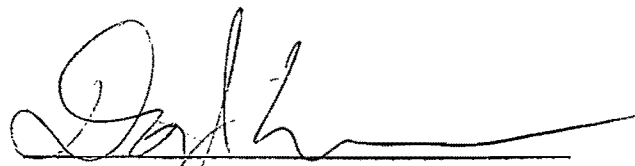


INC HUSKY AMOCO BLACK-FLY YT M-55

SUMMARY REPORT

PREPARED BY
INEXCO OIL COMPANY

April 29, 1970



D. W. Turner
Exploitation Geologist

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INC HUSKY AMOCO BLACK-FLY YT M-55
SUMMARY REPORT

SECTION I - WELL DATA

a) Well Name and Number:

INC Husky Amoco Black-Fly YT M-55

b) Permittee:

Chevron Standard Limited

c) Name of Operator:

Inexco Oil Company,
1000 Aquitaine Tower,
540 - 5th Avenue S.W.,
CALGARY 2, Alberta

d) Well Location:

Unit M Section 55 Grid 66° - 00'; 140° 15'
Latitude 65° 54' 55" N Longitude 140° 25' 55" W
Unique Well Identifier 300M556600140150
Universal Well Location Reference 65.91528N, 140.43194W

e) Drilling Data:

1. Permit Number - 1574
2. Contractor - Commonwealth Rig 22
3. Drilling Authority Number - 397 issued 6th January 1970.
4. Lahee Classification - Wildcat
5. Elevations: Ground - 2460'; K.B. - 2477'
6. Spudded - January 13, 1970
7. Completed Drilling - March 19, 1970
8. Abandoned - April 1, 1970
9. Rig Released - April 1, 1970

10. Total Depth - 6790'

11. Well Status - D & A

12. Hole Size Casing Size Depth

24"	20"	15' (Drilled with rathole digger)
17½"	13-3/8"	245'
12-1/4"	9-5/8"	1690'
8-3/4"		6790'

SECTION II - GEOLOGICAL SUMMARY

a) FORMATION TOPS

<u>FORMATION</u>	<u>LOG TOP</u>	<u>SAMPLE TOP</u>
Spud in Cretaceous		
Tahkandit	Behind Surface Casing.	1580' (+ 897)
Lower Limestone Unit	3388' (-1411)	3880' (-1403)
Mississippian-Devonian Shale	5840' (-3363)	5780' (-3303)

b) CORE SUMMARY

<u>CORE NUMBER</u>	<u>CORED INTERVAL</u>	<u>RECOVERY</u>	<u>FORMATION</u>	<u>CORING TIME (MIN. PER FOOT)</u>
1	3159 - 3173'	10.3'	Tahkandit	14
2	3787 - 3796'	4.5'	Tahkandit	22
3	4076 - 4081'	3.3'	Tahkandit Lower Ls Unit	60
4	4929 - 4931'	1.9'	Tahkandit Lower Ls Unit	83
5	5370 - 5395'	14.0'	Tahkandit Lower Ls Unit	15

SAMPLE DESCRIPTION

INC HUSKY AMOCO BLACK- FLY YT M-55

- 0 - 20 surficial deposits - gravel and sand, clasts up to 10 inches in diameter, consists of very fine grained sand (colour - cream), very calcareous, shale (dark grey) and minor red-buff siltstone, some grains have coating of lime (cement?), material appears to be frost-heaved, i.e., not glacial in origin.
- 20 - 40 No samples.
- 40 - 60 shale, dark grey, very calcareous, blocky; argillaceous limestone, micro-grained, dark grey, contains crinoids (?), minor sub-angular sandstone with poor intergranular porosity and siderite stains.
- 60 - 70 as above, calcite crystals.
- 70 - 80 shale, argillaceous, dark grey, very calcareous, blocky; minor argillaceous limestone, dark grey; trace sandstone, quartzitic, silica cement, no porosity, calcite stringers.
- 80 - 130 limestone, very argillaceous, micro-grained, trace pyrite, minor reddish brown siltstone and light grey sandstone - both non-calcareous and siderite stained; sandstone with poor intergranular porosity, calcite crystals.
- 130 - 150 calcareous shale, dark grey and argillaceous limestone, (micro-grained, dark grey), minor sandstone as above, subangular, limonite or siderite stained, poor intergranular porosity. Limestone is fossiliferous (ostracods? and brachiopod spines), trace pyrite.
- 150 - 190 as above, calcite stringers.
- 190 - 240 No samples.
- 240 - 250 shale, dark grey, calcareous, carbonaceous in places (not as calcareous as the uphole material), trace sandstone as above, trace pyrite and limonite, pyritic, sponge spicules.
- 250 - 260 No samples.
- 260 - 290 shale, as above, calcite stringers.

- 290 - 310 shale, as above, more carbonaceous, calcite stringers.
- 310 - 320 shale, as above, trace white chert.
- 320 - 340 shale, dark grey to black, carbonaceous, calcareous, disseminated pyrite, minor siderite or limonite, scattered calcite veinlets.
- 340 - 370 shale, medium to dark grey, calcareous, minor argillaceous limestone, disseminated pyrite, slightly silty, minor calcite veinlets, trace white chert.
- 370 - 380 shale, as above, slightly carbonaceous.
- 380 - 400 shale, as above, minute pyrite "spheres" and pyritic sponge spicules, slightly carbonaceous.
- 400 - 420 shale as 340-370 interval, slightly carbonaceous, no chert, slightly micaceous.
- 420 - 430 shale, as above, trace light grey (fine-grained) sandstone, angular to subangular grains, 5% mafic grains, calcite cement, sandstone has no porosity.
- 430 - 440 No samples.
- 440 - 490 shale, medium to dark grey, carbonaceous in places, calcareous, minor disseminated pyrite, trace white veinlets.
- 490 - 500 shale, medium grey, calcareous, about 5% white veinlets, trace clear quartz grains, slightly carbonaceous.
- 500 - 510 shale, as above, minor white and grey chert, scattered pyrite, carbonaceous, white calcite veinlets and calcite crystals.
- 510 - 520 shale, as above, trace limonite, minor quartz crystals.
- 520 - 560 shale, medium grey, calcareous, carbonaceous, minor white calcite veinlets, trace clear calcite crystals.

- 560 - 700 shale, medium grey, calcareous, carbonaceous, trace white calcite veinlets, trace clear calcite veinlets at 610-20, trace limonite at 640-50.
- 700 - 710 shale, medium to dark grey, calcareous, carbonaceous, about 10% white calcite, some showing slickensides, minor brown siltstone, non-calcareous, trace pyrite.
- 710 - 730 poor samples, mostly loss-of-circulation material; appears to be shale as above.
- 730 - 790 shale, medium to dark grey, carbonaceous and calcareous, about 10% white calcite, minor pyrite as blebs in shale and in calcite.
- 790 - 840 shale, medium grey, calcareous, carbonaceous, blocky, minor white calcite, limonite stain, scattered pyrite calcite and quartz crystals at 810-20, trace reddish siltstone at 830-40.
- 840 - 860 shale, medium to dark grey, calcareous, very carbonaceous, fissile, slickensided, minor white calcite, very fine grained, disseminated pyrite, clear quartz crystals at 850-60.
- 860 - 870 shale, dark grey, calcareous, slightly carbonaceous, minor white calcite, poor samples due to cavings, non-fissile, trace pyrite.
- 870 - 890 shale, dark grey, very calcareous, non-carbonaceous, minor white chert, calcite crystals, poor samples due to cavings, minor white calcite.
- 890 - 910 shale, dark grey, calcareous, slightly carbonaceous, minor white calcite, calcite crystals, minor pyrite.
- 910 - 940 shale, medium grey, calcareous, non-carbonaceous, minor pyrite, minor white calcite veinlets, trace reddish-brown siltstone, trace clear calcite crystals, trace quartz crystals.
- 940 - 990 shale, medium to dark grey, calcareous, very carbonaceous, fissile, trace pyrite, trace calcite crystals, minor white calcite veinlets, trace white chert at 950-60.

- 990 - 1000 shale, medium grey, calcareous, slightly carbonaceous, minor white calcite veinlets, trace pyrite, trace light brown siltstone.
- 1000 - 1050 shale, dark grey, calcareous, slightly carbonaceous, trace white calcite veinlets, minor pyrite, trace light brown siltstone and calcite crystals at 1020-30, calcite crystals at 1030-40.
- 1050 - 1080 shale, medium grey, calcareous, slightly carbonaceous, about 5% white calcite veinlets, trace white chert, trace quartz crystals, trace calcite crystals.
- 1080 - 1090 shale, medium grey, calcareous, non-carbonaceous, blocky, minor pyrite, trace quartz crystals, siliceous, trace limonite, trace white calcite veinlets.
- 1090 - 1110 shale, dark grey, calcareous, carbonaceous, slightly siliceous, trace quartz crystals, minor white calcite veinlets, pyrite blebs, calcite crystals at 1100-110.
- 1110 - 1140 shale, medium grey, calcareous, slightly carbonaceous, siliceous, trace calcite crystals, trace buff very fine-grained, quartzitic sandstone, minor pyrite, minor white calcite veinlets.
- 1140 - 1170 shale, medium grey, calcareous, slightly carbonaceous, minor fine-grained white quartzitic sandstone, trace pyrite, trace calcite crystals, slightly siliceous, trace quartz crystals, trace well-rounded pebbles (1 mm.) (orthoclase feldspar?), slightly siliceous, trace white calcite veinlets.
- 1170 - 1210 shale, medium grey, calcareous, carbonaceous, minor pyrite, trace white calcite veinlets, slightly siliceous.
- 1210 - 1230 shale, medium grey, calcareous, slightly carbonaceous, about 20% white calcite veinlets, trace pyrite, trace calcite crystals.
- 1230 - 1240 shale, medium to dark grey, very calcareous, non-carbonaceous, blocky, trace white quartzitic sandstone, fine-grained, sub-rounded, trace reddish siltstone, trace calcite crystals, pyrite blebs, trace white calcite veinlets.

- 1240 - 1300 shale, dark grey, very calcareous, non-carbonaceous, blocky, 20% calcareous, sub-angular, fine-grained, light to medium grey sandstone (10% mafic grains), trace red-brown siltstone, trace pyrite blebs, 1290-1300 - slightly carbonaceous.
- 1300 - 1310 shale, medium grey, calcareous, non-carbonaceous, trace reddish-brown siltstone, minor white calcite veinlets, trace calcite crystals, trace sandstone as above.
- 1310 - 1330 shale, medium to dark grey, very calcareous, non-carbonaceous, 10% sandstone as from 1240-1300, trace reddish-brown siltstone, trace white calcite veinlets, trace grey chert at 1310-20.
- 1330 - 1390 shale, as above, 25% sandstone, as above, trace quartz crystals, trace calcite crystals, minor pyrite, trace reddish-brown siltstone.
- 1390 - 1400 shale, medium grey, calcareous, non-carbonaceous, 10% sandstone as above, trace calcite crystals.
- 1400 - 1420 shale, medium grey, calcareous, non-carbonaceous, 25% very fine-grained, poorly sorted, sub-angular, 5% mafic grains, calcareous sandstone, 10% white calcite veinlets, trace pyrite, trace white chert.
- 1420 - 1450 shale, medium to dark grey, calcareous, slightly carbonaceous, trace sandstone, as above, trace pyrite, trace reddish-brown siltstone.
- 1450 - 1470 shale, dark grey, calcareous, non-carbonaceous, blocky, trace pyrite blebs.
- 1470 - 1480 shale, dark grey, calcareous, slightly carbonaceous, trace pyrite.
- 1480 - 1520 shale, dark grey, calcareous, non-carbonaceous, blocky, minor sandstone, siliceous, slightly calcareous, very fine-grained, 5% mafic grains, light grey, abundant coarse pyrite, trace white calcite veinlets at 1490-1500.
- 1520 - 1530 shale, dark grey, calcareous, siliceous, minor sandstone as above, abundant coarse pyrite.

- 1530 - 1550 chert, light to medium grey, secondary, replacing shale and minor sandstone, slightly calcareous, abundant pyrite, minor siliceous shale.
- 1550 - 1560 No samples.
- 1560 - 1580 shale, light to medium grey, siliceous, slightly calcareous, sandstone, calcareous, very fine-grained, sub-angular, abundant coarse pyrite, trace calcite crystals.
- 1580 - 1600 limestone, light grey, very fine crystals, crinoidal and other bioclastic debris, (algal?), matrix replaced by secondary silica (30-40% silica) minor coarse white calcite veins, trace hard siliceous shale, 1590-1600 - minor medium grey slightly calcareous quartzite, trace white chert, trace quartz crystals.
- 1600 - 1610 limestone, light grey, very fine to fine crystal, 20-40% secondary very fine crystal quartz, minor medium grey slightly calcareous quartzite, no porosity, trace pyrite.
- 1610 - 1630 limestone, siliceous as above, abundant white chert, trace calcite crystals, minor medium grey calcareous sandstone as above, trace pyrite.
- 1630 - 1660 quartzite, slightly calcareous, medium grey, limestone, light grey, siliceous, fine crystals, \pm 20% secondary quartz (appears that both the quartzite and limestone are derivatives of the same rock - a silty and/or sandy limestone that has undergone intensive silicification involving growth of fine quartz crystals. In the quartzite, this results in an interconnected network of laths of quartz with isolated calcite crystals and in the limestone as isolated grains (or crystals) of quartz in a crystalline calcite matrix), minor pyrite, abundant calcite crystals at 1650-60.
- 1660 - 1690 limestone, siliceous as above with white chert and shale, dark grey, siliceous, slightly or non-calcareous, bryozoa, minor pyrite, trace calcite crystals.
- 1690 - 1740 shale, dark grey, siliceous, calcareous, minor siliceous limestone as above, trace white chert, calcite crystals, pyrite, slightly carbonaceous, trace light brown sandstone at 1700-10.

- 1740 - 1760 shale, medium grey, siliceous, calcareous, trace limestone, siliceous as above, abundant calcite crystals, trace quartz crystals, trace white chert, shale, slightly carbonaceous, trace pyrite, about 40% limestone at 1750-60.
- 1760 - 1770 limestone, light grey, 10-20% silica as fine quartz crystals, and quartzite, slightly calcareous, medium grey, trace white calcite veinlets.
- 1770 - 1800 quartzite, calcareous, dark grey, 10-20% calcite, minor siliceous limestone as above, trace calcite crystals with slickensides, trace white chert, pyrite.
- 1800 - 1830 quartzite, medium to light grey, 10-15% calcite, vitreous, hard, minor light grey limestone, siliceous, shows slickensides, trace white calcite veinlets, trace pyrite.
- 1830 - 1860 shale, dark grey, siliceous, non-calcareous, trace coarse pyrite, trace light grey quartzite as above.
- 1860 - 1870 quartzite, medium grey, 20-30% calcite, vitreous and limestone, light grey, siliceous, calcispheres(?), trace carbonaceous coating with slickensides, trace light grey chert.
- 1870 - 1900 shale, dark grey, siliceous, non-calcareous, and limestone, medium grey, siliceous with white chert, trace organic debris, minor calcareous quartzite as above, trace pyrite.
- 1900 - 1960 quartzite, medium grey, calcareous (10% calcite) and limestone, light grey, siliceous as above (20% silica), trace calcite crystals, trace white chert at 1940-60, slickensides on limestone, trace fine pyrite.
- 1960 - 1980 limestone, light grey, 10-15% silica, minor quartzite, calcareous (20% calcite), medium grey, slickensides, minor white calcite veinlets.
- 1980 - 1990 shale, medium grey, siliceous, slightly calcareous, trace calcite crystals, trace pyrite, blocky.
- 1990 - 2000 shale, as above, abundant calcite crystals, minor white calcite veinlets, trace pyrite.

- 2000 - 2020 shale, medium to dark grey, siliceous, slightly non-calcareous, slightly carbonaceous, trace quartz crystals, trace pyrite, trace white chert.
- 2020 - 2030 quartzite, light to medium grey, 5-20% calcite, very fine crystals, vitreous, trace calcite crystals, trace white calcite veinlets.
- 2030 - 2040 quartzite, medium grey as above and light grey limestone, siliceous (10-15% crystal silica).
- 2040 - 2080 shale, medium to dark grey, siliceous, very slightly calcareous, trace pyrite, trace calcite crystals, minor siliceous limestone as above, abundant pyrite at 2070-80.
- 2080 - 2090 limestone, light grey, siliceous (10% silica) and shale, siliceous, slightly calcareous, pyrite, trace light grey chert, calcite crystals.
- 2090 - 2100 limestone, light grey, siliceous, (10% silica), contains poorly silicified fauna of crinoids and corals (?), fine crystals, minor white chert.
- 2100 - 2120 limestone, light grey, siliceous, (10-15% quartz), abundant white chert, trace calcite crystals.
- 2120 - 2130 limestone, light to medium grey, siliceous, (10% quartz), fine crystals, abundant white calcite, trace white chert, trace pyrite, trace dark grey, siliceous, non-calcareous shale.
- 2130 - 2180 shale, dark grey, siliceous, slightly-non-calcareous, abundant white calcite, trace white chert, trace pyrite, slightly carbonaceous, trace bioclastic limestone, highly pyritic and cherty, (ostracodes, bryozoa, brachiopods, crinoids), trace calcite crystals at 2160-70.
- 2180 - 2190 limestone, light to medium grey, slightly cherty, fine crystals, abundant fine pyrite replaced organic debris (10% rock) and shale, dark grey, siliceous, non-calcareous, slightly fissile.
- 2190 - 2350 shale, medium grey, slightly silty, fissile, siliceous, non-calcareous, minor quartzite, medium grey, very fine crystalline, slightly to non-calcareous, trace of pyritized organic debris in quartzite, trace white calcite, trace white chert at 2190-2230, trace slickensides 2240-60, abundant disseminated pyrite at 2280-90.

- 2350 - 2390 quartzite, medium grey, non-calcareous to very calcareous, (0-30% calcite) and limestone, light grey, fine crystalline, platy, slickensides, minor white calcite, trace calcite crystals, trace shale, medium to dark grey, slightly silty, siliceous, non-calcareous, trace pyrite.
- 2390 - 2440 shale, medium to dark grey, siliceous, slightly calcareous, fissile, silty in places, minor limestone, light grey, platy, siliceous, slickensides, trace medium grey quartzite, slightly calcareous, hard, splintery, trace white calcite, trace pyrite, slightly carbonaceous.
- 2440 - 2450 shale, medium grey, siliceous, slightly calcareous, minor quartzite, medium grey, slightly calcareous, hard, minor white calcite, trace pyrite.
- 2450 - 2460 limestone, light to medium grey, slightly to very siliceous, fine to medium crystalline, minor light grey chert, abundant white calcite, trace calcite crystals, pyrite.
- 2460 - 2510 shale, medium grey, siliceous, slightly calcareous, slightly carbonaceous, minor light grey to cream chert, trace pyrite, minor medium grey quartzite, trace light grey siliceous limestone, minor soft, non-calcareous, black, fissile shale.
- 2510 - 2540 shale, dark grey, siliceous, slightly calcareous, and shale, black, carbonaceous, soft, fissile, minor quartzite, medium grey, slightly calcareous, trace calcite, white calcite, calcite crystals.
- 2540 - 2550 shale, black, non-calcareous, non-siliceous, soft, fissile, minor quartzite as above, trace pyrite, trace white calcite.
- 2550 - 2570 limestone, light to medium grey, siliceous, fine crystalline, minor white calcite, trace white chert at 2560-70, trace pyrite.
- 2570 - 2580 limestone, as above, and quartzite, medium grey, slightly calcareous, hard, trace shale, black, non-calcareous, fissile.
- 2580 - 2600 limestone, light to medium grey, slightly siliceous, medium crystalline, light grey chert, minor white calcite, trace pyrite, minor black shale as above.
- 2600 - 2650 shale, dark grey, siliceous, calcareous, blocky, minor white calcite, trace light grey chert, minor pyrite.

- 2650 - 2660 shale, dark grey, slightly siliceous, calcareous, trace carbon in places, abundant dissiminated pyrite.
- 2660 - 2670 limestone, light grey to buff, micro very fine crystalline, platy, minor calcareous shale, dark grey, slightly siliceous, trace white calcite.
- 2670 - 2690 shale, dark grey to black, siliceous, slightly calcareous, minor pyrite, trace white calcite, slightly carbonaceous in places.
- 2690 - 2730 limestone, light grey, very fine crystalline, slightly siliceous, trace light grey chert and shale, dark grey as above, trace white calcite, minor pyrite.
- 2730 - 2740 limestone, light grey, fine to medium crystalline, slightly siliceous, minor light grey chert, crinoids, brachiopods (?), organic debris, trace pyrite, minor clear calcite, trace dark grey, siliceous slightly calcareous shale.
- 2740 - 2750 shale, dark grey, siliceous, slightly calcareous, blocky, and limestone as above, trace white chert, minor white calcite.
- 2750 - 2760 chert, medium to dark grey, slightly calcareous, trace shale as above, minor limestone, light grey, siliceous, minor pyrite, abundant white calcite.
- 2760 - 2770 limestone, light to medium grey, very fine to fine crystalline, slightly siliceous, abundant light to dark grey chert, abundant white calcite.
- 2770 - 2780 shale, dark grey, slightly calcareous, very siliceous, trace pyrite, minor white calcite.
- 2780 - 2800 limestone, light to medium grey as above, abundant small pods of dark grey chert, minor shale as above, trace light grey chert.
- 2800 - 2820 chert, light and dark grey, minor siliceous shale and limestone as above, minor pyrite, slightly carbonaceous at 2810-20.
- 2820 - 2830 limestone, light grey, abundant light and dark grey chert pods, (abundant 60% chert), shale, very siliceous, dark grey, slightly calcareous, minor pyrite.

- 2830 - 2870 limestone, light and medium grey to light brown, very fine to fine crystalline, slightly siliceous and cherty, and chert (micro-crystalline quartz), dark grey, calcareous, crinoidal, *Amphipora*, (?) trace light grey chert, trace pyrite, organic debris, trace carbonaceous shale and abundant light grey chert at 2850-60.
- 2870 - 2900 shale, dark grey, very siliceous, non or slightly calcareous, blocky, hard, trace light grey chert, trace light grey siliceous limestone, minor pyrite, trace white calcite.
- 2900 - 2950 shale, dark grey, siliceous, slightly carbonaceous, trace light grey chert, trace white calcite, trace pyrite, abundant light grey chert at 2930-40.
- 2950 - 2960 limestone, medium grey, siliceous, very fine crystalline, trace siliceous shale, dark grey, minor white calcite, trace pyrite, trace white chert.
- 2960 - 3000 shale, dark grey, very siliceous, non-calcareous, hard, blocky, trace pyrite, trace white calcite, slightly carbonaceous, trace calcite crystals at 2980-90, trace medium grey siliceous limestone at 2990-3000.
- 3000 - 3020 shale, medium to dark grey, siliceous, non-calcareous, trace light grey chert, slightly carbonaceous, minor white calcite, trace pyrite.
- 3020 - 3040 shale, dark grey, very siliceous, slightly calcareous, trace dark grey chert, trace pyrite, trace white calcite, minor light grey chert at 3030-40.
- 3040 - 3060 quartzite, medium grey, slightly calcareous, very fine to fine crystalline, minor light grey, siliceous limestone, minor light grey calcite, trace light grey chert, trace white calcite at 3050-60.
- 3060 - 3070 limestone, light to medium grey, fine to medium crystalline, slightly siliceous, light grey chert, trace white calcite, trace calcite crystals, trace pyrite, trace dark grey chert.
- 3070 - 3130 shale, dark grey, very siliceous, non-calcareous, trace light grey chert, calcite crystals, white calcite, pyrite, slightly carbonaceous at 3120-30.

- 3130 - 3150 shale, dark grey, siliceous, non to slightly calcareous, slightly carbonaceous, trace white calcite.
- 3150 - 3200 shale, dark grey, siliceous, slightly calcareous, hard, slightly carbonaceous, minor limestone at 3150-60, medium grey, siliceous, very fine crystalline, trace light grey chert, trace medium grey quartzite at 3150-70, slightly calcareous, minor white calcite, trace pyrite.
- 3200 - 3210 shale, dark grey, slightly calcareous, very siliceous, slightly carbonaceous, trace medium grey quartzite, calcareous, minor pyrite, trace white calcite.
- 3210 - 2370 shale, dark grey, siliceous, slightly calcareous, slightly carbonaceous, trace white calcite, minor pyrite, trace light grey chert, trace limestone at 3230-40, medium grey, siliceous, very fine to fine crystalline.
- 3270 - 3320 shale, dark grey to black, siliceous, calcareous, slightly carbonaceous, minor pyrite, abundant white calcite (30%) at 3270-80, trace quartz crystals at 3280-90, 3300-3310.
- 3320 - 3450 shale, medium to dark grey, siliceous, calcareous, trace pyrite, slightly carbonaceous, trace white calcite, trace light grey chert, trace quartzite, very calcareous, very fine to fine crystalline, medium grey, trace calcite crystals, abundant white calcite at 3370-8, trace limestone, light grey siliceous at 3380-3400, trace quartz crystals at 3400-10, abundant white calcite and trace limestone as above at 3710-20, trace calcite crystals, trace limestone at 3440-50.
- 3450 - 3740 shale, dark grey, calcareous, slightly siliceous, minor coarse pyrite, slightly carbonaceous, minor medium grey quartzite, calcareous, vitreous at 3750-70, trace white calcite at 3470-80, trace calcareous crystals and calcareous quartzite at 3490-3500, minor white calcite at 3500-10, trace calcite crystals at 3580-90, minor white calcite at 3610-20, trace calcite crystals and abundant white calcite at 3670-80, trace calcareous crystals at 3720-40.
- 3740 - 3750 shale, dark grey, non-calcareous, very siliceous, blocky, hard, minor streaky fine pyrite.

- 3750 - 3770 shale, medium to dark grey, slightly calcareous, siliceous, slightly carbonaceous, trace white calcite veinlets, trace calcareous crystals.
- 3770 - 3780 shale, dark grey, very calcareous, slightly siliceous (?), rather soft, slightly carbonaceous.
- 3780 - 3790 No samples - core.
- 3790 - 3830 shale, dark grey, very calcareous, non-siliceous, slightly carbonaceous, and chert, black, argillaceous, slightly calcareous, trace white and grey calcite, trace calcareous crystals.
- 3830 - 3870 shale, dark grey to black, calcareous, very siliceous, minor dark grey to black chert, trace pyrite, trace white calcite veinlets, slightly carbonaceous, trace medium grey chert at 3840-50.
- 3870 - 3880 limestone, light to medium grey, fine crystalline, trace light grey chert, calcite crystals and shale as above.
- 3880 - 3890 limestone, light to medium grey, fine to medium crystalline, trace light grey to black chert, trace calcite veinlets, and shale, very calcareous, non-siliceous, medium grey.
- 3890 - 3900 limestone, light to medium grey, very fine to fine crystalline, sucrosic texture, trace light grey chert, minor white calcite veinlets.
- 3900 - 3910 limestone, light grey, very fine to medium crystalline, partly sucrosic, minor white calcite.
- 3910 - 3990 limestone, light grey, medium crystalline, abundant light grey chert, (up to 30% of rock), slightly dolomitic, trace dark grey chert at 3950-60, trace pyrite at 3970-80, light grey chert (about 50% of rock) at 3980-90.
- 3990 - 4040 limestone, medium grey, siliceous, very fine to fine crystalline, minor light grey and dark grey chert, trace calcareous crystals, and white calcite, trace organic debris, minor light grey and milky quartz at 4000-4010, abundant light grey chert at 4020-30, trace non-calcareous dark grey shale at 4030-40.

- 4040 - 4050 limestone, light grey, medium crystalline, slightly dolomitic, minor limestone, medium grey, siliceous, trace white calcite.
- 4050 - 4080 limestone, medium grey, fine crystalline, siliceous, minor light grey chert nodules, trace white calcite, abundant light grey chert at 4070-80, trace crinoids at 4070-80.
- 4080 - 4090 limestone, light grey, medium crystalline, slightly dolomitic, trace crinoids, minor light grey to dark grey chert, minor limestone, light grey to buff, micro crystalline.
- 4090 - 4140 limestone, medium grey, fine crystalline, slightly siliceous, abundant light grey chert, trace white calcite, calcareous crystals, trace pyrite at 4100-4120, abundant white calcite and calcareous crystals at 4110-4140, trace light grey to white limestone, microcrystalline, slightly dolomitic, sucrosic texture.
- 4140 - 4150 dolomite, light grey to white, calcareous, very fine crystalline, abundant light grey and dark grey smoky chert, minor white calcite and calcareous crystals.
- 4150 - 4170 chert, dark grey (microcrystalline quartz), slightly calcareous, minor limestone, light grey to white, microcrystalline, minor white calcite, calcareous crystals, trace light grey chert at 4160-70.
- 4170 - 4180 limestone, light grey, fine to medium crystalline, slightly dolomitic, minor light grey chert, trace calcite crystals.
- 4180 - 4200 limestone, light to medium grey, fine to medium crystalline, slightly dolomitic in part, trace light grey chert, trace white dolomite, microcrystalline, sucrosic, at 4190-4200.
- 4200 - 4210 limestone, light grey, fine crystalline, very dolomitic (20% dolomite, rhombs .1-.2 mm. across), minor light grey to dark grey chert, trace calcareous crystals and white calcite.
- 4210 - 4220 limestone, medium grey, fine crystalline, slightly siliceous, minor light grey and dark grey (calcareous microcrystalline quartz), chert, trace white calcite.

- 4220 - 4250 limestone, medium grey, very fine to fine crystalline, slightly siliceous, slightly dolomitic (?), trace light grey chert, trace white calcite, trace dark grey (microcrystalline quartz), chert, abundant light grey chert at 4240-50.
- 4250 - 4260 limestone, light to medium grey, fine to medium crystalline, slightly siliceous, minor light grey chert, trace white calcite.
- 4260 - 4290 limestone, medium grey, very dolomitic (30-40% dolomite rhombs), fine to medium crystalline, very abundant light grey chert (50% of sample), trace white calcite, limestone is slightly dolomitic (4270-90).
- 4290 - 4310 limestone, medium grey, slightly siliceous, trace dolomite, minor light grey chert, trace white calcite, trace dark grey (microcrystalline quartz), chert and pyrite at 4300-4310.
- 4310 - 4350 limestone, medium grey, slightly to very siliceous, dolomite in part (?), very fine to fine crystalline, minor dark grey (microcrystalline quartz), and light grey chert, trace white calcite.
- 4350 - 4380 limestone, medium grey, very fine microcrystalline, slightly siliceous, dolomite (10-40% ~~and~~ rhedral dolomite rhombs), sucrosic, minor chert, light grey, trace organic debris, trace white calcite veinlets, trace calcareous crystals at 4360-70.
- 4380 - 4400 limestone and dolomite, irregularly interbedded, medium grey, micro to fine crystalline, appears to be finely brecciated and cemented, trace white calcite and calcite crystals.
- 4400 - 4460 dolomite, medium grey, micro to fine crystalline, calcareous, slightly argillaceous (?), trace light grey chert, trace white calcite.
- 4460 - 4480 dolomite, light grey, microcrystalline, appears brecciated and cemented, minor limestone, medium grey, dolomitic, argillaceous, trace light grey chert, trace white calcite, trace pyrite at 4470-80.
- 4480 - 4520 limestone, medium grey, micro to very fine crystalline, dolomitic, trace dolomite, calcareous, light grey, fine crystalline, trace light grey chert at 4500-10, trace white calcite at 4510-20.
- 4520 - 4530 dolomite, medium grey, micro to very fine crystalline, calcareous, and limestone, as above, trace white calcite.

- 4530 - 4560 limestone, medium grey, micro to very fine crystalline, argillaceous, dolomitic, brecciated and recemented, minor white calcite veinlets, trace light grey chert.
- 4560 - 4570 limestone, light to medium grey, microcrystalline, dolomitic, argillaceous, minor white calcite.
- 4570 - 4600 limestone, light grey, very fine to fine crystalline, very dolomitic, slightly siliceous (10-30% dolomite rhombs), trace light grey chert, slightly argillaceous in places, trace white calcite.
- 4600 - 4610 dolomite, light to medium grey, micro to very fine crystalline, calcareous, in part argillaceous, minor white calcite veinlets.
- 4610 - 4620 dolomite, light grey and white, fine to medium crystalline, slightly calcareous, white dolomite, generally medium to coarse crystalline, possibly minor intercrystalline porosity.
- 4620 - 4640 dolomite, medium grey, microcrystalline to very fine, argillaceous, trace pyrite crystals, abundant white dolomite veinlets (calcareous), medium to grey dolomite has distinct lineation (fissile?).
- 4640 - 4670 dolomite, medium to dark grey, micro to very fine crystalline, argillaceous, minor white dolomite veinlets, minor white calcite, minor coarse pyrite at 4650-70, trace fibrous calcite at 4660-70.
- 4670 - 4690 dolomite, medium grey, micro to very fine crystalline, slightly calcareous, trace pyrite, trace light grey chert, minor white calcite and dolomite veinlets, trace milky quartz at 4680-90.
- 4690 - 4750 limestone, light to medium grey (bluish), medium crystalline, semi-translucent, and dolomite, as above, abundant white dolomitic-calcite veins (irregular dolomite floating in calcareous crystalline calcite matrix, trace light grey chert, trace pyrite at 4710-30, abundant light grey chert at 4740-50.
- 4750 - 4770 limestone, light to medium grey, fine to medium crystalline, slightly dolomitic, and dolomite, light to medium grey, micro to very fine crystalline, in part argillaceous, minor white calcite and dolomite veinlets, trace light grey chert.

- 4770 - 4900 dolomite, medium to dark grey, micro to very fine crystalline, distinct lineation (fissile), argillaceous, slightly calcareous, slightly carbonaceous, trace white calcite, dolomite veinlets, trace calcareous crystals, trace light grey chert at 4780-4800, trace pyrite at 4790-4800 and at 4810-20, 4830-50, 4870-80, and 4890-4900.
- 4900 - 4920 dolomite, medium grey, microcrystalline, non-calcareous or slightly calcareous, siliceous, argillaceous, trace light grey chert, and limestone, light to medium grey, micro to very fine crystalline, dolomitic, very siliceous, trace pyrite, trace white calcite and dolomite veinlets.
- 4920 - 4930 No samples.
- 4930 - 5010 limestone, light to medium grey, very fine crystalline, dolomite(?), very siliceous, (light and dark grey siliceous nodules - probably siliceous pellets), trace light grey and buff chert, and dolomite, dark grey, micro to very fine crystalline, slightly calcareous, siliceous, trace calcite crystals, trace white calcareous, dolomitic veinlets.
- 5010 - 5050 dolomite, dark grey, microcrystalline, siliceous, argillaceous, non-calcareous, slightly carbonaceous, minor pyrite, trace white calcareous, dolomitic veinlets, hard, trace light grey chert at 5020-30, minor limestone, medium grey, microcrystalline, siliceous, slightly dolomitic, softer than dolomite.
- 5050 - 5060 dolomite, medium to dark grey, microcrystalline, siliceous, argillaceous, slightly carbonaceous, white calcite veinlets, trace pyrite, limestone, medium grey, micro to very fine crystalline, siliceous, dolomitic.
- 5060 - 5070 same as above.
- 5070 - 5080 same as above, trace light brown to grey chert, trace limestone, light grey, sandy (siliceous?), very fine to fine quartz and chert grains, subangular.
- 5080 - 5090 same as above.

- 5090 - 5100 dolomite, medium to dark grey, microcrystalline, argillaceous, siliceous, slightly carbonaceous, white calcite veinlets, trace disseminated pyrite, minor limestone, medium grey, micro to very fine crystalline, siliceous, dolomitic, trace calcite crystals.
- 5100 - 5120 shale, dark grey, dolomitic, siliceous, minor dolomite, medium to dark grey, argillaceous, siliceous, slightly carbonaceous, white calcite and dolomitic veinlets, trace pyrite.
- 5110 - 5120 same as above, more dolomite, trace limestone, medium grey, micro to very fine crystalline, siliceous, dolomitic.
- 5120 - 5130 limestone, light to medium grey, micro to very fine crystalline, siliceous, (sandy?), white calcite veinlets, trace pyrite, trace light grey to brown chert.
- 5130 - 5140 limestone, light to medium grey, micro to very fine crystalline, siliceous, (sandy?), white calcite veinlets, trace light brown chert, minor dolomite, medium to dark grey, microcrystalline, argillaceous, siliceous, slightly calcareous, shale, dark grey, dolomitic, siliceous.
- 5140 - 5150 same as above, trace white chert.
- 5150 - 5160 limestone, light to medium grey, micro to very fine crystalline, siliceous, (sandy?), slightly argillaceous, dolomite, medium to dark grey, microcrystalline, siliceous, argillaceous, white calcite, dolomite veins filling, abundant white chert.
- 5160 - 5170 same as above, trace white chert.
- 5170 - 5180 limestone, light to medium grey, micro to very fine crystalline, siliceous, (sandy?), slightly dolomitic, slightly argillaceous, white calcite veinlets, calcite crystals, minor dolomite, medium to dark grey, microcrystalline, siliceous, calcareous, argillaceous, trace white chert.
- 5180 - 5190 same as above.

- 5190 - 5200 limestone, light to medium grey, micro to very fine crystalline, very siliceous, sandy(?), with micro to fine subangular quartz and chert grains, very slightly argillaceous, trace disseminated pyrite, white calcite veinlets, minor shale, dark grey, blocky, very siliceous, calcareous, silty (?), slightly carbonaceous, minor dolomite, medium to dark grey, microcrystalline, very siliceous, trace white chert.
- 5200 - 5210 same as above.
- 5210 - 5220 same as above.
- 5220 - 5230 same as above, more shale as above.
- 5230 - 5240 same as above, trace limestone, light grey to brown, siliceous including coarse to very coarse, well rounded chert grains, pyrite coated.
- 5240 - 5250 dolomite, medium to dark grey, microcrystalline, very siliceous, slightly argillaceous, calcareous, limestone, light to medium grey, microcrystalline, very siliceous, sandy (?), trace pyrite, white calcite veinlets, trace white and light brown chert, minor shale as above.
- 5250 - 5260 same as above, more chert fragments.
- 5260 - 5280 same as above.
- 5280 - 5290 same as above, more shale as above.
- 5290 - 5300 limestone, light to medium grey, microcrystalline, very siliceous, (sandy?), dolomite, medium to dark grey, microcrystalline, very siliceous, slightly argillaceous, calcareous, trace pyrite, white calcite veinlets, white and light brown chert, minor shale as above.
- 5300 - 5310 dolomite, medium to dark grey, microcrystalline, very siliceous, slightly argillaceous, slightly calcareous, shale, dark grey, very siliceous, calcareous, blocky, slightly carbonaceous, white calcite and dolomite veinlets, white, light grey chert fragments, minor limestone, medium grey, microcrystalline, very siliceous, occasionally slightly argillaceous.

- 5310 - 5320 same as above, minor limestone as above.
- 5320 - 5330 same as above.
- 5330 - 5340 same as above, trace limestone, light brown to grey, crypto to microcrystalline.
- 5340 - 5350 same as above.
- 5350 - 5370 same as above.
Core #5 - 1; 5370 - 5395.
- 5390 - 5400 limestone, medium grey, microcrystalline, siliceous, slightly argillaceous, dolomitic, traces of crinoids, shale, dark grey to black, siliceous, slightly calcareous, dolomitic, carbonaceous, blocky, dolomite, medium to dark grey, microcrystalline, siliceous, argillaceous, slightly calcareous, white calcite veinlets, white and light brown to grey chert (fractures infilling), traces disseminated pyrite.
- 5400 - 5410 shale, dark grey to black, siliceous, slightly calcareous or dolomitic (?), carbonaceous, blocky, minor dolomite and limestone as above, white calcite veinlets, white and light brown to grey chert.
- 5410 - 5430 limestone, grey to medium grey, microcrystalline, siliceous, locally dolomitic and very argillaceous with interbedded shale as above, locally very calcareous and/or dolomitic and siliceous, some secondary calcite veining and traces light greyish white translucent angular chert fragments and rare disseminated pyrite.
- 5430 - 5440 as above with increase in shale, trace dolomite as 5390 and trace limestone, grey, microcrystalline, locally very slightly argillaceous, medium hard to soft, silty to very fine subangular sandy (quartz?).
- 5440 - 5460 shale with some interbedded limestone as above, trace dolomite 5390, abundant secondary white calcite veining, trace chert and rare pyrite as 5410.
- 5460 - 5470 shale, grey to medium dark grey, calcareous, rarely siliceous (locally silty?), medium soft with minor limestone as 5340 and dolomite as 5390, some white calcite.

- 5470 - 5500 shale as 5400 with minor limestone and dolomite as above, some white calcite and calcite veining.
- 5500 - 5510 shale as above with increase in limestone as 5340, minor dolomite, abundant white calcite, rare disseminated pyrite.
- 5510 - 5520 limestone as 5410 with interbedded shale as above, minor dolomite, some white calcite veining, trace white translucent chert fragments, rare pyrite.
- 5520 - 5560 shale as above with some interbedded limestone and minor dolomite as above, some calcite and very light brown to white chert fragments.
- 5560 - 5650 limestone as 5410 with abundant shale and minor dolomite as above, some secondary white calcite and rare chert fragments as above.
- 5650 - 5670 limestone, light to medium grey, micro to very fine crystalline, siliceous to very siliceous, dolomitic, slightly argillaceous, dolomite, medium to dark grey, microcrystalline, siliceous, slightly calcareous to calcareous, argillaceous, minor shale, dark grey, blocky, siliceous, slightly calcareous and/or dolomitic, carbonaceous, trace white light grey chert, trace white calcite veining.
- 5670 - 5680 dolomite as above, shale as above, minor limestone as above.
- 5680 - 5690 limestone, light to medium grey, microcrystalline, siliceous to very siliceous, dolomitic, slightly argillaceous, white calcite veinlets, shale, dark grey to black, blocky, siliceous, slightly calcareous or dolomitic, carbonaceous, minor dolomite as above, trace white and light brown to grey chert.
- 5690 - 5700 shale, dark grey to black, blocky, siliceous, slightly dolomitic, silty, carbonaceous.
- 5700 - 5710 limestone, medium grey, microcrystalline, siliceous, dolomitic, slightly argillaceous, trace white calcite veinlets, shale as above.

- 5710 - 5720 shale as above, dolomite, dark grey, microcrystalline, siliceous, argillaceous, slightly calcareous to calcareous, minor limestone as above, trace chert.
- 5720 - 5730 shale as above, limestone as above, minor dolomite as above.
- 5730 - 5740 limestone, medium grey, micro to very fine crystalline, siliceous, slightly argillaceous, slightly dolomitic, white calcite veinlets, trace white and light brown to grey chert, minor shale as above, trace dolomite as above.
- 5740 - 5780 same as above, more shale as above.
- 5780 - 5790 shale, dark grey to black, blocky, siliceous, silty, dolomitic or slightly calcareous, carbonaceous, minor dolomite as above, trace limestone as above, trace pyrite.
- 5790 - 5800 same as above, more dolomite as above, trace chert.
- 5800 - 5810 shale, dark grey, slightly siliceous, silty, slightly calcareous and/or dolomitic, blocky, carbonaceous.
- 5810 - 5830 same as above with trace of limestone as above.
- 5830 - 5840 shale, dark grey to black, slightly siliceous, silty, slightly calcareous and/or dolomitic, blocky, carbonaceous, minor dolomite, medium to dark grey, microcrystalline, argillaceous, siliceous, slightly calcareous, slightly carbonaceous, minor limestone, light grey, micro to very fine crystalline, siliceous, dolomitic, slightly argillaceous, trace chert, white calcite veinlets.
- 5840 - 5920 shale, medium to dark grey, very slightly siliceous, slightly carbonaceous, slightly calcareous and/or dolomitic, blocky, silty, trace disseminated pyrite.
- 5920 - 5940 shale, medium to dark grey, silty to very silty, very slightly siliceous, dolomitic and/or slightly calcareous, blocky, trace pyrite.
- 5940 - 5950 same as above, trace white calcite veining, trace disseminated pyrite crystals.

- 5950 - 5960 shale as above, dark grey to black, very abundant white calcite and white to light grey chert (probably fractures infilling), (together - 30%).
- 5960 - 5970 shale, dark grey to black, blocky, silty, dolomitic and/or very slightly calcareous, very slightly siliceous, trace white calcite and chert.
- 5970 - 5990 same as above, trace pyrite.
- 5990 - 6000 same as above, ~~some~~ white calcite and chert.
- 6000 - 6010 shale, black, blocky, silty, slightly calcareous (locally very calcareous), very slightly siliceous, carbonaceous, trace white calcite and chert, trace pyrite.
- 6010 - 6030 shale as above, slightly calcareous, more carbonaceous.
- 6030 - 6040 shale, dark grey, slightly calcareous and silty, locally slightly carbonaceous, rare disseminated pyrite with trace limestone, grey, microcrystalline, dolomitic?, very slightly argillaceous, tight to rare trace poor pin-point to very small irregular porosity, negative cut, stain, very very little trace white calcite and rare chert fragments, trace uphole cavings.
- 6040 - 6060 shale, grey to black as above with interbedded limestone as above, tight, calcite, chert, etc. as above, a little uphole cavings?.
- 6060 - 6100 shale, dark grey, blocky, very slightly calcareous (dolomitic?), silty, slightly carbonaceous, trace disseminated pyrite, trace white calcite, white to light grey chert.
- 6100 - 6130 shale, dark grey to black, blocky, silty, very slightly to siliceous, very slightly calcareous (dolomitic?), slightly carbonaceous, white calcite veinlets, trace white to light grey chert, trace crystals of calcite, minor dolomite (?), dark grey, microcrystalline, very siliceous, calcareous, slightly argillaceous.
- 6130 - 6190 same as above with trace of dolomite (?) as above.

- 6190 - 6220 shale, dark grey to black, blocky, carbonaceous to very carbonaceous, very slightly calcareous and/or dolomitic, silty, trace white calcite, trace white to light grey chert, trace dolomite (?) as above.
- 6220 - 6250 shale, dark grey to black, carbonaceous, slightly silty and locally calcareous and/or dolomitic, rare limestone, light grey, microcrystalline, locally dolomitic and slightly argillaceous, trace dolomite as 6100; trace white calcite and white to light grey coarse angular chert fragments, rare dissiminated pyrite.
- 6250 - 6260 shale, etc. as above with abundant very coarse uphole cavings, sample has slight increase in dolomite, chert and calcite as above.
- 6260 - 6270 shale, etc. as above with some limestone, light grey, microcrystalline, locally slightly argillaceous, dolomitic and siliceous, hard, very rare crinoid (single hole) with increase in dolomite as 6100 (very argillaceous).
- 6270 - 6280 shale, etc. as above with very rare trace sandstone, light brown, very fine to fine subangular quartz grains, locally silty and argillaceous, rare brown siltstone (possible cavings?).
- 6280 - 6290 shale as above with minor limestone as 6260 and dolomite 6100; rare siltstone and very rare sandstone as above, some white calcite and trace light grey chert fragments and dissiminated pyrite.
- 6290 - 6300 shale as above, minor limestone and an increase in grey black, very argillaceous dolomite? as 6100; trace white calcite and some white to light grey translucent chert fragments.
- 6300 - 6320 shale as above with traces dolomite and limestone, calcite and chert as above.
- 6320 - 6330 shale, etc. as above with slight increase in limestone as above. (Comment: rocks considered dolomitic and/or dolomite, are based primarily on their reactions to HCL and therefore are considered questionable descriptions.)
- 6330 - 6370 shale as above with traces limestone, dolomite, calcite and chert as above, rare dissiminated pyrite with occasional trace sandstone, brown to grey, very fine to silty to argillaceous and locally calcareous, grey, tight - 6340, 6350, 6370.

- 6370 - 6420 shale as above with occasional traces dolomite and limestone as above and trace white calcite and rare traces chert fragments as above.
- 6420 - 6430 shale, etc. as above with a very rare trace sandstone as 6330.
- 6430 - 6480 shale, etc. as 6370.
- 6480 - 6500 shale, dark grey to black, calcareous and/or dolomitic (?), locally silty, very rarely siliceous, locally carbonaceous with occasional traces limestone as 6260 and dolomite as 6100; rare light grey chert fragments and trace white calcite, rare pyrite.
- 6500 - 6520 shale, etc. as above with slight increase in very argillaceous dark grey to black dolomite (?) to a dolomitic and/or calcareous blocky shale as above.
- 6520 - 6540 shale, etc. as 6480.
- 6540 - 6560 shale, etc. as 6500.
- 6560 - 6590 shale as 6480 with traces limestone and dolomite as 6480, trace white calcite and very rare light grey chert fragments.
- 6590 - 6600 shale, etc. as above with trace limestone, light grey to grey, microcrystalline, rarely slightly argillaceous, silty to very fine sandy to siliceous (secondary), dolomitic, hard, trace disseminated pyrite with increase in dolomite and dolomitic shale as 6500.
- 6600 - 6610 shale as 6480, very dolomitic and locally siliceous, hard with limestone as 6490 and dolomite as 6100; trace white calcite, light grey chert and disseminated pyrite.
- 6610 - 6630 shale as 6480 and dolomite, grey black, microcrystalline, argillaceous, siliceous, locally limey, blocky, hard, with trace limestone as 6590, trace white calcite, very rare light grey chert, very rare trace brown to reddish brown very fine sandy siltstone and silty sandstone.
- 6630 - 6650 shale as 6480 with minor dolomite as above and traces limestone as 6590, a little secondary white calcite, rare sandstone and siltstone as above and rare pyrite.

- 6650 - 6670 shale, grey black to black, locally dolomitic (?) and/or slightly calcareous, carbonaceous, hackly to locally fissile with traces of dolomite and limestone as above, trace to very minor white calcite. (The above few hundreds of feet of rock that are designated as dolomite could be considered a grey black to black, very dolomitic, very siliceous to locally siliceous blocky shale. This rock in many cases may have over 50% of (silicates) clay and silt-size particles. Whichever the case may be, it is considered more academic than economic.)
- 6670 - 6680 missing (lost circulation).
- 6680 - 6690 shale, grey black to black, locally silty and very slightly calcareous, rarely dolomitic (?), hackly to locally fissile, locally carbonaceous with rare dolomite (?) and limestone as above, minor white calcite, rare trace clear quartz fragments and trace translucent white chert.
- 6690 - 6710 shale as above, rarely siliceous with traces limestone, dolomite (?), chert quartz(?) and calcite as above, rare grey, calcareous, slightly argillaceous, siliceous sandstone, rare disseminated pyrite.
- 6710 - 6720 shale as above with trace limestone, dolomite (?), rare chert and quartz, very minor calcite, rare disseminated pyrite.
- 6720 - 6730 shale, etc. as above with slight increase in dolomite as above, very siliceous and argillaceous.
- 6730 - 6750 shale, etc. as 6680.
- 6750 - 6770 shale, grey black to black, locally silty and very slightly calcareous to non-calcareous, carbonaceous, fissile to hackly, soft, trace clear quartz, white calcite and white translucent chert and/or quartz.
- 6770 - shale, etc. as above with rare pyrite.

CORE REPORT

Core #1 - 3159 - 3173'; Cut 14'; Rec. 10.3'.

General Appearance

Medium to dark grey banded, very hard, cut by 2 sets of calcite-filled fractures, (micro-faults), one set parallel to bedding, the other at approximately 60° to bedding, bedding inclined about 10-15° in core, homogeneous appearance.

- dark grey bands - shale, dark grey, indurated, siliceous, slightly calcareous, trace disseminated streaky pyrite, rare fine pyrite filled fractures, rare small medium to dark grey chert pods (2-5 mm. diameter), boundary between shale and quartzite bands generally distinct but disrupted, lower boundary sometimes less sharp than upper boundary.
- med. grey bands - quartzite, medium grey, very fine crystalline, calcareous (more calcareous than shale), minor disseminated pyrite, bands generally less than 1" in thickness. Intervals with more quartzite than shale: 3159.0 - 3159.9'; 3161.1 - 3161.7'; 3166.2 - 3166.8'; 3163.8 - 3164.0'; 3164.5 - 3165.1'; 3167.7 - 3168.6'.
- fractures - 1/4 to 1/8" thick, filled with white calcite and carbonaceous material, slickensides prominent, occasional fine pyrite on fractures.
- set 1 - parallel to bedding: 3162.9'; 3166.6'; 3166.8'; 3167.5'.
- set 2 - at 60° to bedding: 3164.0'; 3164.1'; 3167.7'; 3168.6'.

Core #2 - 3787 - 3796'; Cut 9'; Rec. 4 1/2'.

General Appearance

Medium to dark grey shale and argillaceous chert, heavy calcite veining, occasional small fault breccia zone, bedding generally uneven, light grey, oval, parallel to bedding blebs included in shale, core badly fractured especially in cherty intervals.

- shale - medium to dark grey, calcareous, dense, indurated, bedding indistinct and disrupted, scattered small blebs of pyrite; shale intervals - 3787 - 3789.7'; 3791.2 - end of core.
- chert - dark grey to black, conchoidal fractured, argillaceous, probably gradational to dark grey shale, slightly calcareous, contains numerous fine, calcite filled fractures - oriented parallel to axis of core; chert intervals - 3789.7 - 3791.2'.

- fractures - filled with white calcite and streaks of black carbonaceous matter. Two orientations (generally):
1. perpendicular to core axis
 2. parallel to core axis
1. at 3787.8' - 3788.1'
thick calcite veins (3/4" thick) followed by 1/2" thick breccia zone - separated by carbonaceous layers - black and shiny, disrupted bedding below.
 2. at 3788.5' (approximate)
thick calcite veining (1/4 to 1/2") rapidly narrowing to 0 thickness, no carbonaceous layer present.
- at 3789.7 - 3990.6' (approximate)
numerous fine (hairlike) fractures, generally parallel to core axis, chert broken up probably as a result of orientation fractures. Hunks of chert broke off while the core was taken.

Core #3 - 4076 - 4081'; Cut 5'; Rec. 3.3'.

General Appearance

Medium to dark grey, dense, thin calcite-filled fractures, hard.

- limestone - medium grey, micro to very fine crystalline, siliceous (isolated quartz and chert fragments - generally angular - secondary), occasional crinoid (single-holed), scattered pyrite especially on fracture planes.
- chert - dark grey to black (better described as microcrystalline quartz), calcareous, contains moderately abundant organic debris of colonial corals, crinoids and sponge spicules(?), chert is gradational with siliceous limestone - nodular (2 mm. diameter), light grey chert "floating" in crystalline limestone matrix.

limestone intervals - 4076.0 - 4076.4; 4076.7 - 4077.1; 4078.0 - 4078.4';
4078.8 - 4079.3'.

chert intervals - 4076.4 - 4076.7'; 4077.1 - 4078.0'; 4078.4 - 4078.8'.

Core #4 - 4929 - 4931'; Cut 2'; Rec. 1.9'.

General Appearance

Dark grey limestone with large angular clasts of light grey limestone imbedded in it. Distinct carbonaceous limestone with trace white calcite (micro-faults) at about 30° to core axis.

- matrix - limestone, dark grey, microcrystalline, very siliceous, hard, dense, slightly dolomitic, scattered crystals of pyrite, breaks with semi-conchoidal fractures.
- clasts limestone, light to medium grey, microcrystalline, slightly siliceous, dolomitic, edges of angular clasts blurred, seems to fade into matrix, contains a few calcite veinlets that do not continue into matrix, a few very thin veinlets pass through both clasts and matrix. Clasts are probably blocks of limestone that has slumped into a lime mud before lithification and the rock has later been silicified.

Core #5 - 5370 - 5395'; Cut 25', Rec. 14'.

- 5370 - 5373 missing
- 5373 - 5376 shale, dark grey to black, siliceous, blocky, carbonaceous, dolomitic and/or slightly calcareous, hard, some secondary white chert in fractures and white calcite veining; two thin interbeds of dolomite (5373.3 - 5373.8'; 5375 - 5375.5'), medium to dark grey, microcrystalline, siliceous, locally calcareous, argillaceous to very argillaceous, minor argillaceous and carbonaceous partings, locally badly fractured.
- 5376 - 5382[†] missing
- 5382 - 5384.5[†] dolomite, medium to dark grey, microcrystalline, siliceous, locally calcareous, argillaceous to very argillaceous, abundant thin carbonaceous shale partings, fossiliferous (crinoids, corals(?)), locally fractured with secondary calcite and rare chert infilling.
- 5384.5 - 5392 limestone, grey to medium dark grey, microcrystalline, argillaceous, siliceous, rarely dolomitic, minor thin carbonaceous shale partings, fossiliferous (crinoids, corals ?), locally fractured with secondary calcite and chert replacement.
- 5392 - 5393 missing

SECTION III - ENGINEERING SUMMARY

a) DRILL STEM TESTS

None.

b) CASING REPORT

<u>String</u>	<u>Depth Set</u>	<u>O.D.</u>	<u>Grade</u>	<u>Weight</u>	<u>Thread</u>	<u>Cement</u>
Conductor	15'	20	Line Pipe			90 sax
Conductor	245'	13-3/8	K-55	54.5#	ST&C	300 sax + 1% CaCl ₂
Surface	1690'	9-5/8	J-55	36#	ST&C	790 sax fondu

c) DRILLING BIT RECORD

See next page.

Reed Roller Bit Company
OF CANADA LTD.

BIT RECORD

PAGE 1 OF 2

Province Yukon	Field Wildcat	Canada	LSD M	Section 55	Twnshp. W	Range W	Operator INC	Elev. 2476	Mud Type To 6790 Ft. Water and air. To _____ Ft. Gel and Chem. To _____ Ft.
Location INC Husky Amoco Black-Fly		Contractor Commonwealth		Rig No. 22	Rig Make & Type Aar. 50A		Tool Pusher R. Sorvisto		
Drill Collars 1.	No. 3	O.D. 9	I.D. 2-7/8	Date January / 3 / 1970	Month/Day/Year	Time 9:30	A.M./P.M.	Pump No. 1 Emsco	Type D500
2.	22	7	2-7/8	Spudded Jan. / 18 / 1970		4:15	A.M./P.M.	Pump No. 2 NAT	Type C150
Tool Joints 1.	Make Hughes	Size 5	Type IF	O.D. 4 1/2	Under Surf. Jan. / 19 / 1970	4:30	A.M./P.M.	Approved	
2.					Under Inter. Feb. / 4 / 1970	12:00	A.M./P.M.	(Toolpush)	
					Completion March / 19 / 1970		A.M./P.M.	Approved	
					Release / /		A.M./P.M.	(Fieldman) R. J. Gable	
Lost Circulation Depths		Key Seat Depths		Other Remarks - Reaming, Re Drilling Etc.					

No.	Size	Make	Type	Jet Size	Serial	Depth Out	Feet	Hours	Accum. Hours	Dull Cond.			No. of DC	Wt. 1000 lbs.	R.P.M.	Vert. Dev.	Pump Press.	No. 1 SPM Liner	No. 2 SPM Liner	Mud		
										T	B	G								Wt.	Vis. pH WL.	
1A	12-1/4	HW	ODV-J		TK-249	122	122	19-1/2	19-1/2	5	2	1	3	10	180	1/4	450			8.7	48	
2A	12-1/4	HW	ODV-J	3/22	TK-251	188	66	5-1/2	25	1	1	1	3	10	180							
3A	17-1/2	REED	PILOT			188	188	13-1/2		REAMING												
4A	12-1/4	HW	ODV-J	3/22	TK-251	255	67	5-1/2	30-1/2	1	4	1	8	15	180	1/2	500					
5A	17-1/2	REED	PILOT		REAMER	255	67	8-1/2		4	4	1	6	15	180	1/2		REAMING				
								13-3/8	SURFACE CASING													
1B	12-1/4	HW	ODV-J	3/22	TK-251	307	52	7-3/4	38-1/4	7	6	1	9	25	90	1/2	450	67	7	AIR & WATER		
2B	12-1/4	HW	X55R	3/16	SH-835	693	386	37-3/4	76	1	2	1	21	20/45	55	1-1/2	350	34	7	AIR & WATER		
3B	12-1/4	HW	WD-7	3/18	SZ-824	868	175	18-1/2	94-1/2	5	5	1	21	20/45	90	1-3/4	350	34	7	AIR & WATER		
4B	12-1/4	HW	WD-7	3/18	SZ-922	1022	156	14-1/2	109	5	4	1	21	30/40	80	2-1/4	350	34	7	AIR & WATER		
5B	8-3/4	HW	X55R	3/18	17339	1185	163	18	127	2	2	1	21	20/30	55	3	350	44	7	AIR & WATER		
6B	12-1/4	HW	X55R	3/18	R. Run	1186	186	5-1/2		REAM 8-3/4" HOLE TO 12-1/4"												
7B	8-3/4	HW	ODV	3/18	18456	1243	58	23	150	4	3	1	24	20/30	120	TWIST OFF 2 D.C.						
8B	8-3/4	HW	X55R	3/18	17339	1353	110	19-1/2	169-1/2	2	4	1	19	20/25	55	2	850	66	7	8.7	34	
9B	8-3/4	HW	X55R	3/18	17250	1465	112	18-1/2	188	1	1	1	19	15/25	50/70	2-1/2	450	46	7	8.8	44	
10B	12-1/2	HW	X55R	3/18	RD-674	1560	95	10-3/4	198-3/4	REAM 1186-1465 - 279' - 21-1/4 hours.												
11B	12-1/4	HW	X55R	3/18	TN-706	1690	130	24	222-3/4	1	1	1	22	30	50	1-1/2	900	60	7	8.8	42 Feb. 1	
								12-1/4"	HOLE FOR 9-5/8" CASING.													
1	8-3/4	HW	ODV	3/12	16650	1805	115	14-1/2	237-1/4	4	6	1	19	30	55	3/4	1100	62	5-1/2	8.8	28	
2	8-3/4	HW	X55R	1/18	2/20 5695	2249	444	43-3/4	281	3	3	1	19	30	50	1-1/4	400	68	AIR & WATER.			

Reed Roller Bit Company

OF CANADA LTD.

BIT RECORD

PAGE 2 OF 2

Province	Yukon	Field	Wildcat	Canada	LSD	M	Section	55	Township	Range	W	Operator	INC	Elev.	2476
Location														Mud Type	
INC Husky Amoco Black-Fly														To 6790 Ft. Water and air.	
Contractor Commonwealth														To Ft. Gel and Chem.	
Rig No. 22														To Ft.	
Rig Make & Type Aat, 50A														Special Additives	
Tool Pusher R. Sorvisto														Hagartreat	
Dull Collars														Calgary	
No.	3	O.D.	9	I.D.	2-7/8	Date	January, 3, 1970			Time	9:30	Pump No. 1	Emsco	Type	D500
Spudded														Approved	
Set Surface														Approved (Toolpush)	
Jan. 18, 1970														Approved (Blowdown)	
Jan. 19, 1970														R. J. Gable	
Under Surf.															
Under Inter.															
Feb. 4, 1970															
Completion															
March 19, 1970															
Release															
Loss Circulation Depths															
Key Seat Depths															
Other Remarks -															

No.	Size	Make	Type	Jet Size	Serial	Depth Out	Feet	Hours	Accum.			Dull Cond.			No. of DC	Wt. 1000 lbs.	R.P.M.	Vert. Dev.	Pump Press.	No. 1		No. 2		Mud Wt. Vis. pH WL	
									Hours	T	B	G	T	B						G	SPM	Liner	SPM		Liner
3	8-3/4	HW	X55R	1/18 2/20	17327	2815	566	55-1/4	336-1/4	3	3	1	22	20/30	56	4-1/2	400	70	5-1/2	AIR & WATER.					
4	8-3/4	HW	X55R	1/18 2/20	17249	3159	344	34-3/4	371	1	1	1	21	25/35	58	5-3/4	475	70	5-1/2	800 CFM AIR.					
10	6-3/16	Christ.	Diamond	3-1/2	EC12915	3173	14	3-1/4	374-1/4	G000			21	8/10	48		750	38	5-1/2	800 CFM AIR.					
5	8-3/4	HW	X55R	1/20	17249	3283	110	14	398-1/4	1	1	1	21	REAM 3159-3173	14' - 2"	HOURS									
6	8-3/4	REED	SCMJ	1/2	576170	3787	504	73	471-1/4	2	1	1	21	20	58	8-1/4	400	68	5-1/2	800 CFM AIR.					
20	6-3/16	Christ.	Diamond	3-1/2	EC12915	3796	9	3-1/4	474-1/2				21	10	70	7-1/2	750	32	5-1/2	800 CFM AIR.					
7	8-3/4	SEC	M88	Open	250980	4076	280	26-3/4	501-1/4	1	1	1	21	22	REAM 3787-3796	9' - 1/4"	HOURS								
30	6-3/16	Christ.	SCM		EC12902	4081	5	5	506-1/4	Dull			21	10	70	6-1/2	750	32	5-1/2	AIR & WATER.					
8	8-3/4	SEC	M88	Open	250980	4902	546	48-1/4	554-1/2	8	8	0	21	35	60		450	68	5-1/2	AIR & WATER.					
9	8-3/4	REED	SCMJ	Open	576183	4929	27	5-1/2	560	8	8	0	21	25	60	7-1/2	450			PINCHED LOST 1 CONE					
10	8-3/4	HW	WD7	Open	19737	4929	0	0																	
40	6-3/16	Christ.	Diamond	3-1/2	EC1027	4931	2	2-3/4	562-3/4	Dull			21	10	70		800	32	5-1/2	800 CFM AIR.					
11	8-3/4	SEC	M88	Open	250219	4947	16	5	567-3/4	1	1	1	21	25	70	7-1/2	450	68	5-1/2	800 CFM AIR.					
12	8-3/4	HW	WD7	Open	15492	4956	9	4-1/4	572	5	1	1	21	25	70	7-1/2	450	68	5-1/2	800 CFM AIR.					
13 RR	8-3/4	HW	X55R	Open	17349	5037	81	19-1/4	591-1/4	7	7	1	21	35	70	7-1/2	450	68	5-1/2	800 CFM AIR.					
14 RR	8-3/4	SEC	M88	Open	250219	5336	283	55	646-1/4	4	5	0	21	22	70	10	450	68	5-1/2	800 CFM AIR.					
15	8-3/4	HW	RC7X	Open	3769	5370	34	7-3/4	654	2	2	1	21	20/22	70	10	450	68	5-1/2	800 CFM AIR.					
50	6-3/16	Christ.	Diamond	3-1/2	2006	5395	25	6-1/4	660-1/4	DAMAGE			21	65	800		800	30	5-1/2	800 CFM AIR.					
16	8-3/4	HW	RC1JX	Open	55941	5685	315	46	706-1/4	2	4	1	21	22	58	12	REAMED	25'							
17	8-3/4	REED	SCYG	Open	378125	5775	90	21-3/4	728	1	3	1	21	25	58	12-1/8	450	68	5-1/2	800 CFM AIR.					
18	8-3/4	REED	SCM5	Open	863458	6035	260	42	770	1	1	1	21	25	58	14	450	68	5-1/2	800 CFM AIR.					
19	8-3/4	HW	WDR	Open	19546	6094	59	14-1/4	784-1/4	6	2	1	21	20	70	14-1/2	450	62	5-1/2	800 CFM AIR.					
20	8-3/4	HW	X55R	Open	21554	6223	129	27	811-1/4	1	2	1	19	12/35	60	15	450	50	5-1/2	800 CFM AIR.					
21	8-3/4	HW	X55R	Open	21552	6555	332	64-1/4	875-1/2	1	2	1	19	35	60	19	450	65	5-1/2	800 CFM AIR.					
22	8-3/4	SEC	S88	Open	224022	6666	111	29-1/4	904-3/4	1	1	1	19	30	70	17-1/2	475	65	5-1/2	800 CFM AIR.					
10	8-3/4	ACC	Diamond		8215	6686	20	3	907-3/4																
23	8-3/4	HW	X55R	Open	21423	6790	104	29-3/4	937-1/2	1	1	1	19	20	60	18	475	65	5-1/2	800 CFM AIR.					
24	8-3/4	SEC	S88	Open	289279	6790																			
									TOTAL DEPTH																

SECTION III - ENGINEERING SUMMARY

(d) MUD REPORT

<u>Additives</u>	
Caustic Soda	5,650 lbs.
Gel	154,900 lbs.
Lime	2,400 lbs.
Peltex	50 lbs.
Quick-Vis.	55 gallons
Sawdust	1000 sax
Soda Ash	660 lbs.
Walnut Plug	2,750 lbs.
Kwik-Seal	17,400 lbs.
Redwood Fibre	4,800 lbs.
Hagatreat X-10	3,200 lbs.
Calgon X-33	3,785 lbs.
Diesel	175 bbls.
P. G. Soap	80 gallons
Graphite	67 lbs.

(e) DEVIATION RECORD

78	1/4°	1404	1-7/8°
168	1/2°	1435	2-1/4°
255	1/2°	1436	2-3/4°
283	1/2°	1465	2-1/2°
400	7/8°	1498	1-1/2°
425	1°	1529	7/8°
460	1-1/4°	1599	1-1/2°
520	1/2°	1630	1°
574	1/2°	1662	2°
634	2°	1690	1-3/4°
656	1-3/4°	1755	3/4°
693	1-1/2°	1815	1/2°
722	1°	1910	1°
754	1°	1973	2°
785	1°	2004	1-1/2°
817	1-3/4°	2067	2-1/4°
847	1-3/4°	2102	1°
879	1-3/4°	2225	1-1/4°
942	1-3/4°	2308	3°
1003	2-1/4°	2335	2-7/8°
1056	1-7/8°	2366	2-3/8°
1088	2-1/8°	2460	4°
1119	2-1/2°	2497	3°
1145	2-1/2°	2559	3-1/2°
1182	3°	2620	4°
1186	3°	2653	4°
1210	3°	2710	4°
1240	2-3/4°	2778	4-1/2°
1251	2-3/4°	2810	4-1/2°
1280	2-1/2°	2843	4-1/2°
1310	2-7/8°	2904	4°
1342	2°	3007	4-3/4°
1373	3-1/4°	3029	4-7/8°

SECTION III - ENGINEERING SUMMARY

(e) DEVIATION RECORD (Cont'd.)

3060	5-1/8°	5320	10°
3091	4-1/2°	5392	10-1/4°
3193	5-3/4°	5454	11°
3182	4-3/4°	5516	11°
3245	5-3/4°	5578	11-7/8°
3275	5-1/2°	5640	12°
3332	6°	5703	12-1/8°
3390	5-7/8°	5763	12-1/8°
3457	6°	5825	12-1/2°
3518	6-1/2°	5919	14°
3580	7-1/2°	6035	14-1/4°
3643	7-3/4°	6094	14-1/2°
3736	8-1/4°	6113	14-1/4°
3839	7-1/2°	6145	14-1/4°
3932	7-1/2°	6176	14-1/4°
4025	6-3/4°	6207	15°
4119	6-1/2°	6247	16°
4211	5-3/4°	6259	16-1/2°
4365	4-1/4°	6360	16-1/2°
4614	3°	6460	18°
4924	6-1/2°	6494	19°
4929	7-1/2°	6525	18°
4956	7-1/2°	6555	19°
5008	7-1/2°	6603	18°
5070	8°	6635	17-1/2°
5133	8-1/8°	6697	18°
5195	9°	6759	18°
5259	9-3/4°		

(f) ABANDONMENT PLUGS

Plug #1 - 6640 - 6300' with 230 sax cement. Displaced with 101 bbls. water. Plug down at 11:00 a.m., March 30, 1970.

Plug #2 - 4000 - 3800' with 145 sax cement. Displaced with 67.5 bbls. water. Felt plug at 3768. Plug down at 12:30 a.m., March 31, 1970.

Plug #3 - 1850 - 1640' with 130 sax cement plus 3% CaCl₂. Displaced with 29 bbls. water. Felt plug at 1900'. Plug down at 10:00 a.m., March 31, 1970.

Plug #4 - 1500 - 1350' with 100 sax cement plus 3% CaCl₂. Felt plug at 1416'. Plug down at 7:00 p.m., March 31, 1970.

Plug #5 - 5 sax cement used at surface. Welded on cap.

SECTION III - ENGINEERING SUMMARY

(g) LOST CIRCULATION ZONES

Circulation was first lost while drilling through the drift at 35 feet and then lost continually throughout the entire hole through innumerable fractures that occurred from surface to T.D. Although no circulation could be gained while attempting to drill with mud, water flowed into the well bore when air drilling was attempted. Accordingly, the entire hole was drilled with aireated formation water. (See analysis enclosed).

Two attempts were made to regain circulation. The first was at 30 feet using 860 sax of sawdust, 24 saxes Kwik seal and 10,100 lbs. of gel. The second attempt was made after reaching T.D. using the following procedures:

- (1) 16,400 lbs. Kwick seal, 45,500# gel, 140 sax sawdust, 4,800 lbs. Redwood fibre, 2,750 lbs. walnut shells were mixed and pumped away as follows:
 - (a) displaced 3000 feet at 6500 feet
 - (b) pumped away 500 bbls. at 3000 feet
 - (c) pumped away 2250 bbls. at 1800 feet

- (2) Ran diesel plugs as follows:

Plug No.	Interval	Materials Used		
		Gel (Sax)	Diesel (bbls.)	Cement (sax)
1	1700 - 1950'	100	42	-
2	1640 - 1850'	22	13	23
3	1690 - 1958'	-	-	135 (fondu + 300# CaCl ₂)
4	1500 - 2400'	200	80	-

Plug #4 was squeezed with 250 psi. At no time was circulation regained.

(h) REPORT OF BLOWOUTS

None.

SECTION IV - LOGS

<u>Type</u>	<u>Interval</u>	<u>Date Run</u>
Dual Induction Laterolog	1692 - 6625'	March 26, 1970
BHC Sonic Gamma Caliper	1692 - 6627'	March 27, 1970
Dipmeter	1692 - 6623'	March 27, 1970
Sidewall Neutron-Gamma	100 - 6628'	March 27, 1970
Temperature	100 - 6533'	March 28, 1970
Directional	1692 - 6630'	March 27, 1970



CORE LABORATORIES - CANADA LTD.

PETROLEUM RESERVOIR ENGINEERING

WATER ANALYSIS



File CAL-2-1815 Page 1 of 1

Company International Nuclear Corporation

Well INC Husky Amoco Black Fly YT M-55 K.B. Grd. 2460'
65 54'55.00 N.L.

Location 140 25'55.00 W.L. Field Black Fly Creek Area Province Yukon Territory

Formation Interval

Sampled from Water from Mud Tank by

Date sampled Feb. 17/70 Date analysed March 18/70 Analyst DS

Recovery 4000' Fluid

Mud type Water cushion

Resistivity 35.70 Ohm-meters @ 67 OF

Specific gravity 1.0002 @ 60OF

pH 6.95 H2S Absent

Refractive Index 1.333 @ 70OF

Total Solids:

Calculated 724 mg/liter

By evaporation @ 110OC - mg/liter

By evaporation @ 180OC - mg/liter

At ignition - mg/liter

MILLIGRAMS PER LITER

Table with 12 columns: Na+K, Ca, Mg, Fe, Ba, Br, I, Cl, HCO3, SO4, CO3, OH. Values: 156, 30, 7, Pres., Abs., -, -, 14, 508, 9, Nil, Nil.

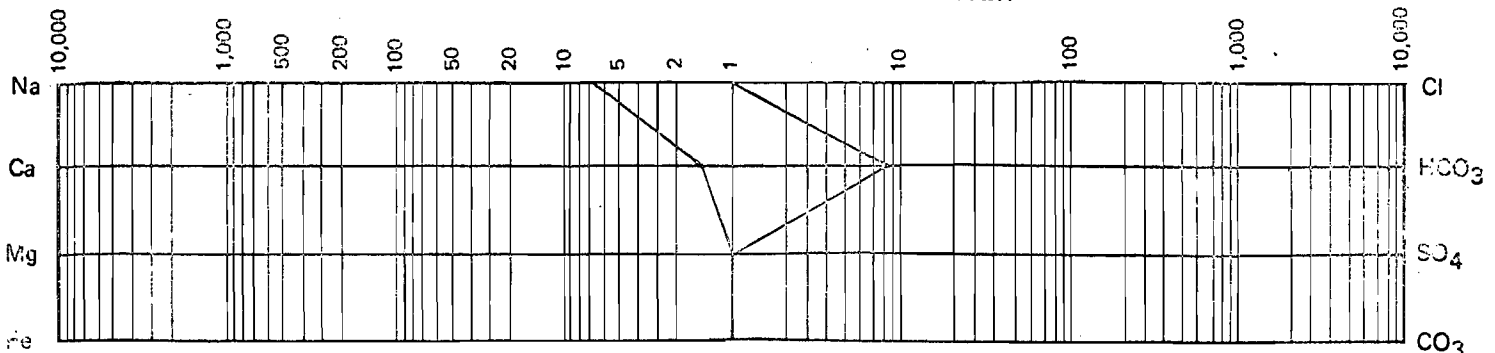
PER CENT CALCULATED SOLIDS

Table with 12 columns: Na+K, Ca, Mg, Fe, Ba, Br, I, Cl, HCO3, SO4, CO3, OH. Values: 21.6, 4.1, 1.0, Pres., Abs., -, -, 1.9, 70.2, 1.2, Nil, Nil.

MEQ PER LITER

Table with 12 columns: Na+K, Ca, Mg, Fe, Ba, Br, I, Cl, HCO3, SO4, CO3, OH. Values: 6.8, 1.5, 0.6, Pres., Abs., -, -, 0.4, 8.3, 0.2, Nil, Nil.

LOGARITHMIC PATTERN MEQ PER LITER





Company International Nuclear Corporation

Well INC Husky Amoco Black Fly YT N-55 K.B. _____ Grd. 2460'

65 54'55.00 N.L.

Location 140 25'55.00 W.L. Field Black Fly Creek Area Province Yukon

Formation _____ Interval _____

Sampled from Water flowing into well bore while air drilling @ approximately 2000' by _____

Date sampled Feb. 6/70 Date analysed Feb. 12/70 Analyst DS

Recovery _____

Mud type _____ Water cushion _____

Total Solids:

Resistivity 29.21 Ohm-meters @ 71 °F Calculated 572 mg/liter

Specific gravity 1.0002 @ 66 °F By evaporation @ 110 °C - mg/liter

pH 7.7 H₂O Absent By evaporation @ 180 °C - mg/liter

Refractive index 1.333 @ 75 °F At ignition - mg/liter

MILLIGRAMS PER LITER

Na + K	Ca	Mg	Fe	Ba	Br	I	Cl	HCO ₃	SO ₄	CO ₃	OH
124	23	7	Pres.	Abs.	-	-	6	376	36	Nil	Nil

PER CENT CALCULATED SOLIDS

21.6	4.0	1.2	Pres.	Abs.	-	-	1.0	65.7	6.3	Nil	Nil
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MEQ PER LITER

1.4	1.1	0.6	Pres.	Abs.	-	-	0.2	6.2	0.7	Nil	Nil
-----	-----	-----	-------	------	---	---	-----	-----	-----	-----	-----

LOGARITHMIC PATTERN MEQ PER LITER

