WELL HISTORY REPORT

for

SOCONY MOBIL WESTERN MINERALS

BIRCH YT B-34

Latitude 66° 03' ~~3.44~~ 3.14" N

Longitude 136° 51' 17.51" W

Socony Mobil Oil of Canada, Ltd.
Dawson Creek District

G. A. Atkinson
DISTRICT GEOLOGIST

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LAB REPORT F 2323 (Core Analysis)

WELL HISTORY REPORT

SECTION I - Summary of Well Data

(a)	Well Name and Number:	Socony Mobil Western Minerals Birch YT B-34
(b)	Permittee:	Western Minerals Ltd.
(c)	Operator:	Socony Mobil Oil of Canada, Ltd.
(d)	Location:	Unit B Section 34 Grid N 66° 10'; W 136° 45' Latitude 66° 03' ~~3.44~~ 3.14" N Longitude 136° 51' 17.51" W
(f)	Permit:	3366
(g)	Drilling Contractor:	Parker Drilling Co. of Canada Ltd. Rotary Rig #10
(h)	Drilling Authority:	156; April 7, 1965
(i)	Classification:	New Field Wildcat
(j)	Elevations:	Ground 2177 feet K.B. 2190 feet
(k)	Spudded:	April 8, 1965
(l)	Completed Drilling:	June 2, 1965
(m)	Total Depth:	Driller 5413 feet

(n) Well Status: Gas Well protectively plugged and fitted with Wellhead

(o) Rig Released: June 8, 1965

(p) Hole Size: 12 1/4" to 600 feet

8 5/8" to 5413 feet

(q) Casing: 9 5/8", 36#, J-55 to 599 K.B.

SECTION II - Geological Summary

(a) Formation Tops

	Sample Tops		E-log Tops	
	Depth	Elevation	Depth	Elevation
Cretaceous:				
New formation	Surface	+2177		
Permo-Pennsylvanian:				
Alder formation	950	+1240	952	+1238
Mississippian				
Parkin Creek	5318	-3128	5302	-3112

(b) Cored Intervals

Core Number	From	To	Rec.	Formation
1	944	964	20'	New formation-Alder formation
2	1289	1309	18'	Alder formation
3	2161	2171	9.4'	Alder formation
4	2320	2330	9.7'	Alder formation
5	3594	3604	9.7'	Alder formation
6	4622	4631	8.7'	Alder formation
7	4893	4897	2.9'	Alder formation
8	5047	5052	5.0'	Alder formation

(c) Core Descriptions

Diamond Core #1 — Lower Cretaceous & Permo-Pennsylvanian

944 - 964' Recovered 20'

Coring times: 52, 40, 30, 21, 28, 21, 28, 30, 28, 30, 23, 5, 5, 10, 6, 14, 19, 11, 14, 15 minutes per foot.

944 - 949.5'

5.5' — Shale, black to dark grey, slightly silty, micro-micaceous, pyritic, with some bentonite?, plant fragments, polished parting surfaces.

949.5 - 950.8'

1.3' — Sandstone, light grey, very fine to fine grained, subangular, subrounded, medium sorting, slight trace porous.

950.8 - 954.7'

3.9' — Shale, black to dark grey, slightly silty, micro-micaceous, pyritic, plant fragments, polished parting surfaces, occasional sand grains.

954.7 - 955.3'

0.6' — Dolomite, light buff grey to buff white, clear quartz grains and grey, blue, milky and white chert pebbles.

955.3 - 956.4'

1.1' — Conglomerate, dark grey, very fine to coarse, sub-rounded to rounded, poor sorting, clear quartz

and pebbles and grains of grey, blue, milky and white chert and slightly calcareous in parts, bottom mainly bitumen cement. Parts show 5% porosity and have fair hydrocarbon cut, no petroliferous odour.

956.4 - 964'

7.6' Sandstone, light grey, medium to coarse, sub-angular to subrounded, medium sorting, clear quartz with some coloured chert, siliceous cement and slightly calcareous in parts, maximum porosity 15%, no petroliferous odour, good hydrocarbon cut.

Thin conglomerate bands occur in this sandstone at 957 - 957.5', 959.3 - 960.3', 960.7 - 961.0' and 961.6 - 961.9. Chert pebbles are scattered throughout the sandstone.

Diamond Core #2 Permo-Pennsylvanian

1289 - 1309' Recovered 18'

Coring times: 17, 23, 13, 15, 16, 18, 19, 14, 17, 17, 18, 25, 29, 28, 28, 33, 24, 15, 21, 25 minutes per foot.

1289 - 1289.6'

0.6' Conglomeratic sandstone, light grey, very fine to coarse grained, subrounded, to rounded, poor sorting, slightly silty, clear and white quartz grains,

coloured chert, minor pyrite and glauconite, oil stain and hydrocarbon cut, 5% maximum porosity.

1289.6 - 1291.5'

1.9' Sandstone, light buff grey, very fine to coarse grained but mainly fair to medium, subangular, subrounded, medium sorting, clear and white quartz grains, coloured chert, minor pyrite and glauconite, one large mud pebble at 1290.5 and large chert pebbles at 1291.5, some siliceous cement, oil stain and good hydrocarbon cut, 5% maximum porosity.

1291.5 - 1294'

2.5' Sandstone, as above but very fine to fine grained, conglomeratic band 1291.7 - 1291.9 varicoloured chert pebbles, trace porosity.

1294 - 1294.6'

0.6' Sandstone, dark buff brown, very fine to coarse grained, slightly silty, subrounded, rounded, medium sorting, quartz and chert grains with minor pyrite and glauconite, fairly friable when broken, bitumen cement, oil stain and extremely good hydrocarbon cut.

1294.6 - 1295.1'

0.5' Conglomerate, as above with pebbles up to 2.5 cm, extremely good hydrocarbon cut, exudes bitumen cement when heated.

1295.1 - 1295.4'

0.3' Sandstone, light grey, very fine to fine grained, subangular, good sorting, quartz grains with occasional chert grains, minor pyrite and glauconite, trace porosity.

1295.4 - 1295.7'

0.3' Same as sandstone, 1294.6 - 1295.1.

1295.7 - 1296.6' Sandstone, light grey, very fine to fine grained,
0.9 subangular, good sorting, quartz grains, some chert, slightly glauconitic, silty, coarse chert grains in basal 0.5 feet.

1296.6 - 1297.5'

0.9' Sandstone, medium buff brown, very fine to coarse grained, subangular to rounded, poor sorting, quartz and chert grains, silty matrix, good oil stain and good hydrocarbon cut.

1297.5 - 1303.0'

6.4' Shale, medium to dark grey, silty, pyrite throughout, carbonaceous streaks, plant fragments.

1303.9 - 1305.2'

1.3' As above but grading into sandstone, same as 1296.6 - 1297.5.

1305.2 - 1305.7'

0.5' Sandstone, buff brown to brown, very fine to coarse grained, conglomeratic, subrounded to rounded, poor

sorting, bitumen cement, good oil stain, excellent oil cut, porosity up to 10%, extremely friable and core is all broken from this point to the base.

1305.7 - 1307.0'

1.3' Sandstone, buff brown, very fine to fine grained, sub-angular, good sorting, bitumen cement exudes when heated, good oil stain and oil cut, trace porosity, two coarse grained sandstone bands at 1306.1 - 1306.2 and basal 0.15 feet of core. Fractured and broken up.

Diamond Core #3 Permo-Pennsylvanian Alder

2161 - 2171' Recovered 9.4'

Coring times: 30, 32, 30, 31, 3¼, 30, 3¼, 35, 38, 36 minutes per foot.

2161.0 - 2170.4'

9.4' Shale, dark grey to black, slightly calcareous or dolomitic?, slightly silty, micromicaceous, pyritic. 2164.8 - 2165.1 very calcareous band, light grey, similar thin calcareous bands near bottom of interval.

Diamond Core #4 Permo-Pennsylvanian Alder

2320 - 2330' Recovered 9.7'

Coring times: 28, 46, 32, 31, 3¼, 35, 32, 32, 29, 33 minutes per foot.

2320.0 - 2321.9'

1.9' Sandstone, light grey, salt and pepper, quartz, chert, pyrite and occasional glauconite, medium to coarse grained, subrounded, well sorted, calcite matrix and cement, tight, in part current bedded.

2321.9 - 2323.6'

1.7' Shale, dark grey to black, slightly silty, micromicaceous, pyritic, plant fragments.

2323.6 - 2324.0'

0.4' Siltstone, light grey, white and clear quartz grains, calcite cement, slightly pyritic.

2324.0 - 2329.7'

5.7' Shale, dark grey to black, slightly silty, micromicaceous, pyritic, carbonaceous streaks, plant fragments, occasional brachiopods along partings.

Diamond Core #5 Permo-Pennsylvanian

3594 - 3604' Recovered 9.7'

Coring times: 57, 46, 43, 44, 43, 45, 42, 44, 42, 42 minutes per foot.

3594' - 3603.7'

9.7' Shale, black to medium grey to light grey to dark brownish grey. Thin laminations of the above coloured shales up to 0.25" thick.

Calcareous material occurs in all shales but grades from very little (5%) in the black shales to a maximum of 30% in the dark brownish grey shales. Pyritic and slightly silty throughout. Parts of the dark brownish grey shales are very silty.

Shell bands occur at 3597.5 - 3598.8 and 3599.4 - 3600.2'. Shell remains have been replaced by calcite and are scattered throughout the shale. Crinoids can be seen. Ironstone concretions occur at:

3594.35 - 3594.4, 3595.65 - 3595.8, 3602.0 - 3602.2, 3603.5 - 3603.6, fractures in the last concretion are infilled with calcite.

Diamond Core #6 Alder

4622 - 4631' Recovered 8.8'

Coring times: 65, 45, 47, 46, 48, 63, 64, 85, 66 minutes per foot.

4622 - 4626.5'

4.5' Shale dark brown grey, very calcareous fissile. Scattered brachiopod fragments. Bedding planes dip from 10 - 20°.

4626.5 - 4629.0'

2.5' Shale as above, with vertical fracturing, blocky in parts. Calcite infilling occurs along some vertical and dip partings. At 4629 two vertical fractures occur at 35° to each other. Slight petroliferous odour.

4629.0 - 4630.5'

1.5' Shale as above with silty to sandy bands, some black chert pebbles also and crinoid and shell fragments, slumped.

One vertical fracture is lined with white calcite along both walls with minor druses with bitumen infill.

4630.5 - 4630.8'

0.3' Shale as above, fissile with slickensiding and some very thin carbonaceous partings.

Diamond Core #7 Alder

4893 - 4897' Recovered 2.9'

Coring times: Core Jammed - not true times.

4893 - 4893.9'

0.9' Sandstone, tan to grey, fine to coarse grained, sub-angular to round, calcite infill, tight. Composed mainly of grey, light to dark, chert grains. Some shaly laminae.

4893.9 - 4893.95'

0.05' Shale, black fissile. About 10° dip.

4893.95 - 4894.25'

0.3' Sandstone, as above.

4894.25 - 4894.28'

0.03' Shale, black fissile.

4894.28 - 4895.91'

1.63' Sandstone, as above, fine grain at top with very thin shale partings with increase in coarser fractions down-

wards. One thin vertical fracture, calcite infilled. Horizontal cracks in bottom 0.5'. Strong gassy odour.

Diamond Core #8 — Permo-Pennsylvanian Alder

5047 - 5052' Recovered 5.0'

Coring times: 58, 66, 77, 71, 72 minutes per foot.

5047.0 - 5047.7'

0.7' — Shale, black, slightly calcareous, fissile, thin vertical fracture infilled with calcite.

5047.7 - 5049.0'

1.3' — Sandstone, grey, salt and pepper, fine to medium grained, calcareous matrix, thin bedded, interbedded with shale, sandy, dark brown. Thin black shale bands in bottom 0.5' with white calcite veins, micro-faulting.

5049.0 - 5049.8'

0.8' — Shale, dark brown, calcareous, arenaceous, irregular patches and stringers of sandstone, calcareous, as above, fragments of black shale; contorted, slump features.

5049.8 - 5051.5'

1.7' — Thinly interbedded shale, black, calcareous; sandstone, shale, dark brown, arenaceous and calcareous, as above.

5051.5 - 5052.0'

0.5' Sandstone, grey, salt and pepper, fine to medium grained, calcite matrix; shalier toward base of interval.

(d) Sample Descriptions

0 - 20'	No samples.
20 - 70'	Sandstone, light brownish grey, very fine to coarse grained, subangular to rounded, clear quartz and black chert, black carbonaceous material; minor siltstone.
70 - 120'	Siltstone, brownish grey, with interbedded sandstone, very fine to fine grained, as above, and shale.
120 - 290'	Shale, medium grey, pyritic, interbedded with siltstone, occasional chert pebbles.
290 - 310'	Shale and siltstone, as above, with minor very fine grained, glauconitic, salt and pepper sandstone.
310 - 630'	Shale, medium grey to brownish grey, pyritic and glauconitic in part, interbedded with siltstone, light to medium grey, occasional chert pebbles; ironstone concretions at 500'.
630 - 840'	Siltstone, grey, pyritic, minor limestone stringers, minor bentonite.
840 - 950'	Shale, dark grey to medium grey, interbedded with siltstone, as above, pyritic, glauconitic in part.

950 - 1410'	Sandstone, dark to light grey, very fine to coarse grained, subangular to rounded, poor sorting, conglomeratic, minor calcite cement, poor to good porosity, minor bitumen cement, good hydrocarbon cut.
1410 - 1580'	Sandstone, as above, tight, calcite cemented, interbedded with siltstone, light to dark grey and shale dark grey, pyritic, glauconitic.
1580 - 1620'	Shale, medium to dark grey, carbonaceous streaks, interbedded with siltstone and trace sandstone, very fine to fine grained.
1620 - 1650'	Sandstone, very fine to rare fine grained, subangular, well sorted, calcite cemented, trace porosity.
1650 - 1680'	Sandstone, light grey, salt and pepper, very fine to coarse grained, rounded to subrounded, medium sorted, calcite cement, pyritic and glauconitic.
1680 - 1710'	Shale, medium to dark grey, slightly calcareous, pyritic and glauconitic.
1710 - 1760'	Limestone, light grey to dark grey to brown, fossil fragments, grading to sandstone and siltstone, very limy.

1760 - 1820'	Shale, medium to dark grey, grading to siltston medium to dark grey, slightly calcareous, pyritic, glauconitic.
1820 - 1860'	Limestone, grey to buff, grading to siltstone and minor sandstone, very limy, silicified in part.
1860 - 2040'	Siltstone and shale, dark grey, occasional glauconite grains, slightly dolomitic, trace sandstone, very fine grained, carbonaceous streaks.
2040 - 2310'	Shale, brownish grey, slightly dolomitic, pyritic, rare shell fragments.
2310 - 2320'	Sandstone, light grey, very fine to coarse grained, subangular to rounded, medium sorted, calcite cemented in part, poor to fair intergranular porosity, poor hydrocarbon cut.
2320 - 2470'	Shale, medium to dark grey, slightly calcareous, pyritic, occasional coral fragments.
2470 - 2540'	Shale, as above, interbedded with siltstone and minor limestone stringers, tan to grey, ironstone concretions.
2540 - 2660'	Shale, as above, interbedded with minor siltstone, light to dark grey, ironstone concretions, minor shell fragments.

2660 - 2680'	Limestone, tan to grey, grading to siltstone very limy, fossil fragments in part.
2680 - 2900'	Shale and siltstone interbedded, light to dark grey, rare limestone stringers, minor shell fragments, pyritic, minor ironstone concretions.
2900 - 3808'	Siltstone and shale, medium to dark grey, calcareous in part, minor limestone stringers, crinoidal in part.
3808 - 3824'	Limestone, dark grey, cherty.
3824 - 3969'	Limestone, dark brown to grey, silty, cherty, interbedded with siltstone, limy.
3969 - 3980'	Limestone, dark brown, silty, cherty.
3980 - 3990'	Sandstone, light grey, salt and pepper.
3990 - 4020'	Limestone, light grey to tan.
4020 - 4100'	Limestone, light grey to tan.
4100 - 4130'	Limestone, light grey.
4130 - 4170'	Siltstone, dark grey to black, calcareous.
4170 - 4211'	Limestone and limy siltstone.
4211 - 4253'	Limestone, light to dark grey, sandy, interbedded with siltstone, calcareous, dark grey to brown.

4253 - 4340'	Limestone and siltstone, as above.
4340 - 4426'	Limestone and siltstone interbedded.
4426 - 4443'	Siltstone and limestone interbedded.
4443 - 4458'	Shale, black, petroliferous odour.
4458 - 4478'	Sandstone, varicoloured rounded chert grains - pebbles, calcite cement. Occasional intergranular porosity plugged with bitumen.
4478 - 4511'	Sandstone with interbedded siltstone to limestone.
4511 - 4568'	Sandstone with minor interbedded siltstone - limestone.
4568 - 4590'	Sandstone, as above, calcareous, with abundant limestone, microcrystalline, silty.
4590 - 4610'	Limestone, sandy, microcrystalline with calcareous sandstone as above.
4610 - 4620'	Sandstone, calcareous, quartz and chert grains and pebbles, rounded.
4620 - 4631'	Shale, very dark grey brown, very calcareous, slight petroliferous odour.
4631 - 4640'	Limestone, micro to cryptocrystalline with stringers of sandstone, calcareous, salt and pepper. Some calcareous shale.

4640 - 4660'	Limestone, medium crystalline, argillaceous and calcareous shale, minor cherty sandstone stringers.
4660 - 4682'	Limestone, as above, marly in part, tan, with minor cherty sandstone stringers.
4682 - 4690'	Limestone, as above, with shale, grey to black, non-calcareous.
4690 - 4699'	Limestone and shale with minor sandstone stringers.
4699 - 4709'	Shale, dark brown, minor limestone and sandstone.
4709 - 4810'	Shale, black, minor limestone.
4810 - 4850'	Shale, as above with sandstone and siltstone stringers.
4850 - 4867'	Shale, black,
4867 - 4893'	Sandstone, fine to coarse grained, silty, cherty.
4893 - 4898'	Sandstone, grey, as above, subangular to rounded chert grains, calcareous infill, tight, thin shale bands.
4898 - 4950'	Shale, black.
4950 - 5010'	Shale, black, stringers of limestone and siltstone.
5010 - 5047'	Sandstone, fine to coarse grained, tight.
5047 - 5052'	Shale, black, overlying sandstone, fine to medium grained, shaly in part, interbedded, black, dark brown, sandy shale.

5052 - 5080'	Shale, grey to black, with sandstone stringers, minor fine to medium grained chert pebbles, crinoid fragments.
5080 - 5109'	Shale, black, with sandstone stringers.
5109 - 5120'	Shale, brown to black, with stringers limestone, pyritic, and sandstone; crinoid fragments.
5120 - 5160'	Shale, brown, sandy, pebbly in part with bands sandstone, salt and pepper, fine grained.
5160 - 5170'	Shale, brown, calcareous, in part sandy, with sandstone, salt and pepper.
5170 - 5190'	Mainly sandstone, salt and pepper, brown, argillaceous, in part calcareous, with limestone bands, in part sandy, with shale, grey, brown to black.
5190 - 5230'	Sandstone and shale, as above.
5230 - 5240'	Mainly shale, as above.
5240 - 5250'	Sandstone and shale as above.
5250 - 5276'	Sandstone and shale, limestone stringers, calcite veins.
5276 - 5300'	Sandstone, shale, with limestone, as above, possible bedded chert.
5300 - 5365'	Shale, brown to black, with limestone, micro to crypto-crystalline, brown, occasional bands of chert and sandstone.

5365 - 5413' Shale, brown to black, with limestone bands, brown, micro to cryptocrystalline.

SECTION III - Engineering Summary

(a) Report of Drill Stem Tests (See Attachments)

No.	Date	From	To	Formation
1	4-14-65	950	964	Alder
2	4-15-65	964	1163	Alder
3	4-17-65	1163	1329	Alder
4	4-19-65	1600	1673	Alder
5	4-23-65	2300	2320	Alder
6	5-26-65	4430	4501	Alder
7	5-27-65	1488	1525MR	Alder
8	5-27-65	1505	1520MR	Alder
9	6- 4-65	5195	5413	Alder-Parkin Creek

(b) Casing Record

Casing Size (inches)	Weight	Amount	Set At	Cement
9 5/8"	36#	20 jnts.	599 K.B.	235 sax + 3% $CaCl_2$

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well BIRCH YTB-34 Date Spudded 4/8/65 3:30 AM.

Area EAGLE PLAIN Date Completed

DATE	BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOT AGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
	1	8 3/8	W7 HTG	71752	C	0	72	72	7 1/2	7 1/2		3 2 I	
	2	8 3/8	YHWG R	E04132	C	72	222	150	8 1/2	16		I I I	
	3	8 3/8	YHWG	E34536	C	222	635	413	14 1/4	30 1/4		I I I	
	4	12 1/4	PILOT			0	472	472	13	43 1/4	13	2 I I	
	5	12 1/4	PILOT			472	600	128	3 1/4	46 1/2	16 1/4	I I I	
	6	8 3/8	OSC	42098	CON	635	944	319	6 3/4	53 1/4		2 I I	
	2	6 1/8	◆	EC1506		944	964	20	7 1/4	#1		GOOD	RERUN
	3	8 3/8	YHWG	E34536	FLAT CON	944	964	20	1 1/2	54 3/4	17 3/4	I I I	RERUN
	4	8 3/8	YHWG	E34536	CON	964	1075	111	11	65 3/4		3 2 I	RERUN
	5	8 3/8	YHWG	E04132		1075	1163	88	7 3/4	73 1/2		2 2 I	RERUN
	6	8 3/8	WTR	70118		1165	1289	126	11 1/4	84 3/4		3 2 I	
	7	6 1/8	◆	EC1506		1284	1309	20	7 1/4	#2		GOOD	RERUN
	8	8 3/8	WTR	37577	CON	1309	1327	40	3	87 3/4	18 3/4	I I I	
	9	8 3/8	WTR	37577	CON	1329	1410	81	9 1/2	97 1/4		3 2 I	RERUN
	10	8 3/8	WTR	65802	CON	1410	1466	56	5 1/2	105 3/4		3 I I	
	11	8 3/8	WTR	36194	CON	1466	1530	64	10	115 3/4		3 2 I	
	12	8 3/8	WTR	45005	CON.	1530	1604	74	11 3/4	127 1/2		3 2 I	
	13	8 3/8	W7	77109	CON	1604	1673	69	10	137 1/2		3 2 I	
	14	8 3/8	WTR2	8109	CON	1673	1740	67	11 1/4	148 3/4		3 2 I	
	15	8 3/8	W7	75715	CON	1740	1824	84	13	161 3/4		3 2 I	
	16	8 3/8	W7	76216	CON	1824	1905	81	13 1/2	175 1/4		3 2 I	
	17	8 3/8	W7	41374	CON	1905	2051	146	16	190 1/4		3 4 I	
	18	8 3/8	W7	18203	CON	2051	2161	110	4 3/4	195		1 1 I	
	19	6 1/8	◆	EC1504		2161	2171	10	5 1/2	#3		GOOD	
	20	8 3/8	OWC	66466	CON	2171	2330	159	7	202	19 1/2	3 2 I	
	21	6 1/8	◆	EC1506		2320	2330	10	5 1/2	#4		GOOD	
	22	8 3/8	OWC	59040	CON	2330	2686	336	18 1/2	217 1/2	20	2 3 I	

DISTRIBUTION: WHITE - TO CALGARY OFFICE: YELLOW - TO FIELD OFFICE: BLUE - FOR FILE

(d) Mud Record

	Mud Volumes
Magcogel	729 bags
Peltex	148 bags
Soltex	80 bags
Carbonox	100 bags
Caustic	75 bags
Q-Broxin	17 bags
Lignox	22 bags
C.M.C. Reg	46 bags
Cellex Hi Vis	38 bags
Dextrid	17 bags
Soda Ash	7 bags
Quick Vis	1 gallon
Jelflake	36 bags
Pluggit	35 bags
Mica	40 bags
Fibertex	15 bags
Sawdust	50 bags

(e) Deviation Record

DEPTH	DEGREE	DEPTH	DEGREE
35	1/8°	1530	1°
71	0°	1604	1°
100	1/8°	1673	1 1/4°
130	0°	1824	1 1/2°
156	1/8°	2040	2°
184	3/8°	2320	2°
212	1/2°	2656	2°
240	1/8°	2964	1 7/8°
269	1/8°	3445	1 1/2°
299	1/8°	3714	1 3/4°
327	1/8°	3813	1 3/4°
359	1/4°	3929	1 7/8°
390	0°	4012	1 3/4°
452	1/8°	4166	1 1/2°
515	1/4°	4261	1 1/2°
578	1/8°	4373	1 1/2°
608	1/8°	4568	7/8°
723	1/8°	4812	1/2°
1075	3/4°	4936	1/2°
1285	1 1/8°	5230	?
1410	7/8°		

(f) Cementing Record

Plug No.	From	To	Remarks
#1	4510	5413	375 sax cement
#2	4260	4510	90 sax cement
#3	550	650	40 sax cement, not in position
#4	557	650	55 sax cement

(g) Lost Circulation Zones

May 13, 1965 From 4473 to 5413 at various intervals with mud dropping in the annulus. Controlled by completely saturating mud system with Sawdust, Fibertex, Mica, Pluggit and Gel Flake.

(h) Report of Blowouts

None

SECTION IV - Logs (See Attachments)

Run No.	Type of Log	From	To
1	ML-C	600	5038
2	ML-C	4800	5404
1	BHCS-GR-C	600	5033
2	BHCS-GR-C	4800	5403
1	IES	600	5039
2	IES	4800	5404
1	CDM	600 ~~3550~~	5028 ~~4937~~
1	SRS	5403	600

SECTION V - Analysis

(a) Core Analysis (See Attachments)

Lab No.	From	To	Source	Remarks
F 2323	944	964	Core #1	Full Diameter Core Study
F 2323	1289	1309	Core #2	Full Diameter Core Study

(b) Water Analysis (See Appendix)

Lab No.	Sample	From	To	Source	Remarks
E 25609-1	Water	950	964	D.S.T. #1	Mud Filtrate
E 25609-2	Water	2300	2320	D.S.T. #5	4280 ppm Cl
E 25609-3	Water	4430	4501	D.S.T. #6	Mud Filtrate
E 25609-4	Water	1505	1520	D.S.T. #8	Mud Filtrate

(c) Gas Analysis (See Appendix)

Lab No.	Sample	From	To	Source
E 25584	Gas	4430	4501	D.S.T. #6
E 25585	Gas	5195	5413	D.S.T. #9

(d) Oil Analysis

None.

SECTION VI - Completion Summary

None.

CGL-6

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

WATER ANALYSIS REPORT: Lab. No. E25609-1 Received: June 18,1965 Reported: June 22, 1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain, Yukon Location: 66° 03' 03.44" N. 136° 51' 17.51" W. Elev.: K.B. _____ Grd. _____

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 950' - 964'

Method of Production: D.S.T. #1 Well Production or Recovery at Sampling Time: _____

Sampled from: 20' above packer Sampled by: _____ Date: April 15, 1965

OTHER PERTINENT DATA _____

(Signed)

Milligrams Per Liter

Na & K	Ca	Mg		SO_4	Cl	CO_3	HCO_3	OH	
1309	48	4		1662	285	84	870		

Milligram Equivalents

56.95	2.40	0.33		34.57	8.04	2.80	14.27		

Iron Present Hydrogen Sulfide Nil

Total Solids in Milligrams Per Liter:

By evaporation 7,740

After ignition 3,790

Calculated 3,821

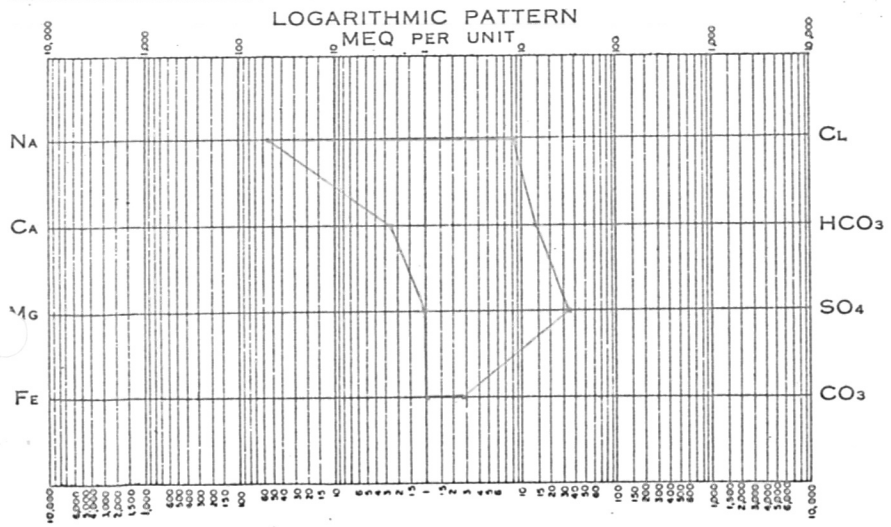
Physical Properties:

Resistivity 2.15 ohm meters @ 68°F.

Observed pH 9.1

Specific Gravity 1.005

Remarks and Conclusions: The total solids contained a very large amount of organic matter. The sample has the characteristics of a filtrate water.



CGL-6

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

WATER ANALYSIS REPORT: Lab. No. E25609-2 Received: June 18, 1965 Reported: June 22, 1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain, Yukon Location: 66° 03' 03.44" N. 136° 51' 17.51" W. Elev.: K.B. _____ Grd. _____

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 2300' - 2320'

Method of Production: D.S.T. #5 Well Production or Recovery at Sampling Time: _____

Sampled from: 100' above packer Sampled by: _____ Date: April 26, 1965

OTHER PERTINENT DATA

(Signed)

Milligrams Per Liter

Na & K	Ca	Mg		SO_4	Cl	CO_3	HCO_3	OH	
3841	42	18		13	4280		3030		

Milligram Equivalents

167.08	2.10	1.48		0.27	120.70		49.69		

Iron Nil Hydrogen Sulfide Nil

Total Solids in Milligrams Per Liter:

By evaporation 10,192

After ignition 9,508

Calculated 9,686

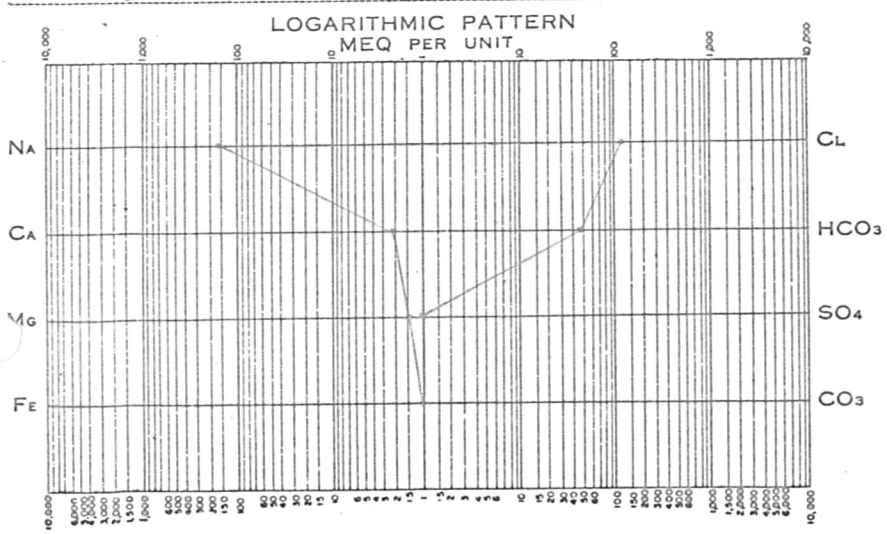
Physical Properties:

Resistivity 0.736 ohm meters @ 68°F.

Observed pH 7.9

Specific Gravity 1.009

Remarks and Conclusions: Nothing on file from this area with which to correlate the analysis.



CGL-6

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

WATER ANALYSIS REPORT: Lab. No. E25609-3 Received: June 18, 1965 Reported: June 22, 1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain, Yukon Location: 66° 03' 03.44" N. 136° 51' 17.51" W. Elev.: K.B. _____ Grd. _____

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 4430' - 4501'

Method of Production: D.S.T. #6 Well Production or Recovery at Sampling Time: _____

Sampled from: 300' above packer Sampled by: _____ Date: May 26, 1965

OTHER PERTINENT DATA _____

(Signed)

Milligrams Per Liter

Na & K	Ca	Mg		SO_4	Cl	CO_3	HCO_3	OH	
3396	184	53		1486	2680	24	3290		

Milligram Equivalents

147.71	9.18	4.36		30.91	75.58	0.80	53.96		

Iron Present Hydrogen Sulfide Nil

Total Solids in Milligrams Per Liter:

By evaporation 17,630

After ignition 8,770

Calculated 9,443

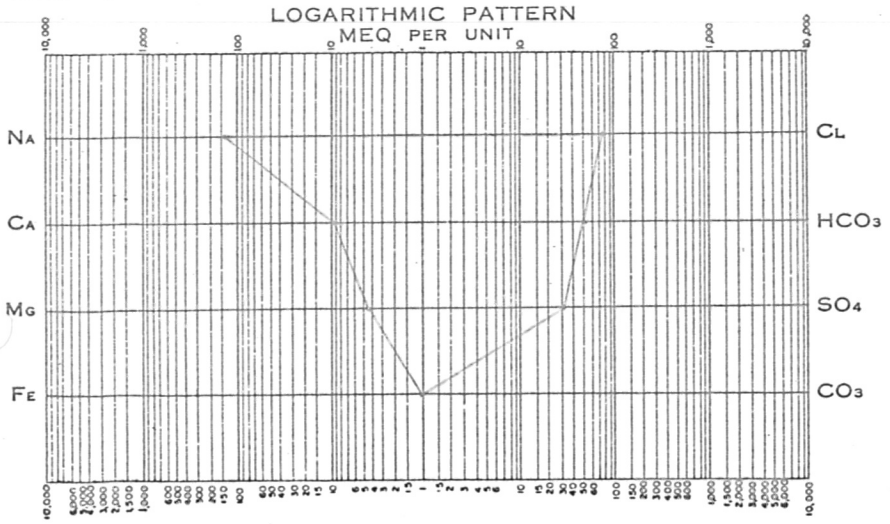
Physical Properties:

Resistivity 0.820 ohm meters @ 68°F.

Observed pH 8.5

Specific Gravity 1.009

Remarks and Conclusions: The total solids contained a very large amount of organic matter. The sample has the characteristics of a filtrate water.



CGL-6

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

WATER ANALYSIS REPORT: Lab. No. E25609-4 Received: June 18, 1965 Reported: June 22, 1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain, Yukon Location: 66° 03' 03.44" N. 136° 51' 17.51" W. Elev.: K.B. _____ Grd. _____

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 1505' - 1520'

Method of Production: D.S.T. #8 Well Production or Recovery at Sampling Time: _____

Sampled from: 690' above packer Sampled by: _____ Date: May 28, 1965

OTHER PERTINENT DATA

(Signed)

Milligrams Per Liter

Na & K	Ca	Mg		SO_4	Cl	CO_3	HCO_3	OH	
1105	26	7		761	210	167	1380		

Milligram Equivalents

48.06	1.30	0.58		15.83	5.92	5.56	22.63		

Iron Present Hydrogen Sulfide Nil

Total Solids in Milligrams Per Liter:

By evaporation 6,050

After ignition 2,780

Calculated 2,956

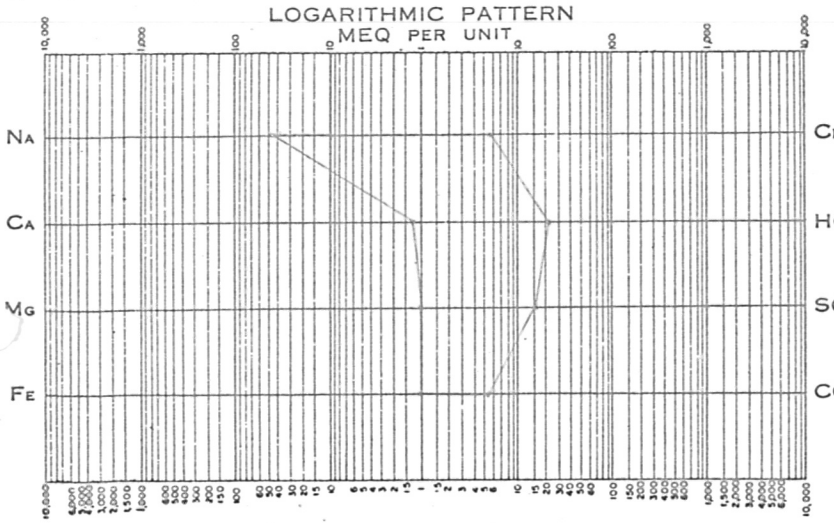
Physical Properties:

Resistivity 2.33 ohm meters @ 68°F.

Observed pH 9.3

Specific Gravity 1.004

Remarks and Conclusions: The total solids contained a very large amount of organic matter. The sample has the characteristics of a filtrate water.



CGL-4

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

GAS ANALYSIS REPORT: Lab. No. E25584 Received: June 18,1965 Reported: June 25,1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain Area, Yukon Territory. Location: 66° 03' 03.44" (3.14") N. 136° 51' 17.51" W. Elev.: K.B. Grd.

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 4430' - 4501'

Well production at sampling time: Oil bpd; Gas MCFD; Water bpd.

Sampled from: Sampled by: Date: May 26, 1965

Pressure: (a) at point of sampling psig (b) Gas Bomb pressure psig

Temperature: (a) at point of sampling °F (b) Separator °F

Pressures: Reservoir Tubing Casing Separator

OTHER PERTINENT DATA D.S.T. #6.

(Signed)

HYDROGEN SULFIDE (by Tutwiler Method)

Grains of hydrogen sulfide per 100 cu. ft. of gas at 60°F. and 14.65 p.s.i.a. Nil

GROSS B.T.U. (Calculated) 60°F. and 14.65 p.s.i.a. 1107.

SPECIFIC GRAVITY (Calculated) 0.656

Specific Gravity by Weight 0.652

VAPOR PRESSURE (Calculated) of actual pentanes + 9.71

Remarks and conclusions

The sample was received at a pressure of 56 psig. with no apparent liquids.

All figures have been corrected for 11.04% air contamination.

Calculated Pc 678.0

Tc 374.5

COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA
Helium		
Oxygen	0	
Nitrogen	0.83	
Carbon dioxide	1.91	
Hydrogen sulfide	0	
Methane	86.64	
Ethane	6.91	
Propane	2.35	0.537
Isobutane	0.25	0.068
N-butane	0.51	0.133
Isopentane	0.14	0.042
N-pentane	0.13	0.039
Hexanes	0.18	0.061
Heptanes +	0.15	0.064
TOTAL	100.00	0.944

G.P.M.

Actual pentanes +	0.206
Calculated at 12 lbs.	0.215
Calculated at 15 lbs.	0.229
Calculated at 22 lbs.	0.270
Calculated at 26 lbs.	0.300

CGL-4

CHEMICAL & GEOLOGICAL LABORATORIES LTD.

Edmonton — Fort St. John — Calgary

GAS ANALYSIS REPORT: Lab. No. E25585 Received: June 18,1965 Reported: June 25, 1965

Well: Soc. Mob. W. Mins. S. Birch Y.T. B-34 Operator: Socony Mobil Oil Of Canada Limited

Field or Area: Eagle Plain Area, Yukon Territories Location: 66° 03' 03.44" (3.14") N. 136° 51' 17.51" W. Elev.: K.B. _____ Grd. _____

Zone and Formation: Permo-Pennsylvanian Alder Sample Interval: 5195' - 5413'

Well production at sampling time: Oil _____ bpd; Gas _____ MCFD; Water _____ bpd.

Sampled from: _____ Sampled by: _____ Date: June 4, 1965

Pressure: (a) at point of sampling _____ psig (b) Gas Bomb pressure _____ psig

Temperature: (a) at point of sampling _____ °F (b) Separator _____ °F

Pressures: Reservoir _____ Tubing _____ Casing _____ Separator _____

OTHER PERTINENT DATA D.S.T. #9.

(Signed)

HYDROGEN SULFIDE (by Tutwiler Method)

Grains of hydrogen sulfide per 100 cu. ft. of gas at 60°F. and 14.65 p.s.i.a. Nil

GROSS B.T.U. (Calculated) 60°F. and 14.65 p.s.i.a. 1077.

SPECIFIC GRAVITY (Calculated) 0.624

Specific Gravity by Weight 0.625

VAPOR PRESSURE (Calculated) of actual pentanes + 9.76

Remarks and conclusions

The sample was received at a pressure of 2 psig. with no apparent liquids. All figures have been corrected for 1.92% air contamination.

COMPOSITION	% by Volume	G.P.M. in Imp. Gal. @ 60°F. & 14.65 PSIA
Helium		
Oxygen	0	
Nitrogen	0.58	
Carbon dioxide	1.13	
Hydrogen sulfide	0	
Methane	90.63	
Ethane	5.21	
Propane	1.65	0.377
Isobutane	0.14	0.038
N-butane	0.33	0.086
Isopentane	0.08	0.024
N-pentane	0.08	0.024
Hexanes	0.06	0.020
Heptanes +	0.11	0.047
TOTAL	100.00	0.616

G.P.M.

Actual pentanes +	0.115
Calculated at 12 lbs.	0.120
Calculated at 15 lbs.	0.127
Calculated at 22 lbs.	0.150
Calculated at 26 lbs.	0.167