
1093B-063	7980	7989	1.14	0.32	1.81	2.13	0.36	159.	32.	0.15	446	
1093B-064	7990	7999	0.99	0.30	0.96	1.26	0.44	97.	45.	0.24	I	
1093B-065	8000	8007	1.36	0.37	1.57	1.94	0.42	116.	31.	0.19	439	
1093B-066	8016	8016	1.27	0.20	0.56	0.76	7.20	44.	565.	I	I	
1093B-067	8045	8054	1.53	0.63	5.33	5.96	0.58	349.	38.	0.11	445	
1093B-068	8055	8064	1.34	0.48	4.03	4.51	0.49	302.	37.	0.11	443	
1093B-069	8065	8074	1.54	0.55	4.42	4.97	0.53	287.	34.	0.11	443	
1093B-070	8075	8084	1.56	0.48	3.32	3.80	0.54	212.	35.	0.13	445	
1093B-071	8085	8087	3.14	1.11	11.39	12.50	0.97	362.	31.	0.09	442	
1093B-072	8152	8159	0.66									SADLEROCHIT
1093B-073	8205	8205	0.19									

TABLE I

ORGANIC CARBON AND ROCK-EVAL PYROLYSIS DATA

EXXON ANTARES #1 WELL
BEAUFORT SEA, ALASKA

S1	- DISTILLABLE HYDROCARBONS PRESENT IN ROCK (MG/G OF ROCK)
S2	- GENERATED HYDROCARBONS FROM PYROLYSIS OF KEROGEN ... HYDROCARBON GENERATION POTENTIAL OF THE ROCK (MG/G OF ROCK)
S1+S2	- TOTAL HYDROCARBON POTENTIAL OF THE ROCK (MG/G OF ROCK)
S3	- CO2 GENERATED FROM KEROGEN PYROLYSIS (MG/G OF ROCK)
HI	- HYDROGEN INDEX (MG GENERATED HYDROCARBONS / G OF ORGANIC CARBON)
OI	- OXYGEN INDEX (MG CO2 / G OF ORGANIC CARBON)
KTR	- KEROGEN TRANSFORMATION RATIO ... PROPORTION OF DISTILLABLE HYDROCARBONS TO TOTAL HYDROCARBON POTENTIAL ... USED AS A MATURATION INDEX WHEN SAMPLES ARE CONTAMINATION-FREE
TMAX	- PYROLYSIS TEMPERATURE AT WHICH A MAXIMUM YIELD OF GENERATED HYDROCARBONS OCCURS ... TMAX INCREASES WITH INCREASING MATURATION
I	- HYDROCARBON YIELDS (S1 AND/OR S2) ARE TOO LOW FOR RELIABLE INTERPRETATIONS
U	- TMAX IS LESS THAN 400 DEGREES C AND IS NOT REPRESENTATIVE OF KEROGEN TRANSFORMATION

FIGURE 1

TOTAL HYDROCARBON GENERATION POTENTIAL

EXXON ANTARES #1

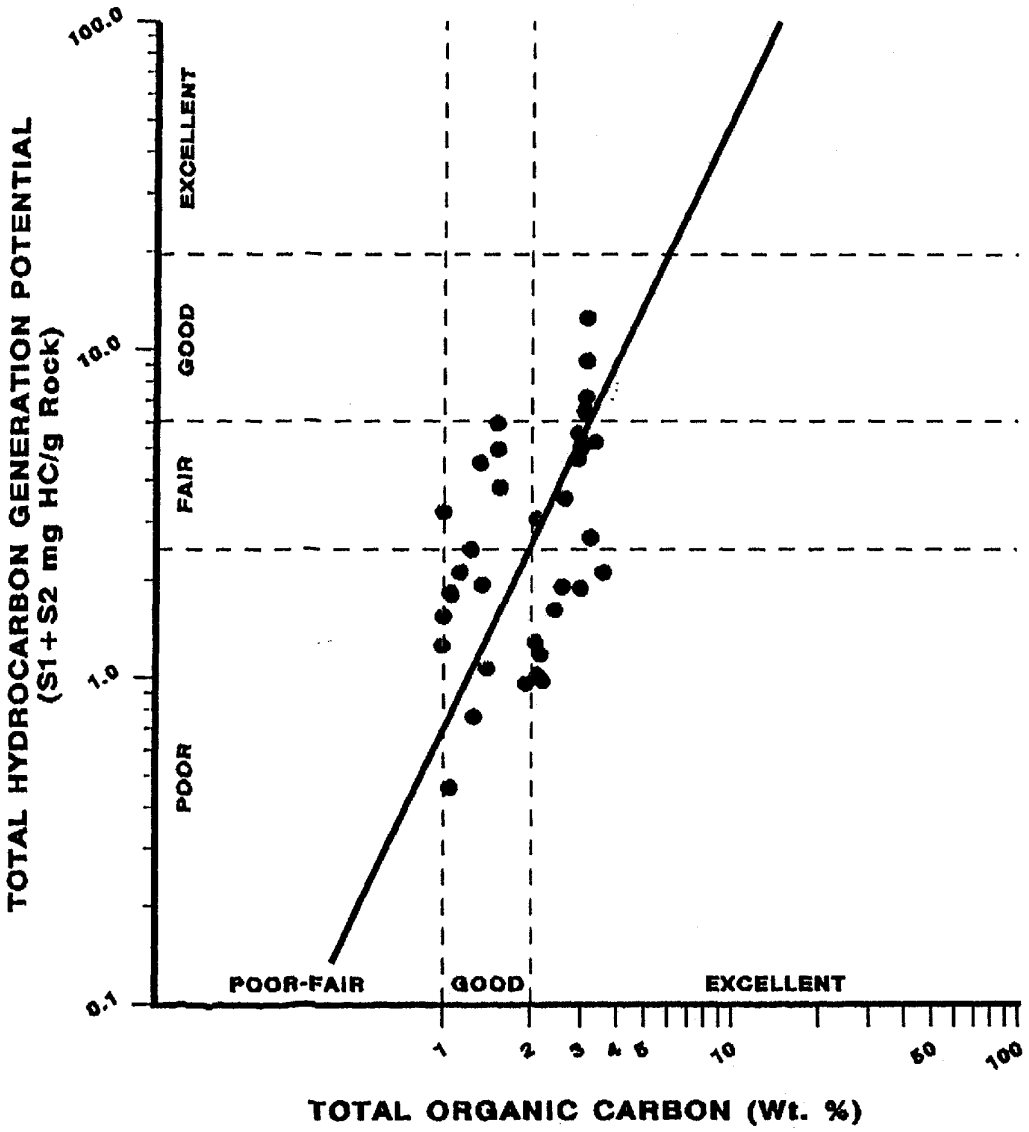


FIGURE 2

MODIFIED VAN KREVELEN DIAGRAM

EXXON ANTARES #1 WELL, ALASKA

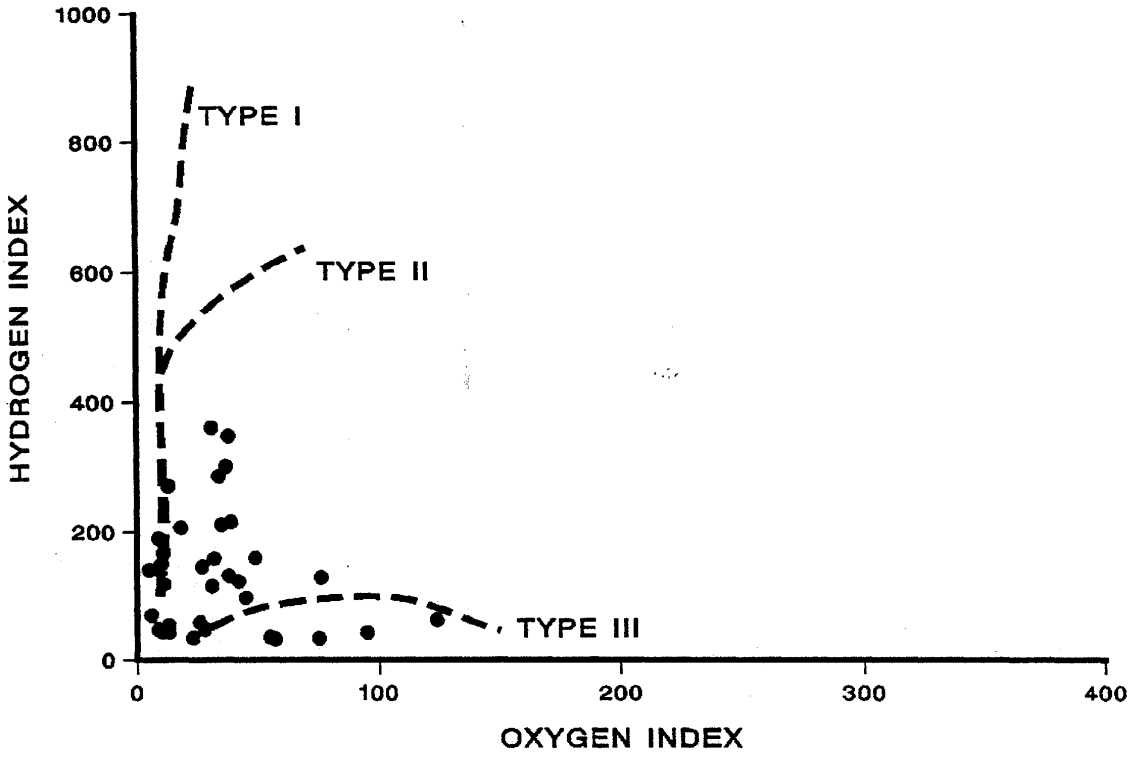


TABLE I

TEXACO RESEARCH ORGANIC PETROLOGY

30 OCT 1987 KEROGEN TYPES AND MATURATION

JOB NUMBER : 1093 WELL : EXXON ANTARES #1 FIELD : BEAUFORT SEA
COUNTRY : USA STATE : ALASKA COUNTY : OFFSHORE

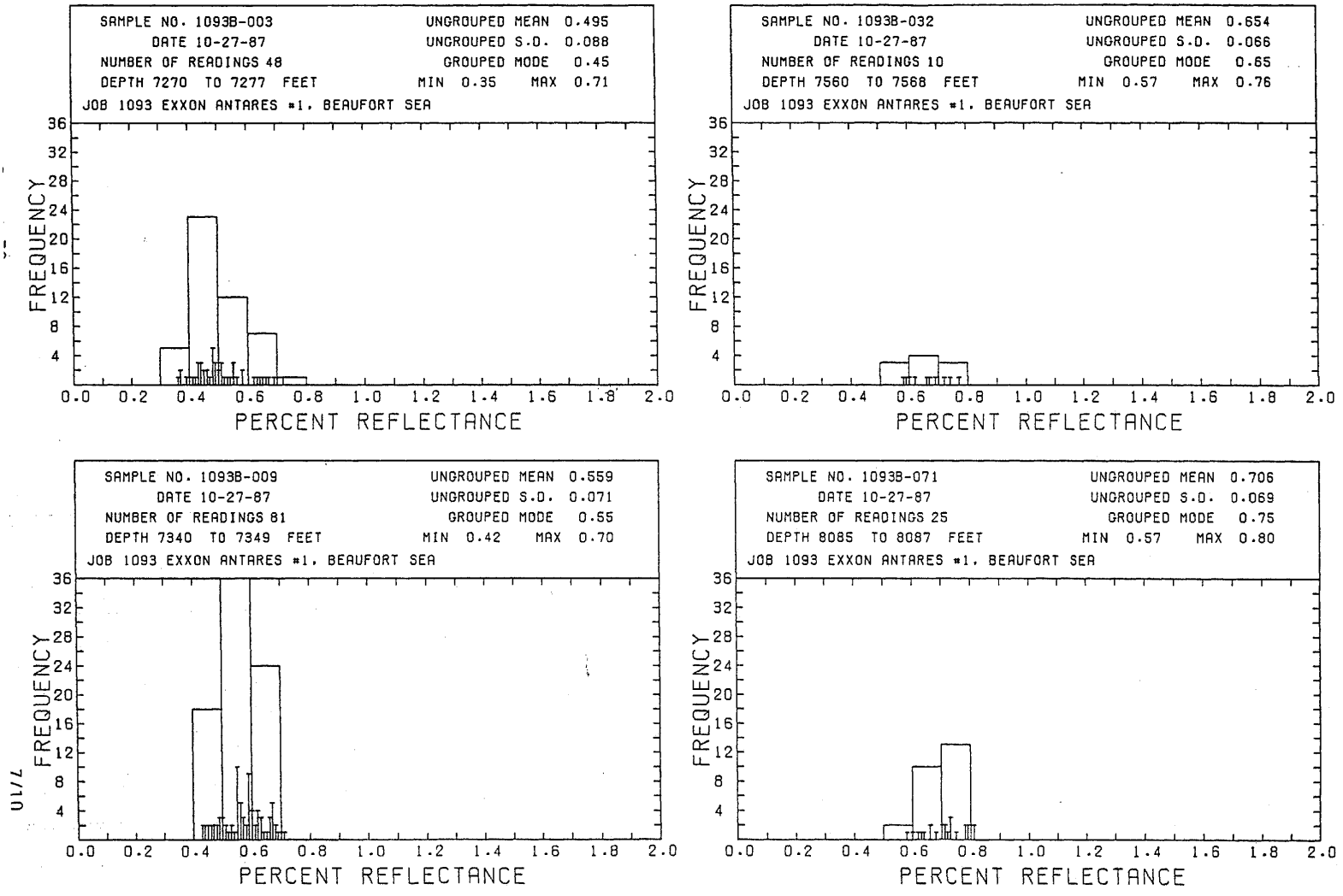
SAMPLE	DEPTH U	(--MATURATION---) MEAN Ro(%)	T.A.I.	(----------KEROGEN TYPES (VOL%)----------) FL.AMOR	NFL.AMOR	ALGIN	EX	VIT	INERT	TOT.%OIL PRONE	TOT.%GAS PRONE	QUALITY PRESERVE	PARTICLE SIZE	ENVIRON. DEPOSITION.
B-003	7277F	.49	2.45	.00	95.00	.00	.00	5.00	.00	.00	100.00	FAIR	MEDIUM	UNKNOWN
B-009	7349F	.55	2.55	.00	95.00	.00	.00	5.00	.00	.00	100.00	FAIR	MEDIUM	UNKNOWN
B-032	7568F	.65	2.60	.00	90.00	.00	.00	10.00	.00	.00	100.00	FAIR	MEDIUM	UNKNOWN
B-071	8087F	.70	2.65	10.00	75.00	.00	5.00	10.00	.00	15.00	85.00	FAIR	MEDIUM	UNKNOWN

SAMPLES B-003 AND B-009 CONTAINED TRACE AMOUNTS OF FLUORESCENT AMORPHOUS MATERIAL AND EXINITIC MATERIAL.
SAMPLE B-032 CONTAINED TRACE AMOUNTS OF EXINITIC MATERIAL.

KEROGEN TYPES AND MATURATION REPORT
KEY TO ABBREVIATIONS

SAMPLE	SAMPLE NUMBER
DEPTH	DEPTH NORMALIZED TO SEA LEVEL
U	UNIT OF DEPTH MEASURE (F - FEET M - METERS)
MEAN Ro(%)	MEAN REFLECTANCE EXPRESSED AS A PERCENT
T.A.I.	THERMAL ALTERATION INDEX
FL.AMOR	VOLUME PERCENTAGE OF FLORESCENT AMORPHOUS KEROGEN
NFL.AMOR	VOLUME PERCENTAGE OF NON-FLORESCENT AMORPHOUS KEROGEN
ALGIN	VOLUME PERCENTAGE OF ALGINITE
EX	VOLUME PERCENTAGE OF EXINITE
VIT	VOLUME PERCENTAGE OF VITRINITE
INERT	VOLUME PERCENTAGE OF INERTINITE
TOT.%OIL PRONE	TOTAL PERCENTAGE OF OIL PRONE MATERIAL
TOT.%GAS PRONE	TOTAL PERCENTAGE OF GAS PRONE MATERIAL
QUALITY PRESERVE	QUALITY OF PRESERVATION
PARTICLE SIZE	PARTICLE SIZE
ENVIRON DEPOSITION.	ENVIRONMENTAL DEPOSITION

FIGURE 1

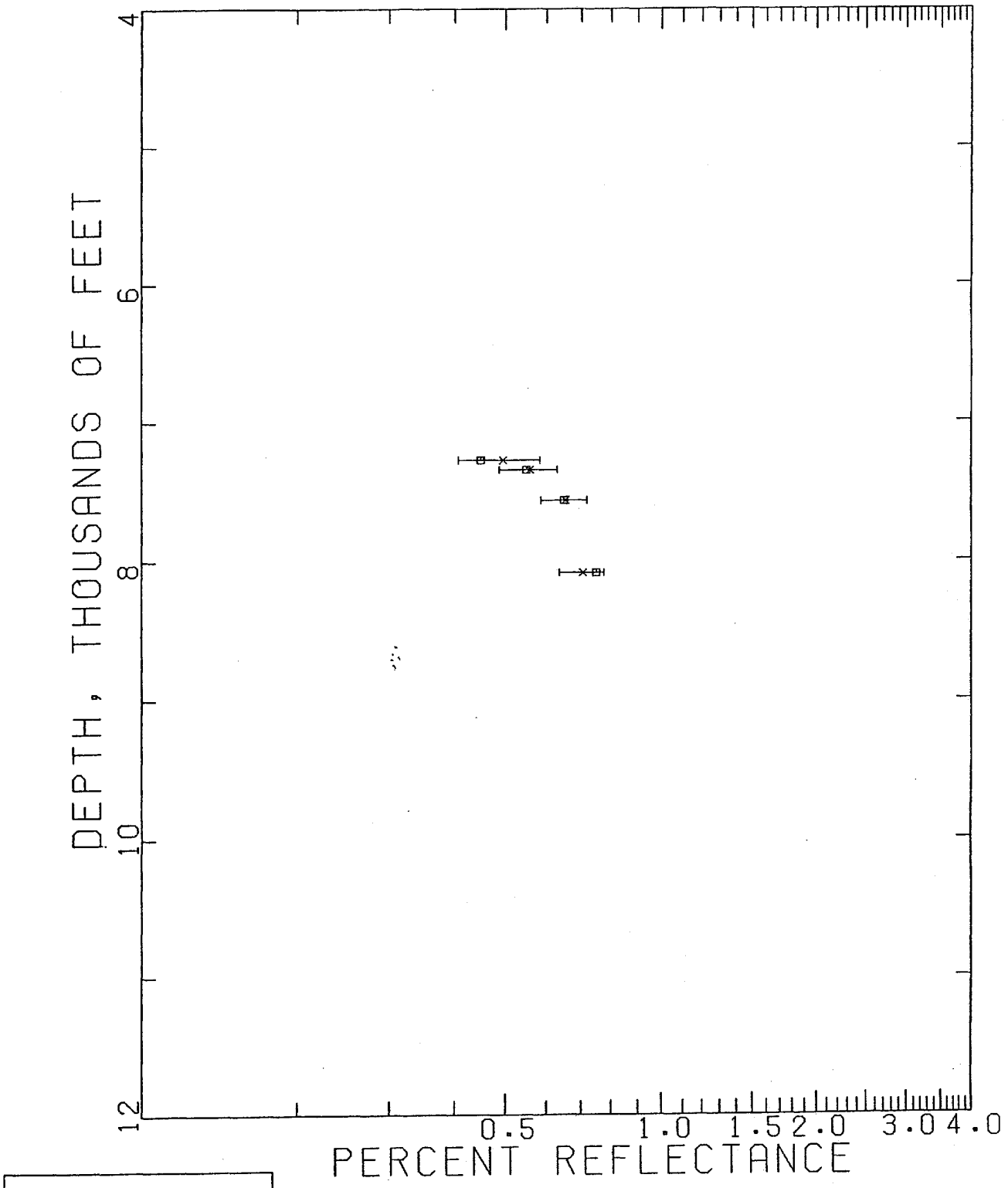


RECORDED BY L.M. DARNELL, EDITED BY C.R. ROBISON

29-OCT-87

VITRINITE REFLECTANCE DEPTH PROFILE

JOB 1093 EXXON ANTARES #1, BEAUFORT SEA



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30-OCT-87

TEXACO INC.
GEOLOGICAL LABORATORY REPORT
Los Angeles, California
June 11, 1987

Exxon
Antares OCS-280 #1
Block 971, NR 5-4
Beaufort Sea, AK

RANGE & NUMBER OF SAMPLES 5720-8450 (37 ditch)

SOURCE ROCK EVALUATION

	% Oc	% SAP	Ro	TAI	HYDROCABON POTENTIAL	MATURITY
5720-900	6.87	0-10	.45	2.4-2.6	Excellent Gas	Immature
5900-6050	3.45	0-10		2.4-2.6	Excellent Gas	Immature
6050-6200	5.87	10		2.4-2.6	Excellent Gas	Immature
6200-6350	4.44	10		2.4-2.6	Excellent Gas	Immature
6350-500	3.93	0-10	.56	2.4-2.6	Excellent Gas	Generative
6500-650	2.68	0-10		2.6	Excellent Gas	Generative
6650-770	1.93	0-10		2.6	Excellent Gas	Generative
6770-860	1.54	0-10		2.6	Good Gas	Generative
6860-980	1.64	0	.55	2.6	Good Gas	Generative
6980-7030	1.35	0-10		2.6	Good Gas	Generative
7030-100	1.86	0-10		2.6	Excellent Gas	Generative
7100-7150	2.89	60		2.6	Excellent Oil	Generative
7150-200	2.81	50	.53	2.6	Excellent Oil	Generative
7200-250	2.75	40		2.6	Excellent Gas	Generative
7250-300	2.86	45		2.6-2.8	Excellent Gas	Generative
7300-350	3.37	45		2.6-2.8	Excellent Gas	Generative
7350-400	3.05	45	.65	2.6-2.8	Excellent Gas	Generative
7400-450	2.97	45		2.6-2.8	Excellent Gas	Generative
7450-500	2.84	45		2.6-2.8	Excellent Gas	Generative
7500-550	2.90	45		2.6-2.8	Excellent Gas	Generative
7550-600	2.76	45	.60	2.6-2.8	Excellent Gas	Generative
7600-650	2.92	40		2.6-2.8	Excellent Gas	Generative
7650-700	2.64	35		2.6-2.8	Excellent Gas	Generative
7700-750	2.54	50		2.6-2.8	Excellent Oil	Generative
7750-800	2.32	40	.55	2.6-2.8	Excellent Gas	Generative
7800-850	2.03	35		2.6-2.8	Excellent Gas	Generative
7850-900	1.89	35		2.6-2.8	Excellent Gas	Generative

	% Oc	% SAP	Ro	TAI	HYDROCABON POTENTIAL	MATURITY
7900-50	1.66	35	.56	2.6-2.8	Good Gas	Generative
7950-8000	1.73	35		2.6-2.8	Good Gas	Generative
8000-50	1.32	35		2.6-2.8	Good Gas	Generative
8050-100	1.38	25		2.6-2.8	Good Gas	Generative
8100-50	1.60	50	.55	2.6-2.8	Good Oil	Generative
8200-50	1.94	50		2.6-2.8	Excellent Oil	Generative
8250-300	1.60	50		2.6-2.8	Good Oil	Generative
8300-50	1.16	50		2.6-2.8	Good Oil	Generative
8350-400	1.67	60	.57	2.6-2.8	Good Oil	Generative
8400-50	2.10	60		2.6-2.8	Excellent Oil	Generative