W E L L H I S T O R Y R E P O R T

for

SOCONY MOBIL WESTERN MINERALS

MOLAR YT P-34

November 13, 1964

AtlanticRichfieldCanadaLtd.

650 Guinness House
727 7th Avenue S.W.
Calgary, Alberta, Canada
T2P 0Z6
Telephone 403 266-8311

Arnold H. Brackenridge
Vice-President,
Exploration

67°03'59"/138°36'00"

November 1, 1972

Geological Survey Of Canada,
Institute of Sedimentary & Petroleum Geology,
3303 - 33rd Street N.W.,
Calgary, Alberta.

Attn: Mr. Ball

Dear Sir:

Enclosed are the results of analyses of eight core samples from the Socony Mobil Molar P-34 well. The core samples were broken down in the maturation study and we do not have any remaining sample material from the pieces extracted from the core. Results of the analyses however, provide some data on maturation indices using color response of spores and pollen to transmitted light as outlined in the attached correspondence.

Yours very truly,

F. G. Rayer
District Geologist

FGR:py

Date: February 24, 1972

To: Mr. D. W. Holmes, Calgary

From: H. M. Simpson, 126 EXP, Dallas

Subject: Maturation Study of the Socony Mobil Molar P-34

This is an answer to your request of January 8, 1972, for a maturation study of the Socony Mobil Molar P-34. The organic material on the palynology slides borrowed from the Geological Survey of Canada was oxidized during their maceration process. This material is altered from its native state, which is needed for maturation determinations. The slides are being returned to you under separate cover.

Portions of the eight Molar P-34 core samples you sent to Glenn Roe for source rock analysis were obtained and prepared for the maturation study. The color indices (see attachment) were derived by Joe Dial after the organic material had been freed from the inorganics by a HF treatment. The indices were determined from the color response of spores and pollen to transmitted light and by referring to the color standards published by Staplin * (1969) from northeastern British Columbia.

I should stress that this method is still in its initial stage of development and the degree of sensitivity is not determined. However, gross changes such as 2.34 (1355-60') to 3.72 (8692-94') are significant. The color indices < 3.50 in the literature are generally associated with liquid hydrocarbons and wet gas and those > 3.50 with dry gas. This information suggests that strata at 8692-94' (3.72) and lower may be in or approaching the dry gas facies.

H. M. Simpson

HMS/pw

Attachment

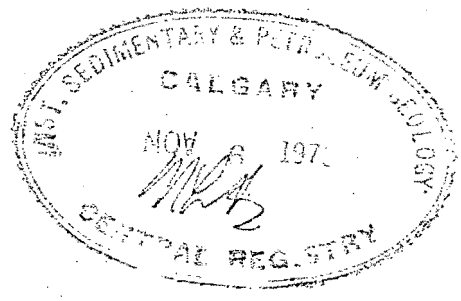
cc: Messrs. J. Dial, Dallas
F. G. Rayer, Calgary

* Staplin, F. L., 1969, Sedimentary organic matter, organic metamorphism and oil and gas occurrence; Canadian Petroleum Geology, Vol. 17, No. 1, P. 47-66.

MOBIL MOLAR P-34

Thermal Alteration Color Indices of Spores and Pollen

DEPTH	INDICES
1355-60'	2.34
4968-75'	2.90
7120-27'	3.04
7396-7403'	3.30 (?)
7486-90'	3.33
7886-90'	3.20
8149'	3.30
8692-94'	3.72



W E L L H I S T O R Y R E P O R T

for

SOCONY MOBIL WESTERN MINERALS

MOLAR YT P-34

Latitude 67° 03' 59"

Longitude 138° 36'

Socony Mobil Oil of Canada, Ltd.
Dawson Creek District

November 13, 1964

G. A. Atkinson
DISTRICT GEOLOGIST

INDEX

WELL HISTORY REPORT

SECTION I - Summary of Well Data

(a)	Well Name and Number:	Socony Mobil Western Minerals Molar VT P-34
(b)	Permittee:	Western Minerals Ltd.
(c)	Operator:	Socony Mobil Oil of Canada, Ltd.
(d)	Location:	Unit P Section 34 Grid N 67° 10'; W 138° 30' Latitude 67° 03' 59" Longitude 138° 36'
(f)	Permit:	987
(g)	Drilling Contractor:	Parker Drilling Company of Canada Ltd. Rig #1 Oilwell 76 Diesel Rotary
(h)	Drilling Authority:	138; April 1, 1964
(i)	Classification:	New Field Wildcat
(j)	Elevation:	Ground 2622 K.B. 2635.6
(k)	Spudded:	March 29, 1964
(l)	Completed Drilling:	August 9, 1964
(m)	Total Depth:	Drillor 8704 K.B.; Schlumberger 8694 K.B.

(n) Well Status: Dry and Abandoned

(o) Rig Released: August 13, 1964

(p) Hole Size: 24" to 75'
17 1/4" to 1200'
8 5/8" to 8634'
6 1/8" to 8704'

(q) Casing: 18" - 0.250 Spiral Weld to 70 ft. K.B.
13 3/8" - 54.5 lbs/ft. J-55 to 1200 ft. K.B.

SECTION II - Geological Summary

(a) Formation Tops

	Sample Tops Depth	Sample Tops Elevation	E-log Tops Depth	E-log Tops Elevation
Upper Cretaceous:				
Lower Cretaceous:	200	+2436		
Upper Devonian:	7942	-5306	7953	-5317

(b) Cored Intervals

Core Number	From	To	Rec.	Formation
1	1352	1361	6'	Lower Cretaceous
2	1989	1998	8.9'	Lower Cretaceous
3	2171	2189	6.7'	Lower Cretaceous
4	3085	3094	9.3'	Lower Cretaceous
5	4101	4119	18.5'	Lower Cretaceous
6	4967	4977	10.4'	Lower Cretaceous
7	5983	5996	13'	Lower Cretaceous
8	6196.5	6206	9.5'	Lower Cretaceous
9	7119	7129	10'	Lower Cretaceous
10	7395	7403	8'	Lower Cretaceous
11	7480	7490	10'	Lower Cretaceous
12	7879.5	7890	10.5'	Lower Cretaceous
13	7952.5	7968	15.5'	Upper Devonian
14	8141.5	8151.5	10'	Upper Devonian
15	8354	8363	9'	Upper Devonian
16	8684	8704	20'	Upper Devonian

(c) Core Descriptions

Diamond Core #1	Lower Cretaceous
	1352 - 1361' Recovered 6'
Coring times:	16, 14, 14, 9, 7, 8, 7, 9, 7, minutes per foot.
1352 - 1361'	
6'	Shale, black, carbonaceous, non-calcareous, fissile with scattered tan dolomitic bands, fossil at 1353.1 feet, scattered groups of faecal pellets (?) occur throughout. No dip. Environment - marine.
Diamond Core #2	Lower Cretaceous
	1989 - 1998' Recovered 8.9'
Coring times:	26, 22, 20, 15, 16, 15, 16, 15, 14, minutes per foot.
1989 - 1998'	
8.9'	Shale black, fissile and sandstone very fine grained, subangular to subrounded, medium to well sorted, clayey matrix, interbedded, tight. Sandstones up to 50%. Shale shows little or no dip, has polished surfaces. No fracturing. Sandstones and silts show sharp contacts with shale (clay originally) above and below. Possible environment - Delta front with bottom and topset beds with the coarser material forming the foreset beds. Approaching marginal environment.

Diamond Core #3 — Lower Cretaceous

2171 - 2189' Recovered 6.7'

Coring times: 20, 22, 22, 18, 24, 16, 13, 15, 17, 8, 17, 10, 12, 12, 12, 9, 10, 13, minutes per foot.

2171 - 2172.4'

1.4' — Conglomeratic quartz sandstone, fine grained to very fine grained, subangular to subrounded, medium to well sorted with coarse rounded chert grains, grey and black, and pyrite grains with a clayey, anhydritic, pyritic, calcareous matrix. Siltstone and shale thinly interbedded. Tight. The banding is wavy with some lensing.

2172.4 - 2177.7'

5.3' — Shale black, finely banded, sandy shale to sandstone and siltstone interbedded as above. The sandstone shows evidence of slumping especially 2.5 to 3.0' from top of interval. No more than 5° dip approximately. Possibly a deltaic front sequence with slumping over flattish beds.

Diamond Core #4 — Lower Cretaceous

3085 - 3094' Recovered 9.3'

Coring times: 25, 30, 28, 28, 28, 27, 17, 29, 28, minutes per foot.

3085 - 3094'

9.3' Shale to siltstone, dark grey, slightly calcareous, micromicaceous. A few bands and irregular shapes with clear calcite crystals possibly caused by annelids. Pyrite occurs sparsely throughout in irregular shapes. The bedding appears to be about 5° from the horizontal. One vertical fracture runs the length of the core and caused lost circulation.

Diamond Core #5 Lower Cretaceous

4101 - 4119' Recovered 18.5'

Coring times: 44, 30, 27, 26, 23, 22, 24, 23, 25, 22, 23, 23, 19, 23, 25, 25, 26, 25, minutes per foot.

4101 - 4114'

13.5' Shale dark grey to black, silty grading to siltstone medium to dark grey, argillaceous, with shaly streaks in part, laminated. Sandstone, very minor to very fine grained, medium grey, slightly calcareous, sandstone as laminae and small scour and fill lenses. Rare floating chert grains - pebbles (often pyrite core) up to 1/2".

4114 - 4119'

5' Shale as above, slight increase in sandstone. Trace carbonaceous plant material.

Shale fractures approximately every 3 - 4 feet, black highly polished slickensided surfaces. Dip - 18°.

Diamond Core #6 — Lower Cretaceous

4967 - 4977' Recovered 10.4'

Coring times: 41, 30, 23, 25, 23, 23, 21, 23, 24, 22, minutes per foot.

4967 - 4977'

10.4' — Shale, black, silty in part, rare streaks of very fine grained sandstone, pyritic in part. One vertical fracture through whole core abundant incipient fractures parallel to bedding, few show polished slickensided surfaces. Fossils - Ammonites (Lower Cretaceous?) few plant fragments and possibly one clam.

Diamond Core #7 — Lower Cretaceous

5983 - 5996' Recovered 13'

Coring times: 35, 35, 25, 27, 27, 24, 23, 27, 23, 36, 38, 45, 39, minutes per foot.

5983 - 5996'

13' — Shale, silty, black with very thin streaks, lenses and pods of very fine grained sandstone, light to medium grey, siliceous in part, trace glauconite, minor pyrite. Few pyrite nodules and chert granules. Trace carbonaceous plant material. Abundant vertical and almost vertical fractures. One slickensided and polished horizontal fracture. Dip bedding planes approximately horizontal.

Diamond Core #3 — Lower Cretaceous

6195.5 - 6205' Recovered 9.5'

Coring time: 10, 14, 23, 22, 24, 22, 19, 19, 20, 17, minutes per foot.

6195.5 - 6205'

9.5'

Siltstone, sandstone, shale interlaminated.

Siltstone, dark grey, sandy with shaly streaks and partings.

Sandstone, light to medium grey, very fine grained, silty, slightly glauconitic and calcareous. Sand content decreases from top to bottom of core.

Very minor carbonaceous plant fragments, slightly pyritized in part.

Both are flat lying.

Diamond Core #9 — Lower Cretaceous

7119 - 7129' Recovered 10'

Coring time: 60, 38, 25, 27, 27, 23, 22, 23, 23, 23, minutes per foot.

7119 - 7129'

10'

Shale, dark grey to black, very silty, minor sand in part, trace black chert granules, carbonaceous plant fragments and worm flakes on bedding planes and in core fractures. Trace of quartz veinlets.

At 7120' 2 inch inclusion, very calcareous, pyritic.

At 7128' 2 thin pale green waxy shale streaks.

Horizontal, vertical and slightly off-vertical fractures.

Bedding horizontal.

Diamond Core #10 — Lower Cretaceous

7395 - 7403' Recovered 8'

Coring times: 37, 23, 23, 25, 20, 22, 22, 21, minutes per foot.

7395 - 7395.1'

0.1' — Siltstone, slightly dolomitic, hard, interbedded with shale, black.

7395.1 - 7403'

7.9' — Shale, black, thinly laminated, minor very thin laminae of pyrite and siltstone. A few calcite and quartz healed vertical hairline fractures. Polished and slickensided, black, carbonaceous bedding planes. Dip of beds - 3°.

Fossils: Plant remains and pyritized fish? remains, minor vertebrae and bones? throughout; at 7395.2 - fish scales?; at 7402 - thin 1/8" band of very calcareous siltstone with abundant leached organic remains, cylindrical and lenticular shaped.

Diamond Core #11 — Lower Cretaceous

7480 - 7490' Recovered 10'

Coring times: 37, 27, 30, 30, 25, 28, 25, 29, 27, 27, minutes per foot.

7480 - 7490'

10' Shale, black, silty, carbonaceous, thinly laminated with rare siltstone stringers, grey, dolomitic to calcareous in part.

Dip is approximately horizontal, with one horizontal polished, slickensided bedding plane.

Fossils: vertebrae and bones?, and plant remains.

Diamond Core #12 — Lower Cretaceous

7490 - L E Jur.

7879.5 - 7890' Recovered 10.5'

Coring times: 82, 23, 22, 26, 25, 25, 17, 21, 16, 18, minutes per foot.

7879.5 - 7890' General

Siltstone medium-dark grey, very argillaceous, slightly dolomitic; siliceous in part, with black shaly partings and carbonaceous material.

Trace siltstone grading into very fine grained sandstone; minor pyrite inclusions and disseminated pyrite; minor floating frosted medium size rounded quartz grains. Massive, dense, hard.

Dips from 0° - 18° and minor units show cross-bedding. One major fracture partly filled with very coarse quartz crystals, minor pyrite lining and trace calcite crystals.

7879.5 - 7881'

1.5'

Interbedded dark grey and medium grey siltstone units 1/4" to 1". Dips 0° - 6°.

7881 - 7885.2'

4.2'

Jumbled mass of lenses, streaks, tubes and worm burrows. Dip 18°. These structures stand out in that they are medium grey in a predominantly dark grey rock. A few tubes show in cross-section as medium grey rings with dark grey siltstone inside and outside, those tubes that lie horizontally show compaction. Diameter reduced to 1/3 of the original. At 7884.7' a thinly crossbedded unit of 2".

7885.2 - 7890'

4.8'

Similar to above but much darker grey in part and with only minor tubes and burrows.

At 7889.1' a partly open horizontal fracture 1½" wide.

From top to bottom it shows:

a) fracture proper, almost completely filled with very coarse crystals of quartz up to 1/4" and minor coarse calcite crystals up to 2 mm, both slightly green stained in part; minor lining of fracture with pyrite veinlets.

b) black slickensided surface with thin quartz veinlets.

c) thin band of drab grey green clay.

Diamond Core #13 — Upper Devonian

7952.5 - 7968' Recovered 15.5'

Coring times: 49, 36, 37, 39, 37, 20, 23, 23, 19, 24, 32, 26, 58, 87, 103, 153, minutes per foot.

7952.5 - 7964'

11.5' Sandstone, light grey, fine grain, 20% white grains; subangular to rounded, siliceous in part, trace glauconite; trace coarse to granule size pebbles, slightly calcareous in part. Porosity tight to poor, no cut, no stain; core showed gas bleeding four hours after coming off bottom, indicating very low permeabilities. Three fractures approximately 30° off vertical, slightly lined with calcite (not crystalline). Seven stylolites well developed. Dip approximately 16°?

7964 - 7968'

4.0' Sandstone as above not calcareous; but highly siliceous. Quartzitic to quartzite in part. Tight.

Diamond Core #14 — Upper Devonian

8141.5 - 8151.5' Recovered 10'

Coring times: 79 (first half foot), 87, 38, 36, 33, 42, 28, 27, 29, 31, 21 (last half foot), minutes per foot.

General

Core has polished slip planes throughout. Massive sandstone is faulted against brecciated sandstone with shaly infill at approximately 20° to axis of core. Evidence of bedding planes show questionable apparent dips of 25° - 30° to the short axis of the core.

8141.5 - 8147.5'

6.0' Sandstone, dark grey, very fine to medium grained clear quartz, milky white and black chert grains, subangular, medium sorting, silty, slightly dolomitic, argillaceous in part, siliceous cement in part, minor pyrite, tight, FF = 6, extremely brecciated with 20% shale infill about very angular chunks of sandstone up to 3" across. Shale, black, slightly dolomitic, minor pyrite, micromicaceous, very minor sparry calcite filling along a few fractures; 0.5' shale interbed at 3.5'.

8147.5 - 8149.9'

2.4' Shale, black, greasy, micromicaceous, minor pyrite, minor shiny black plant imprints, one silty to sandy zone at 6.9'.

8149.9 - 8151.5'

1.6' Sandstone, brecciated as above.

Diamond Core #15 Upper Devonian

8354 - 8363' Recovered 9'

Coring times: 28, 40, 34, 45, 58, 36, 31, 34, minutes per foot.

8354 - 8354.6'

0.6' Shale, dark grey-brown, very sandy (15 - 20%), pyritic, minor black carbonaceous streaks and plant imprints throughout; sand grains are subangular, fine grained, clear quartz and milky white to grey chert.

8354.6 - 8359'

4.4' Brecciated sandstone, grey to dark grey, very fine to medium grained, silty, subangular, clear quartz and milky white to grey and black chert grains, slightly dolomitic or calcareous, pyritic, siliceous cement in part; angular breccia fragments (up to 4") have been infilled or surrounded by shale, black, soft, micromicaceous, pyritic. Both pre- and post-brecciation white calcite infill of fractures has occurred.

8359 - 8361'

2.0' Shale, black, micromicaceous, minor pyrite, numerous polished or slickensided surfaces, crumbly. Sandstone breccia fragments are slightly dolomitic and show cross-bedding.

8361 - 8363'

2.0' As above, shale infill becomes denser and not as badly sheared and slickensided with carbonaceous plant remains visible, sand fragments become more numerous, with bottom 6" of interval massive, silty sandstone, slightly argillaceous, as above.

Diamond Core #16 Upper Devonian

8684 - 8704' Recovered 20'

Coring times: 58, 38, 45, 27, 32, 33, 24, 24, 26, 30, 28, 21, 33, 28, 28, 29, 27, 23, 35, 30, minutes per foot.

8684 - 8696.5'

12.5' Sandstone, dark grey, argillaceous, minor shale bands, pyritic, slightly dolomitic, carbonaceous plant remains throughout, minor siliceous cement; poorly sorted, silt to medium grain sized grains of milky white to grey chert, minor black chert and clear colourless quartz, subrounded with a coarse grained (chert grains) band at 3'. A few calcite filled fractures occur with widths up to 1/4". FF 6-7. Rock is dense and tight.

5.5' - 8.0' Brecciated zone with soft, black shale infill, many shiny black irregular slippage planes on the shale.

8696.5 - 8701.5'

5' Shale, black, micromicaceous, dolomitic, carbonaceous plant imprints, pyritic, platy with jointing planes parallel to length of core; much disseminated pyrite as streaks and single crystals occur on jointing planes.

Shale grades through silty phase to sandstone bands, as above, at 14.3', 15.5', and 17.5'.

15.5 - 17.2' Brecciated zone in the shale with minor sandstone fragments (up to 1" across, angular). This zone has shiny slippage surfaces as the above brecciated zone.

8701.5 - 8704'

2.5' Shale, as above, slightly dolomitic, pyrite along joints, disseminated and in form of very small balls or pellets; shale contains 40% thin streaks, bands and lenses of siltstone to sandstone, as above.

(d) Sample Descriptions

0 - 50'	Sandstone, very fine to fine grained, angular, well sorted, white - red sand grains and milky-rusty chert grains, kaolinitic infill, trace calcareous and bituminous.
50 - 110'	Sandstone as above with interbedded brown - black shale.
110 - 130'	Shale black, micromicaceous, minor bituminous.
130 - 190'	Interbedded sandstone and minor shale as above.
190 - 220'	Shale with minor interbedded sandstone as above.
220 - 360'	Shale black, micromicaceous, minor bituminous; slightly calcareous in part.
360 - 570'	Shale dark grey, micromicaceous, minor bituminous, very minor pyrite.
570 - 1000'	Shale dark grey - black, pyritic with minor interbedded quartz - chert siltstone.
1000 - 1902'	Shale black, fissile, non-calcareous, slightly fossiliferous.
1902 - 2030'	Shale black, fissile, non-calcareous, slightly fossiliferous, with sandstone very fine grained, argillaceous, tight.

2030 - 2050'	Shale black, fissile, non-calcareous, slightly fossiliferous, with minor sandstone very fine grained, argillaceous, tight.
2050 - 2130'	Sandstone with siltstone, fine grained with black and grey chert pebbles, with minor shale as above. Tight.
2130 - 2172'	Thinly interbedded conglomeratic quartz sandstone and siltstone grey with black shale, tight.
2172 - 2230'	Shale black with sandstone fine grained and siltstone grey, tight.
2230 - 2240'	Thinly interbedded pebbly sandstone, siltstone grey and shale black, tight.
2240 - 2550'	Thinly interbedded very fine grained sandstone, quartzose, siltstone grey to brown, slightly glauconitic, and shale black. Sandstone is sub-angular to subrounded, medium to poor sorting.
2550 - 2600'	No samples. Lost circulation problems.
2600 - 2930'	Shale to siltstone, grey to black; with very occasional thin very fine grained sandstone stringers; pyritic.
2930 - 3000'	As above increase in siltstone fraction, trace septarian concretions?

3000 - 3150'	Siltstone, grey to dark grey, with minor shale dark grey and trace dolomitic, argillaceous buff bands, rare drusy calcite crystals.
3150 - 3210'	Siltstone and shale as above with floating coarse grained to minor very fine grained, quartzose sandstone stringers, rounded to subrounded, poor to well sorted, black, grey and green; minor pyrite, glauconite.
3210 - 3747'	Siltstone with minor shale as above, pyritic in part with minor glauconite, rare selenite crystals; rare round chert grains at 3530 feet and 3660 feet. At 3660 feet trace vugs with trace pyrobitumen.
3747 - 4040'	Shale, very silty, to siltstone, very argillaceous, dark grey with minor pyrite and chert pebbles, trace drusy quartz with very minor sandstone salt and pepper, very fine to fine grained, slightly glauconitic, siliceous in part, rare quartz.
4040 - 4090'	Siltstone medium grey, argillaceous, silty, calcareous with minor sandstone as above. Pyrite and chert as above. Fractures as above. Rare silty limestone, buff.
4090 - 4170'	Shale dark grey to black, silty, grading to

siltstone, grey to dark grey, argillaceous. Rare chert pebbles.

4170 - 4362' Shale dark grey to black, silty, grading to siltstone, argillaceous. Rare chert pebbles.

4362 - 4620' Shale dark grey to black, silty, grading to siltstone, argillaceous with rare chert pebbles.

4620 - 4841' Shale dark grey to black, silty, grading to siltstone, argillaceous with rare chert pebbles.

4841 - 5247' Shale black, silty in part.

5247 - 5510' Shale, black, silty in part, grading to siltstone, argillaceous with minor sandstone, very fine grained, slightly calcareous, rare chert pebbles.

5510 - 5540' Shale as above.

5540 - 5800' Shale, silty, trace pale grey bentonite.

5800 - 5830' Siltstone and sandstone, very fine to fine grained with few chert granules, with shale as above.

5830 - 5930' Siltstone and sandstone very fine to fine grained with few chert granules, with shale, silty, trace grey bentonite.

5930 - 6010' Shale and siltstone as above, decrease in chert.

6010 - 6110'	Shale and sandstone as above with slight increase in sand, tight.
6110 - 6190'	Sandstone, light to dark grey, very fine grained, argillaceous, glauconitic, trace of bentonite.
6190 - 6206'	Siltstone, sandstone and shale interbedded, dark grey, laminated.
6206 - 6430'	Siltstone, grey to dark grey, with interbedded sandstone, minor pyrite.
6430 - 6843'	Sandstone, siltstone and shale interbedded. Sandstone is very fine grained, tight, dark grey. Pieces of clear quartz (fracture filling) from 6830-6840.
6843 - 6982'	Shale and siltstone interbedded, dark grey, with trace of sandstone, very fine grained, tight.
6982 - 7268'	Shale, dark grey, silty to sandy, siliceous in part, trace of black chert pebbles, trace of pale waxy shale and minor chert, buff, dolomitic.
7268 - 7374'	Shale, silty, dark grey to black.
7374 - 7456'	Shale, black, very carbonaceous, pyritic, very minor dolomitic siltstone.
7456 - 7480'	Siltstone, light grey to grey, dolomitic.

7480 - 7490'	Shale, black, rare siltstone band, grey, dolomitic.
7490 - 7823'	Shale, grey to black, silty with minor siltstone, grey argillaceous, slightly calcareous and dolomitic.
7823 - 7870'	Shale, as above, abundant pyrite, small pyritized fossils - crinoids and pelecypods; from 7850' minor interbeds of sandstone, silty to siltstone, sandy.
7870 - 7880'	Sandstone to siltstone, as above, slightly dolomitic.
7880 - 7890'	(Core #12) Siltstone, massive, hard, grey to dark grey, very slightly dolomitic, black carbonaceous partings, abundant tubes of lighter coloured siltstone (worm burrows?) at middle part of core, minor cross-bedding.
7890 - 7942'	Siltstone, grey, siliceous, with minor sandstone, very fine to medium grained, quartzitic, tight, slightly glauconitic in part.
7942 - 7949'	Conglomerate, granule size, white and brown chert pebbles, with matrix of silt to sandstone, siliceous, slightly pyritic.
7949 - 7952'	Sandstone, fine grained, quartzose, subangular to subrounded, trace glauconite, tight to fair inter-granular porosity, no oil stain or cut.
7952 - 7968'	Sandstone, light grey, stylolitic, fine grained

quartzose, trace glauconite, minor white grains (porosity due to leaching of white grains), two fractures 30° off vertical.

Porosity - Top 11.5 feet, tight to very poor permeability, gas shows.

Basal 4 feet, tight, very siliceous.

7968 - 7987' Sandstone, as above, slightly calcareous at top becoming more calcareous at base, very minor porosity.

7987 - 8040' Shale dark grey to black, silty with minor sandstone, grey, pyritic.

8040 - 8074' Shale dark brown to black, sideritic bands, clear quartz grains throughout. Minor sandstone bands, very fine to coarse grained. Clear quartz and white to grey chert grains, more abundant at bottom of interval.

8074 - 8100' Shale, dark brown to black, greasy with sandstone interbeds, grey, silty, argillaceous, pyritic, tight.

8100 - 8110' Siltstone-sandstone, grey as above, grey-white chert pebbles.

8110 - 8122' Shale as above.

8122 - 8141' Sandstone, dark grey, quartz and chert grains, silty, slightly dolomitic, argillaceous, siliceous cement in

part, minor pyritic. Tight. Minor siltstone from 8123 - 8138'.

8141 - 8151' Sandstone as above, highly brecciated with 20% shale infill, black, soft, pyritic, slightly dolomitic; minor shale interbeds containing a few plant imprints.

8151 - 8200' Sequence of shale, black, micromicaceous, silty in part and grey sandstone to siltstone, up to fine grained quartz and chert sandstone, slightly dolomitic.

8200 - 8220' Shale, black, micromicaceous, silty in part with interbeds of siltstone and sandstone, slightly dolomitic.

8220 - 8240' Sandstone, grey, silty, quartz and chert grains, slightly argillaceous and dolomitic. Tight.

8240 - 8290' Shale, black, micromicaceous with grey siltstone to sandstone interbeds.

8290 - 8354' Sequence of sandstone, siltstone and black, pyritic shale, as above.

8354 - 8363' Sandstone, brecciated, silty, slightly argillaceous with 30% shale infill and minor calcite infilled fractures.

8363 - 8537' Shale, grey to black, pyritic with 20 - 30% siltstone

to sandstone, grey; quartz and chert grains, slightly dolomitic, minor pyritic as above. Calcite filled fractures throughout whole interval.

8537 - 8684' Interbedded sandstone, siltstone and shale. Shale is grey to black, pyritic, slightly dolomitic with some plant remains, brecciated. Sandstone is grey, brecciated with shale infill. Some calcite filled fractures.

8684 - 8704' Sandstone, grey, slightly brecciated, interbedded with shale, black, pyritic plant remains. Calcite filled fractures.

SECTION III - Engineering Summary.

(a) Report of Drill Stem Tests.

No.	Date	From	To	Formation
1	26-7-64	7941	7987	Upper Devonian

(b) Casing Record

Casing Size (inches)	Weight	Amount	Set At	Cement (sax)	Method
18"	47.4 lbs/ft	81'	70'	130 + 100# $CaCl_2$	Displace
13 3/8"	54.5 lbs/ft	1204.97'	1200'	1000 + 2% $CaCl_2$ in last 500 sacks.	Displace

Surface

MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well S.M.W.M. Mobil YT-P-37 Date Spudded March 29/64.

Area Yukon Territory 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
March 29/64	1	8¾	OSC	65860		0	108	108	15	15		Good condition	Air.
" 31/64	2	8¾	OWC	54037		108	610	502	21¼	36¼		Fair	Diesel Mud
April 1/64	3	8¾	OSC	65788		610	1350	740	18½	54¾		Dull	Mud.
April 1/64	1	15"	C.P. Reamer	275		0	81	81	15¼	1	15¼	Cones Cracked	
April 2/64	2	24	Reed Reamer	24		0	75	75	21½		36¾	Fair	
April 2/64	3	12¼	Reed Reamer	1405		41	142	101	4		40¾	Good	
April 2/64	4	15	C.P. Reamer	275		81	141	60	3½		44¼	Good	
April 2/64	5	24	Reed Reamer	235		41	75	34	9¼		53½ Ream	13¾ Fair. 18" Cond. Casing	
April 9/64	6	12¼	Reed Reamer	884		139	799	640	18¼		71¾	Fair	
April 10/64	7	12¼	Reed Reamer	879		799	1200	501	16		87¾	Fair	
April 11/64	8	17	C.P. Reamer	713		60	549	489	22		109¾	Dull	
April 12/64	9	17	Reed Reamer	942		549	773	224	9		118¾	Good	
April 12/64	10	12¼	OSC	3380		773	1200	427	2		120¾	Good.	
April 12/64	11	17	C.P. Reamer	713		773	1200	427	20½		141¼ Ream	13¾ Surface Casing	
				Bit used to Surface Csg. depth.									

WHITE - TO CALGARY OFFICE; YELLOW - TO FIELD OFFICE; BLUE - FOR FILE

MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well SMWM. Molnr YT-F-34 Date Spudded March 29 1964.

Area Yukon T. Date Completed

Under Shoe

DATE	BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOTAGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
4/17/64	1	6 1/8	◇	3329		1352	1361	9	1 1/2	[illegible]	1 1/2	Good	
4/17/64	1	8 5/8	OSC	62588	C	1361	1920	559	17 1/4	17 1/4		2-2-1	
4/18/64	2	8 5/8	OSC	62623	C	1920	1986	66	7 1/4	24 1/2		3-2-1	
4/18/64	2nd	6 1/8	◇	3329		1986	1995	9	2	26 1/2	3 1/2	Good	
4/19/64	3	8 5/8	OWC	58660	C	1995	2056	61	7 1/4	33 3/4		Twist off	
4/19/64	4	8 5/8	OWC	55544	C	2056	2171	115	8	41 3/4	[illegible]	2-2-1	
4/20/64	2	6 1/8	◇	3330		2171	2189	18	4 3/4	46 1/2	8 1/2	"	
4/21/64	5	8 5/8	OWC	62200	C	2189	2256	67	6 3/4	53 1/4		2-3-1	
4/21/64	6	✓	OWC	55078	C	2256	2325	69	8 1/2	61 3/4		1-1-1	
4/21/64	7	✓	OWC	18426	C	2325	2375	50	7 1/2	69 1/4		1-1-1	
4/22/64	8	✓	OWC	59035	C	2375	2423	48	8	77 1/4		2-3-1	
4/22/64	9	✓	OWY	66634	C	2423	2452	30	6°	83 1/4		1-1-1	
4/22/64	10	✓	OWY	66371	C	2452	2475	23	5	88 1/4		2-2-1	
4/23/64	11	✓	OWC	59034	C	2475	2560	85	12	100 1/4		1-1-1	
4/24/64	12	✓	OWY	5918	C	2560	2677	117	7 3/4	108		2-2-1	
4/24/64	13	✓	OWY	5928	C	2677	2831	154	20 1/4	128 1/4		2-3-1	
4/25/64	R.R	✓	OWY	5918	C	2831	3080	249	16	144 1/4		2-2-2	
4/27/64	R.R	6 1/8	◇	3330		3080	3089	9	4 1/2	148 3/4	12 3/4		
4/27/64	14	8 5/8	OWY	68058	C	3089	3120	31	1	149 3/4		1-1-1	
4/28/64	15	✓	OWV	68060	C.O	3120	3398	278	16 1/4	166		2-2-2	
5/2/64	16	✓	OWV	45858	C.O	3398	3628	230	25 3/4	191 3/4			
5/3/64	17	✓	OWY	84351	C/O	3628	3747	119	10 3/4	202			
5/05/64	18	✓	YT.	491202		3747	4033	286	24 3/4	226 3/4			
5/09/64	19	✓	YT.	491200		4033	4090	57	4 1/4	231	Pulled To Core		
[illegible]	[illegible]	6 1/8	◇	3330	3/0	4090	4119	29	7 3/4		20 1/2		
[illegible]	19	8 5/8	YT.	491200		4119	4360	241	23	254			
[illegible]	20	8 5/8	YT-1	292505		4360	[illegible]	[illegible]	[illegible]	271			

MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well [illegible] Date Spudded [illegible]

Area [illegible] Date Completed

DATE	BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOTAGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
6/22/64	21	8 5/8	YT-1	292506	C/O	4620	4967	347	25	296			
6/24/64	Corhd 22	6 1/8	◊	3330	3 1/2	4967	4977	10	4 1/4		24 3/4		
6/24/64	22	8 5/8	YT-1	491459	C/O	4977	5247	270	16 1/4	312 1/4			
6/27/64	23	8 5/8	W-7.	17053	C/O	5247	5270	23	4 3/4	317		Mill on Iron.	
6/27/64	24	8 5/8	S-3	428445	C/O	5270	5510	240	12	329		Lost 1/2 Cone	
6/28/64	25	8 5/8	W-7	68851	C/O	5510	5510	0	0	329		Mill on Iron	
6/28/64	26	8 5/8	OSC 1G	54136	C/O	5510	5510	0	0	329		— — —	
6/29/64	27	8 5/8	S-3	425290	C/O	5510	5775	265	17 1/2	346 1/2			
6/30/64	28	8 5/8	OSC 1G	47089	C/O	5775	5983	208	17 3/4	364 1/4			
7/1/64	Corhd	6 1/8	◊	3330	3 1/2	5983	5996	13	6 3/4		31 1/2		
7/1/64	29	8 5/8	YT	491201	C/O	5996	6110	114	18 1/2	386 3/4			
7/2/64	30	8 5/8	OWC	55218	C/O	6110	6196	86	13 1/4	390			
7/3/64	Corhd	6 1/8	◊	3330	3 1/2	6196	6206	10	4		35 1/2		
7/3/64	31	8 5/8	OWV	85440	C/O	6206	6409	203	22 3/4	412 3/4			
7/5/64	32	8 5/8	OSC	47931	C/O	6409	6518	109	16 3/4	429 1/2			
7/6/64	33	8 5/8	W.7	521504	C/O	6518	6620	102	16 1/4	445 3/4			
7/7/64	34	8 5/8	W 7	41414	C/O	6620	6708	88	17 3/4	463 1/2			
7/8/64	35	8 5/8	OWV	43968	C/O	6708	6862	154	17 1/2	480			
7/9/64	36	8 5/8	OWV	66439	C/O	6862	7008	146	19 3/4	499 3/4			
7/10/64	37	8 5/8	OWV	66458	C/O	7008	7119	111	14 3/4	514 1/2			
7/11/64	Corhd	6 1/8	◊	3330	3 1/2	7119	7129	10	5 1/4		40 3/4		
7/12/64	38	8 5/8	OWV	64429	C/O	7129	7208	79	14	528 1/2			
7/13/64	39	8 5/8	OWV	64356	C/O	7208	7323	115	18 1/2	547			
7/14/64	40	8 5/8	OWV	5917	C/O	7323	7395	72	9 3/4	556 3/4			
[illegible]	[illegible]	6 1/8	◊	3330	3 1/2	7395	[illegible]	8	3 1/2		[illegible]	✓	
[illegible]	41	8 5/8	OWV	43969	C/O	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]		8 5/8	[illegible]	[illegible]	3 1/2	[illegible]			[illegible]				

Well File

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well SM. WM. Malar YT-P-34 — Date Spudded March, 29 1964.

Area Yukon T. — Date Completed August 13 1964

DATE	BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOTAGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
7/16/64	42	8 5/8	OWV	64361	C/O	7490	7608	128	18 3/4	588 1/4			
7/17/64	43	8 5/8	OWV	64369	C/O	7608	7711	103	18	606 1/4			
7/18/64	44	8 5/8	W7	16587	C/O	7711	7823	112	18 1/4	624 1/2			
7/19/64	45	8 5/8	W7	16568	C/O	7823	7880	57	9 1/2	634			
7/20/64	2	6 1/8	◇	3329	3 1/2	7880	7890	10	5		54		
7/20/64	46	8 5/8	W7	71342	C/O	7890	7916	36	6 3/4	640 3/4			
7/21/64	47	8 5/8	W7.R.	37571	C/O	7916	7942	26	9	649 3/4			
7/22/64	48	8 5/8	YM.	N94944	C/O	7942	7942	0	0			Broke Kelly Pad Bit dropped 35'	
7/23/64	49	8 5/8	YM	N92949	C/O	7942	7952	10	6 1/2	656 1/4			
[illegible]	Run	6 1/8	◇	3329	3 1/2	7952	7968	16	13 1/4		67 1/4		
7/ /64	50	8 5/8	W7R.	71354	C/O	7968	7969	R. 16' 1	7 3/4	667 1/2			
7/25/64	51	8 5/8	W7R.	5105	C/O	7969	7976	7	3 1/2	671			
7/26/64	52	8 5/8	W7R.	44986	C/O	7976	7988	12	5	676			
7/27/64	53	8 5/8	W7.R	44987	C/O	7988	8060	72	17 1/2	693 1/2			
7/28/64	54	8 5/8	OWC	59019	C/O	8060	8117	57	15 1/4	708 3/4			
7/29/64	55	8 5/8	W7	55469	C/O	8117	8141	24	7 3/4	716 1/2			
7/29/64	Run	6 1/8	◇	3329	3 1/2	8141	8151	10	7 3/4		75		
7/30/64	56	8 5/8	W7.R	70113	C/O	8151	8201	50	12 1/4	728 3/4			
7/31/64	57	8 5/8	W7.R	44981	C/O	8201	8240	39	12 1/2	741 1/4			
8/1/64	58	8 5/8	W7.R	364[illegible]	C/O	8240	8294	54	16	757 1/4			
8/2/64	59	8 5/8	W7.R.	40876	C/O	8294	8354	60	17 1/4	774 1/2			
8/3/64	[illegible]	6 1/8	◇	4740	3 1/2	8354	8363	9	5 3/4		80 3/4		
8/3/64	60	8 5/8	YHWG	E94476	C/O	8363	8434	71	21 1/4	795 3/4			
8/4/64	61	8 5/8	W7.R	36480	C/O	8434	8483	49	14	809 3/4			
8/5/64	62	8 5/8	W7.R	61536	C/O	8483	8537	54	16 1/2	826 1/4			
[illegible]	63	8 5/8	W7	68058	C/O	8537	8578	61	14	840 1/4			
[illegible]	64	8 5/8	W7	68056	C/O	8578	8640	62	[illegible]	[illegible]			

9-13

SOCO[illegible] MOBI[illegible] [illegible]ANADA LTD.

B[illegible] [illegible]CORD

Well S.M. W.M. Molar Y.T. O 34 Date Spudded March 29 1964

Area Yukon T. Date Completed August 13 1964.

[illegible]

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
8/8/64	65	8 5/8	YHWG	274474	C80	8640	8684	44	11 3/4	862 3/4	core		
8/9/64	[illegible]	6 1/8	D	4740	9 1/2	8684	8704	20	10 1/2		91 1/4.		

[illegible] - TO CALGARY OFFICE: YELLOW - TO [illegible] BLUE - FOR FILE

(d) Mud Report

The mud used on this hole was a normal gel-chemical system.

The materials consumed or expended in the drilling of this well were:

Aquagel	461100#	4611	Bags
Caustic Soda	6900#	69	Drums
Quebracho	10500#	210	Bags
Dextrid	6000#	120	Bags
Cellex	5450#	109	Bags
Tannex	350#	7	Bags
Driscose	1500#	30	Bags
Carbonox	1700#	34	Bags
Sawdust	3927#	119	Bags
Fibertex	67920#	1698	Bags
Tufplug	1960#	49	Bags
Pluggit	14840#	371	Bags
Cellophane	11725#	469	Bags
Mall Nut	17250#	365	Bags
Bicarb	200#	8	Bags
Cement	159645#	1035	Bags

(e) Deviation Record

Depth	Deviation	Depth	Deviation
30'	1/8°	2765'	3 1/2°
138'	1/2°	2890'	3 7/8°
264'	1/4°	3210'	4 1/2°
327'	1/8°	3398'	5°
544'	3/4°	3585'	4 1/2°
670'	1/2°	3925'	5°
860'	3/4°	4700'	3 7/8°
1070'	1/2°	5510'	3°
1350'	1/2°	6196'	3°
1527'	1°	6518'	3°
1642'	1°	6840'	5 1/4°
1670'	1 1/2°	7200'	5 7/8°
2049'	1 1/2°	7480'	5°
2256'	2°	7823'	5 1/2°
2423'	2 1/2°	8350'	5°
2520'	2 7/8°	8483'	4°
2677'	3°		

(f) Abandonment Plugs

Plug #1 8704 - 8579 with 30 sax neat cement

Plug #2 8524 - 8399 with 50 sax neat cement

Plug #3 1250 - 1150 with 70 sax cement with 2% $CaCl_2$. Felt @ 1060'

Plug #4 5 sax cement at surface & welded steel plate across casing.

(8) Lost Circulation Zones

Lost circulation zones picked on Temperature Log:

Zone A - 3020 Lower Cretaceous

Zone B - 3105 Lower Cretaceous

Zone C - 3175 Lower Cretaceous

Corrective measures taken:

Cement Plug #1 100 sax lost into formation
Cement Plug #2 100 sax lost into formation } Run between 3120'-2850'

Cement Plug #3 100 sax 3120'-3105'

Cement Plug #4 100 sax 3105'-2828'

Resin Polymer Plug #1 approximately 3102' lost into formation

Resin Polymer Plug #2 approximately 3102' lost into formation

Cement Plug #5 50 sax plus 12# walnut 3200'-3100' lost into formation

Cement Plug #6 100 sax plus 12# walnut 3119'-3019' felt at 3095'

Cement Plug #7 100 sax plus 12# walnut 3008'-2908' felt at 3008'

Lost circulation depths:

Lower Cretaceous:	774'	4 hrs.
Lower Cretaceous:	975'	4 3/4 hrs.
Lower Cretaceous:	2550'	2 3/4 hrs.
Lower Cretaceous:	~~3095'~~ 3085	3 3/4 hrs.
Lower Cretaceous:	3120'	88 hrs.
Lower Cretaceous:	~~3450'~~ 3420'	1 1/4 hrs.
Lower Cretaceous:	3722'	40 days due to water shortage.
Lower Cretaceous:	3817'	24 1/4 hrs.

Lower Cretaceous:	4620'	14 hrs.
Lower Cretaceous:	~~5007~~ 5057'	2 3/4 hrs.
Lower Cretaceous:	~~6010~~ 6110'	5 1/2 hrs.
Lower Cretaceous:	~~6600~~ 6630'	3/4 hrs.
Upper Devonian:	8409'	2 1/4 hrs.

Accumulated Hours - 154 hours plus 40 day shutdown.

Lost Circulation Material used - 163 550#

Cement used - 55 000#

(h) Report of Blowouts

Nil.

SECTION IV - Logs

Run No.	Date	Type of Log	From	To
1	6-6-64	Temperature Survey	3725	300
1	9-8-64	Microlog Caliper	8692	1201
1	9-8-64	Sonic Gamma Ray	8691	50
1	9-8-64	Induction Electric Log	8693	1201
1	9-8-64	Continuous Dipmeter	8690	1201
1	9-8-64	Velocity Survey	8600	1203

SECTION V - Analysis

(a) Core Analysis

Nil.

(b) Water Analysis

Nil.

(c) Gas Analysis

Nil.

(d) Oil Analysis

Nil.

SECTION VI - Completion Summary

Not applicable.