

6 pages

BASIC

OIL and GAS DIVISION

18 JUN 1982

DEPT. NAT. RES & ENV



PE800014

GEOCHEMICAL STUDY

PYROLYSIS / T.O.C. PROFILE

PECTEN-1A WELL,

OTWAY BASIN, AUSTRALIA.

5010' — 9350'

BY

BROWN & RUTH LABORATORIES.

22-12-1981 .

GEOCHEMICAL REPORT.

**PECTEN-1A.
BROWN & RUTH LAB.**

BRASHP

PART A

Geochimica Helvetica

OIL and GAS DIVISION

18 JUN 1982

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

Pecten No. 1 Well
Otway Basin, Australia
(5010' - 9350')

~~PLEASE RETURN~~
to
~~CHEVRON OVERSEAS~~
~~I.G.~~



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 seventy-six (76) samples from the Pecten No. 1 Well, Otway Basin, Australia. The 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

CONTRACT SERVICE REPORT - 226

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

WELL: Pecten No. 1, Otway Basin, Australia

AUTHORIZATION: G. J. Demaison - Service Order S03456

SAMPLE DESCRIPTION

A total of seventy-five (75) cuttings samples and one (1) core were analyzed from the well interval 5010 feet to 9350 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.

TABLE I

Results of 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
226-001	5010-5020	1.31	<0.10	0.47	1.52	435	--	0.31	36	116
226-002	5070-5080	1.48	<0.10	0.55	2.16	439	--	0.25	37	146
226-003	5130-5140	1.55	<0.10	0.49	1.85	417	--	0.27	32	119
226-004	5190-5200	1.61	<0.10	0.56	1.91	436	--	0.29	35	119
226-005	5250-5260	1.49;1.49	<0.10	0.41	1.36	433	--	0.30	28	128
226-006	5310-5320	1.61	<0.10	0.54	1.65	435	--	0.33	24	103
226-007	5370-5380	1.84	<0.10	0.54	1.38	430	--	0.39	29	75
226-008	5430-5440	1.76	<0.10	0.54	1.40	429	--	0.39	31	80
226-009	5490-5500	1.47	<0.10	0.46	0.85	434	--	0.54	31	58
226-010	5550-5560	1.52	<0.10	0.53	0.91	438	--	0.58	35	60
226-011	5600-5610	1.39	<0.10	0.40	0.90	435	--	0.44	29	65
226-012	5650-5660	1.24	<0.10	0.35	0.75	439	--	0.47	28	61
226-013	5700-5710	1.27	<0.10	0.35	0.73	433	--	0.48	28	58
226-014c	5713	0.98	<0.10	0.28	0.46	436	--	0.60	29	47
226-015	5760-5770	1.27	<0.10	0.28	1.09	435	--	0.26	22	86
226-016	5840-5850	1.43;1.39	<0.10	0.40	0.69	439	--	0.58	28	49
226-017	5910-5915	0.52	<0.10	0.13	0.80		--	0.16	25	154
226-018	5970-5980	0.52	<0.10	0.14	0.50	472	--	0.29	27	96
226-020	6020-6030	0.59	<0.10	0.14	0.41	474	--	0.35	24	70
226-021	6080-6090	0.32	<0.10	<0.10	0.40	**	--	--	--	125
226-022	6140-6150	0.31	<0.10	<0.10	0.37	**	--	--	--	119
226-023	6190-6200	0.32	<0.10	0.13	0.24	440	--	0.52	41	75
226-024	6250-6260	0.69	<0.10	0.24	0.55	436	--	0.45	35	80
226-025	6620-6630	0.32	<0.10	0.13	0.17	445	--	0.73	41	53
226-026	6670-6680	0.22	<0.10	0.13	0.45	**	--	0.28	59	205
226-027	6730-6740	0.62	<0.10	0.25	0.53	456	--	0.48	40	86
226-028	6790-6800	0.19	<0.10	0.10	0.20	**	--	0.51	53	105
226-029	6840-6850	0.30	<0.10	0.12	0.33	**	--	0.36	40	110
226-030	6910-6920	0.24;0.25	<0.10	<0.10	0.19	**	--	--	--	76
226-031	6960-6970	0.24	<0.10	<0.10	0.14	**	--	--	--	58
226-032	7020-7030	0.26	<0.10	0.16	0.35	462	--	0.46	62	135
226-033	7080-7090	0.68	<0.10	0.31	0.31	455	0.24	1.01	46	46
226-034	7140-7150	0.38	<0.10	0.19	0.19	446	--	1.00	50	50
226-035	7190-7200	0.68;0.65	<0.10	0.30	0.37	482	--	0.80	45	55

PERCENT - 1A

TABLE I

Results of 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
226-036	7240-7250	0.99	0.20	0.69	0.51	444	0.23	1.36	70	52
226-037	7290-7300	0.36	<0.10	0.43	0.31	443	--	1.40	119	86
226-038	7360-7370	0.48	<0.10	0.17	0.17	**	--	1.05	35	35
226-039	7400-7410	0.72	<0.10	0.32	0.22	446	--	1.44	44	31
226-040	7450-7460	0.44	<0.10	0.21	0.17	466	0.27	1.20	48	39
226-041	7510-7520	0.51	<0.10	0.27	0.13	443	--	2.08	53	26
226-042	7560-7570	0.42	<0.10	0.20	0.12	440	--	1.72	48	29
226-043	7610-7620	0.36	<0.10	0.19	0.11	447	--	1.69	53	31
226-044	7660-7670	0.43	<0.10	0.20	0.14	458	--	1.44	47	33
226-045	7720-7730	0.41	<0.10	0.20	0.24	455	--	0.85	49	59
226-046	7770-7780	0.40;0.39	<0.10	0.20	0.21	450	--	0.94	50	53
226-047	7830-7840	0.43	<0.10	0.19	0.19	445	--	1.02	44	44
226-048	7860-7870	0.41	<0.10	0.17	0.16	447	--	1.09	42	39
226-049	7920-7930	0.65	<0.10	0.34	0.18	442	--	1.89	52	28
226-050	7970-7980	0.50	<0.10	0.22	0.19	441	--	1.17	44	38
226-051	8030-8040	1.27	<0.10	0.77	0.21	444	0.13	3.72	61	17
226-052	8080-8090	0.80	<0.10	0.51	0.21	443	--	2.40	64	27
226-053	8140-8150	0.85	<0.10	0.63	0.14	441	--	4.64	74	17
226-054	8190-8200	0.65	<0.10	0.33	<0.10	442	--	--	51	--
226-055	8250-8260	0.58	<0.10	0.27	0.11	445	--	2.55	47	19
226-056	8310-8320	0.78	<0.10	0.45	0.17	441	--	2.68	58	22
226-057	8370-8380	0.92;0.90	<0.10	0.76	0.16	442	--	4.87	84	18
226-058	8420-8430	0.64	<0.10	0.37	0.13	441	--	2.86	58	20
226-059	8470-8480	0.66	<0.10	0.48	0.13	442	--	3.75	73	20
226-060	8520-8530	0.69	<0.10	0.43	0.16	442	--	2.65	62	23
226-061	8590-8600	0.82	<0.10	0.48	0.22	442	--	2.16	59	27
226-062	8650-8660	0.97	<0.10	0.63	0.25	441	--	2.52	65	26
226-063	8680-8690	1.01	<0.10	0.73	0.30	441	--	2.45	72	30
226-064	8730-8740	0.50	<0.10	0.23	0.15	447	--	1.54	46	30
226-065	8780-8790	0.69	<0.10	0.33	0.21	444	--	1.55	48	30
226-066	8840-8850	3.31	<0.10	5.41	0.38	436	0.03	14.12	163	12
226-067	8890-8900	1.30	<0.10	0.96	0.37	441	0.10	2.61	74	29
226-068	8950-8960	0.66	<0.10	0.42	0.16	442	--	2.63	64	24
226-069	9000-9010	0.68	<0.10	0.42	0.14	443	0.20	3.01	62	21
226-070	9040-9050	0.47	<0.10	0.29	0.17	441	--	1.69	62	36

 PECTEN - 1A
 5%

TABLE I

Results of 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
226-071	9090-9100	0.50	<0.10	0.28	0.23	447	--	1.22	56	46
226-072	9140-9150	0.52	<0.10	0.33	0.37	441	--	0.89	64	71
226-073	9200-9210	0.62	<0.10	0.36	0.15	442	--	2.41	58	24
226-074	9240-9250	0.47	<0.10	0.27	0.27	445	--	1.01	57	57
226-075	9290-9300	0.50	<0.10	0.26	0.31	458	--	0.83	52	62
226-076	9340-9350	0.48	<0.10	0.24	0.26	444	--	0.91	50	54

* 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

DECTEN - 1A 6/6