S7-11-2-36

WELL HISTORY REPORT

for

SOCONY MOBIL WESTERN MINERALS
SOUTH TUTTLE YT N-5

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

for

SOCONY MOBIL WESTERN MINERALS

SOUTH TUTTLE YT N-5

Latitude N 66° 24' 51.2"

Longitude W 136° 46' 22.7"

Socony Mobil Oil of Canada, Ltd.
Dawson Creek District

G. A. Atkinson
DISTRICT GEOLOGIST

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WELL HISTORY REPORT

SECTION I - Summary of Well Data

(a)	Well Name and Number:	Socony Mobil Western Minerals South Tuttle YT N-5
(b)	Permittee:	Western Minerals Ltd.
(c)	Operator:	Socony Mobil Oil of Canada, Ltd.
(d)	Location:	Unit N Section 5 Grid N 66° 30'; W 136° 45' Latitude N 66° 24' 51.2" Longitude W 136° 46' 22.7"
(f)	Permit:	3346
(g)	Drilling Contractor:	Parker Drilling Company of Canada, Ltd. Rig #1
(h)	Drilling Authority:	148; January 13, 1965
(i)	Classification:	New Field Wildcat
(j)	Elevations:	Ground 1642 K.B. 1655.75
(k)	Spudded:	February 18, 1965
(l)	Completed Drilling:	June 26, 1965
(m)	Total Depth:	11,527 feet

(n)	Well Status:	Dry and Abandoned
(o)	Rig Released:	July 8, 1965
(p)	Hole Size:	24" to 88' K.B. 17 1/4" to 1000' K.B. 8 5/8" to 11,527 K.B. (T.D.)
(q)	Casing:	18" conductor pipe at 82' K.B. 13 3/8" J-55 54.4# at 1000' K.B.

SECTION II - Geological Summary

(a) Formation Tops

	E-log Tops Depth	Elevation
Upper Devonian	Surface	+1642
Lower Devonian	4724	-3069
Silurian	5424	-3769
Ordovician	9411	-7756

(b) Cored Intervals

Core Number	From	To	Rec.	Formation
1	3977	3981	4'	Upper Devonian
2	4410	4411	1'	Upper Devonian
3	4590	4591	0'	Upper Devonian
4	4711	4720	3'	Upper Devonian
5	4760	4770	10'	Lower Devonian
6	6054	6064	10'	Silurian
7	6944	6956	11.5'	Silurian
8	8321	8341	20'	Silurian
9	8893	8902	8.3'	Silurian
10	9522	9532	10'	Ordovician
11	9825	9834	6.9'	Ordovician
12	10230	10232.6	2.6'	Ordovician
13	10567	10577	9.1'	Ordovician
14	10883	10892	8.8'	Ordovician
15	11173	11182	6'	Ordovician
16	11482	11491	7'	Ordovician
17	11491	11527	33.6'	Ordovician

(c) Core Descriptions

Diamond Core #1 — Upper Devonian

3977 - 3981' Recovered 4'

Coring times: 18, 18, 31, 16 minutes per foot.

3977 - 3981'

4' Shale, grey to dark grey, micromicaceous, abundant carbonaceous plant imprints, very slightly dolomitic, pyritic (finely disseminated and nodules).
Grey silt bands (10% of total core) contain some grains up to very fine sand size; these brittle bands contain numberous hairline fractures filled with white, milky dolomite.
Shale is very hard and plant imprints suggest bedding to be approximately horizontal.

Diamond Core #2 — Middle Devonian

4410 - 4411' Recovered 1' (Jammed)

4410 - 4411'

1' Shale, grey to buff, abundant cubic pyrite crystals and hexagonal, buff selenite crystals (less than coarse grained size), minor plant remains, slightly dolomitic, much hairline fracturing with white dolomite infill.
Rock is highly indurated. Core breaks with a platy nature.

Diamond Core #3 — Middle Devonian

4590 - 4590.7' Recovery Nil

Uphole water began to run while cutting this core with air so had to pull out of hole.

Diamond Core #4 — Middle Devonian

4711 - 4720' Recovered 3'

Coring times: 35, 42, 30, 29, 60, 49, 39, 56, 55 minutes per foot.

4711 - 4720'

3'

Quartzite, black, very finely crystalline, containing small quartz crystal lined vugs and black, argillaceous material between the recrystallized quartz crystals.

Quartzite matrix (60% of rock) contains angular fragments of brown chert up to 2" across. Holes in some of the chert may be leached fossil casts (crinoids?). Some chert fragments show dark alteration halo or rim next to recrystallized matrix.

Core contains bands and areas of white recrystallized gypsum showing some well formed gypsum crystals in the black quartzite.

Core is extremely fractured with fractures containing no infill to completely infilled with milky quartz or white gypsum (near gypsum bands). Partially filled fractures contain drusy venier of quartz crystals or gypsum crystals.

Wet core bubbles from vugs and fractures on freshly broken surfaces indicating some trapped gas in impermeable pockets.

Diamond Core #5 — Middle Devonian

4760 - 4770' Recovered 10'

Coring times: 48, 50, 51, 49, 46, 45, 43, 50, 46, 40 minutes per foot.

4760 - 4760.25'

0.25' — Limestone, dark grey to brown, microcrystalline, slightly argillaceous, small quartz crystals, cut by hairline calcite veins (clear calcite), carbonaceous flecks, very minor crinoid fragments.

4760.25 - 4765'

4.75' — Limestone, dark brown, partially recrystallized, forms a darker matrix containing 40% fossil fragments (mainly crinoids) with 10 - 15% large angular limestone fragments up to 3", brown, microcrystalline with carbonaceous flecks and very minor crinoid stems. A couple of solitary corals noted in darker matrix.

4765 - 4769'

4' — Limestone, tan, bioclastic; 50% recrystallized, clear colourless calcite matrix surrounding fossil fragments from fine to medium grained with a few large crinoid stems.

4769 - 4770'

1' Fragmental limestone, as above, with angular fragments of lighter brown limestone ranging up to 4" across in the darker brown, slightly argillaceous matrix. Matrix contains many crinoid fragments, a few brachiopods (up to 1" across). One large 4" stromatoporoid noted at 4769'. Also minor solitary corals.
Core contains stylolites filled with white calcite and bituminous smears. Quartz crystals appear along the larger stylolites. Core is cut by 2 or 3 large (1/8" across) fractures running parallel to length of core and are filled with white milky calcite. Freshly broken surfaces give off petroliferous - sulphurous odour. Core bled minor H_2S smelling gas from stylolites and minor hairline fractures when brought to surface.

Diamond Core #6: Tentative Middle Devonian Ramparts
6054 - 6064.4' Recovered 10.4'

Coring times: 19, 15, 18, 14, 14, 19, 16, 13, 25, 21, 12 minutes per foot.

6054 - 6054.6'

0.6' Limestone, grey to dark grey, microcrystalline, carbonaceous, slightly pyritic with abundant white calcite infilling. Stylolitic at base. Vertical fractures (1/8") infilled with white calcite.

6054.6 - 6064.4'

9.8' Limestone, tan to grey, microcrystalline, stylolitic, in parts apparently re-crystallized, fragmental. Extensively fractures vertically (up to ½" in width) infilled with white calcite both in fractures and throughout. Many hair-line fractures, open, rust-stained.

No obvious dip indications.

Diamond Core #7: Tentative Middle Devonian Ramparts

6944 - 6956' Recovered 11.5'

Coring times: 42, 25, 18, 15, 16, 22, 19, 26, 25, 22, 15, 23 minutes per foot.

6944 - 6956'

11.5' Limestone, grey to tan grey, microcrystalline to cryptocrystalline slightly dolomitic. Abundant vertical fracturing, white calcite infilled. Some thin fractures and hair-line fractures are open and rust-stained. A few horizontal stylolites.

Diamond Core #8: Devonian

8321 - 8341' Recovered 20'

Coring times: 10, 11, 12, 14, 14, 15, 10, 12, 15, 14, 13, 18, 16, 13, 10, 14, 14, 10, 14, 15 minutes per foot.

8321 - 8321.3'

0.3' Limestone, brecciated, dark brown, very argillaceous, slightly dolomitic, microcrystalline with much pyritic

recrystallized and brecciated milky calcite. Some vuggy porosity in calcite.

Minor brown dolomite, microcrystalline, porous at very top of core (8321).

8321.3 - 8323.4'

2.1' Dolomite, black, microcrystalline, very argillaceous, calcareous interbedded with limestone, brown, argillaceous microcrystalline to cryptocrystalline in bands and streaks. Contacts of dolomite and limestone appear to be solution contacts. Stylolitic contacts are bitument coated with some being filled with milky calcite. Fossils in limestone, are random and few including stachyodes and small brachiopods.

8323.4 - 8325'

1.6' Dolomite, dark grey to brown to black, argillaceous microcrystalline, containing more undolomitized fossils which include small stromatoporoids, solitary corals and minor brachiopods.

8325 - 8329'

4' Dolomite becomes darker coloured with few fossils and a few limy bands. Calcite infilled hairline fractures.

8329 - 8331'

2' Dolomite, grey to brown, microcrystalline, no fossils and very minor limestone bands, argillaceous.

8331 - 8332'

1' Limestone bands increase in dolomite, as above, and contain stromatoporoids and other finer fossil debris (amphipora?).

8332 - 8333'

1' Dolomite, grey to brown, microcrystalline, calcareous, very dense, large calcite infilled fracture - close to vertical.

8333 - 8338.5'

5.5' Dolomite, grey to brown to black, as above with some limestone bands (stylolitic or solution contacts) and minor stromatoporoids. Stromatoporoids become very large (3" across) at 8336' with numerous solitary corals and matrix between large stromatoporoids.

8338.5 - 8341'

2.5' Limestone, brown to dark brown, microcrystalline to cryptocrystalline, dense, with small shells at 6339.1. Dolomitic bands are dark grey to brown to black and argillaceous.

Bitumen coated stylolites between limestone and dolomite bands bled minor gas after core was recovered.

Calcite infilled fractures had a tendency to the vertical with any horizontal calcite infilled bands being along stylolitic channels.

Diamond Core #9 — Devonian - Silurian

8893 - 8902' Recovered 8.3'

Coring times: 19, 17, 25, 11, 16, 18, 15, 15, 17 minutes per foot.

8893.0 - 8901.3'

8.3' — Shale, black, very calcareous, pyritic, greasy lustre, carbonaceous, glossy slippage planes, minor fossils, fragments of crinoids, brachiopods, trilobites; single calcite infilled vertical fracture.

Diamond Core #10 — Silurian - Ordovician

9522 - 9532' Recovered 10'

Coring times: 39, 26, 40, 20, 30, 17, 28, 25, 29, 28 minutes per foot.

9522 - 9532'

10' — Dolomite, light to medium grey, mottled, calcareous, very finely crystalline, trace pyritic, bituminous material, abundant patches and blebs of grey limestone, up to 3 inches, cryptocrystalline matrix with ghosts of very fine to coarse fragments, scattered dolomite crystals, crinoid stems, solitary corals, stylolitic, carbonaceous partings. Fractures, calcite infilled.

Diamond Core #11 — Silurian - Ordovician

9825 - 9834' Recovered 6.9'

Coring times: 25, 43, 34, 31, 25, 33, 32, 29, 32 minutes per foot.

9825.0 - 9831.9'

6.9'

Limestone, light brown grey, cryptocrystalline, occasional calcite crystals and stylolities, moderately to very dolomitic, light grey to white, very fine to coarsely crystalline dolomite, generally very fine to finely crystalline.

Diamond Core #12 — Silurian - Ordovician

10,230 - 10,232.6' Recovered 2.5'

Coring times: 29, 32, 23 minutes per foot.

10,230 - 10,232.5'

2.5'

Limestone, light brown-grey, slightly dolomitic, cryptocrystalline, recrystallized, ghosts of fragments in top two feet; bottom 0.5 feet with rounded medium to coarse fragments or pellets in matrix of cryptocrystalline limestone and secondary calcite. Scattered stylolites, 20 - 30% dolomitic, light grey to white, very fine to coarsely crystalline.

Diamond Core #13 — Ordovician

10,567 - 10,577' Recovered 9.1'

Coring times: 23, 24, 30, 35, 35, 30, 35, 36, 34, 30 minutes per foot.

10,567 - 10,577'

9.1'

Limestone, light brown grey, varying amounts of very fine to coarse, lithographic pellets or pseudo ooliths

in matrix of clear calcite and translucent light grey, lithographic limestone. The pellets are generally structureless, occasional examples exhibit faint traces of concentric structure. In general they are rounded, in many cases are flattened. They constitute from 50 - 80% of the rock. In places they can only be distinguished with difficulty owing to recrystallization of the limestone.

Calcite, infilling fractures and vugs is prominent in the following parts of the core. 10,567 - 10,568; 10,569.3 - 10,569.7; 10,573.8 - 10,574.2; 10,574.6 - 10,576.1.

Calcite crystals account for 20 - 30% of these portions of the core. No unfilled fractures can be seen and calcite veins are less common in the other portions of the core.

Dolomitization is restricted to the basal 1.5 feet of the core where it has replaced less than 10% of the limestone.

Diamond Core #14 — Ordovician

10,883 - 10,892' Recovered 8.8'

Coring times: 31, 32, 37, 30, 31, 25, 31, 26, 31 minutes per foot.

10,883 - 10,892'

8.8'

Limestone, light grey to medium brownish grey,

cryptocrystalline to lithographic, composed of varying amounts of very fine to coarse pellets in a matrix of clear calcite. In part, the pellets are almost obliterated by compaction and recrystallization of the limestone.
Milky and clear calcite infill fractures and vugs throughout core and no open fractures occur. Calcite accounts for 20 - 30% of the core. There is very little dolomitization, occasional streaks of dolomite crystals occur in the basal portion of the core. Stylolites occur throughout.

Diamond Core #15 — Ordovician

11,173 - 11,182' Recovered 6.0'

Coring times: 17, 16, 16, 17, 19, 18, 24, 28, 27 minutes per foot.

11,173 - 11,182'

6.0'

Dolomite, light to medium grey, very fine to coarse crystalline but mainly fine to coarse, very slightly argillaceous, brown organic material found throughout core, slightly pyritic, veins of calcareous white dolomite throughout.
Top 1.8 feet of core badly shattered. Small unconnected fractures occur in this portion of the core. No hydrocarbons shows. Basal 4.2 feet more massive although small fractures occur in the top 1.0 feet.

Diamond Core #16 Ordovician

11,482 - 11,491' Recovered 7.0'

Coring times: 20, 25, 20, 17, 20, 18, 24, 27, 33 minutes per foot.

11,482.0 - 11,482.2'

0.2' Dolomite, medium to dark grey, medium to coarse crystalline, slightly pyritic, tight.

11,482.2 - 11,483.6'

1/4' Dolomite, light to medium grey, very fine to coarse, much free white dolomite replacing light to medium grey dolomite, giving mottled appearance, trace stylolitic, minor cracks and small fractures.

11,483.6 - 11,484.7'

1.1' As in 11,482.0 - 11,482.2', small scattered vugs, maximum 0.05" in diameter.

11,484.7 - 11,486.0'

1.3' As in 11,482.2 - 11,483.6', mottled appearance, free white to light grey dolomite and white calcite, tight.

11,486.0 - 11,487.9'

1.9' As above but highly vuggy - up to 30% vuggy porosity, maximum 1.0 inches in diameter, no shows, core tastes salty, stylolite.

11,487.9 - 11,489.0'

1.1' As above but with scattered vugs and small fractures and cracks.

Diamond Core #17 Ordovician

11,491 - 11,527' Recovered 33.6'

Coring times: 15, 20, 22, 23, 19, 23, 17, 24, 22, 23, 24, 34, 37, 27, 20, 33, 23, 19, 18, 19, 19, 17, 12, 18, 18, 21, 18, 20, 15, 21, 30, 22 minutes per foot.

11,491.0 - 11,493.6'

2.6' Dolomite, light grey, mottled appearance, microcrystalline to very fine, dolomite and calcite vein, slightly pyritic, tight.

11,493.6 - 11,501.5'

7.9' Dolomite, light grey, very fine to fine, calcite veins, slightly pyritic, minor fractures, scattered micro-vugs to vugs, maximum diameter 0,1".

11,501.5 - 11,502.4'

0.9' Interbedded light grey to white dolomite, very fine to fine and dark grey very fine dolomite, slightly silty, pyrite, stylolite, calcite veins and very minor cracks.

11,502.4 - 11,503.2'

0.8' Dolomite, light to medium grey, very fine to medium, light grey dolomite veins, stylolite, minor cracks, microvugs.

11,503.2 - 11,509.6'

6.4' Dolomite, light grey to white, medium to coarse, calcite veins, mottled appearance, stylolite infilled with black silty material, also disseminated throughout dolomite.

11.509.6 - 11,515.0'

5.4' Dolomite, light medium grey, fine to coarse, stylolite, pyrite, calcite veins, microvugs to very small vugs maximum 0.1".

11,515.0 - 11,524.6'

9.6' Dolomite, white, very fine to coarse, stylolite, pyrite, calcite veins, some dark silty material scattered throughout, minor cracks and fractures, salty taste and faint sulphurous odour, microvugs and very small vugs maximum 0.2".

(d) Sample Description

0 - 55'	Gravel and detritus.
55 - 225'	Shale, grey, slightly silty, argillaceous, very minor sandstone, fine carbonaceous flecks.
225 - 245'	Sandstone, grey, very fine to fine grained, silty, clear quartz and black chert grains, siliceous, argillaceous, very silty, dolomitic, poorly sorted, tight.
245 - 360'	Shale, grey, silty, interbedded shale, pyrite, slightly dolomitic, grading to siltstone from 260 to 280, minor sandstone at 290'.
360 - 427'	Siltstone, very fine to medium grained, pyritic, grading to shale from 390 - 400'.
427 - 440'	Siltstone, grey, sandy, argillaceous, slightly dolomitic.
440 - 510'	Shale, grey, slightly silty, slightly dolomitic, pyritic.
510 - 580'	Sandstone, grey to brown, fine grained, grading in part to very siliceous, slightly dolomitic.
580 - 610'	Sandstone as above.
610 - 725'	Siltstone and minor shale.
725 - 760'	Shale, very pyritic, slightly dolomitic, minor silty bands.

760 - 850'	Sandstone as above, grading to shaly siltstone from 790 - 810'.
850 - 880'	Shale.
880 - 885'	Sandstone.
885 - 920'	Sandstone, siltstone, shale, interbedded.
920 - 950'	Shale, grey, micromicaceous, slightly silty.
950 - 990'	Sandstone, grey to brown, fine to medium grained, silty, slightly pyritic, siliceous and argillaceous cement, slightly dolomitic, carbonaceous plant remains.
990 - 1000'	Shale, grey to brown, silty, carbonaceous plant remains.
1000 - 1890'	Shale and siltstone interbedded, with random sandstone bands. Sandstone and siltstone, slightly dolomitic.
1890 - 2390'	Shale, grey to brown, silty, with slightly dolomitic siltstone interbeds.
2390 - 2900'	Shale, grey to brown, with very minor siltstone interbeds.
2900 - 3500'	Shale, grey to brown, micromicaceous, pyritic, dolomitic, slightly silty, much dolomite fracture infill.
3500 - 3918'	Shale as above.

3918 - 4320'	Shale, dark grey, micromicaceous, minor siltstone.
4320 - 4357'	Shale, dark grey, highly indurated, very hard.
4357 - 4480'	Shale, buff to grey, pyrite ci, ..ls, minor plant remains?, hard.
4480 - 4522'	Shale as above, becoming siliceous, with quartz veins, calcite veins, and black interbedded chert.
4522 - 4640'	Shale, light grey, micromicaceous, interbedded with black, pyritic, chert, trace crinoid fragments.
4640 - 4720'	Shale, very siliceous, with interbedded chert, fractures infilled with quartz and gypsum in part.
4720 - 4740'	Shale as above, grading to limestone, very siliceous.
4740 - 4760'	Limestone, tan to brown, microcrystalline to bioclastic to fragmental, crinoidal in part, minor brachiopod and coral fragments, minor anhydritic bands.
4760 - 4770'	Limestone, tan to brown, microcrystalline, fragmental with abundant crinoids and minor brachiopods, corals and stromatoporoids.
4770 - 4800'	Limestone, microcrystalline to fragmental, fossiliferous in part.

4800 - 4940'	Limestone, as above with minor black matrix, crinoids at 4900'.
4940 - 5000'	Limestone, as above, tentaculites.
5000 - 5080'	Limestone, as above with minor interbedded shale, black.
5080 - 5190'	Limestone, cream to light brown, microcrystalline to chalky, partially recrystallized, slightly bioclastic, fracture porosity present.
5190 - 5331'	Limestone, as above.
5331 - 5370'	Limestone, cream to brown, micro to medium crystalline.
5370 - 5542'	Limestone, grey to white, medium crystalline, re-crystallized with dolomite bands and patches, grey to white and fractures calcite infilled.
5542 - 5885'	Limestone, tan, microcrystalline, slightly dolomitic, minor fractures.
5885 - 6064'	Limestone, tan to cream, microcrystalline, with occasional dark limestone bands, microcrystalline and re-crystallized in part, fractures infilled with calcite, minor fracture porosity.
6064 - 6470'	Limestone, tan to grey, microcrystalline, calcite filled fractures.

6470 - 6585'	Limestone, as above.
6585 - 6590'	Limestone, tan to grey, fair to good intercrystalline porosity, no stain.
6590 - 6629'	Limestone, tan to grey, microcrystalline, tight.
6629 - 6698'	Limestone, tan to grey, microcrystalline, tight.
6698 - 6720'	Limestone, tan, medium crystalline with dolomite, medium crystalline, grey.
6720 - 6750'	Dolomite, coarse crystalline, poor to fair intercrystalline, medium vuggy porosity, no shows.
6750 - 6790'	Limestone and dolomite medium crystalline.
6790 - 6800'	Limestone and dolomite, bioclastic and fragmental in part.
6800 - 6900'	Limestone and dolomite as above.
6900 - 6990'	Limestone, tight.
6990 - 7128'	Limestone, slightly dolomitic, tight, minor fractures, calcite infilled.
7128 - 7211'	Dolomite, limy, very minor intercrystalline vuggy porosity.
7211 - 7289'	Dolomite, trace porosity.

7289 - 7361'	Dolomite as above.
7361 - 7410'	Dolomite as above.
7410 - 7461'	Dolomite, essentially tight.
7461 - 7534'	Dolomite, microcrystalline, tight.
7534 - 7988'	Dolomite, microcrystalline, grey, argillaceous and pyritic in part.
7988 - 8056'	Dolomite, dark brown, argillaceous, pyritic.
8056 - 8106'	Dolomite, tan to grey, argillaceous, dark brown dolomite from 8010'.
8106 - 8176'	Dolomite, brown, tight.
8176 - 8200'	Dolomite, as above.
8200 - 8232'	Limestone, brown to dark brown, cryptocrystalline, argillaceous, pyritic, minor crinoidal, dolomitic.
8232 - 8260'	Limestone, as above.
8260 - 8310'	Dolomite, dark brown, tight.
8310 - 8312'	Dolomite, dark brown, tight.
8312 - 8321'	Dolomite, brown, microcrystalline, good porosity, intercrystalline, pin point and vuggy; slightly argillaceous, abundant white calcite, no show.

8321 - 8341' Dolomite, dark grey to brown to black, microcrystalline, argillaceous, calcareous, with limestone, brown to dark brown, cryptocrystalline, fossils.

8341 - 8413' Dolomite, grey brown to dark grey, microcrystalline, argillaceous, calcareous, pyritous with interbedded limestone, brown to dark brown micro to cryptocrystalline, argillaceous, pyritous, minor fossils.

8413 - 8440' Limestone, as above, grading into limestone, grey to dark grey, dolomitic, argillaceous.

8440 - 8500' Limestone, buff, chalky, very soft with abundant milky calcite rhombs and with minor grey limestone, microcrystalline, dolomitic.

8500 - 8540' Limestone, as above.

8540 - 8579' Dolomite, dark grey brown to black, very argillaceous and calcareous.

8579 - 8652' Limestone, grey to dark grey to brown, microcrystalline to chalky, slightly argillaceous and dolomitic, pyritic in part, minor fossil debris.

8652 - 8750' Limestone, dolomitic and argillaceous.

8750 - 8863' Limestone, very argillaceous, with shale, black, calcareous, pyritic, fossile fragments, minor crinoids.

8863 - 8902'	Shale, black, calcareous, pyritic, minor fragments, include crinoids, brachiopods, trilobites.
8902 - 9020'	Shale, black, calcareous, pyritic, minor fossils.
9020 - 9059'	Shale, as above, with 50% interbedded limestone, grey, microcrystalline.
9059 - 9070'	Shale, black, calcareous.
9070 - 9190'	Shale, as above, and limestone, mottled, dark grey, very argillaceous, pyritic, slightly dolomitic.
9190 - 9209'	Shale, and limestone, as above.
9209 - 9226'	Limestone, dark grey to brown to black, very argillaceous, grading to shale, black, calcareous, siliceous, with 10% chert bands, brown, blue-grey.
9226 - 9287'	Limestone, mottled, grey to black, very argillaceous, chalky to microcrystalline, pyritic, minor fractures, calcite infilled.
9287 - 9390'	Limestone, grey to black, chalky to microcrystalline, less argillaceous.
9390 - 9394'	Limestone, buff, chalky, soft.
9394 - 9445'	Limestone, white to buff, microcrystalline to chalky, very soft, trace dolomite.

9445 - 9459'	Dolomite, white to buff, very finely crystalline, minor intercrystalline bitumen.
9459 - 9510'	Dolomite, light grey to brown, intercrystalline bituminous material, tight; interbedded limestone, tan brown, calcite infilled.
9510 - 9522'	Limestone, light grey to light tan brown, partly fragmental, calcite infill.
9522 - 9532'	Dolomite, light to medium grey, mottled, microcrystalline, blebs and patches cryptocrystalline grey limestone, crinoids, corals.
9532 - 9553'	Dolomite, as above, basal part with interbedded chert.
9553 - 9560'	Dolomite, as above, tight.
9560 - 9611'	Limestone, brown to grey, cryptocrystalline, calcite crystals, moderately dolomitic, less dolomitic to bottom of interval.
9611 - 9710'	Interbedded limestone and dolomite, as above.
9710 - 9777'	Dolomite, light grey, very fine to finely crystalline with 10% limestone, light brown, grey, lithographic.
9777 - 9825'	Dolomite with interbedded limestone, as above.

9825 - 9834'	Limestone, light brown to grey, cryptocrystalline, stylolitic, moderately to very dolomitic.
9834 - 9920'	Limestone, as above, locally chalky, slightly dolomitic.
9920 - 10,060'	Dolomite with 10 - 20% limestone, as above.
10,060 - 10,085'	Dolomite, white, very fine to coarsely crystalline, tight.
10,085 - 10,130'	Dolomite, as above, with 10% limestone, as above.
10,130 - 10,210'	Limestone, light grey, cryptocrystalline to fragmental, some white cryptocrystalline, slightly dolomitic.
10,210 - 10,280'	Limestone, light brown grey, cryptocrystalline, medium to coarse fragmental, slightly dolomitic, stylolitic.
10,280 - 10,390'	Limestone, light grey, pelletoidal, as above, not dolomitic.
10,390 - 10,460'	Limestone, light grey, recrystallized, originally pelletoidal.
10,460 - 10,480'	Limestone, medium to dark grey, cryptocrystalline, hard, dense.
10,480 - 10,490'	Dolomite, light to dark grey, medium to coarsely crystalline, intercrystalline bituminous material.

10,490 - 10,500'	Limestone, dark grey, cryptocrystalline, slightly dolomitic, as above.
10,500 - 10,567'	Limestone, dark grey, cryptocrystalline, as above.
10,567 - 10,600'	Limestone, light brown-grey, pelletoidal, cryptocrystalline matrix, secondary calcite, tight.
10,600 - 10,690'	Limestone, light grey, cryptocrystalline, abundant secondary calcite, occasional trace pelletoidal ghosts.
10,690 - 10,740'	Limestone, as above, with interbedded dolomite 10 - 20%, light grey-white.
10,740 - 10,883'	Limestone, as above, trace pelletoidal, slightly dolomitic, cryptocrystalline.
10,883 - 11,024'	Limestone, brown-grey, cryptocrystalline, tight.
11,024 - 11,090'	Limestone, brown-grey, cryptocrystalline as above, with interbedded dolomite, light grey, white.
11,090 - 11,173'	Dolomite, light to dark grey, very fine to coarsely crystalline, tight.
11,173 - 11,220'	Dolomite, light to medium grey, very fine to coarsely crystalline, white dolomite veins, minor fractures, tight.
11,220 - 11,310'	Dolomite, as above, very rare pin point porosity.

11,310 - 11,374'	Dolomite, light to dark grey, very fine to coarsely crystalline, tight.
11,374 - 11,447'	Dolomite, light to dark grey, very fine to medium crystalline, some bitumen infill, very slightly argillaceous, trace pyrite with white dolomite veins.
11,447 - 11,527'	Dolomite, light to dark grey, very fine to medium crystalline. Scattered poor to good vuggy porosity in basal 45 feet, with only slight trace oil staining.

SECTION III - Engineering Summary

(a) Report of Drill Stem Tests

No.	Date	From	To	Formation
1	28-3-65	4850	5062	Lower Devonian
2	18-4-65	6715	6766	Silurian
3	18-4-65	6700	6944	Silurian
4	11-5-65	8301	8341	Ordovician
5	13-5-65	8301	8341	Ordovician
6	26-6-65	11,482	11,527	Ordovician
7	27-6-65	11,460	11,527	Ordovician
8	27-6-65	11,429	11,527	Ordovician
9	2-7-65	11,088	11,132	Ordovician

(b) Casing Record

Casing Size	Weight	Amount	Set At	Cement
18"	Conductor Pipe	96 feet	82' KB	150 ∕ 3% $CaCl_2$
13 3/8"	54.4 #	31 Jnts.	1000' KB	900 ∕ 3% $CaCl_2$

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

[illegible] **N-5** Date Spudded [illegible]

Date Completed [illegible]

BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOTAGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
	[illegible]		[illegible]		[illegible]				[illegible]			2-1-1
	[illegible]	[illegible]	[illegible]		[illegible]					[illegible]		1-1-1
		[illegible]								[illegible]		[illegible]
		[illegible]	[illegible]		[illegible]				[illegible]			[illegible]
		[illegible]	[illegible]						[illegible]			[illegible]
			[illegible]						[illegible]			[illegible]
			[illegible]		[illegible]				[illegible]			[illegible]
		[illegible]	[illegible]		[illegible]				[illegible]			3-1-1
		[illegible]	[illegible]		[illegible]		[illegible]		[illegible]			3-1-1
	[illegible]		[illegible]	[illegible]	[illegible]				[illegible]			3-1-1
		[illegible]	[illegible]	[illegible]			[illegible]		[illegible]			4-3-1
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]			[illegible]
	[illegible]	[illegible]			[illegible]	[illegible]				[illegible]		3-1-1
	[illegible]	[illegible]	[illegible]		[illegible]					[illegible]		[illegible]
		[illegible]	[illegible]		[illegible]		[illegible]			[illegible]		4-3-1
		[illegible]	[illegible]		[illegible]					[illegible]		[illegible]
		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			[illegible]		[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]				[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			[illegible]		[illegible]
	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			[illegible]		2-3-1
	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	
	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	Drill Cement	
			[illegible]		[illegible]	[illegible]	[illegible]		[illegible]			4-4-3
			[illegible]			[illegible]	[illegible]		[illegible]			3-4-1
			[illegible]		[illegible]	[illegible]	[illegible]		[illegible]			3-4-1

3 38

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well: [illegible] South [illegible] **N-5** Date Spudded: [illegible] 18/65

Date Completed: July 8/65

No.	Size	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOT AGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
		[illegible]	7612		[illegible]	4481	4		23¼			
		[illegible]	35243	Full Core	[illegible]	4488	429		25¼			Rulled to Core
		[illegible]	Diamond 7612		[illegible]	4411	1		27½			
		[illegible]	Diamond [illegible]	Full Core	[illegible]	4590	79		36½			1-3-1
		[illegible]	Diamond 7612		4590	4591	1		38½			
[illegible]	[illegible]	[illegible]	765 602	Full Core	4591	4714	123		42½			1-1-1
		[illegible]	44947	Conn	[illegible]	4725	31		49¾			4-2-0
[illegible]	[illegible]	YH WG	E74591	Conn	[illegible]	4725	Reamed			5		2-1-1
35	8¾	YT1	49250	Conn	Reamed full					7½		1-1-1
36	8¾	YHWG	E74412	Conn	Reamed full							4-1-0
37	8¾	◇	7108		4725	4733	8		56½			1-1-1
38	8¾	R+1	76739	Full Core	4733	4760	27		68¾			2-2-1
39	8¾	YHWG	E74492	Conn	4760	4841	81		87			4-4-1
40	8¾	YHWG	E74493	Conn	4841	4902	61		102¾			4-4-1
41	8¾	[illegible]	[illegible]		4902	[illegible]	152		134¼			1-4-1
42	8¾	[illegible]	[illegible]		[illegible]	[illegible]	8		136			1-1-1
43	8¾	[illegible]	Diamond [illegible]		[illegible]	5401	339		191¾			1-1-1
44	8¾	[illegible]	[illegible]	Conn	5401	5440	39		198½			1-1-1
45	8¾	[illegible]	[illegible]	Conn	5440	5559	119		217			4-4-1
46	8¾	[illegible]	[illegible]	Conn	5559	5254	95		233¼			2-4-1
47	8¾	[illegible]	[illegible]	Conn	[illegible]	5770	116		258¾			3-4-1
48	8¾	[illegible]	59023	Conn	5770	5885	115		266½			3-3-1
[illegible]	8¾	YH	E64141	Conn	5885	5947	62		273¾			3-4-1
[illegible]	[illegible]	[illegible]	E15592	Conn	5947	6054	107		291¼			3-4-1
		◇	3779		[illegible]	6064	10		295			1-1-1
[illegible]	[illegible]	[illegible]	E15575	Conn	6064	6154	90		314¾			3-3-1

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

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well [illegible] South Turner N-5 Date Spudded Dec 13/65

Area [illegible] Date Completed July 8/65.

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
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		3-4-1	Remarks
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		25 3/4			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		49 3/4			3-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		68 1/4			3-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		89			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		105			3-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		168 3/4			1-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12		173 1/2			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	355		231 1/4			2-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	161		263 3/4			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	78		307 1/2			2-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84		330 1/2			1-4-0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	222		349			4-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	195		405 1/2			4-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	165		521 1/4			4-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	60		539			4-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	136		550 3/4			1-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12		552			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30		587			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30		591 1/4			2-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	70		611			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	88		626 3/4			2-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	96		648 1/2			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	40		670			3-3-1

TION: WHITE - TO CALGARY OFFICE: YELLOW - TO FIELD OFFICE: BLUE - FOR FILE.

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well [illegible] South [illegible] **N-5** Date Spudded Feb 13/65

Area Date Completed July 8/65.

BIT No.	BIT SIZE	TYPE	SERIAL No.	JET SIZE	DEPTH FROM	DEPTH TO	FOOTAGE	TIME HRS.	ACCUMULATED DRILLING TIME	ACCUMULATED REAMING TIME	CONDITION	REMARKS
[illegible]	[illegible]	[illegible]	[illegible]	Conn	[illegible]	[illegible]	104		15 1/2		3-4-1 –	Remarks
[illegible]	[illegible]	[illegible]	[illegible]423	[illegible]	[illegible]	[illegible]47	51		25 3/4			3-4-1
[illegible]	[illegible]	[illegible]	35[illegible]	[illegible]	[illegible]	[illegible]	71		41 3/4			3-2-1
[illegible]	[illegible]	[illegible]	96[illegible]	[illegible]	[illegible]	6532	54		68 1/4			3-2-1
[illegible]	[illegible]	[illegible]	9[illegible]	Conn	[illegible]	[illegible]	[illegible]		89			3-4-1
[illegible]	[illegible]	[illegible]	24552	Conn	[illegible]	[illegible]	78		105			3-3-1
[illegible]	[illegible]	[illegible]	7[illegible]22	11/32	[illegible]	[illegible]44	[illegible]		168 3/4			1-3-1
[illegible]	[illegible]	[illegible]	47477	Conn	[illegible]	[illegible]						
[illegible]	[illegible]	◇	EC352		[illegible]	[illegible]	12		173 1/2			1-1-1
[illegible]	[illegible]	[illegible]	57[illegible]	22/32	[illegible]	[illegible]	355		237 1/4			2-4-1
[illegible]	[illegible]	[illegible]	57055	22/32	[illegible]	[illegible]12	161		283 3/4			1-1-1
[illegible]	[illegible]	[illegible]	ET440[illegible]	Conn	[illegible]	7452	75		307 1/2			2-4-1
[illegible]	[illegible]	[illegible]	F35290	Conn	[illegible]	7534	84		330 1/2			1-4-0
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]/32	[illegible]	[illegible]	222		349			4-2-1
[illegible]	[illegible]	[illegible]	2345[illegible]	22/32	[illegible]	7951	195		465 1/2			4-3-1
[illegible]	[illegible]	[illegible]	23417	22/32	[illegible]	8116	165		521 1/4			4-4-1
[illegible]	[illegible]	[illegible]	[illegible]	Conn	8116	8176	60		539			4-4-1
[illegible]	[illegible]	[illegible]	23434	22/32	8176	8312	136		550 3/4			1-2-1
[illegible]	[illegible]	[illegible]	[illegible]424	Conn	8312	8324	12		582			1-1-1
[illegible]	[illegible]	◇	3[illegible]		8324	8344	20		587			1-1-1
23	[illegible]	[illegible]	[illegible]424	Conn	8324	8344	20		591 1/4			2-2-1
[illegible]	[illegible]	[illegible]	[illegible]4505	Conn	8344	8414	70		611			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]12	Conn	8414	8502	88		626 3/4			2-4-1
[illegible]	[illegible]	[illegible]	[illegible]144	Conn	[illegible]	8598	96		648 1/2			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	Conn	8598	[illegible]	100		670			3-3-1

[illegible]TION: WHITE - TO CALGARY OFFICE: YELLOW - TO FIELD OFFICE: BLUE - FOR FILE.

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

Well [illegible] N-5 Date Spudded July 16/65

Area [illegible] Date Completed July 31/65

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
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15 1/2			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30			3-4-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9	[illegible]	32 3/4			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	42 1/4			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	54 3/4			2-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	69 1/4			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	84 3/4			4-2-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	92 1/4			2-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	103 1/2			3-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	113 3/4			3-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	122 1/2			4-3-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	137 1/4			3-4-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	142			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	151 1/2			4-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	225 3/4			2-3-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	230 3/4			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	259			4-4-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	340 1/2			1-1-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	342			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	413 1/2			1-3-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	419			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	490 1/4			1-4-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	495			1-1-1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	566 1/2			1-4-1
[illegible]	[illegible]	◊	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	569 1/4			1-1-1

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

SOCONY MOBIL OIL OF CANADA, LTD.

BIT RECORD

[illegible] N-5 Date Spudded Feb. 18/65

Area Date Completed July 8/65

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
[illegible]	[illegible]	[illegible]	97089	[illegible]	[illegible]	[illegible]	207	41	→			2-3-1
[illegible]	[illegible]	[illegible]	[illegible]79	[illegible]	[illegible]	[illegible]82	113	75	→			2-3-1
[illegible]	[illegible]	◇	2079		[illegible]	[illegible]	9	75½	→			1-1-1
[illegible]	[illegible]	[illegible]	E 09137	Cond	[illegible]	[illegible]	9		80			
[illegible]	[illegible]	◇	2079		[illegible]	11527	36		94¼			1-1-1
[illegible]	[illegible]	[illegible]	E 09137	[illegible]	[illegible]	11527	36		99¾			2-1-1

T.D.

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

(d) Mud Report

Bentonite	910 sx.	Q-Broxin	250 sx.
Aquagel	100 sx.	Salt-Gel	252 sx.
Magcogel	1552 sx.	Sylvacel	32 sx.
Bisard	48 sx.	Sawdust	650 sx.
Barites	1544 sx.	Saltex	346 sx.
Baroid	539 sx.	Tannex	68 sx.
Caustic	194 sx.	Tuff Plug Walnut (Medium)	19 sx.
Cellophane Flakes	392 sx.	Tuff Plug Walnut (Fine)	38 sx.
C.M.C.	100 sx.	Tuff Plug Walnut (Coarse)	556 sx.
Carbonox	254 sx.		
Calcium Chloride	40 sx.		
Cement (Cans)	863 sx.		
Cement	2577 sx.		
Cellex (Reg.)	88 sx.		
Cellex (Hi-Visc.)	75 sx.		
Driscose	30 sx.		
Dextrial	19 sx.		
Fibertex	503 sx.		
Leather Floc	100 sx.		
Mica (Fine)	102 sx.		
Microcel "E"	53 sx.		
Peltex	396 sx.		
Plug Grit	313 sx.		

(e) Deviation Record

DEPTH	DEGREE	DEPTH	DEGREE
82'	3/4°	860'	3/4°
112'	1/2°	890'	3/4°
144'	1/2°	920'	7/8°
238'	7/8°	954'	3/4°
269'	3/4°	990'	1°
290'	3/4°	1240'	7/8°
322'	3/4°	1524'	3/4°
354'	3/4°	1834'	1°
395'	3/4°	2124'	1 1/4°
425'	3/4°	2434'	1 1/8°
458'	3/4°	2745'	3/4°
480'	3/4°	3060'	2°
510'	3/4°	3186'	2 3/4°
544'	7/8°	3269'	3°
585'	7/8°	3373'	2 3/4°
615'	3/4°	3467'	2 7/8°
645'	1/2°	3562'	3°
664'	3/4°	3625'	3°
706'	3/4°	3727'	3°
735'	7/8°	3821'	3°
768'	3/4°	3884'	3°
789'	3/4°	3946'	3°
820'	3/4°	4002'	3 1/4°

DEPTH	DEGREE
4095'	3°
4189'	3 1/2°
4315'	3 1/4°
4378'	3°
4505'	3 1/4°
4835'	3 3/4°
4942'	3°
5050'	MR
5150'	3 1/4°
5325'	3 1/2°
5435'	3 1/2°
5550'	3 1/4°
5650'	3 1/2°
5760'	4°
5870'	4°
5975'	4 3/4°
6044'	5°
6144'	5°
6248'	5°
6340'	5 1/2°
6408'	5 1/4°
6492'	5 1/4°
6592'	5 1/8°
6670'	5 1/4°

DEPTH	DEGREE
6765'	5 1/2°
6860	5°
6934'	4 1/2°
7047'	4 3/4°
7200'	4 3/4°
7372'	6 1/2°
7450'	4 3/4°
7530'	5°
7750'	5°
7950'	4°
8110'	3 3/4°
8170'	3°
8220'	3°
8310'	3°
8410'	3°
8500'	3 3/4°
8590'	3 3/4°
8800'	3 3/4°
8890'	3 3/4°
9080'	3 1/2°
9190'	3 3/4°
9260'	3 1/2°
9400'	3°
9459'	3 1/2°

DEPTH	DEGREE
9520'	3 1/2°
9825'	NR
10085'	3 1/4°
10230'	3°
10567'	NR
10582'	3°
10883'	3 1/4°
11173'	3°
11369'	3 1/4°

(f) Cementing Record

Plug #1 11527 - 11400 with 60 sacks + 30# Peltex, not felt

Plug #2 8400 - 8200 with 80 sacks + 40# Peltex, felt @ 8185 after 8 hours

Plug #3 - 5100 - 4800 with 120 sacks + 20# Peltex, felt @ 4810 after 8 hours

Plug #4 - 1050 - 950 B.C. plug, 60 sacks + 2% CaCl2, felt @ 930

Plug #5 at surface, 5 sacks, weld on plate

(g) Lost Circulation Zones

110 bbls. mud lost @ 4694

200 " " " @ 4726 - 4759

60 " " " @ 5072 - 5142

30 " " " @ 5440 - 5491

60 " " " @ 5886 - 5947

50 " " " @ 7199 - 7216

(h) Report of Blowouts

None

SECTION IV - Logs

Run No.	Type of Log	From	To
1	GRN	11513	50
1	BSGR-C	11512	996
1	DIL	11510	996
1	ML-C	11512	996
1	SRS	11450	1020

SECTION V - Analysis

(a) Core Analysis

None.

(b) Water Analysis

None.

(c) Gas Analysis

None.

(d) Oil Analysis

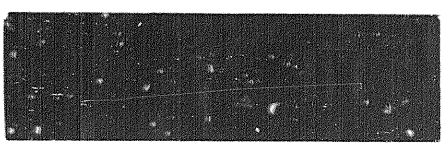
None.

SECTION VI - Completion Summary

None.

JOHNSTON TESTERS

TECHNICAL REPORT



JTL-CD 4

JOHNSTON TESTERS

TEST DATA

Formation		Zone Thickness	Ft
Interval	4850	To 5062	T.D. 5062
Type of Test	Open Hole, Bottom Hole		
Time Started in Hole	2130 Hrs	Tool Open	2338 Hrs
First Flow	7 Min	Shut in	30 Min
Second Flow	60 Min	Final Shut In	60 Min
Pulled Loose @	0215 Hrs	Out of Hole	0530 Hrs
Wt. Set on Packer	40,000 #	Pulled Loose Wt.	30,000 #

Remarks: Tool was Chased 15 Feet During Test Period.

Description of Blow During Test: Good Blow. Gas to Surface in 5 Minutes.

Elevation	1642 GL
Bottom Hole Choke Size	1/2"
Fluid Cushion Type	
Amount	

TOOL SEQUENCE

Tool	Length	O.D.
Sub.	.90	
P.O. Sub.	.80	
Sub.	.70	
D.P. Sub.	.80	
Shut in Tool	6.05	
Hyd. Tool	8.35	
Safety Jt.	1.75	
T.C. & Pkr.	6.30	
T.C. & Pkr.	5.70	
Total	31.35	
Stub	1.50	
Perf.	12.00	
Recorder	5.45	
Recorder	5.50	
Sub.	.90	
D.P.	186.00	
Sub.	.85	
B.N.	.50	
Total Interval	212.70	
Total Length	244.05	

GAS BLOW MEASUREMENTS

Measured with — I.D. Riser or Est.

Type of Instrument

Time	Stce. Choke	Reading Inches	Cubic Feet Day
			T. S. T. M.

FLUID RECOVERY

Was Test Reverse Circulated Yes ☐ No X

Fluid Recovered Total: 2500' Ft

Description of Fluid Recovered: 60' Drilling Fluid. 2440' Highly Gasified Salt Water.

Remarks: Test Satisfactory.

Co. Rep: J. Norman

Tester: G. Schlichter

MUD AND HOLE DATA

Mud Type	Gel.	W.L.	8.0
Filter Cake	2/32 Visc 92	Wt.	9.2
Time Taken	1200 hrs.		
Contractor	Parker Drilling	Rig No.	1
Drill Pipe Size	4 1/2 FH		
Drill Collar Size	2 7/8 ID	Length	342.50'
Main Hole Size	8 5/8"		
Rat Hole Size			

District: Yukon — Ticket No. C 2992 — Date March 28/65

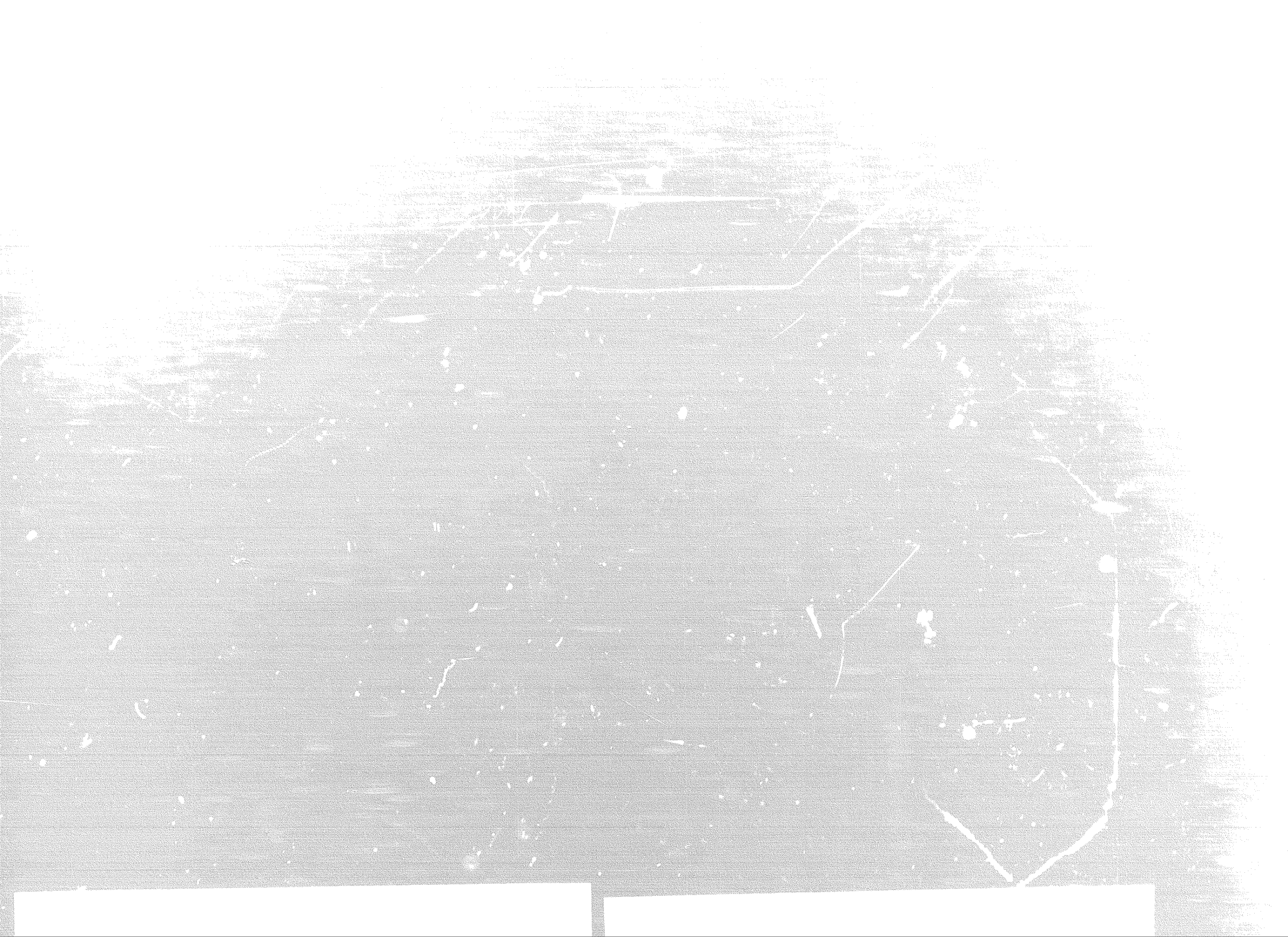
Company: Socony Mobil Oil of Canada — Address: P.O. Box 240, Dawson Creek, B. C.

Well Name: Socony Mobil Western Min. S. — Test No. 1 — D.S.T. Test No. 1

Number: Tuttle YT N-5, 66°-24'-51"N- 136°-46'-23"W — Field: Eagle Plains — Province: Yukon

Formation and Interval: DST#1 4850-5062 — Consultant:

Distribution of Reports: 8 - Dawson Creek



JOHNSTON TESTERS

Pressure Data

Test Ticket No. C 2992

JTL-CO-5

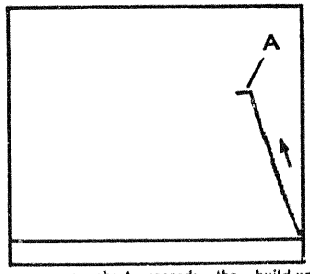
Recorder No.	T-374	T-13			
Capacity P.S.I.G.	7000	7000			
Recorder Depth	4859	4864			
Pressure Gradient P.S.I. Ft.					
Well Temperature °F	118°	118°			
A Initial Hydrostatic	2335#	2341#			
B First Initial Flow	758#	763#			
C Initial Shut-In Pres	1781# FALSE	1786#			
D Flowing Pres	758#	763#			
E Final Flow	1224#	1225#			
F Final Shut-In	1797#	1797#			
G Final Hydrostatic	2339#	2341#			

Remarks

T-373 - Outside Recorder
T-13 - Outside Recorder

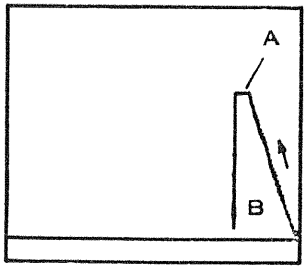
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



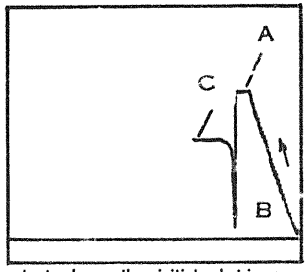
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



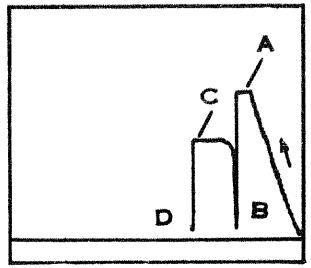
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



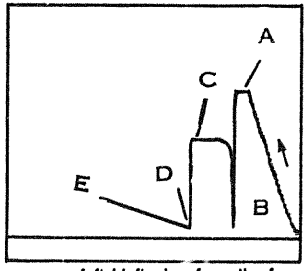
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



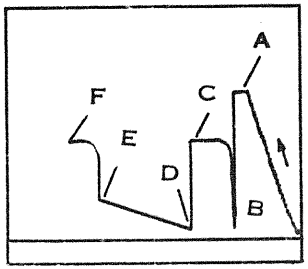
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



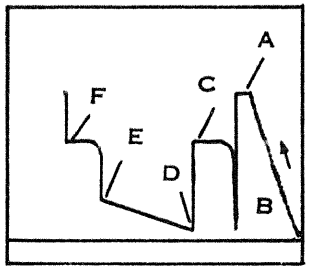
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



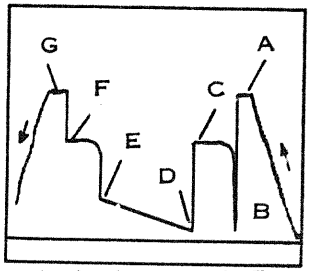
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

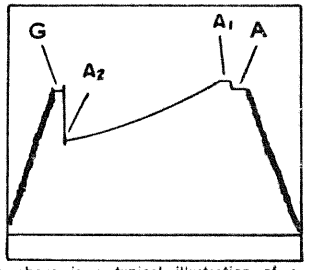
INDEX OF LABELED POiNTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

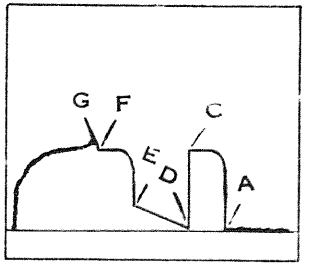
A-1, A-2, A-3, etc. Initial Hyd. Pressures.
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



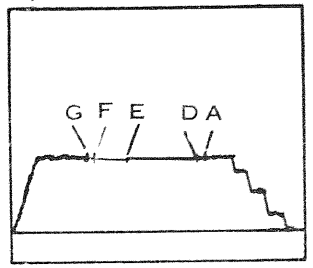
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.

JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JOHNSTON TESTERS

JTL CD 4

TEST DATA

	11088	11132	11527
	Open Hole, Straddle, Bypass		
	1430		1900
	0		0
	0		0
			0130
	40,000		45,000

Good Blow. Mis-Run, Seat Failure.

GAS BLOW MEASUREMENTS

FLUID RECOVERY

Fluid Recovered Yes No X

Fluid Recovered Total 3817'

Description of Fluid Recovered 3267' Water Cushion.
100' Drilling Fluid.
450' Salty Sulphurous Water.

Remark Mis-Run, Seat Failure.

Co. Rep. D. Bain

Tester K. Munro

District	Edmonton	Ticket No	C 4647
Company	Socony Mobil Oil of Canada	Address	P.O. Box 240, Dawson Creek, British Columbia
Well Name	Socony Mobil Western Min. S.	Test No	9
Location	Tuttle YT N-5	Field	Wildcat
	66°-24'-51"N-136°-46'-23"W		
	DST#9 11088-11132		
Distribution of Reports			8 - Dawson Creek

	1655 KB Est.	1642 GL
		1/2"
		3267'
		Water

TOOL SEQUENCE

Sub.	.68	6"
P.O. Sub.	.85	4 3/4"
S.	.88	6"
D.P. Sub.	.92	6"
Shut in Tool	6.08	4 3/4"
Hyd. Tool	7.43	4 3/4"
Subs.	1.60	4 3/4"
Jars	7.10	4 3/4"
Safety Jt.	1.80	4 3/4"
H. Sub.	.90	4 3/4"
T.C. & Pkr.	7.10	7 3/4"
T.C. & Pkr.	6.50	7 1/8"
Total	41.84	
Stub	1.01	4 3/4"
Perf.	27.00	4 3/4"
R. Sub.	.90	4 3/4"
Recorder	5.80	4 3/4"
Recorder	5.90	4 3/4"
T.C. & Stub	3.50	5 3/4"
Total Interval	44.11	
Pkr.	3.30	7 3/4"
T.C. & Pkr.	7.10	7 1/2"
Perf.	7.00	4 3/4"
Sub.	.80	6"
D.P.	376.00	4 1/2"
Sub.	.80	6"
B.N.	.30	4 3/4"
Total Below Intv.	395.30	
Total Length	481.25	

MUD AND HOLE DATA

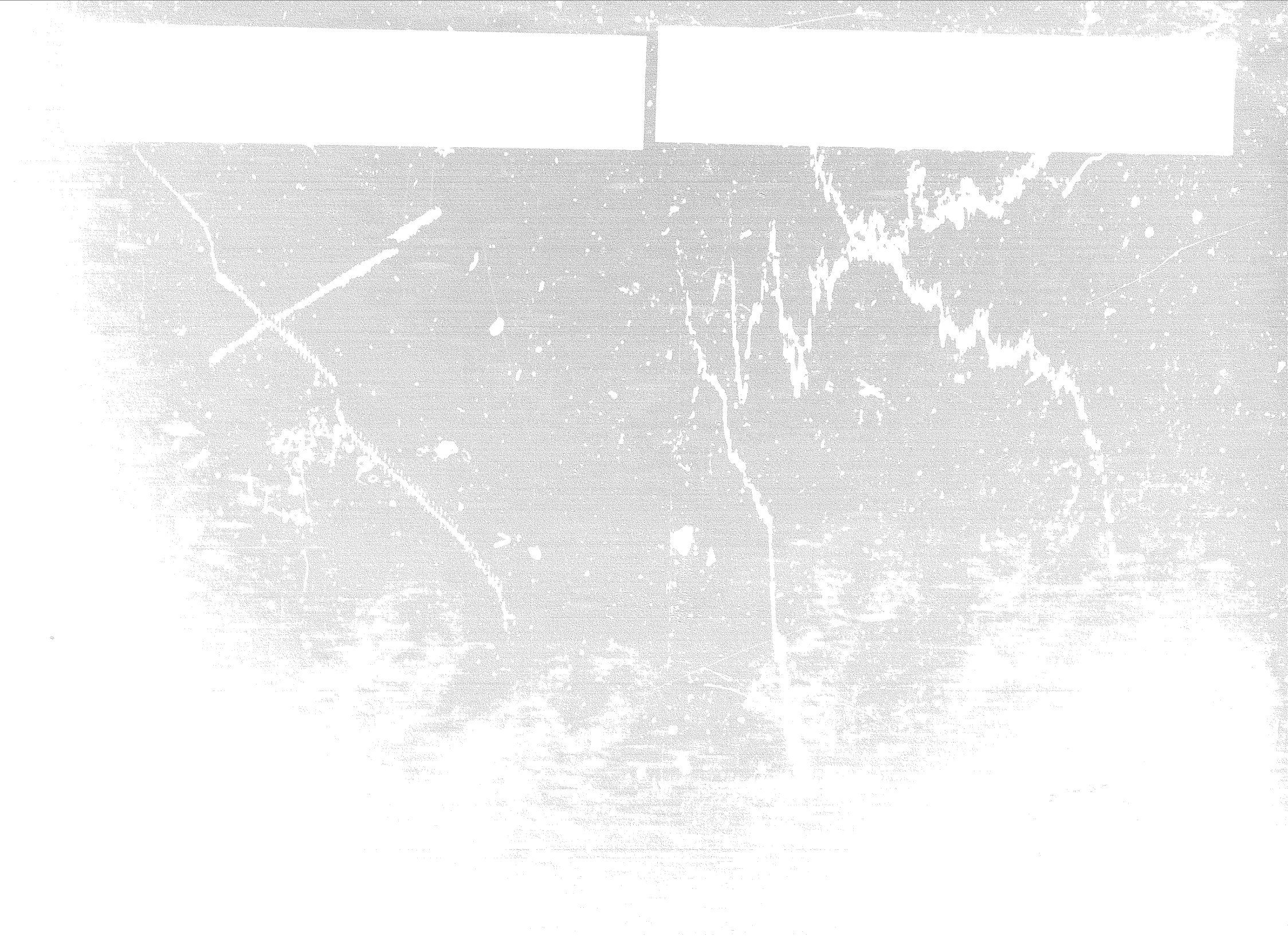
	Gel.		6.2
	2/32	120	9.5
	1000 hrs.		
	Parker Drilling		
			1
	4 1/2 FH		
	2 7/8 ID		208'
	8 5/8"		

July 2/65

P.O. Box 240, Dawson Creek, British Columbia

9

Yukon



JOHNSTON TESTERS

Pressure Data

C 4647

JTL CD 5

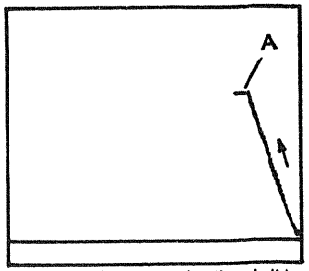
Recorder No.	T-13	T-52
Capacity P.S.I.	7000	7000
Recorder Depth	11124	11129
Pressure Gradient P.S.I. Ft.		
Well Temperature °F		
A Initial Hydrostatic	5566#	5588#
B First Initial Flow		
C Initial Shut-In Pres.	Mis-Run, Seat Failure.	
D Flowing Pres.		
E Final Flow		
F Final Shut In		
G Final Hydrostatic	5506#	5535#

Remarks

T-13 - Outside Recorder
T-52 - Outside Recorder

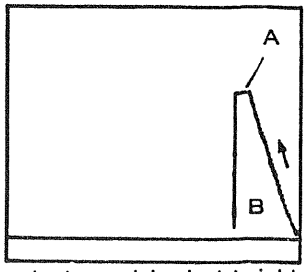
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



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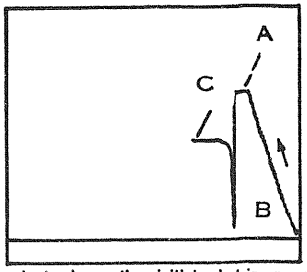
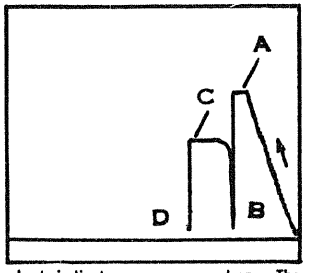
3



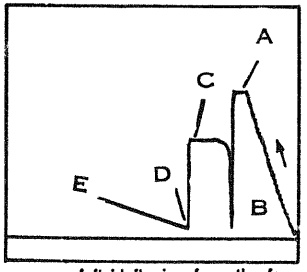
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



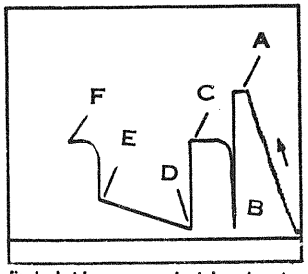
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



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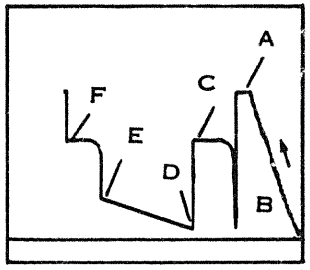

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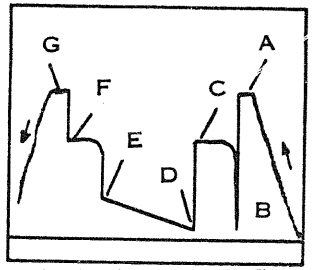

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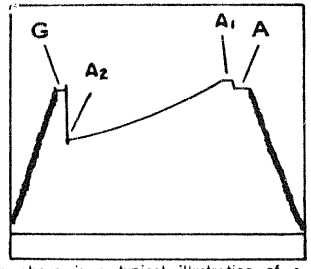

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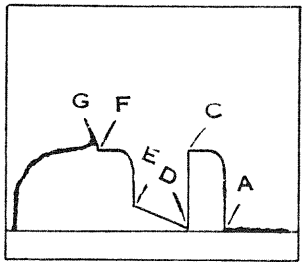

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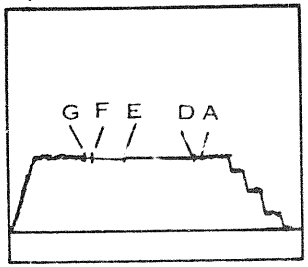

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JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JTL-CD-4

JOHNSTON TESTERS

TEST DATA

Formation		Zone Thickness		Ft	
Interval	6715	To	6766	T.D	6944
Type of Test	Open Hole, Straddle, By-Pass				
Time Started in Hole	0130	Hrs	Tool Open	0654	Hrs
First Flow	5	Min	Shut In	30	Min.
Second Flow	15	Min	Final Shut In	15	Min.
Pulled Loose @	0815	Hrs	Out of Hole	1200	Hrs.
Wt Set on Packer	30,000	#	Pulled Loose Wt	160,000	#

Remarks: Mud Dropped 70 Feet During Test Period.

Description of Blow During Test: Fair Blow, Decreasing to Dead.

GAS BLOW MEASUREMENTS

Measured with ☐ I.D. Riser or Est. ☐

Type of Instrument

Time	Sfce. Choke	Reading Inches	Cubic Feet Day

FLUID RECOVERY

Was Test Reverse Circulated Yes ☐ No ☒

Fluid Recovered (Total) 1400' Ft

Description of Fluid Recovered 1400' Drilling Fluid.

Remarks: Mis-Run, Seat Failure. Lost Mud Slowly Throughout Test.

Co. Rep.

Tester: T. Scheffelmaier

Elevation	1642 GL
Bottom Hole Choke Size	1/2"
Fluid Cushion Type	
Amount	

TOOL SEQUENCE

Tool	Length	O.D.
Sub.	.88	5 15/16
P.O. Sub.	.82	
Sub.	.72	5 7/8"
D.P. Sub.	.90	5 15/16
Shut In Tool	6.04	4 3/4"
Hyd. Tool	8.45	4 3/4"
Safety Jt.	1.74	4 3/4"
T.C. & Pkr.	6.35	5 1/2"
T.C. & Pkr.	6.10	5 1/2"
Total	32.00	
Stub	.90	4 3/4"
Perf.	5.00	4 3/4"
2 Recorders	10.98	4 3/4"
Sub.	.85	4 3/4"
D.C.	29.72	4 3/4"
Sub.	.75	4 3/4"
T.C. & Stub	3.00	5 1/2"
Total Interval	51.20	
Pkr.	3.30	
T.C. & Pkr.	7.21	5 1/2"
Perf.	5.00	4 3/4"
Sub.	.82	5 3/4"
D.P.	157.93	6"
Sub.	.82	5 3/4"
Perf. & B.N.	3.00	4 3/4"
Total Below Intv.	178.08	
Total Length	261.28	

MUD AND HOLE DATA

Mud Type				W.L.	9.0
Filter Cake	2/32	Visc.	46	Wt.	9.5
Time Taken	1600 hrs.				
Contractor	Parker Drilling			Rig No.	1
Drill Pipe Size	4 1/2 XH				
Drill Collar Size	2 7/8 ID	Length	420'		
Main Hole Size	8 5/8"				
Rat Hole Size					

District	Edmonton	Ticket No.	C 3885
Company	Socony Mobil Oil of Canada	Address	P.O. Box 240, Dawson Creek, B. C.
Well Name	Socony Mobil Western Min. S.	Test No.	2
Number	Tuttle YT N-5	J.T.L. Test No.	2
Formation	66°-24'-31"N-136°-46'-23"W	Field	Wildcat
and Interval	DST#2 6715-6766	Province	Yukon
Distribution of Reports		Consultant	
			8 - Dawson Creek

Date: April 18/65


G
F
E

JOHNSTON TESTERS

Pressure Data

Ticket No. C 3885

JTL-CD-5

Recorder No.	T-13	T-374			
Capacity (P.S.I.G.)	7000	7000			
Recorder Depth	6721	6726			
Pressure Gradient P.S.I. Ft.					
Well Temperature °F.	142°	142°			
A Initial Hydrostatic	3332#	3337#			
B First Initial Flow					
C Initial Shut-In-Pres.	Mis-Run, Seat Failure.				
D Flowing Pres.					
E Final Flow					
F Final Shut-In					
G Final Hydrostatic	3306#	3309#			

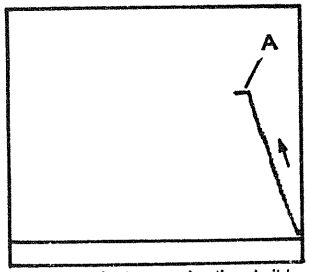
Remarks

T-13 - Outside Recorder

T-374 - Outside Recorder

GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



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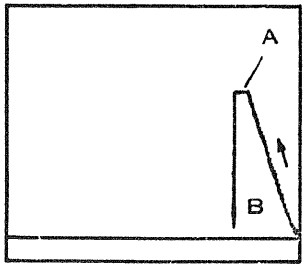
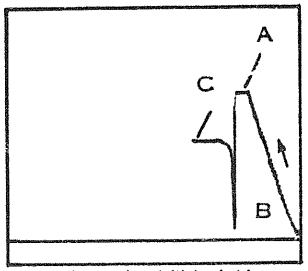


The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



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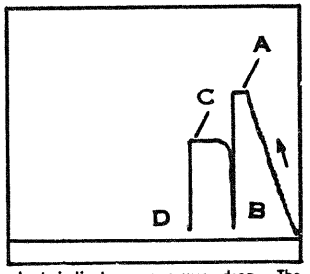
4



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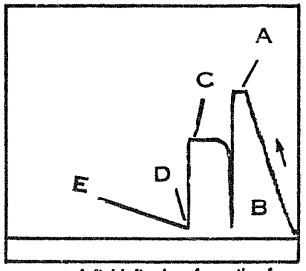
5



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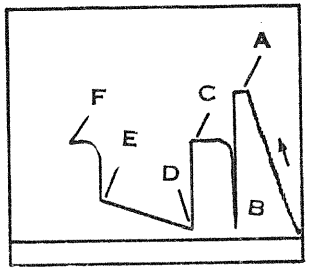

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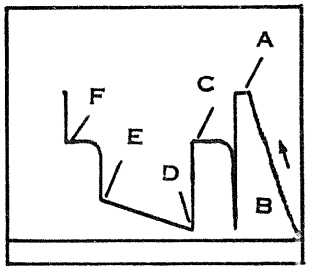

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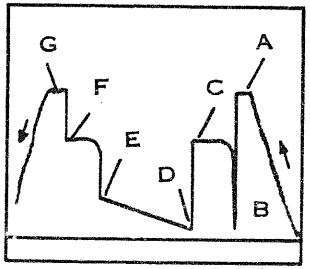

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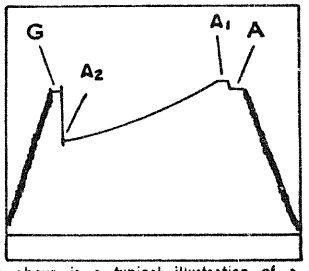

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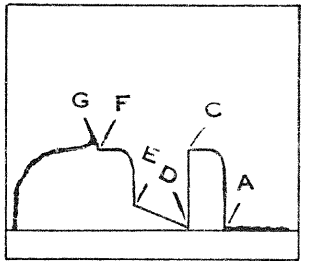

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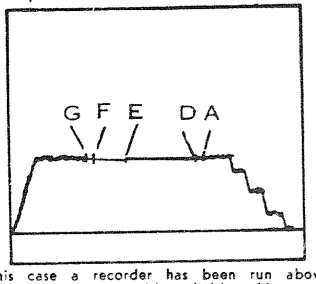

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JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JOHNSTON TESTERS

C 3886

Pressure Data

JTL CD S

Recorder No	T-13	T-374
Capacity P S I G	7000	7000
Recorder Depth	6706	6711
Pressure Gradient P S I Ft		
Well Temperature F	142°	142°
A Initial Hydrostatic	3312#	3312#
B First Initial Flow	229#	230#
C Initial Shut-In Pres	2029#	2028#
D Flowing Pres	257#	258#
E Final Flow	262#	266#
F Final Shut-In	2759#	2759#
G Final Hydrostatic	3348#	3348#

Remarks

T-13 - Outside Recorder

T-374 - Outside Recorder

GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

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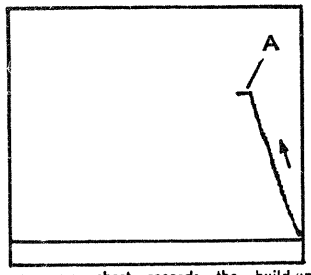

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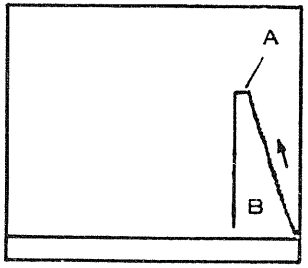

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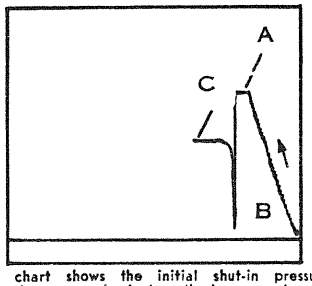

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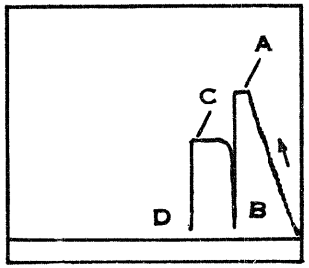

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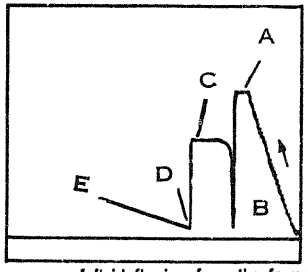

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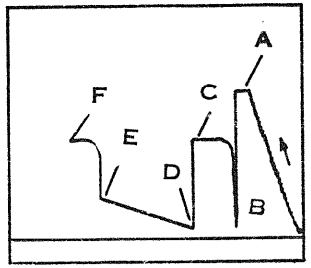

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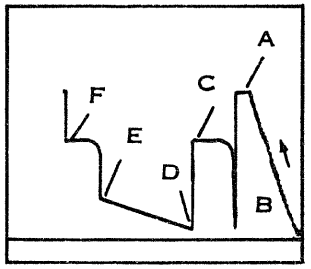

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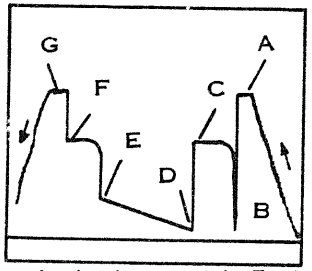

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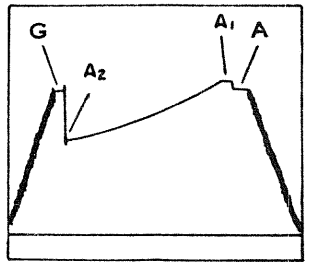

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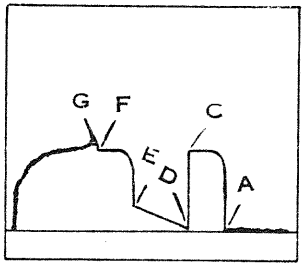

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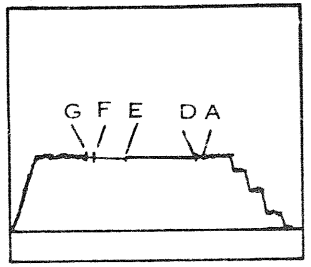
C



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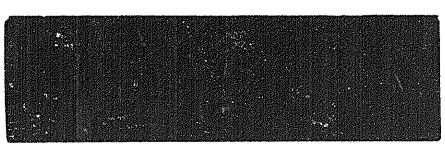
JOHNSTON TESTERS

TECHNICAL REPORT



JOHNSTON TESTERS

TEST DATA

Formation			Zone Thickness			Ft	
Interval	8301	To	8341	T.D.	8341		
Type of Test	Open Hole, Bottom Hole						
Time Started in Hole	1330	Hrs	Tool Open	1832	Hrs		
First Flow	5	Min	Shut In	0	Min.		
Second Flow	0	Min.	Final Shut In	0	Min.		
Pulled Loose @		Hrs.	Out of Hole	1830	Hrs.		
Wt. Set on Packer	30,000		# Pulled Loose Wt.	150,000	#		
Remarks	Tool was Chased 30 Feet During Test Period.						

Description of Blow During Test: Good Blow, Mis-Run, Seat Failure

GAS BLOW MEASUREMENTS

Measured with: I.D. Riser or Est. ☐

Type of Instrument:

Time	Sfce. Choke	Reading Inches	Cubic Feet Day
			Tight Hole

FLUID RECOVERY

Was Test Reverse Circulated Yes ☒ No ☐

Fluid Recovered Total: 5428' Ft.

Description of Fluid Recovered: 5428' Gas Cut Drilling Fluid.

Remarks: Mis-Run, Seat Failure, Unable to Reach Bottom

Co. Rep.: J. Norman

Tester: T. Scheffelmaier

Elevation	1642 GL
Bottom Hole Choke Size	1/2"
Fluid Cushion Type	
Amount	

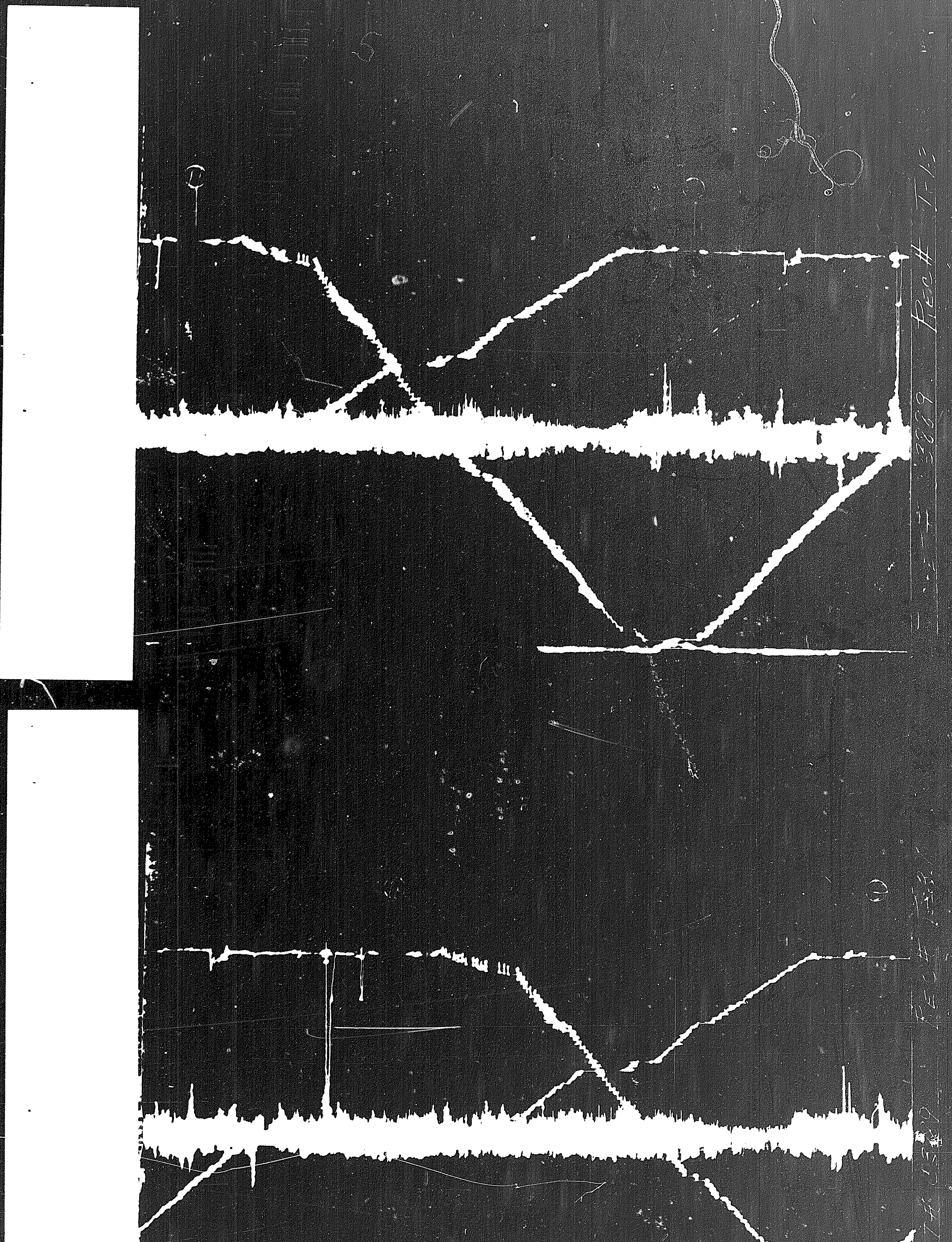
TOOL SEQUENCE

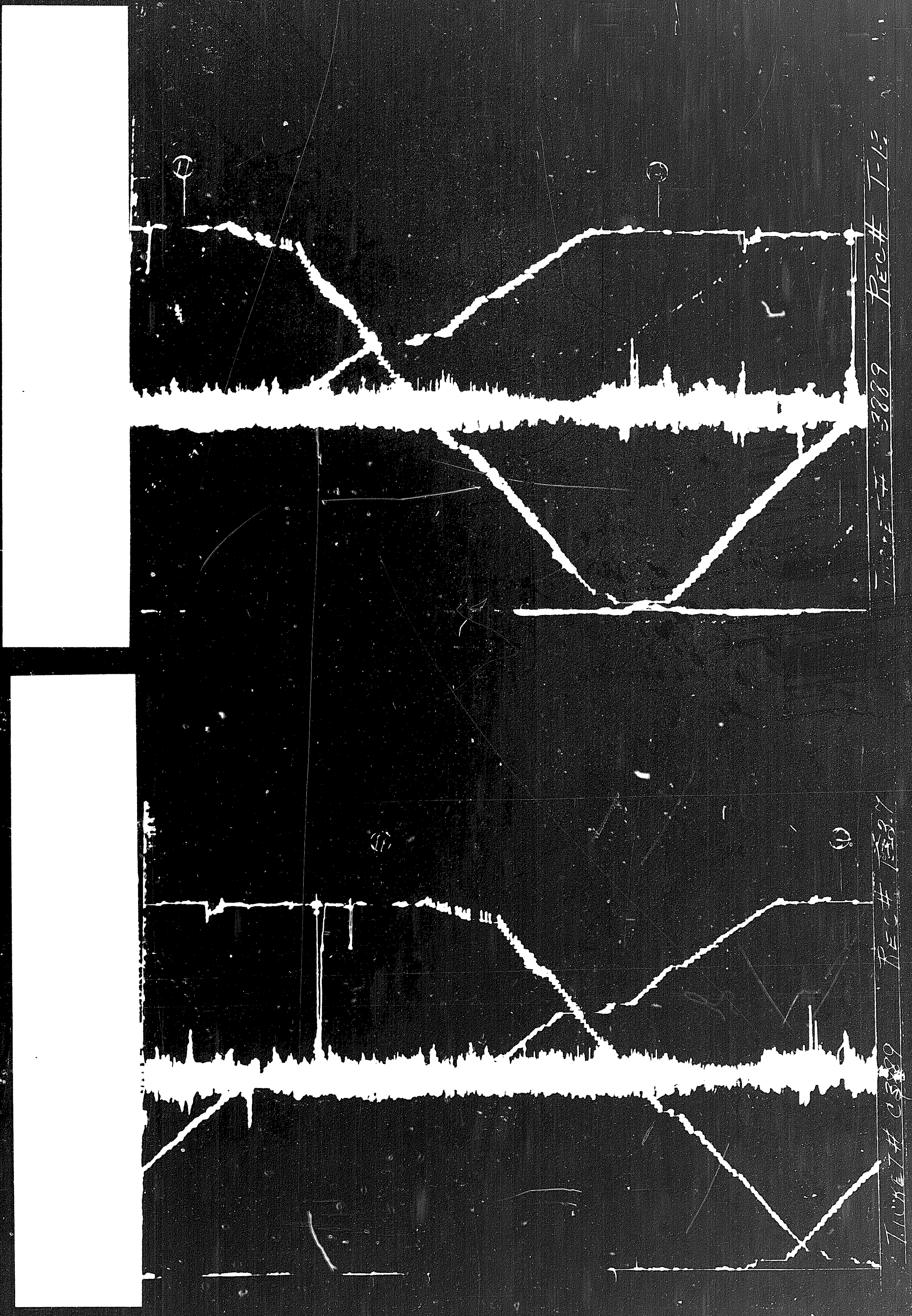
Tool	Length	O.D.
Sub.	.68	6
P.O. Sub.	.82	
Sub.	.88	5 15/16
D.P. Sub.	.90	5 15/16
Shut in Tool	6.03	4 3/4
Hyd. Tool	8.39	4 3/4
Safety Jt.	1.74	4 3/4
T.C. & Pkr.	6.30	5 1/2
T.C. & Pkr.	5.65	5 1/2
Total	31.39	
Stub	.90	4 3/4
Perf.	10.00	4 3/4
2 Recorders	11.83	4 3/4
Perf. & B.N.	23.00	4 3/4
Total Interval	45.73	
Total Length	77.12	

MUD AND HOLE DATA

Mud Type	Soltex			W.L.	7.8
Filter Cake	2/32	Visc	52	Wt.	9.4
Time Taken	0900 hrs.				
Contractor	Parker Drilling			Rig No.	1
Drill Pipe Size	4 1/2 FH				
Drill Collar Size	2 7/8 ID	Length	345'		
Main Hole Size	8 5/8"				
Rat Hole Size	6 1/8"				

District	Edmonton	Ticket No. C 3889	Date May 11/65
Company	Socony Mobil Oil of Canada	Address P.O. Box 240, Dawson Creek, B. C.	
Well Name	Socony Mobil Western Min. S.	Test No 4	J.T.L. Test No. 4
Number	Tuttle YT N-5	Field Eagle Plains	Province Yukon
Formation	66°-24'-51"N-136°-46'-23"W	Consultant	
and Interval	DST#4 8301-8341		
Distribution of Reports	8 - Dawson Creek		




3889
Rec #

JOHNSTON TESTERS

Pressure Data

Test Ticket No. C 3889

JTL-CD-5

Recorder No.	T-13	T-375			
Capacity (P.S.I.G.)	7000	7000			
Recorder Depth	8311	8316			
Pressure Gradient P.S.I. Ft.					
Well Temperature °F.	164°	164°			
A Initial Hydrostatic	4126#	4134#			
B First Initial Flow					
C Initial Shut-In-Pres	Mis-Run, Seat Failure				
D Flowing Pres	Unable to Reach Bottom				
E Final Flow					
F Final Shut-In					
G Final Hydrostatic	4134#	4155#			

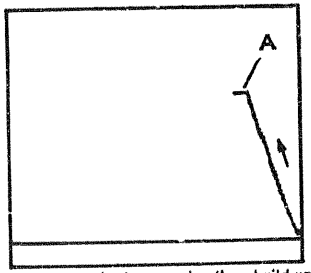
Remarks

T-13 - Outside Recorder

T-375 - Outside Recorder

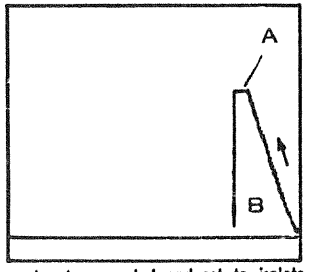
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



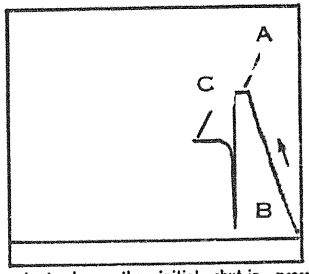
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



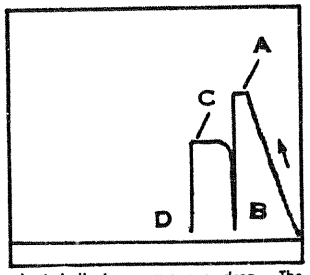
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



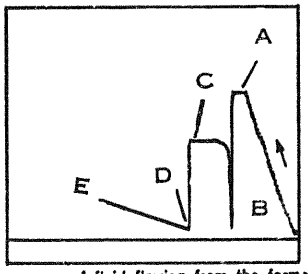
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



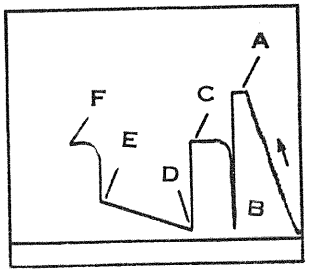
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



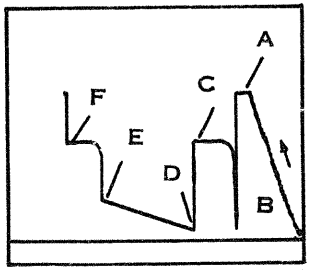
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



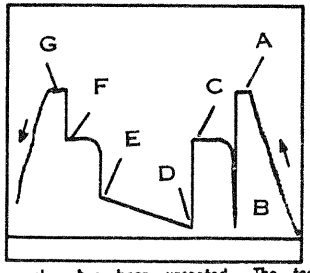
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

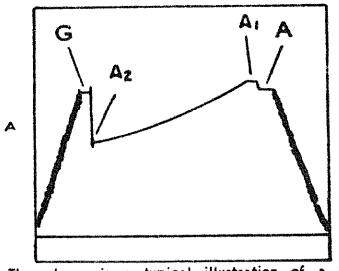
INDEX OF LABELED POINTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

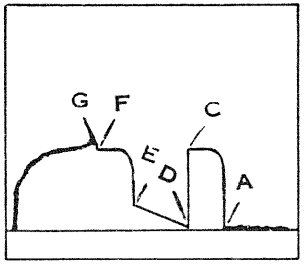
A-1, A-2, A-3, etc. Initial Hyd. Pressures.
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



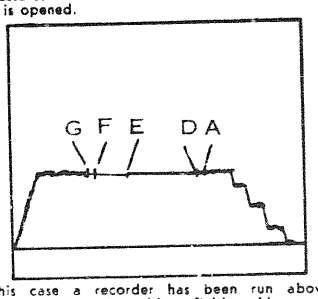
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.

JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JTL-CD-4

JOHNSTON TESTERS

TEST DATA

Formation		Zone Thickness		Ft	
Interval	8301	To	8341	T.D.	8341
Type of Test	Open Hole, Bottom Hole				
Time Started in Hole	1730	Hrs.	Tool Open	2147	Hrs.
First Flow	5	Min.	Shut In	33	Min.
Second Flow	60	Min.	Final Shut In	120	Min.
Pulled Loose @	0125	Hrs.	Out of Hole	0915	Hrs.
Wt. Set on Packer	30,000	#	Pulled Loose Wt.	170,000	#

Remarks: Mud Dropped 4 Feet and Tool was Chased 8 Feet During Test Period.

Description of Blow During Test: Good Blow. Gas to Surface in 10 Minutes.

GAS BLOW MEASUREMENTS

Measured with: I.D. Riser or Est.

Type of Instrument:

Time	Stce. Choke	Reading Inches	Cubic Feet Day
			Tight Hole

FLUID RECOVERY

Was Test Reverse Circulated Yes ☐ No X

Fluid Recovered Total: 500' Ft

Description of Fluid Recovered:

500' Slightly Gas Cut Drilling Fluid.

Remarks: Test Satisfactory.

Co. Rep: J. Norman

Tester: T. Schuffelmaier

Elevation	1642 GL		
Bottom Hole Choke Size	1/2"		
Fluid Cushion Type			
Amount			

TOOL SEQUENCE

Tool	Length	O.D.
Sub.	.68	6
P.O. Sub.	.82	4 3/4
Sub.	.88	5 15/16
D.P. Sub.	.90	5 14/16
Shut in Tool	6.03	4 3/4
Hyd. Tool	7.49	4 3/4
Safety Jt.	1.74	4 3/4
T.C. & Pkr.	7.10	5 1/2
T.C. & Pkr.	5.65	5 1/2
Total	31.29	
Stub	.90	4 3/4
Perf.	5.00	4' 3/4
2 Recorders	11.83	4 3/4
Perf. & B.N.	23.00	4 3/4
Total Interval	40.73	
Total Length	72.02	

MUD AND HOLE DATA

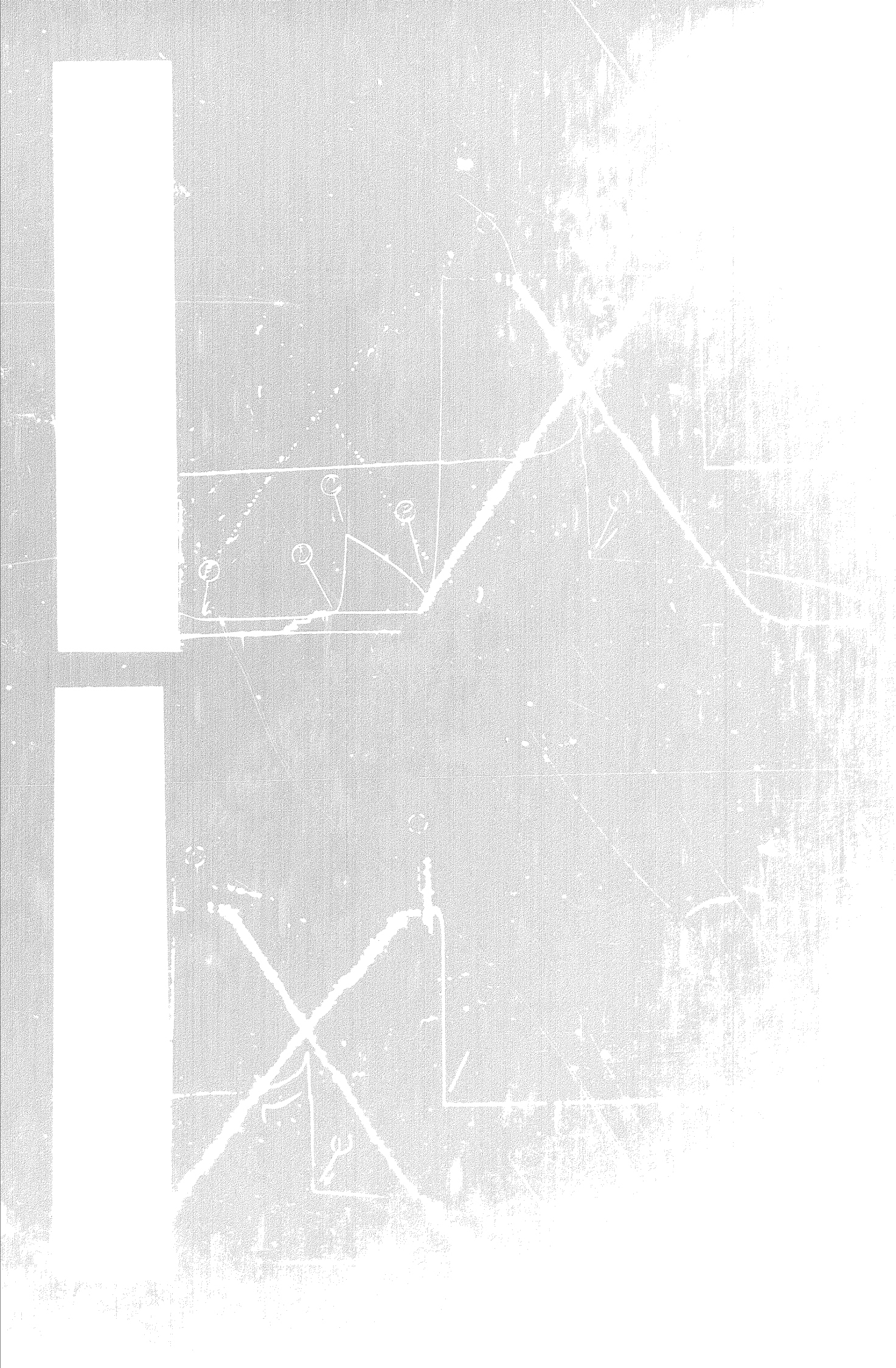
Mud Type	Soltex			W.L.	6.8
Filter Cake	2/32	Visc.	65	Wt.	9.1
Time Taken	1200 hrs.				
Contractor	Parker Drilling			Rig No.	1
Drill Pipe Size	4 1/2 FH				
Drill Collar Size	2 7/8 ID			Length	345'
Main Hole Size	8 5/8"				
Rat Hole Size					

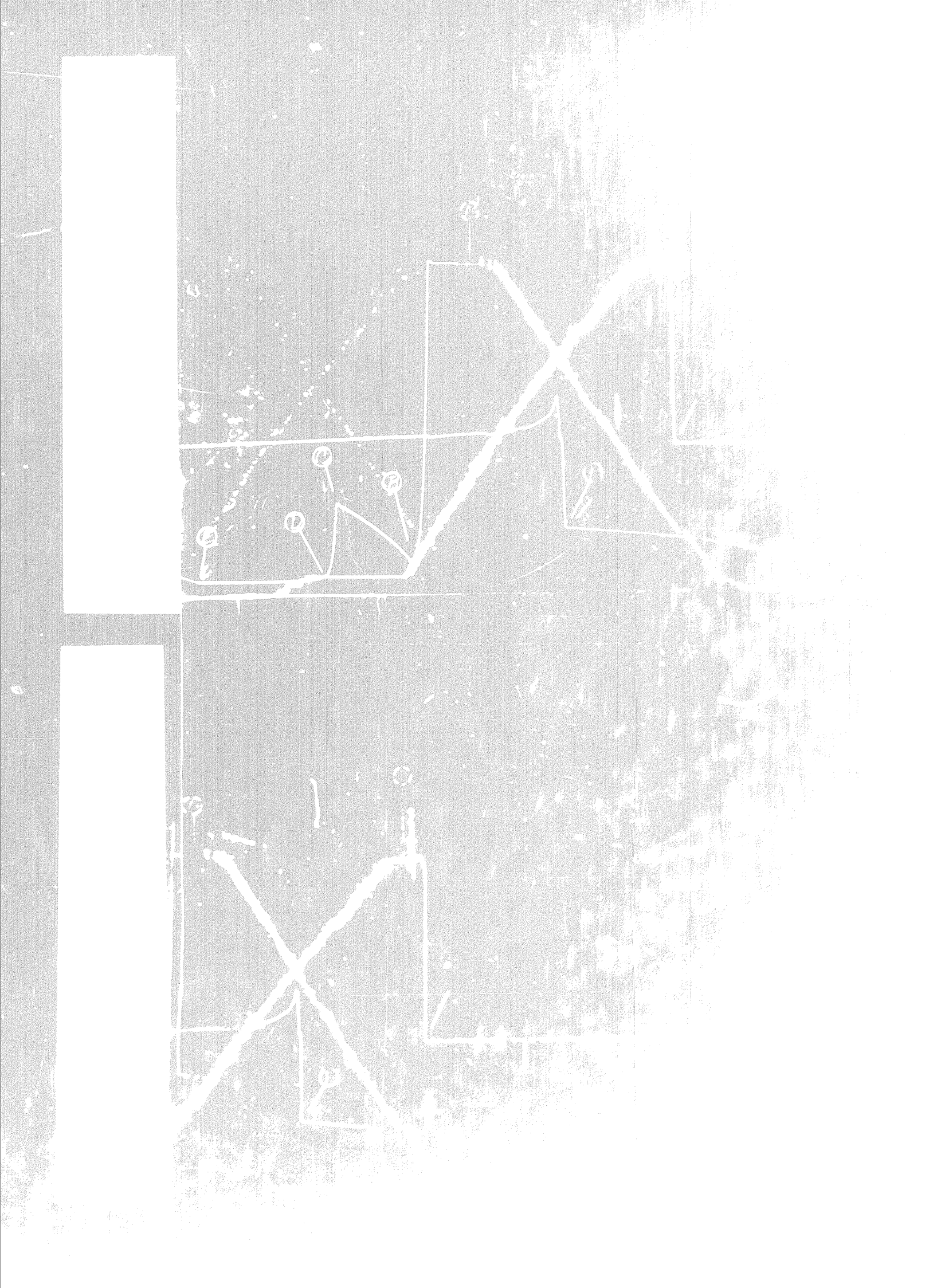
District	Edmonton	Ticket No.	C 3890
Company	Socony Mobil Oil of Canada	Address	P.O. Box 240, Dawson Creek, B. C.
Well Name	Socony Mobil Western Min. S.	Test No.	5
Number	Tuttle YT N-5	Field	Eagle Plains
Formation	66°-24'-51"N-136°-46'-23"W	Consultant	
and Interval	DST#5 8301-8341		
Distribution of Reports			8 - Dawson Creek

Date: May 13/65

J.T.L. Test No.: 5

Province: Yukon





JOHNSTON TESTERS

Pressure Data

Test Ticket No. C 3890

JTL-CD 5

Recorder No.	T-13	T-375
Capacity P.S.I.G.	7000	7000
Recorder Depth	8306	8311
Pressure Gradient P.S.I. Ft.		
Well Temperature °F.	155° Est.	155° Est.
A Initial Hydrostatic	4134#	4163#
B First Initial Flow	446#	434#
C Initial Shut-In-Pres.	1160#	1165#
D Flowing Pres.	283#	290#
E Final Flow	229#	234#
F Final Shut-In	832#	840#
G Final Hydrostatic	4159#	4173#

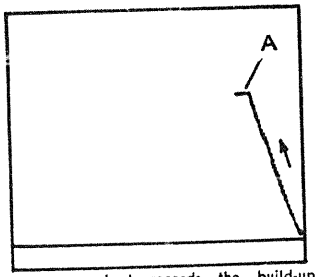
Remarks

T-13 - Outside Recorder

T-375 - Outside Recorder

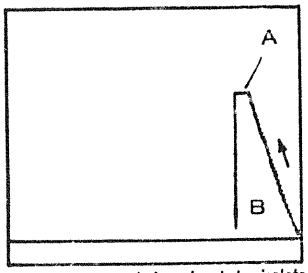
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



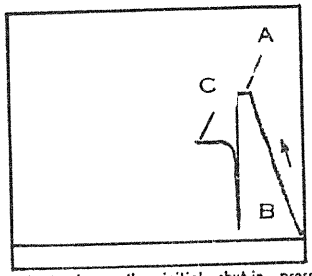
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



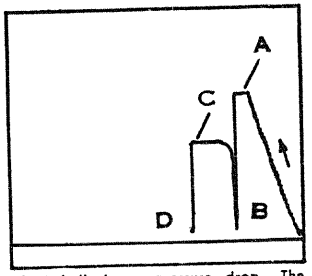
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



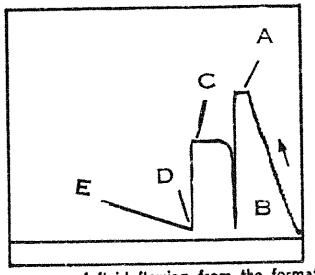
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



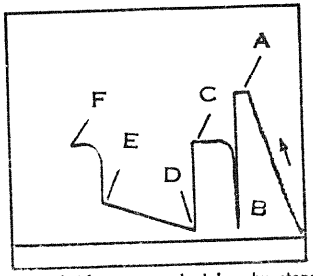
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



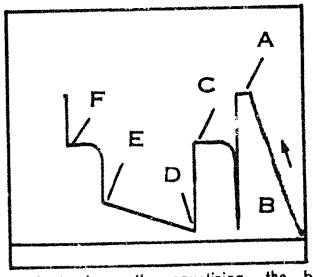
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



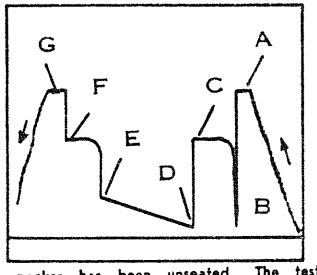
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

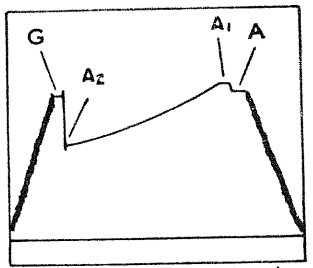
INDEX OF LABELED POINTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

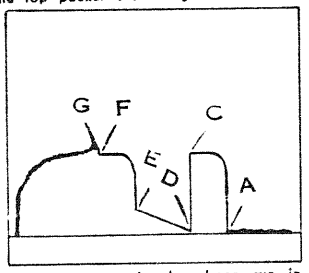
A-1, A-2, A-3, etc. Initial Hyd. Pressures.
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



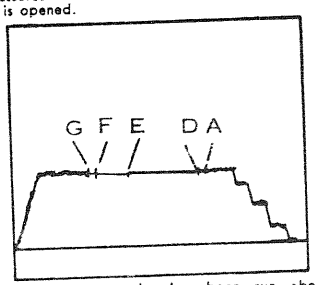
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.

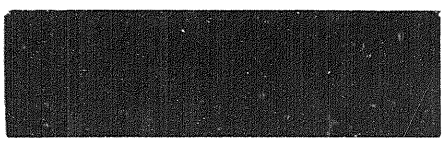
JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JOHNSTON TESTERS

TECHNICAL REPORT



JTL-CD-4

JOHNSTON TESTERS

TEST DATA

Formation: | Zone Thickness: Ft.

Interval: 11482 To 11527 T.D. 11527

Type of Test: Open Hole, Bottom Hole

Time Started in Hole: 0030 Hrs. | Tool Open: 0447 Hrs.

First Flow: 0 Min. | Shut In: 0 Min.

Second Flow: 0 Min. | Final Shut In: 0 Min.

Pulled Loose @: Hrs. | Out of Hole: 1130 Hrs.

Wt. Set on Packer: 50,000 # | Pulled Loose Wt.: #

Remarks:

Description of Blow During Test: Mis-Run, Seat Failure.

Elevation: 1642 GL

Bottom Hole Choke: 1/2"

Fluid Cushion Type: Water

Amount: 2527'

TOOL SEQUENCE

Tool	Length	O.D.
Sub.	.68	6"
P.O. Sub.	.84	4 3/4"
Sub.	.88	6"
Sub.	.92	6"
Shut in Tool	6.08	4 3/4"
Hyd. Tool	7.43	4 3/4"
Jars	7.10	
Safety Jt.	1.73	4 3/4"
T.C. & Pkr.	7.15	6 5/8"
T.C. & Pkr.	5.20	6 5/8"
Total	38.01	
Stub	1.10	4 3/4"
Recorder	6.00	4 3/4"
Recorder	6.00	4 3/4"
Perf.	33.00	4 3/4"
B.N.	.50	4 3/4"
Total Interval	46.60	
Total Length	84.61	

GAS BLOW MEASUREMENTS

Measured with: | I.D. Riser or Est.

Type of Instrument:

Time	Size Choke	Reading Inches	Cubic Feet Day

FLUID RECOVERY

Was Test Reverse Circulated: Yes ___ No X

Fluid Recovered Total: 4225' Ft.

Description of Fluid Recovered: 1698' Drilling Fluid.
2527' Water Cushion.

Remarks: Mis-Run, Seat Failure.

MUD AND HOLE DATA

Mud Type: Gel. | W.L. 5.6

Filter Cake: 2/32 | Vis. 95 | Wt. 9.4

Time Taken: June 25, 1965 @ 1800 hrs.

Contractor: Parker Drilling

Rig No. 1

Drill Pipe Size: 4 1/2 FH

Drill Collar Size: 2 7/8 ID | Length: 708'

Main Hole Size: 8 5/8"

Rat Hole Size: 6 1/8"

Co. Rep.: D. Bain

Tester: L. Navratil

District: Edmonton | Ticket No. C 4651 | Date: June 26/65

Company: Socony Mobil Oil of Canada, Ltd. | Address: P.O. Box 240, Dawson Creek, B. C.

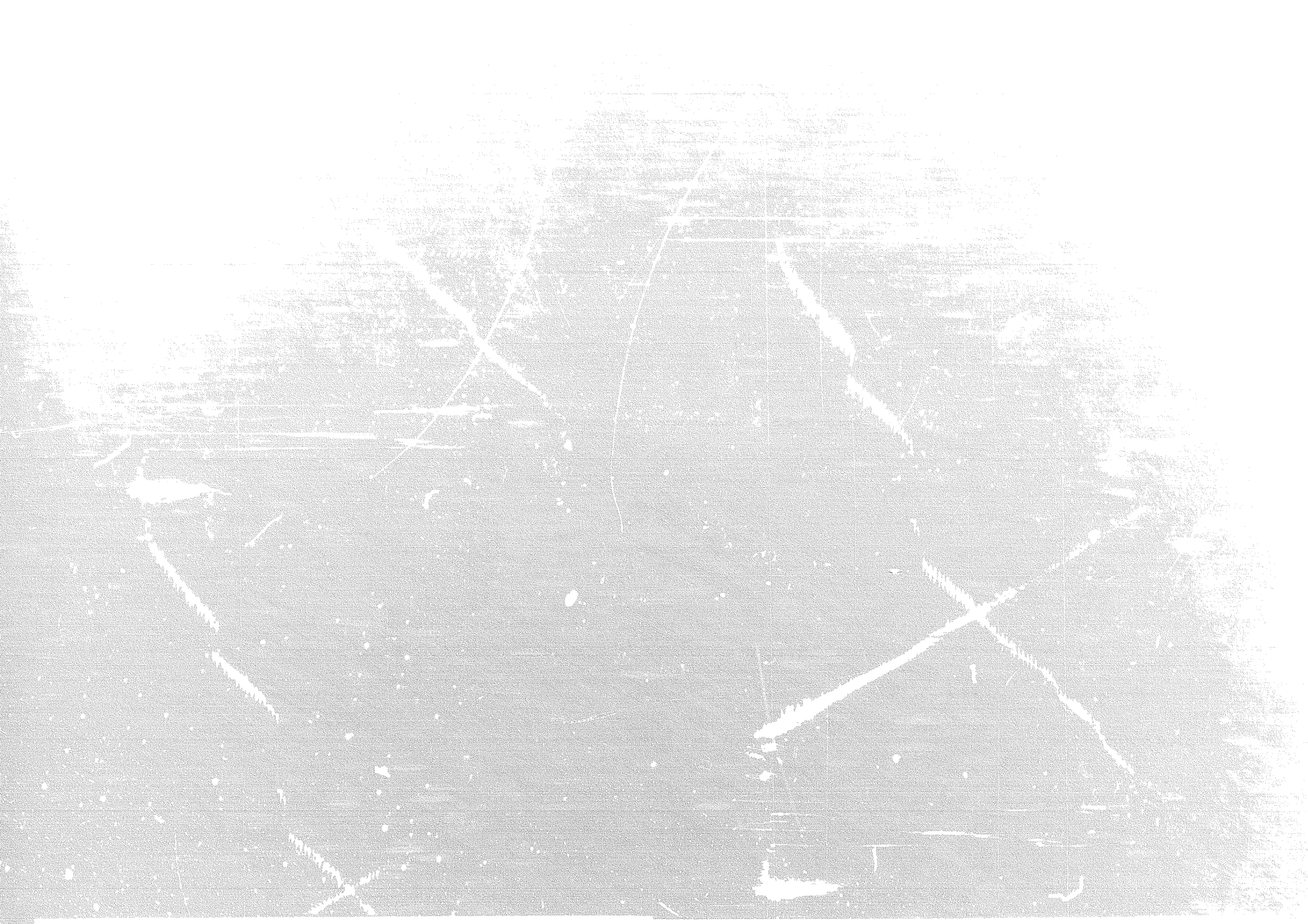
Well Name: Socony Mobil Western Min. S. | Test No. 6 | No. of Tests: 6

Number: Tuttie YT N-5 | Field: Wildcat | Prov. Yukon

Location: 66°-24'-51"N-136°-46'-23"W | Consultant:

DST#6 11482-11527

8 - Dawson Creek



JOHNSTON TESTERS

Pressure Data

C 4651

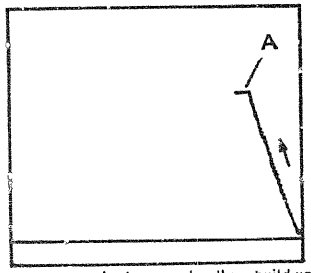
Recorder No.	T-52	T-13			
Capacity P.S.I.G.	7000	7000			
Recorder Depth	11483	11489			
Pressure Gradient P.S.I. Ft.					
Well Temperature °F	192°	192°			
A Initial Hydrostatic	5669#	5675#			
B First Initial Flow					
C Initial Shut-In Pres.	Mis-Run, Seat Failure.				
D Flowing Pres.					
E Final Flow					
F Final Shut In					
G Final Hydrostatic	5664#	5673#			

Remarks

T-52 - Outside Recorder
T-13 - Outside Recorder

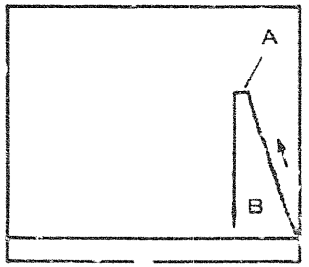
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



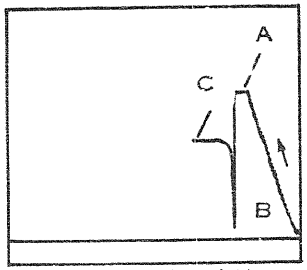
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



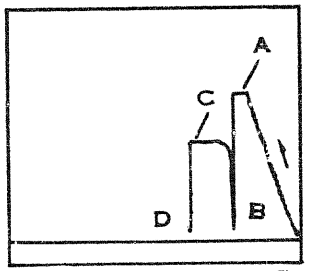
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



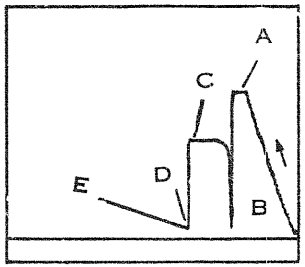
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



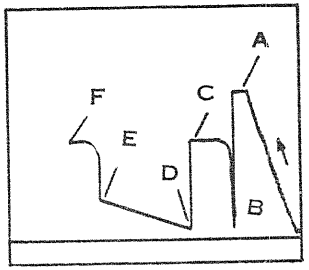
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



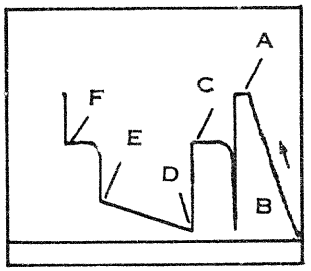
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



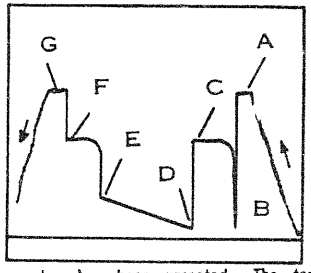
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

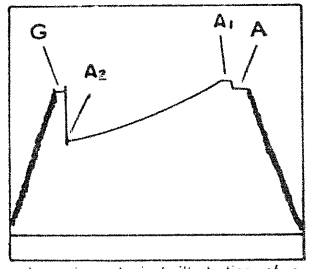
INDEX OF LABELED POINTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

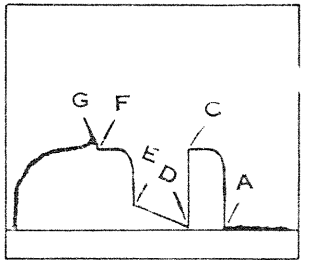
A-1, A-2, A-3, etc. Initial Hyd. Pressures.
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



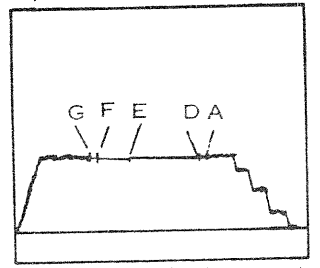
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.

JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JOHNSTON TESTERS

JTL.CD.4

TEST DATA

Zone Tested: Zone Thickness:

Interval	11460		11527	TD	11527
Type of Test	Open Hole, Bottom Hole				
Time Started Off Bottom	0045			Total Open	
Initial Flow	0	Min.	Initial Shut-in	0	Min.
Second Flow	0	Min.	Second Shut-in	0	Min.
Packer Set @			Final Shut-in	1230	Min.
Wt. Set on Packer	45,000		Packer Seat Wt.	70,000	

Remarks:

Describe Any Flow During Test: Mis-Run, Seat Failure.

GAS BLOW MEASUREMENTS

Measured at: ID Rate or Est.

Type of Instrument:

Time	Steel Choke	Reading Inches	Cubic Feet Day

FLUID RECOVERY

Was Test Reverse Circulated: Yes No X

Fluid Recovered: Total 4375'

Description of Fluid Recovered: 953' Drilling Fluid.
3422' Water Cushion.

Remarks: Mis-Run, Seat Failure.

Company Rep: D. Bain

Tester: L. Navratil

Elevation: 1642 GL

Hole Size: 1/2"

Fluid Type: Water

Fluid Level: 3422'

TOOL SEQUENCE

Item	Length	OD
Sub.	.68	6"
P.O. Sub.	.84	4 3/4"
Sub.	.88	6"
D.P. Sub.	.92	6"
Shut in Tool	6.08	4 3/4"
Hyd. Tool	7.43	4 3/4"
Sub.	1.60	6"
Jars	7.10	6"
Safety Jt.	1.73	4 3/4"
T.C. & Pkr.	6.30	6 5/8"
T.C. & Pkr.	5.74	6 5/8"
Total	39.30	
Stub	1.55	4 3/4"
Perf.	15.00	4 3/4"
Recorder	6.00	4 3/4"
Recorder	6.00	4 3/4"
Sub.	.82	6"
D.P.	31.53	4 1/2"
Sub.	.80	6"
Perf. & B.N.	5.50	4 3/4"
Total Interval	67.20	
Total Length	106.50	

MUD AND HOLE DATA

Mud Type: 5.8

Filter Cake: 2/32 Vis: 95 Wt: 9.5

Time Taken: June 26, 1965 @ 1400 hrs.

Contractor: Parker Drilling Rig No: 1

Drill Pipe Size:

Drill Collar Size: 2 7/8 ID Length: 708'

Main Hole Size: 8 5/8"

Bit Hole Size:

Date: Edmonton Ticket No: C 4652 June 27/65

Company: Socony Mobil Oil of Canada, Ltd. Address: P.O. Box 240, Dawson Creek, B. C.

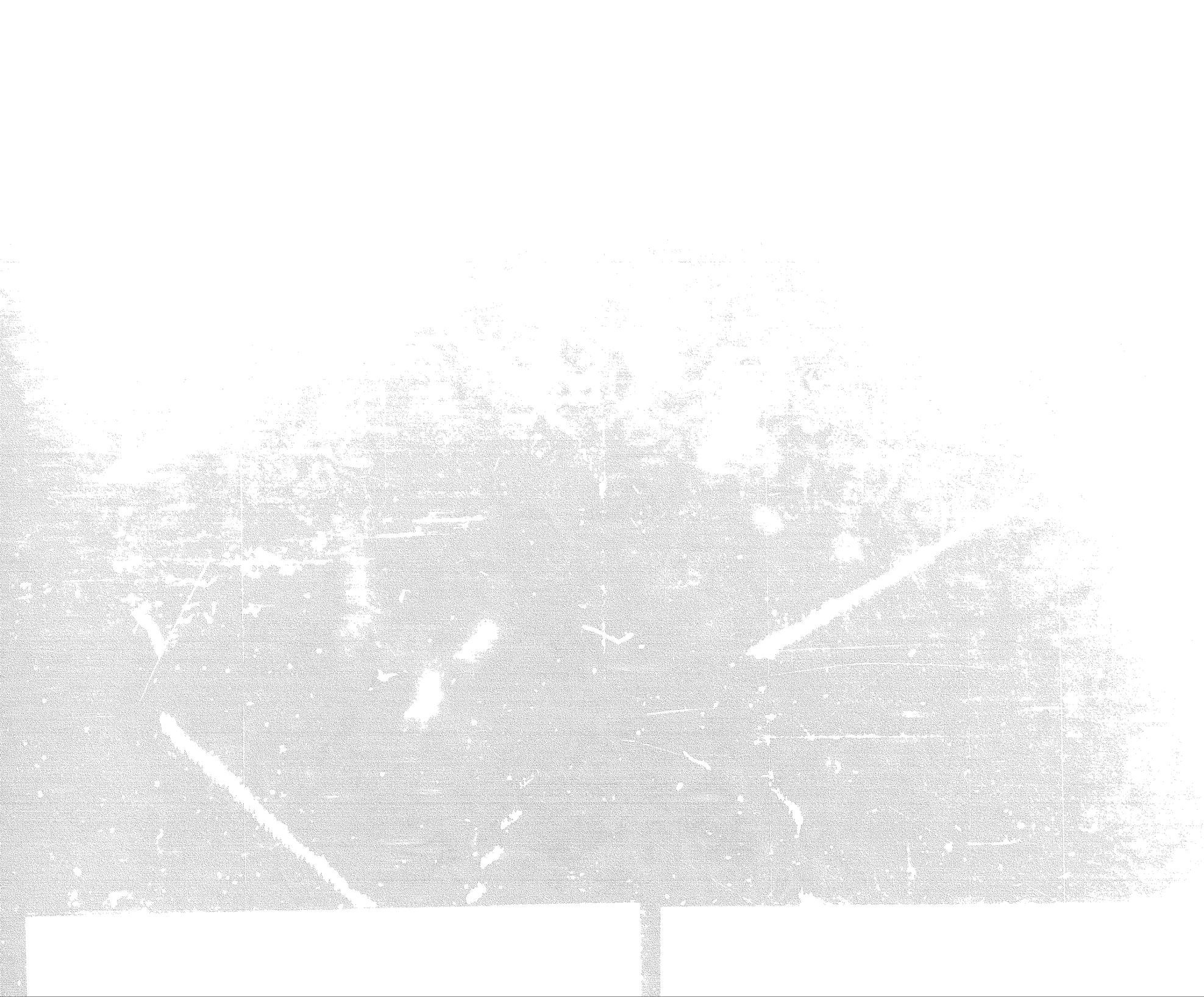
Contractor: Socony Mobil Western Min. S. Test No: 7 7

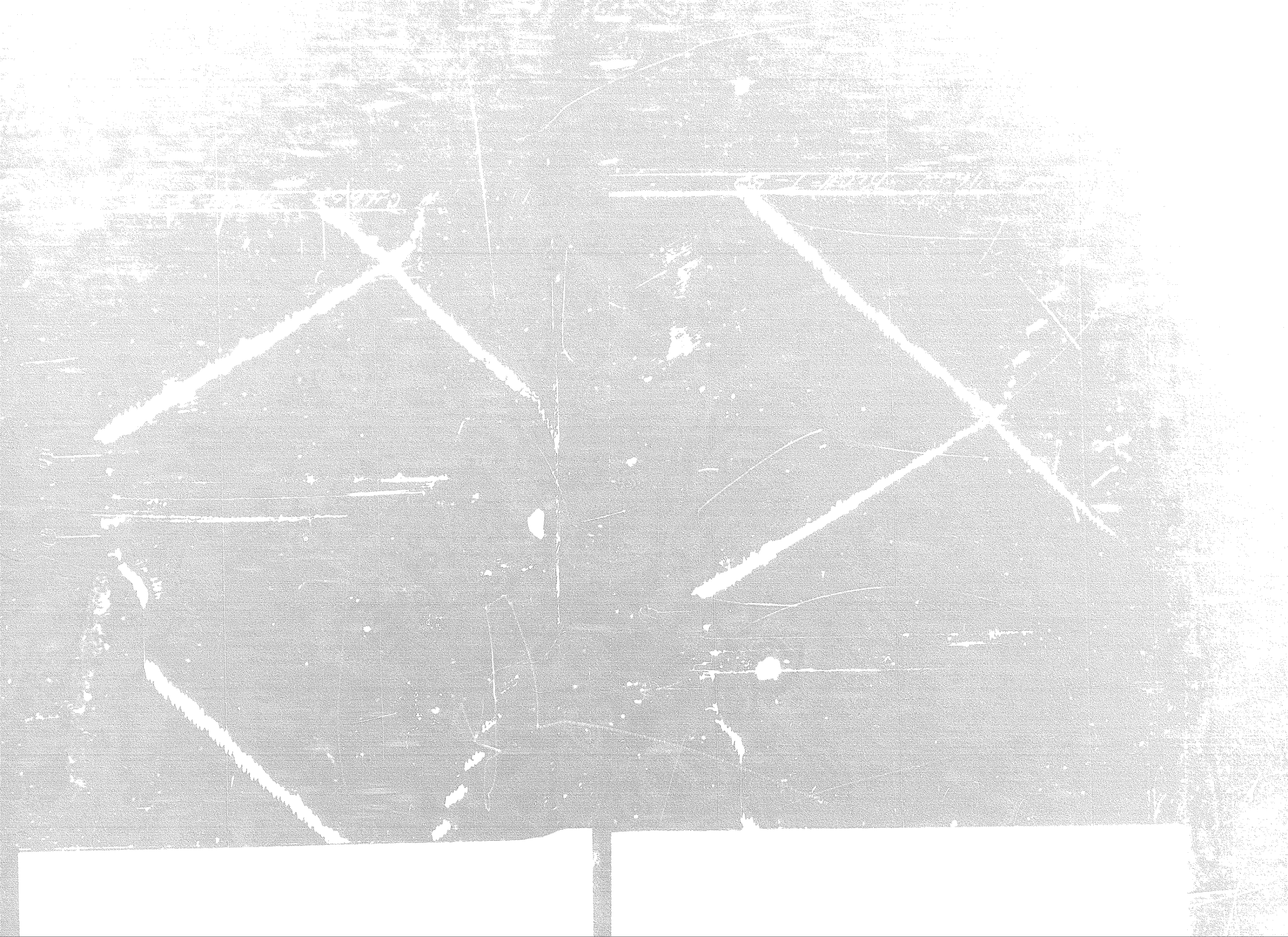
Name: Tuttle YT N-5 Field: Wildcat Yukon

Location: 66°-24'-51"N-136°-46'-23"W

Test Interval: DST#7 11460-11527

Drilling Contractor: 8 - Dawson Creek





JOHNSTON TESTERS

C 4652

Pressure Data

JTL CD5

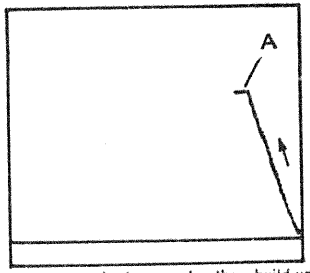
K	T-13	T-52
Gauge PSIG	7000	7000
Recorder Depth	11476	11482
Recorder Gauge PSIG		
Recorder Temp.	192°	192°
A Initial Hydrostatic	5635#	5637#
B Initial Flow		
C Initial Shut-in	Mis-Run,	Seat Failure.
D Flowing		
E Final Flow		
F Final Shut-in		
G Final Hydrostatic	5635#	5642#

Remarks:

T-13 - Outside Recorder
T-52 - Outside Recorder

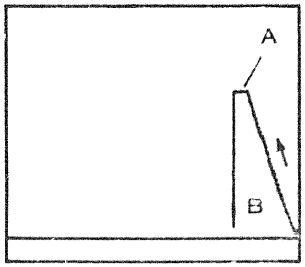
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



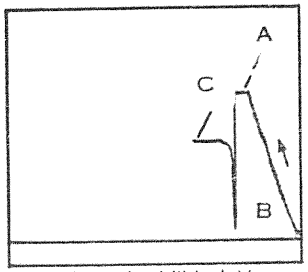
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



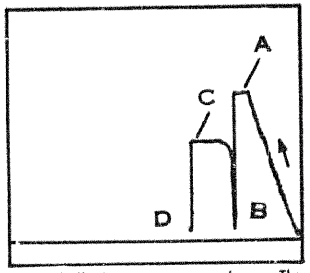
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



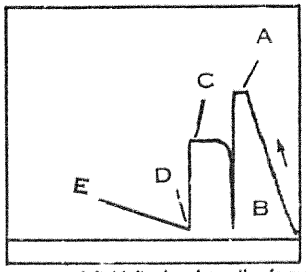
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



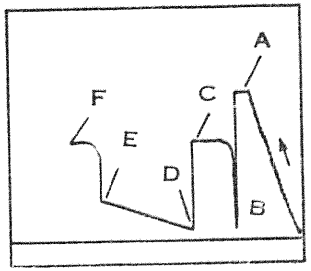
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



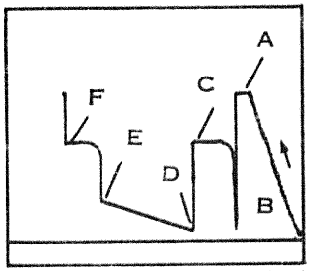
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



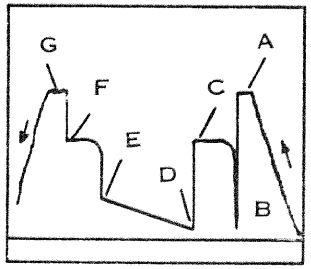
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

INDEX OF LABELED POINTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

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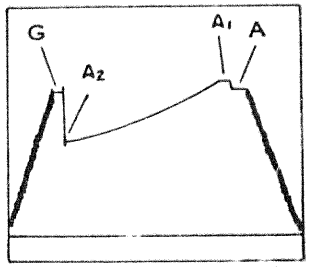
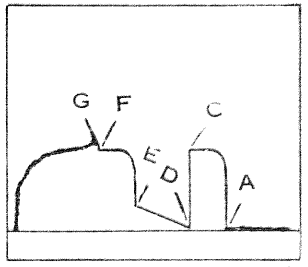
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



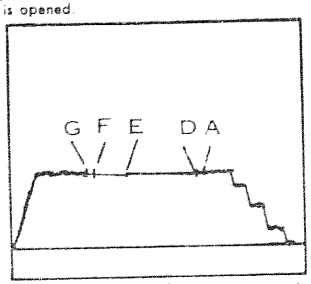
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.

JOHNSTON TESTERS

TECHNICAL REPORT

[redacted]

JOHNSTON TESTERS

JTL CD4

TEST DATA

11429	11527	11527
Open Hole, Bottom Hole		
1430		1821
5		30
30		60
2026		0130
45,000		40,000

Mud Dropped 2 Feet During Test Period.

Weak Puff, No Blow During Test.

GAS BLOW MEASUREMENTS

FLUID RECOVERY

X

3602'
180' Drilling Fluid.
3422' Water Cushion.

Test Satisfactory.

D. Bain
L. Navratil

1642 GL
1/2"
Water
3422'

TOOL SEQUENCE

Sub.	.68
P.O. Sub.	.84
Sub.	.88
D.P. Sub.	.92
Shut in Tool	6.08
Hyd. Tool	7.43
Sub.	1.60
Jars	7.10
Safety Jt.	1.73
T.C. & Pkr.	6.30
T.C. & Pkr.	5.74
Total	39.30
Stub	1.55
Perf.	15.00
Recorder	6.00
Recorder	6.00
Sub.	.85
D.C.	62.18
Sub.	1.05
Perf. & B.N.	5.50
Total Interval	98.13
Total Length	137.43

MUD AND HOLE DATA

5.8
2/32 95 9.5
June 26, 1965 @ 1400 hrs.
Parker Drilling
1
4 1/2 FH
2 7/8 ID 708'
7 5/8"

Edmonton
Socony Mobil Oil of Canada, Ltd.
Socony Mobil Western Min. S.
Tuttle YT N-5
66°-24'-51"N-136°-46'-23"W
DST#8 11429-11527
8 - Dawson Creek

C 4653
P.O. Box 240, Dawson Creek, B. C.
8
Wildcat

June 29/65
8
Yukon

A
B
C
D
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JOHNSTON TESTERS

Pressure Data

C 4653

JTL CD-5

Recorder No.	T-13	T 52			
Capacity P.S.I.G.	7000	7000			
Recorder Depth	11436	11442			
Pressure Gradient P.S.I. Ft.					
Well Temperature °F	192°	192°			
A Initial Hydrostatic	5628#	5628#			
B First Initial Flow					
C Initial Shut In Pres.					
D Flowing Pres.	1452#	1452#			
E Final Flow	1569#	1574#			
F Final Shut-In	3518#	3518#			
G Final Hydrostatic	5625#	5635#			

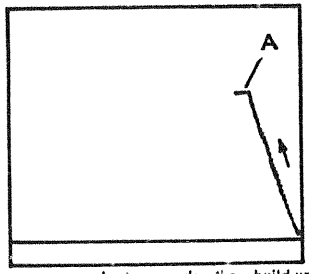
Remarks

T-13 - Outside Recorder

T 52 - Outside Recorder

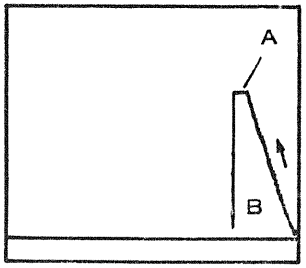
GUIDE TO INTERPRETATION AND IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS

1



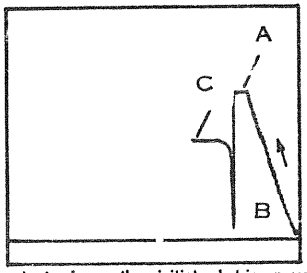
The pressure chart records the build-up in hydrostatic pressure as the testing assembly is lowered into the hole. Upon reaching the testing depth the hydrostatic head or pressure of mud column is recorded.

2



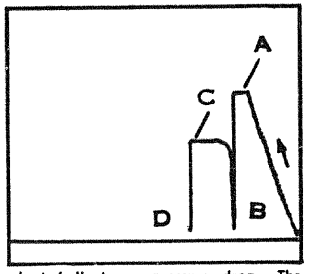
The packer is expanded and set to isolate the test zone. When the test valve is opened, a pressure drop is indicated on the pressure chart. This pressure drop is caused by removal of the hydrostatic mud pressure from the formation, allowing the formation to produce.

3



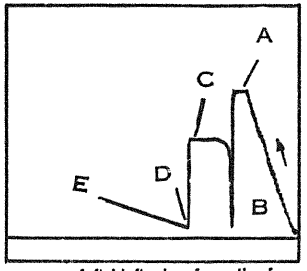
This chart shows the initial shut-in pressure. There is one mechanical method commonly used to obtain this pressure. A 4 stage shut-in tool, that is run-in in the open position and rotated closed when the desired amount of initial flow time is obtained. This initial shut-in pressure is the best method yet devised for recording the original undisturbed reservoir pressure of a formation.

4



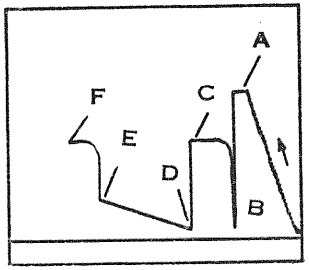
The chart indicates a pressure drop. The test tool has been opened to the surface by rotating the 4 stage shut-in tool into the open position. Permitting the open formation to produce.

5



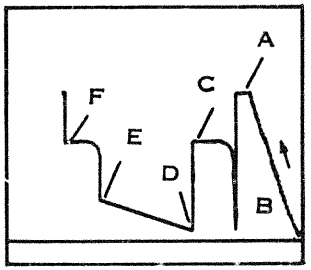
The pressure of fluid flowing from the formation into the well bore, through the perforated anchor, and into the drill pipe, is recorded on the chart.

6



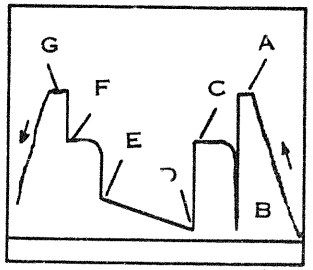
The final shut-in pressure is taken by stopping the flow of formation fluid into the drill pipe. Note the characteristic build-up curve. The well bore pressure is approaching equilibrium with the static reservoir pressure. When the shut-in curve levels-off the static reservoir pressure has been reached.

7



The chart shows the equalizing, the by-pass ports have been opened permitting the drilling fluid to flow through the packer to the test zone. Thus, pressure is equalized above and below the packer. The equalization of the pressure facilitates easier removal of the packer from the packer seat.

8



The packer has been unseated. The testing assembly is being removed from the hole.

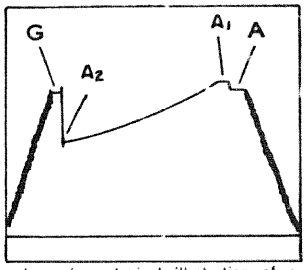
INDEX OF LABELED POINTS:

A—Initial Hyd. Mud
B—First Initial Flow
C—Initial Shut-in
D—Initial Flow
E—Final Flow
F—Final Shut-in
G—Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings, (testing different zones).

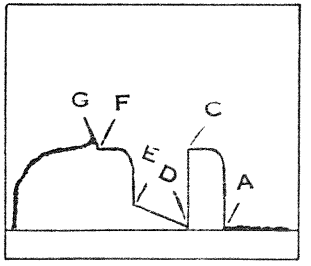
A-1, A-2, A-3, etc. Initial Hyd. Pressures.
B, B-1, B-2, B-3, First Initial Flow.
C-1, C-2, C-3, etc. The Initial Shut-in Pressures.
D-1, D-2, D-3, etc. Flowing Pressures.
E1, E-2, E-3, etc. The Final Flow Pressures or Final Shut-in Pressures.
F-1, F-2, F-3, etc. The Final Shut-in Pressures.
G-1, G-2, G-3, etc. Final Hyd. Mud Pressures.
Z — Special pressure points such as pumping pressure recorded for formation breakdown.

A



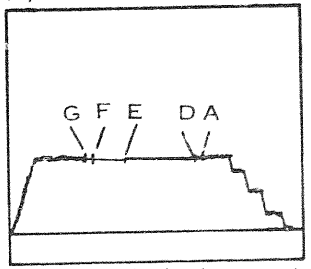
The above is a typical illustration of a chart from a recorder that is run below the bottom packer on a conventional straddle test. Only the hydrostatic mud pressures are recorded. When the tool is opened, there is a pressure differential across the bottom packer. This differential is lessened by the rubber flow of the packer element, which in turn causes a drawdown in pressure. If the below straddle chart reads the same as a chart that is run to record pressures of the test zone, then the bottom packer has failed. If this occurs, all zones below the top packer are being tested.

B



In this case a recorder has been run in an air chamber. The hydrostatic mud pressures are not influencing the recorder while going in or coming out of the hole due to the main tester valve being closed. The flow pressures and shut-in pressures are recorded while the main tester valve is opened.

C



In this case a recorder has been run above the main tester valve with a fluid cushion used in the drill pipe. No pressure is recorded as the testing tool is being lowered into the hole. Then the fluid cushion pressure is recorded as the drill pipe is filled with fluid. As more stands are run into the hole, the recorder registers the hydrostatic pressures of the cushion. When the main testing valve is opened the pressure of the cushion column or the flowing pressure of the formation, (which ever is greater), is recorded.