HYDROCARBON SHOWS:

160 to 205 ft. (48.76 to 62.48 m)

Oil show: Fair

Spotty, med brn oil stain on rare pieces of pyritic quartz vein material. Moderately bright golden yellow fluorescence, bright yellow cut fluorescence, light brown residue when dry.

710 to 910 ft. (216.41 to 277.37 m)

Oil show: Trace.

Very spotty, med to dk brn oil stain on very rare pyritic authigenic qtz, mod to bright yellow to gold fluor, slow to med bright yellow cut fluor. No residue.

1170 to 1270 ft. (356.62 to 387.10 m.)

Oil show: Trace.

No stain, no fluor, no cut fluor. Crush cut; slow to v slow, even crmy wht to pale yellow fluor. No residue.

1517 to 1626 ft. (462.38 to 495.60 m)

Oil show: Trace.

Trace lt to dk brn stain, rare spotty dull orange-brown flour. Cut yields rare slow crmy wht to pale golden yellow fluor. Crush cut yields a faint, mod to fast streaming crm to lt gold fluor. No vis residue.

1626 to 1670 ft. (495.60 to 509.02 m.)

Oil show: Trace.

Spotty dk brn stain with associated pyrite. No fluor, v slow streaming creamy wht cut fluor. Mod to fast streaming pale gold to crmy wht crush cut fluor. No visible residue.

1670 to 1710 ft. (509.02 to 521.21 m.)

Oil show: Trace.

Trace dk brn spotty stain with associated pyrite. No fluor. Mod to fast streaming pale golden yellow cut fluor. Mod to fast, streaming pale yellow crush cut fluor. No visible residue.

1760 to 1910 ft. (536.45 to 587.17 m.)

Oil show: Trace.

Trace to spotty dk brn stain, with associated pyrite. No fluor. V weak streaming pale golden yellow cut fluor. V weak to weak streaming golden yellow crush cut fluor. No visible residue.

1910 to 1990 ft. (582.17 to 606.55 m.)

Oil show: Trace.

Trace brn to blk spotty stain with associated pyrite. No fluor, no cut fluor, no crush cut fluor. Dry sample; no fluor, spotty dull golden yellow, slow streaming cut fluor. No visible residue.

Structure.

The Broadmere 1 well was located over a large four-way dip closure in the northwest quadrant of O.P. 191. Closure is mapped seismically to approximately 11,000 feet (3352.80 m). Three seismic reflectors are mapped within Roper Group sediments and a fourth within the McArthur Group sequence.

Geochemistry Summary.

Samples:

100 - 500 ft.(30.48 - 152.40 m.)

The samples are organic rich oil prone material, thermally mature. A potentially good source rock. No free hydrocarbon accumulations.

600 - 900 ft.(182.88 - 274.32 m)

The samples are organically barren.

960 - 1820 ft.(292.61 - 554.74 m.)

Generally this section is organically poor with TOC values below .5%; however, samples at 1110 ft. and 1160 ft. are rich with TOC values of 3.5% and 1.12% respectively. Commensurately their residual petroleum potential is moderate - good. The remaining part of this section has poor sourcing ability capable of producing less than half a kilogram of hydrocarbon products per ton of rock.

This section is mature throughout, as deduced from Tmax values, and the hydrogen index is high enough to indicate the organic material is capable of being oil generative. Plots HI vs Tmax indicate the material is Type II kerogen of van Krevelen, much of which is tending towards the post-mature zone. Thus it can be said this section represents a partially spent source.

2710 - 3210 ft.(826.01 - 978.41 m.)

An organically barren zone in which no organic material of any consequence can be detected.

The lower limits of the O.S.A.'s detection ability have been exceeded by these samples and no reliance can be placed in Tmax, HI, or production indices as these figures are derived from primary measurements.

3450 - 4150 ft.(1051.56 - 1264.92 m.)

Totally devoid of any organic material. Any source potential this interval may have had is now considered spent.

4200 - 4296 ft. (1280.16 - 1309.42 m.)

The organic matter is thermally late mature (dry gas zone) based on algal spore color. The Tmax parameter is inaccurate, as no pyrolysate yield peaks (S2) are present.

The interval is dominated by amorphous Kerogen (of algal origin) in association with moderately common amounts of algal spores.

TOC and HI values are very low. No hydrocarbon generation (except dry gas) is expected from this interval.

6611 - 6278 ft. (1913.53 - 2015.03 m.)

The organic matter is thermally late to over mature (dry gas-spent source) based on TAY scale. There are no pyrolysate yield peaks (S_2), therefore Tmax values are not accurate and have not been used for thermal maturity evaluation.

The interval down to 6330 ft. (1929.38 m.) (SWC) has a negligible amount of organic matter (amorphous Kerogen), due to which TOC and HI levels were not recorded on the oil shows analyser.

The interval from 6611 - 6336 ft. (2015.03 - 1931.21 m.) is in general dominated by moderately common amounts of amorphous Kerogen (of algal origin, which is thermally degraded).

TOC levels are very poor (organic carbon is all residual) and HI levels are extremely poor, indicating a spent source.

No hydrocarbon generation is expected from this interval at its present state of maturity, since the majority of the samples are in the spent source range.

Table 2

Geochemistry by Interval:

Bulk cuttings from 100 ft. (30.48 m.) to 4296 ft. (1309.42 m.) and sidewall cores from 4296 ft. (1309.42 m.) to 6611 ft. (2015.03 m.) were sent to Gearhart Geoconsultants for analysis. Frequency of sampling and type of sample was at the discretion of the Amoco wellsite geologist.

Descriptive guide;

Gas, Oil and S_2 in kg/t, Tmax in degrees centigrade, T.O.C. in percent.

	POOR	MODERATE	GOOD
TOC:	*LT 0.5%	0.5-1.0	*MT 1.0%
S2 - Pyrolysate yield (present source potential):	LT 2kg/T	2-5	MT 5kg/T
	IMMATURE	MATURE	POST MATURE
T-Max-Thermal Maturity:	LT 430°C	430-465°C	MT 465°C
	GAS PRONE		OIL PRONE
Hydrogen Index:	LT 250		MT 250
		HYDROCARBONS	
	INDIGENOUS		MIGRATED
TPI:	LT 0.3		MT 0.3

Note:

1) Barren samples with very low S2 give unreliable T Max.

2) Samples with low S2 and/or low TOC give unreliable HI.

3) X.X indicates a value cannot be determined.

*LT = less than, MT = more than

GEOCHEMICAL ANALYSIS.

DEPTH (FT)	GAS KG/T	OIL KG/T	S2 KG/T	TMAX °C	TPI	TOC % W/W	HI
100	0.01	0.89	9.43	440	0.09	1.78	529
200	0.01	1.35	9.79	438	0.12	1.82	537
300	0.01	1.61	12.54	441	0.11	2.26	554
400	0	0.71	10.60	439	0.06	2.18	486
500	0	0.51	10.10	444	0.05	2.17	465
600	0.01	0.02	0.09	451	0.25	0.21	42
700	0	0.01	0.07	417	0.12	0.06	116
800	0	0	0.06	366	0	0.03	200
900	0	0	0.03	354	0	0	0
960	0	0.03	0.13	433	0.19	0.09	144
1010	0.02	0.04	0.25	464	0.02	0.08	312
1060	0.01	0.04	0.37	460	0.12	0.22	168
1110	0.03	0.39	7.21	452	0.05	3.50	206
1160	0.03	0.18	2.72	452	0.07	1.12	242
1360	0.01	0.29	1.26	459	0.20	0.63	200
1410	0.03	0.07	0.44	462	0.19	0.28	157
1460	0.04	0.10	0.46	461	0.24	0.33	139
1540	0.07	0.04	0.33	444	0.25	0.12	275
1620	0.07	0.06	0.28	449	0.32	0.11	254
1820	0.05	0.04	0.20	450	0.32	0.06	333
2710	0.04	0	0.05	488	0.50	0	0
2760	0.05	0.01	0.10	456	0.37	0.10	100
2810	0.02	0	0	363	1.00	0.01	0

GEOCHEMICAL ANALYSIS. (Continued)

DEPTH (FT)	GAS KG/T	OIL KG/T	S2 KG/T	TMAX C	TPI	TOC % W/W	HI
2860	0.01	0	0	232	X.X	0.01	0
2910	0.02	0	0.01	495	1.00	0.02	50
2960	0.01	0.01	0.16	406	0.12	0.01	1600
3010	0.07	0.02	0.12	364	0.45	0.01	1200
3060	0.05	0.01	0.08	368	0.43	0.01	800
3110	0.06	0.03	0.13	304	0.41	0.01	1300
3160	0.03	0	0.02	379	0.75	0	0
3180	0.02	0	0	304	1.00	0	0
3210	0.02	0	0	454	1.00	0	0
3450	0.01	0	0.02	361	0.50	0	0
3840	0.01	0	0	371	X.X	0	0
3940	0.01	0	0	262	X.X	0	0
4040	0.01	0	0	260	X.X	0	0
4130	0	0	0.03	303	0	0	.0
4140	0.01	0	0.02	279	0.50	0	0
4150	0.02	0.01	0.04	303	0.50	0	0
4200	0	0.01	0.01	338	0.50	0.04	25
4240	0	0	0.01	850	0	0.04	25
4296	0	0	0	287	0	0.06	0

GEOCHEMICAL ANALYSIS (Continued)

DEPTH (FT)	GAS KG/T	OIL KG/T	S2 KG/T	TMAX C	TPI	TOC % W/W	HI
6278	0	0	0	299	0	0	0
6291	0	0.02	0.03	271	0.50	0	0
6313	0	0	0	266	0	0	0
6330	0	0	0.02	299	0	0	0
6366	0	0	0.02	299	0	0.07	28
6436A	0	0	0.01	300	0	0.33	3
6436B	0	0	0	275	0	0.30	0
6443	0	0.01	0.01	299	0.50	0.18	5
6451	0	0	0.01	242	0	0.22	4
6525	0	0	0.02	306	0	0.26	7
6534	0	0	0.01	300	0	0.01	100
6543A	0	0.01	0.01	312	0.50	0.27	3
6543B	0	0	0	300	0	0.04	0
6554	0	0	0	290	0	0.11	0
6574A	0	0	0	289	0	0.21	0
6574B	0	0.01	0.01	349	0.50	0.66	1
6605	0	0.02	0.03	332	0.50	0.53	5
6611	0	0.03	0.03	417	0.50	0.11	27