

7 Pages



BASIC

OIL and GAS DIVISION

18 JUN 1982

GEOCHEMICAL STUDY.

**PYROLYSIS / T.O.C. PROFILE
FLAXMANS —1 WELL,
OTWAY BASIN, AUSTRALIA.
4920' — 11520'**

**BY
BROWN & RUTH LABORATORIES.
22-12-1981.**

GEOCHEMICAL REPORT.

**FLAXMANS —1.
BROWN & RUTH LAB.**

**BASIC BAY A
GEOCHEMICAL REPORT Box**

OIL and GAS DIVISION

18 JUN 1982

CONTRACT SERVICE REPORT
Pyrolysis/T.O.C. Profile

Flaxmans No. 1 Well
Otway Basin, Australia
(4,920' - 11,520')

~~CONFIDENTIAL~~
~~NO OVERSEAS~~

CONTRACT SERVICE REPORT - 230

CLIENT: Chevron Overseas Petroleum, Inc.
575 Market Street
San Francisco, California 94105

WELL: Flaxmans No. 1, Otway Basin, Australia

AUTHORIZATION: G. J. Demaison - Service Order S03456

SAMPLE DESCRIPTION

A total of one hundred (100) cuttings samples and eighteen (18) cores were analyzed from the well interval 4920 feet to 11,520 feet. The sample quality was generally good, although some were contaminated with metal shavings and lost circulation material, mainly plastic fiber and walnut shell.

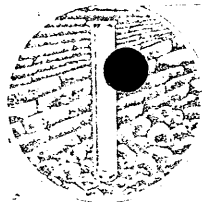
SAMPLE PREPARATION

Instructions submitted with the samples directed that Rock-Eval pyrolysis and Total Organic Carbon (T.O.C.) determinations be carried out on each sample.

Prior to analysis, each sample was visually examined using a binocular microscope and lost circulation material was removed. The samples were then ground to a fine powder and analyzed.

ANALYTICAL DETERMINATIONS

A fraction of the ground sample material was used for pyrolysis in a Rock-Eval analyzer. A separate fraction of the same ground sample material was acidified then analyzed for organic carbon content by combustion in a Leco Carbon Analyzer.



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December 22, 1981

Chevron Overseas Petroleum, Inc.
575 Market Street
San Francisco, California 94105

Attention: Gerard J. Demaison

Gentlemen:

This report presents the results of our geochemical analysis of one hundred eighteen (118) samples from the Flaxmans No. 1 Well, Otway Basin, Australia. This work was authorized by your Service Order S03456 of March 23, 1981.

All unused sample material is being returned under separate cover.

We are pleased to have been of service to Chevron. If you have any questions regarding the work, then please contact us.

Very truly yours,

Brown & Ruth Laboratories, Inc.

Gary W. Ruth

GWR/ab
Enclosure

TABLE I

Results of T.O.C. Analysis and Rock-Eval Pyrolysis

Sample Number	Well Depth*	T.O.C. (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	Tmax (°C)	PI	S2/S3	HI	OI
230-001	4920-4930	Sample Contaminated								
230-002c	4975	1.89	<0.10	0.72	1.99	437	--	0.36	38	105
230-003	4980-4983	1.56	<0.10	0.14	2.65	**	--	0.05	9	170
230-004	5040-5050	1.56;1.57	<0.10	0.18	2.85	409	--	0.06	12	183
230-005	5110-5120	1.03	<0.10	0.52	2.38	404	--	0.22	50	231
230-006	5170-5180	1.60	<0.10	0.32	2.39	437	--	0.13	20	149
230-007	5230-5240	1.48	<0.10	0.56	1.99	436	--	0.23	38	134
230-008	5300-5310	1.46	<0.10	0.20	2.75	**	--	0.07	14	188
230-009c	5331	1.41	<0.10	0.34	0.68	442	--	0.50	24	48
230-010	5395-5400	1.69	0.19	0.90	1.53	434	0.18	0.59	53	91
230-011	5450-5458	2.46	1.58	4.68	1.36	407	0.25	3.44	190	55
230-012	5520-5530	1.91	0.64	1.51	1.33	429	0.30	1.14	79	70
230-013c	5544	2.11	<0.10	1.01	1.19	436	--	0.85	48	56
230-014	5580-5590	1.15	<0.10	0.18	1.95	**	--	0.09	16	170
230-015	5640-5650	1.67;1.63	<0.10	0.26	2.13	436	--	0.12	16	129
230-016	5710-5720	1.43	<0.10	0.13	1.27	**	--	0.10	9	89
230-017	5770-5780	1.28	<0.10	<0.10	2.10	**	--	--	--	164
230-018	5830-5840	1.29	<0.10	0.10	1.70	**	--	0.06	8	132
230-019	5880-5890	1.22	<0.10	<0.10	1.62	**	--	--	--	133
230-020	5940-5950	1.18	<0.10	0.14	2.67	**	--	0.05	12	226
230-021c	5952	1.52	<0.10	0.54	0.79	434	--	0.68	36	52
230-022c	5970	1.65	<0.10	0.51	0.67	436	--	0.77	31	41
230-023	6010-6020	1.41	<0.10	0.24	1.17	435	--	0.21	17	83
230-024	6080-6090	1.45	<0.10	0.53	0.94	435	--	0.57	37	65
230-025	6130-6140	1.29	<0.10	0.33	0.76	434	--	0.43	26	59
230-026	6190-6200	1.36	<0.10	0.37	0.75	433	--	0.49	27	55
230-027	6250-6260	1.42	<0.10	0.41	0.90	435	--	0.46	29	63
230-028	6310-6320	1.37	<0.10	0.37	0.99	435	--	0.37	27	72
230-029	6370-6380	1.11	<0.10	<0.10	1.36	**	--	--	--	123
230-030c	6380	1.15	<0.10	0.21	0.52	442	--	0.41	18	45
230-031	6430-6440	1.39	<0.10	0.27	0.99	439	--	0.27	19	71
230-032	6490-6500	1.28	<0.10	0.13	1.48	**	--	0.09	10	116
230-033	6550-6560	1.14	<0.10	0.16	0.99	451	--	0.16	14	87
230-034	6620-6625	1.07	<0.10	<0.10	1.39	**	--	--	--	130
230-035	6680-6690	1.19;1.17	<0.10	0.13	1.15	**	--	0.11	11	97

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TABLE I

Results of T.O.C. Analysis and Rock-Eval Pyrolysis

Sample Number	Well Depth*	T.O.C. (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	Tmax (°C)	PI	S2/S3	HI	OI
230-036	6740-6750	1.18	<0.10	0.20	0.83	433	--	0.24	17	70
230-037	6810-6820	0.98	<0.10	0.16	1.12	450	--	0.14	16	114
230-038c	6875	1.40	<0.10	0.27	0.75	473	--	0.35	19	54
230-039	6882-6887	0.94	<0.10	<0.10	1.71	**	--	--	--	182
230-040	6940-6950	1.08	<0.10	<0.10	1.57	**	--	--	--	145
230-041	7010-7020	2.58	0.31	2.13	1.66	432	0.13	1.29	83	64
230-042	7070-7080	3.99	0.30	3.70	3.61	428	0.08	1.03	93	90
230-043	7140-7150	Sample Contaminated								
230-044	7200-7210	1.79	0.21	1.23	0.68	435	0.15	1.80	69	38
230-045c	7202	2.30	0.16	1.34	0.42	439	0.11	3.22	58	18
230-046	7260-7270	21.07	2.04	40.83	3.04	431	0.05	13.43	194	14
230-047	7330-7340	Sample Contaminated								
230-048	7390-7400	3.68;3.62	0.29	2.87	0.83	433	0.09	3.44	79	23
230-049	7450-7460	8.34	0.53	10.52	1.59	429	0.05	6.60	126	19
230-050c	7473	2.41	0.18	1.56	0.35	437	0.10	4.49	65	15
230-051	7510-7520	2.24	0.12	0.99	1.00	437	0.11	1.00	44	45
230-052	7580-7590	2.77	0.15	1.66	1.05	435	0.08	1.58	60	38
230-053	7640-7650	1.25	0.13	0.72	0.36	438	0.15	1.99	58	29
230-054c	7660	0.43	<0.10	<0.10	0.14	**	--	--	--	33
230-055	7700-7710	0.21	<0.10	0.20	0.27	447	--	0.75	95	129
230-056	7770-7780	0.13	<0.10	0.15	0.23	442	--	0.65	115	177
230-057	7830-7840	0.66	<0.10	0.12	0.25	**	--	0.49	18	38
230-058c	7865	0.54	<0.10	0.22	0.16	457	--	1.32	41	30
230-059	7890-7900	0.54;0.55	<0.10	0.25	0.22	445	--	1.16	45	40
230-060	7960-7970	0.41	<0.10	0.11	0.24	**	--	0.48	27	59
230-061	8020-8030	0.30	<0.10	0.19	0.24	446	--	0.79	63	80
230-062	8080-8090	0.49	<0.10	0.16	0.32	**	--	0.52	33	65
230-063c	8140	0.34	<0.10	0.40	0.11	442	--	3.61	118	32
230-064	8145-8150	0.37	<0.10	0.15	0.21	**	--	0.74	41	57
230-065	8200-8210	Sample Contaminated								
230-066	8270-8280	0.23	<0.10	0.18	0.22	450	--	0.81	78	96
230-067	8340-8350	0.43	<0.10	0.11	0.15	**	--	0.74	26	35
230-068	8400-8410	0.25	<0.10	0.25	0.19	452	--	1.33	100	76
230-069	8460-8470	0.30	<0.10	0.16	0.29	**	--	0.56	53	97
230-070	8530-8540	0.23	<0.10	0.12	0.22	**	--	0.53	52	96

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TABLE I

Results of T.O.C. Analysis and Rock-Eval Pyrolysis

Sample Number	Well Depth*	T.O.C. (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	Tmax (°C)	PI	S2/S3	HI	OI
230-071	8590-8600	0.37	<0.10	0.23	0.16	**	--	1.42	62	43
230-072	8650-8660	0.27	<0.10	0.16	0.17	**	--	0.96	59	63
230-073	8710-8720	0.28	<0.10	0.18	0.29	446	--	0.63	64	104
230-074	8780-8790	0.41	<0.10	0.21	0.22	446	--	0.96	51	54
230-075	8850-8860	0.44	<0.10	0.18	0.24	448	--	0.76	41	55
230-076c	8886	0.17	<0.10	<0.10	0.11	**	--	--	--	65
230-077	8910-8920	0.46	<0.10	0.18	0.19	463	--	0.94	39	41
230-078	8970-8980	0.39	<0.10	0.15	0.23	**	--	0.66	38	59
230-079	9030-9040	0.43	<0.10	0.14	0.20	**	--	0.68	33	47
230-080	9090-9100	0.39;0.40	<0.10	0.17	0.23	456	--	0.75	43	58
230-081c	9125	1.11	<0.10	0.32	0.15	451	--	2.14	29	14
230-082c	9135	No Data								
230-083	9160-9170	0.52	<0.10	0.18	0.25	452	--	0.71	35	48
230-084	9220-9230	0.50	<0.10	0.18	0.24	462	--	0.76	36	48
230-085	9290-9300	0.40	<0.10	0.21	0.24	440	--	0.86	53	60
230-086	9360-9370	0.90	0.10	0.58	0.17	445	0.14	3.34	64	19
230-087	9430-9440	0.47	<0.10	0.22	0.13	444	--	1.72	47	28
230-088	9490-9500	0.73	0.23	0.62	0.20	441	0.27	3.07	85	27
230-089	9550-9560	0.36	<0.10	0.20	0.26	458	--	0.77	56	72
230-090	9610-9620	0.51	<0.10	0.22	0.19	444	--	1.18	43	37
230-091	9670-9680	0.53	<0.10	0.27	0.18	449	--	1.47	51	34
230-092	9740-9750	0.50;049	<0.10	0.22	0.22	448	--	1.04	44	44
230-093	9800-9810	0.43	<0.10	0.20	0.31	**	--	0.64	47	72
230-094	9870-9880	0.43	<0.10	0.20	0.23	**	--	0.88	47	53
230-095	9930-9940	0.72	<0.10	0.34	0.32	473	--	1.07	47	44
230-096	9990-10000	0.15	<0.10	<0.10	0.19	**	--	--	--	127
230-097	10060-10070	0.36	<0.10	0.13	0.22	**	--	0.59	36	61
230-098	10130-10140	0.52	<0.10	0.21	0.31	460	--	0.70	40	60
230-099c	10133	1.35	<0.10	0.81	0.17	451	--	4.87	60	13
230-100	10200-10210	0.41	<0.10	0.17	0.21	460	--	0.79	41	51
230-101	10270-10280	0.26	<0.10	<0.10	0.21	**	--	--	--	81
230-102	10340-10350	0.27	<0.10	0.15	0.19	**	--	0.81	56	70
230-103	10410-10420	0.48;0.47	<0.10	0.15	0.28	**	--	0.52	31	58
230-104	10480-10490	0.53	<0.10	0.24	0.32	**	--	0.74	45	60
230-105c	10498	1.04	<0.10	0.59	<0.10	446	--	--	57	--

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TABLE I

Results of Organic Carbon Analysis and Rock-Eval Pyrolysis

Sample Number	Well Depth*	T.O.C. (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	Tmax (°C)	PI	S2/S3	HI	OI
230-106	10540-10550	0.51	<0.10	<0.10	0.16	**	--	--	--	31
230-107	10600-10610	0.64	<0.10	0.15	0.20	449	--	0.73	23	31
230-108	10660-10670	0.47	<0.10	<0.10	0.22	**	--	--	--	47
230-109	10730-10740	0.35	<0.10	<0.10	0.18	**	--	--	--	51
230-110	10790-10800	0.89	<0.10	0.30	0.30	450	--	0.93	34	34
230-111c	10810	1.54	0.14	0.84	0.16	453	0.14	5.41	55	10
230-112	10860-10870	0.46	<0.10	<0.10	0.20	**	--	--	--	43
230-113	10920-10930	0.45	<0.10	<0.10	0.22	**	--	--	--	49
230-114	10980-10990	0.61	<0.10	<0.10	0.21	**	--	--	--	34
230-115	11050-11060	0.49	<0.10	<0.10	0.18	**	--	--	--	37
230-116	11110-11120	0.42	<0.10	<0.10	0.16	**	--	--	--	38
230-117	11180-11190	0.32	<0.10	<0.10	0.20	**	--	--	--	63
230-118	11240-11250	0.40	<0.10	<0.10	0.17	**	--	--	--	50
230-119	11310-11320	0.70	<0.10	<0.10	0.29	**	--	--	--	41
230-120	11370-11380	0.43	<0.10	<0.10	0.24	**	--	--	--	56
230-121	11440-11450	0.43	<0.10	<0.10	0.30	**	--	--	--	70
230-122	11500-11510	0.68	<0.10	0.12	0.16	452	--	0.73	18	24
230-123c	11520	0.65;0.64	<0.10	<0.10	<0.10	**	--	--	--	--

* Well depth in feet

** Unable to determine due to insufficient S2 yield, multiple peaks, etc.

T.O.C. = Total Organic Carbon; S1 = Free Hydrocarbons; S2 = Hydrocarbon yield from pyrolysis;

S3 = CO₂ produced during pyrolysis stage; Tmax = Temperature at maximum hydrocarbon generation during pyrolysis;

PI = Production Index; HI = Hydrogen Index; OI = Oxygen Index.

c = Core sample